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CHARLES WILSON,

(Late J. W. NORIE & WILSON.)

157, LEADENHALL STREET,
LONDON. E.C.

SAILING DIRECTIONS
FOR
THE EAST COAST
OF
NORTH AMERICA,
FROM
CAPE CANSO TO CAPE COD,
INCLUDING
SABLE ISLAND.

London. C.C.

PUBLISHED BY CHARLES WILSON,
(Late J. W. NORIE & WILSON),
PUBLISHER OF CHARTS AND NAUTICAL WORKS, ETC.,
AT THE NAVIGATION WAREHOUSE AND NAVAL ACADEMY,
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1866.

N.B.—Alterations and additional information will be given in supplementary pages as occasion may require, for which see ADDENDA; these are also transferred at once to the Chart which this book is intended to accompany; so that it may sometimes happen the Chart has the later information.

ANY REMARKS OR COMMUNICATIONS FROM OUR NAUTICAL FRIENDS, FOR THE FUTURE
IMPROVEMENT OF THIS, OR OTHER OF OUR WORKS,
ARE RESPECTFULLY SOLICITED.

CONTENTS.

	Page
THE ISLE OF SABLE AND BANKS OF NOVA SCOTIA.	
General Remarks	1
Sable Island, the N.W. and N.E. Bars	2
Description	3
The Nova Scotia Banks	5
Tides	6
THE SOUTHERN COAST OF NOVA SCOTIA.	
From Cape Canso to Halifax Harbour.	6
Description of the Land, Cape Canso	6
Soundings, Currents	7
Harbour of Canso	8
Andrew Passage, Dover Bay	9
Port Howe, White Head Island, Whitehaven	10
Tides, Torbay	12
Island Harbour, Tides	13
Isaac Harbour, Country Harbour, Tides, Fisherman Harbour	14
Port Bickerton, Hollins Bay	15
Indian Bay, Cape St. Mary, St. Mary River	16
Tides, Jegogan Harbour	17
Liscomb Harbour	18
Bay of Islands, Mary Joseph Harbour, Nicumcigum Inlet, Nicomtau Bay, Newton Quaddy, Barren and Goose Islands	19
White Islands, Halibut Islands, Bird Islands, Beaver Harbour	20
Beaver Island, Tides	21
Sheet Harbour	22
Tides	23
Mushaboon, Spry Harbour	24
Pope Harbour, Tangier Harbour, Shoal Bay, Ship Harbour, Owl's Head Bay	25
Tides	27
Jedore Harbour, Jedore Head, Tides, Clam Bay	29
Shut-in-Island, Musquidoboit Inlet, Perpissawick Inlet, Chissetook Inlet, and Three Fathom Harbour	32
FROM HALIFAX TO CAPE SABLE.	
Halifax	33
Macnab Island	34

	Page
Bedford Basin, Tides	35
Sambro' Island	36
Catch Harbour, Sambro Harbour	37
Pennant Bay, Pennant Harbour, Turner Bay, Prospect Harbour ...	39
Leith Harbour, Dover Port, Margaret's Bay, Owl's Head	40
French Cove, Head Harbour, or Delaware River, Ingram River, Hubbert's Cove, Long Cove, North West Harbour	41
Ironbound Island, Green Island, Malhane Bay	42
Chester Town, Lunenburg Bay	43
Dartmouth Bay	44
Le Have River, Port Metway	45
Liverpool Bay, Tides, Port Mouton	46
Port Jolie	47
Port Ebert, Sable River	48
Rugged Island Harbour, Green Harbour and River Jordan, Shelburne Harbour	49
Tides, Cape Negro Harbour	50
The River Clyde, Port Latour	51
Barrington Bay	52
Cape Sable, Clarke Harbour, Favourite Cove	53
Brazil Rock	54
THE WEST AND NORTHERN COASTS OF NOVA SCOTIA, AND THE COAST OF NEW BRUNSWICK, INCLUDING THE BAY OF FUNDY, WITH THE MANAN ISLANDS, &c.	
Cape Sable to Briers Island	55
The Seal Islands	55
The Mud and Tusket Islands	56
The Mainland, Shag Harbour	58
St. John's Island, Pubnico Harbour, Tusket Bay and River	59
Tides	60
Green Island, Jebogue River, Tides	61
Cape Fourchu, Yarmouth, The Lurcher Shoal	62
Trinity Ledge	63
BRYER ISLAND, AT THE ENTRANCE TO THE BAY OF FUNDY, TO CHIGNECTO BAY.	
Bryer Island, Long Island	64
St. Mary Bay, Grand Passage	65
Petit Passage, Tides, Digby, or Annapolis Gut	66
Annapolis to the Basin of Mines	67
Tides, Haute Island	68
Cape Chignecto, Chignecto Channel	69
Tides	70

	Page
CHIGNECTO BAY TO THE MANAN ISLANDS AND PASSAMAQUODDY BAY.	
The North Coast of the Bay of Fundy	70
St. John's Harbour and City of St. John	71
Signals made at Partridge Island	72
Tides	73
Musquash Harbour, Point Lepreau, Maces' Bay, Beaver Harbour ...	74
Etang Harbour, Wolf Islands, The Manan Islands, Long Island Bay	75
Big Wood Island, The Manan Ledges	76
The Murr Ledges, Gannet Rock, &c.	77
Machias Seal Island, Grand Manan Bank, Passamaquoddy Bay	78
Campobello Island, Head Harbour	79
St. Andrew, Port St. Andrew	80
Notes on the Navigation of the Bay of Fundy	81
General Directions and Remarks for Sailing to, and within the Bay of Fundy	82
Tides	83
COAST OF THE UNITED STATES.	
From Passamaquoddy Bay to Cape Elizabeth, General Remarks ...	84
Little and Great Machias Bays, Moose-a-Bec Head to Machias, Moose- a-Bec Reach	85
Pleasant Bay, Machias to Goldsborough, The Shuttock Hills	86
Bowbear Harbour, Dyer's Bay, Goldsborough Harbour, Mount Desert Island	87
Mount Desert, Eastern Harbour, S.W. Harbour of Mount Desert, French- man's Bay	88
Blue Hill Bay, Isle Haut, Saddle Back Ledge	89
Matinicus Islands, Penobscot Bay and River	90
Owl's Head Harbour, Camden Harbour, Manheigan Island, George's River	92
John's Bay Harbour	93
Townsend Harbour, Sheepscut Bay	94
Kennebeck River, New Meadows River	95
Hussey Sound	96
Cape Elizabeth and Portland Harbour	98
Directions for Portland Harbour	98
CAPE ELIZABETH TO CAPE ANN.	
Kennebunk Harbour, The White Hills, Boon Island and Ledge	100
York and Portsmouth Harbours, Isle of Shoals	101
Hampton Bar and Newbury Port	102
Ipswich, Annisquam Harbour	103
Cape Ann to Cape Cod	104
Cape Ann Harbour	105

	Page
Salem Harbour, Misery Island	106
Cat and Eagle Islands	107
Beverley and Manchester	108
Marblehead Harbour	109
Boston	110
Stellwagen Bank and Buoys	111
Dangers in approaching Boston Harbour	112
Main Ship, Hypocrite, Black Rock, and Broad Sound Channels, Nantasket Roads	114
Anchorage, Scituate	115
Plymouth Harbour	116
Cape Cod, Cape Cod Harbour... ..	117
Billingsgate Island, Barnstable Bay, Barnstable Harbour, Tides	118
 CAPE COD TO NANTUCKET.	
Chatham Harbour	119
Description of the Banks situate between Cape Sable and the peninsula of Cape Cod, Cashes Ledge	119
The Fippenies, Jeffrey's Bank, Jeffrey's Ledge, St. George's Bank	120
Stellwagen's Shoal Ground	123
A useful Table for finding the Distance of an object by two bearings and the Distance run between them	124

A D D E N D A .

Since this Work was in the Press the two following Lights have been established on the S.E. coast of Nova Scotia, which the Mariner will please to mark with his pen in their respective places, as referred to.

1. On EGG ISLAND in lat. $44^{\circ} 39' 51''$, and long. $62^{\circ} 51' 32''$, a tower is erected 53 ft. in height, and 85 ft. above H.W., at about 12 yards S.E. of the keeper's dwelling. It exhibits a *revolving* Lt. attaining its greatest brilliancy every minute, showing alternately *white* and *red* faces, and in clear weather; visible about 15 m.

2. On LITTLE HOPE ISLAND, in lat. $43^{\circ} 48' 31''$, and long. $64^{\circ} 47' 15''$, a tower, 31 ft. in height and 40 ft. above H.W., and rises from the centre of the keeper's dwelling. It exhibits a *red revolving* Lt., attaining its greatest brilliancy every minute; and in clear weather, should be seen from a distance of 11 m.

ABBREVIATIONS

Adopted in this Work; although in some instances, where more explicit, the words are used in full length:—

N.	north.	fms.	fathoms.
S.	south.	ft.	foot—feet.
E.	east.	Pt.	Point.
W.	west.	Id.	island.
m.	miles.	sand-bk.	sand-bank.
R.	river.	Hd.	head.
Rk.	rock.	lat.	latitude.
Lt. or lt.	light.	long.	longitude.
Lt.-ho. or lt.-ho.	lighthouse.	H.W.	high water.
min.	minute.	L.W.	low water.
vis.	visible.	F. and C.	full and change.

SAILING DIRECTIONS
FOR
THE COASTS, HARBOURS, AND ISLANDS
OF
NORTH AMERICA,
FROM
CAPE CANSO TO CAPE COD, INCLUDING SABLE ISLAND.

NOTE.—In this work the Soundings are those taken at **LOW WATER**, Spring-tides; the Bearings and Courses are Magnetic, or by Compass; and the Distances are in Nautical Miles of 60 to a Degree. A cable's length equal to 100 fathoms. Longitude from Greenwich, westerly.

THE ISLE OF SABLE AND BANKS OF NOVA SCOTIA.

Variation $21^{\circ} 55'$ W., increasing $6'$ annually.

GENERAL REMARKS.—Vessels coming from the eastward, and bound for the harbour of Halifax, or parts adjacent, should pay particular attention to their soundings, especially when they consider themselves in the neighbourhood of Sable Island; which island, and its surrounding banks, we shall describe at the commencement of these directions. It will therefore only be necessary at present to remark, that the island is low, and appears like small sand-hillocks; that in summer it frequently is enveloped in a fog, but you may always discover your proximity to it by your soundings; and that on its N.E. and N.W. sides are dangerous *bars*; you will have, except on these sides, 2 fms. 2 cables' length off, and your depth will increase in proportion to the distance you are from it, at a general rate of about 2 fms. for every mile, until you are 20 m. from it. Signals are placed on the island, and also a gun, to answer such as may be heard from vessels in distress.

¹In making the land more to the S.-westward, and about Cape Sable you must be particularly careful to avoid the Seal Id. Rks., and the Brazil Rk. To the westward of Gt. Seal Id. the soundings are very irregular for upwards of 20 m., at which distance are 45 fms., gravel and stones. Indeed the soundings along Nova Scotia, from Cape Canso to Cape Sable, partake of the same irregularity, from 25 to 50 fms.; therefore, you should not come nearer the land than 35 fms., unless you are well assured of the

[CANSO TO C. COD.]

B

exact part you are in, for otherwise, endeavouring to enter Halifax, you may be driven into Mahone or Mecklenburgh Bays, and be caught by S.E. winds. The weather is generally foggy 4 or 6 leagues off shore, both in spring and summer, but it becomes clearer as you get nearer the coast; and with the wind off shore, it will be perfectly clear.

FISHING.—From 1 to 3 leagues out to seaward, mackerel, halibut, haddock, and cod are found in plenty, and at the entrance of the harbours and rivers, salmon is taken from April to August. The bays abound with herrings in June and July, and with tom-cod all the year round.

The following remarks on Sable Island are from the report of CAPTAIN H. W.

BAYFIELD, R.N.

THE position of the W. flagstaff near the principal establishment, is lat. $43^{\circ} 56' 24''$, and long. $60^{\circ} 2' 47''$.

The W. extreme of the Grassy Sandhills, lat. $43^{\circ} 56' 44''$, long. $60^{\circ} 8' 28''$.

The E. extreme of the Grassy Sandhills, lat. $43^{\circ} 58' 57''$, long. $59^{\circ} 45' 30''$.

The present length of the island, following the curve, and including the dry parts of the bars, is 22 m.; or taking a straight line from end to end $20\frac{1}{2}$ m. Its extreme breadth is exactly one mile. It is formed of two nearly parallel ridges of sand, shaped like a bow, and meeting in a point at either end. It is wholly or partially covered with grass for considerable spaces; in others scooped out by the winds into bare crater-shaped hollows; or hove up into sand-hills, attaining the extreme elevation of 75 ft. above the sea at H.W. Between these ridges a long pond, in some parts 12 ft. deep, extends from the W. end for a distance of 11 m. A low valley, in which are ponds of fresh water, continues from it for the remaining distance of $6\frac{1}{4}$ m. to the N.E. end of the island.

The **N.W. bar** is dry only $\frac{3}{4}$ of a mile out from the end of the Grassy Sandhills, but it has several patches of sand nearly dry, about a mile further out, which are supposed to have collected around the remains of old wrecks.

The **N.E. bar** is dry 4 m. out from the Grassy Sandhills, the sea washing over the outer half of that distance only in rough weather.

If we add the dry parts of the bars to the length of the island as before stated, the whole extent of sand dry at present will be 22 nautical miles; and if again we add to this distance the still greater length of the bars under water at either end, the whole will form a bow or crescent concave to the N., and extending over 52 m. of sea. Caught within the horns of this crescent in a strong northerly gale, the situation of a vessel would be extremely perilous, for the ebb tide sets to the southward, directly on and over the bars, usually at the rate of $1\frac{1}{2}$ or 2 knots, and when accelerated by winds, much faster; whilst the flood stream runs at a much less rate in the opposite direction.

The whole extent of the **N.W. bar**, from the end of the Grassy Sandhills to the depth of 10 fms., is nearly 24 m., the dry part being succeeded by 10 m. of foaming breakers in bad weather, and the remaining 14 m., from 5 to 10 fms. of depth, being usually shown by a great ripple, or a heavy cross sea. The direction of this bar is N.W. $\frac{3}{4}$ N., for the first 12 m., then N.W. by W. $\frac{3}{4}$ W. for the remaining distance.

The **N.E. bar** extends 20 m. out from the Grassy Sandhills to the depth of 10 fms. Its direction is E.N.E. for the first 9 m., beyond which it curves gradually till it terminates E.S.E.. The dry part of nearly 5 m. is succeeded by 9 or 10 m. of breakers, when there is any sea running. I have considered this bar as ending at 10 fms., but the ridge of sand continues, with a depth of from 10 to 13 fms., and often a heavy breaking sea, 10 m. farther, to E.S.E., and then ends abruptly; the soundings increasing to 170 fms. in a distance of 3 m. farther.

Both bars are extremely steep, and consequently dangerous of approach on the N. side; the N.E. bar especially so, having 30 fms. water close to it. To the southward, on the contrary, the water deepens gradually out for many miles, that it would seem almost impossible for any vessel, using common precaution, to run on shore on that side, either of the island, or its bars. Yet by far the greater number of shipwrecks have taken place there, affording a sad proof of the culpable neglect of the sounding lead, so common in the mercantile marine. Some of those vessels came on shore in fine, although foggy weather, after running for many miles in shallow water, when one cast of the lead would have shown them their danger, and in many cases saved both life and property.

In most cases the vessels were thought to be far to the eastward of the island, when they ran on shore upon it; having been set to the westward by the currents. That this alleged cause is the true one, there seems little reason to doubt, for the general tendency of the currents between Newfoundland and Sable Island is to the westward.

The establishment on Sable Island is situated on the N. side of the island, between the pond and the Sandhills, and consists of a comfortable house for the superintendent and his family, who has under him a foreman, or second in command, and nine men; two of whom, with their families, occupy outposts at the Middle and East flagstuffs.

The principal establishment, in addition to the house for the superintendent, consists in buildings for the men, and the occasional accommodation of ship-wrecked persons, for storing provisions, and property saved from wrecks; a forge, workshop, barn, and stabling for domestic cattle, &c. The W. flagstaff stands on the principal Sandhill. The distance of this flagstaff from the W. extreme of the Grassy Sandhills, in 1852, was 4215 fms. This flagstaff is strongly and substantially constructed on a sand-hill, 40 ft. high, and the Crow's nest, or look-out, is 100 ft. above the sea, commanding a fine view for many miles along the island, and over the surrounding ocean.

The E. flagstaff, conspicuously placed on a sand-hill close to the N. shore of the island, is distant 2280 fms. from the E. extreme of the Grassy Sandhills.

The middle flagstaff is situated farther inland, and nearer the E. end of the pond. It was intended to remove this outpost to a more advantageous situation on the S. side of the island, where there is a house, about half-way along the pond, and where it will be better situated to observe and report wrecks.

Besides the houses at the three flagstuffs, there was an unoccupied house of refuge on the N. side, distant 320 fms. from the W. extreme of the Grassy Sandhills.

No wrecks can take place on the island at a greater distance than 6 m. from some one of the posts; and in the event of one occurring, the outposts report by signal to the superintendent at the principal establishment.

*The following extract of a letter from CAPTAIN JOSEPH DARBY, Superintendent of Sable Island, is from the "American Coast Pilot.":**

"I have known the island for the last 28 years, in which time the W. end has decreased in length about 7 m., although the outer breakers of the N.W. bar have the same bearing from the W. end of the island that they had then (about N.W., distant about 8 m.), which clearly shows that the whole bank and the bar travels to the eastward. The ground is high, and the water shoal outside of these breakers, 7 or 8 m., in a N.W. direction. The flood-tide sets across the bar to the northward and eastward very strongly, and the ebb-tide to the opposite point, changing alternately at half-flood and half-ebb. The ground to the southward and westward of the bar is very regular, deepening very slowly to a considerable distance; but to the northward and eastward the ground is very steep, and from the breakers, or from very shoal ground

* E. & G. W. BLUNT, New York.

outside the breakers, you fall into deep water all at once. The bank to the N.W. is very uneven, and curves round to the northward in a steep ridge; and at the distance of about 35 m. from the island, in a N.W. direction, are 10 fms., and W.N.W. and E.S.E. from that, the ground falls very suddenly into deep water. This ridge joins the middle ground, and extends in an easterly and N.E. direction, to a considerable distance, with shoal water, the bottom in small ridges, with 11, 12, 11, and 13 fms., and so on over it; and between this bank and the bar, or the island, the water is very deep, 80 or 90 fms. The bank extends to the eastward abreast of the island; the southernmost edge of the bank, from 20 to 25 m., to the northward of the island.

“The E. end has altered very little since my knowledge of it (except in height), which is much greater than it was; and the whole island seems to increase in height every year, but grows narrower. There is a low *bar of dry sand* running from the high land off the E. end, in a N.E. direction, about 3 m., from whence shoal water, that always breaks, extends about 2 m. farther, in an E.N.E. direction; outside of which, for a distance of about 6 m., is a passage across the bar, with from 2½ to 3 fms. upon it. Outside of that again is a piece of high ground that always breaks, and is sometimes dry, and extends in an E.N.E. direction, between 2 and 3 m. from which the shoal ground continues, in the same direction, some miles farther. The flood-tide across this bar sets very strongly to the northward, and the ebb-tide in the opposite direction, but not so strong. The soundings to the southward and eastward of the bar are flat and regular for a considerable distance, but to the northward and westward the ground is very steep: close to the breakers are 10 fms., and goes down suddenly to 70 or 80 fms. to 100, or upwards. I believe, in general, there is a strong current setting to the W.S.W., between the Sable Bank and the Gulf of Mexico stream; and there is a strong current sets down the western side of the Gulf of St. Lawrence stream, in a S.S.W. direction. The current along the S. side of the island is in very shoal water, runs both E. and W., and is principally influenced by the winds. The most of the wrecks that happen here are in error of their longitude: for instance, vessels bound to the eastward, think themselves past the island when they get on shore upon it; and vessels bound to the westward (say from Europe), do not think themselves so far to the westward when they get on shore upon it. I have known several cases of vessels from Europe that have not made an error in their longitude exceeding ½ a degree, until they came to the Banks of Newfoundland, and from thence, in moderate weather and light winds, have made errors of from 60 to 100 m., which, I think, goes far to prove the existence of a westerly and southerly current between the Grand Bank and here; and also of the existence of a westerly current between the Sable Bank and Gulf of Mexico stream, which will be stronger or weaker, according to the distance between the stream and the banks.

“When a casualty has occurred, and you find you are on the body of the island, I would recommend that nothing of masts or rigging be cut away, without the vessel should be very tender, and then you may do it to ease her a little; but a vessel of ordinary strength will bear her spars until she heaves up on the beach, or settles in the sand, and lies quiet; as lives and property have often been saved by a vessel having her spars standing, as from the heads of which you may often send a line ashore, when it is not possible to work a boat; and by sending a good hawser after that, and securing it well to the shore, a chair, or other more efficient article, may be rigged for conveying passengers, or others, or valuable property, over the breakers in safety; as from the nature of the soft sandy bottom, a vessel will not go to pieces so soon as if she was on the rocks; and, by the rigging being left standing, it may afterwards be saved; whereas, if the masts are cut away, the whole of the rigging goes with them, and all get entangled and buried in the sand, and are generally totally lost.

“If you are on either of the bars, the first consideration should be to secure the boats, and lighten the ship, and leave her as soon as ever you have to abandon the hope of getting her off; endeavour to get to leeward of the breakers, and land on the island, according to circumstances. Endeavour to land on the N. side, if

possible, as vessels that get on to the bars very soon disappear altogether, either by going to pieces in the irregular sea and strong currents, or by rolling over the steep bank to the northward, and sinking in deep water.

“When property can be saved on the island, it is proper for the master and his crew to do the utmost in their power to save it; they can get the assistance of the people on the island, with a boat and team of horses, not for hire, for they are employed by government; and the island draws a salvage of whatever may be saved on it, which is apportioned by the magistrates at Halifax. The more there is saved by the master and crew, the less salvage will be taken; but it is very often the case, the crews will not assist to save property; and whatever is saved is done exclusively by the establishment, in which case the salvage is pretty high. There are buildings on the island for the shelter of persons cast away on it, with provisions for those who save none; also some buildings for the reception of perishable goods: these buildings, and whatever is put into them, are under the charge of the superintendent. All property saved must be sent to Halifax by the first opportunity. The master can keep inventories, and continue with the goods, if he likes, but has no control over their destination; but, I believe, by petitioning the Governor of Halifax, he might get permission to take them where he pleases, by paying the duty and salvage.

“When any property is saved on the island, it is sent to Halifax, where it is advertised, and sold by order of the Commissioners, and the proceeds paid into their hands, out of which they pay the dues, the salvage apportioned by the magistrates, the expenses of freight, and other small charges; and the residue is paid over to the master, or other authorized agent, for the benefit of the underwriters, and all concerned. The superintendent is under the control of the Governor and the Commissioners, and can take no new step without orders from them. The above and before-mentioned custom is an old and long-established rule, and supported by many acts of provincial legislature, and more particularly by an act passed the 4th day of April, 1836, and in the sixth year of his Majesty's reign (William IV.), which does more fully explain and set forth the rules for the guidance of the establishment.

“The N. side is very safe, and a vessel may approach any part of it within a mile; and vessels in distress might, by standing in on the N. side, and near the W. end, where the principal establishment is, get a supply of fresh water or fuel, or a partial supply of provisions and fresh meat, except in cases of a strong breeze and heavy sea on shore. There is no difficulty in working boats on this side of the island. The S. side is also very safe to approach in clear weather; but from the heavy sea that constantly breaks on it, the communication with a vessel, by boats, is extremely difficult, except after a spell of northerly winds for 3 or 4 days, when the sea becomes smooth, and boats may work.”

NOTE.—When a vessel is on shore in a fog, it is of the utmost importance to ascertain her true position; and in order to save the ship, or the lives of those on board, the following directions should be attended to:—

If breakers are seen to extend in a direction N.W. and S.E., you are on the N.W. bar.

If breakers are seen to extend W.S.W. and E.N.E., you are on the N.E. bar.

If breakers are seen to the northward, ahead, and extending from E. to W., you are on the S. side of the island.

If breakers are seen to the southward, ahead, and extending from E. to W., you are on the N. side of the island.

Ice.—H.M. packet-brig, *Express*, fell in with two islands 'of ice on Sable Island Bank, on the 7th July, 1836, in 45 fms.; estimated heights 180 and 150 ft.; lat. 43° 13', air 46°, water 42°.

The NOVA SCOTIA BANKS extend nearly 70 leagues in a westerly direction from the Isle of Sable. The form and extent of these banks will be best understood by a reference to the new charts.

The S.W. extremity of *Banquereau*, lies 8 leagues N.N.E. from the E. end of the Isle of Sable. The southern edge of this bank extends in an E.S.E. direction, 112 m., or from long. $59^{\circ} 48'$ to $57^{\circ} 10'$, and in the parallel of $44^{\circ} 20'$, the soundings, sand, shells, and sea eggs, the depths from 30 to 35 and 40 fms. This edge is steep-to, and its S.W. part approaches to within 4 leagues of the N.E. bar, having a deep gully between, of 70 to 90 fms., and about 3 leagues in width; and the W. point of Banquereau reaches within 10 m. of the Middle Ground, which runs eastward from the N.W. bar, and has on it a patch of 10 fms. Between this patch and the W. point of the Banquereau is another deep gully, 8 m. wide, with 70 to 95 fms. (sand) in it. Great attention should be paid to the lead when near the S.W. point of this bank, in hazy weather, lest you should cross either of these gullies without sounding in them, and get upon either of the bars without knowing that you had left the bank. This bank is steep-to on all sides, and on the body of the bank are from 20 to 40 fms., the latter depth being near its edges.

TIDES.—It is H.W., F. and C., about 7 h. 30 min., on the N. side of Sable Island, and on the S. side about an hour earlier, and the rise at springs does not exceed 4 ft. The tidal streams are much influenced by the winds. The ebb sets to the southward, on and over the bars, often at the rate of $1\frac{1}{2}$ or 2 knots; the flood at a much less rate, in the contrary direction.

THE SOUTHERN COAST OF NOVA SCOTIA, FROM CAPE CANSO TO HALIFAX HARBOUR.

Variation 23° to 20° west.

DESCRIPTION OF THE LAND, &c.

THE EASTERN part of Nova Scotia is broken into the several islands and passages, as represented on the charts. Of the islands, which are low, and covered with stunted fir-trees, the principal and first on the N.E. is called Durrell Id., the second, Piscatiqui, the third, George Id., and the fourth, Canso, or Andrew Id.; outside, as well as inside these, are several other smaller islands, of less note, as also many *sunken rocks*, but so numerous are they, that it would be useless to attempt a description. The principal outside island is Cranberry Id., which is distinguished by a Lt.-ho.

Light.—On the N. part of Cranberry Id. a Lt.-ho. of wood is erected, of octagonal form, and striped *red* and *white* horizontally, 60 ft. in height. The Lt.-ho. exhibits *two fixed* Lts., the highest of which is 75 ft. above the sea, and the lower Lt. 40 ft. above the same level. They are situated vertically of each other, 12 yards apart, and are visible respectively 15 and 9 m. Lat. of the Lt.-ho. $45^{\circ} 19' 49''$, and long. $60^{\circ} 55' 29''$.

CAPE CANSO is the outer, or easternmost point of Andrew Id. From this cape, westward, to Torbay, the coast makes in several white heads or points; here the country is much broken; and near the S.E. extremity many white stones appear from the offing. During a southerly gale the sea is dreadful here.

The coast westward to Indian Harbour, in long. $61^{\circ} 48'$, is formed of metamorphic rock, principally clay and slate, in nearly vertical strata. Some small portions of reddish cliffs are found occasionally along this part of the coast. Near the sea, the country has rather a desolate appearance, thinly wooded; in other parts it is quite bare, and only covered with peat and bushes. In the latter instance, these spaces are called the Barrens.

From Torbay to Liscomb Harbour there are banks of red earth and beaches; and from Liscomb Harbour to the Rugged Ids. (excepting the White Isles, which are white rocks), the capes and outer islands are bound with black slaty rocks, generally stretching out in spits from E. to W.; and from the Rugged Ids. to Devil Id., at the entrance of the harbour of Ilalifax, there are several remarkably steep red cliffs, linked with beach.

The Soundings along this part of the coast are everywhere deep and irregular. Vessels navigating along it should not get into a less depth than 40 fms., especially in dark nights or during the dense fogs that prevail.

Currents.—There is found generally, although not constantly, a current, setting along the coast to the westward, and sometimes running more than a knot an hour. This current affords assistance to vessels bound westward and beating to windward. The tidal streams are weak and irregular.

The fishermen of Arachat are well acquainted with the channels and inlets on this coast, and frequent them, more particularly in the spring and fall, to catch mackerel and herrings, of which large shoals commonly resort here; but the rocks are so numerous, and the passages so devious, that no stranger should attempt them.

Of the whole of the many rocks and shoals situated hereabout and within a mile of the islands we shall not attempt to give a description, as their number and situations can only be clearly defined by the aid of the large charts of Captains Bayfield and Orlebar, R.N., and which we strongly recommend to the mariner who may be bound to this part, for without such charts only those that are well acquainted should attempt the more intricate harbours.

The outermost of these dangers eastward of Cape Canso is the *Bass Rk.*, of 6 ft., which frequently breaks, situated E. $\frac{3}{4}$ N. more than 2 m. from Cranberry Id. Lt.-ho., with the Church steeple at Canso and the S. extremity of Petit Pas in a line; and the *Grime Rk.* of 12 and 18 ft., 3 cables to the N.E. To the S.W. by W., little more than $\frac{1}{2}$ a mile is the *White Rk.* of 4 fms., with similar patches about; and between the Bass and the islands are the *Inner Bass*, *Middle Rock*, *Broad Shoal*, *Kelp Rks.*, &c., which can only be understood by the chart. To the East, S.E. and S. of Cranberry Id. are the *Fanning*, *Scott*, *David* and *Washball Rks.*, also the *Pink Rk.*, these being situated on the shoal ground surrounding the island. Detached from the island is the *Nickerson Rk.* of 4 fms. rocky, and the *Stanley Shoals*. The latter are four small rocky patches $\frac{1}{4}$ of a mile apart. The northern and western of these patches have the least water, 4 fms., and are sometimes shown by breakers. The northern patch lies with Flag Hill and Fort Pt. in line, and with Cranberry Id. Lt.-ho. N.N.W. $\frac{1}{2}$ W. $1\frac{1}{2}$ m. From the western patch the eastern extreme of Crow Id. is just shut in behind the eastern extreme of Cranberry Id.; and the Lt.-ho., bears N. by W. $\frac{1}{2}$ W., $1\frac{1}{2}$ m. The W. ends of *Derabie Id.* (situated to the N.E. of George Id.) and Cranberry Id. in one N. by W. $\frac{1}{2}$ W. lead in clear between these shoals and the Cape Breaker.

S.E. by E., 1 m. from Cape Canso, is the *Cape Breaker* with 16 ft.; this seldom breaks, and only with a heavy sea, and is therefore extremely dangerous. At 4 cables' westward is the *Roaring Bull*, which has 2 ft., and almost always shows, and bears from Cape Canso S.E. $\frac{1}{2}$ S., $\frac{2}{3}$ of a mile. The *Keeper* and *Kirby Rks.*, of 24 and 15 ft., are situated N.W. by N. from the Cape Breaker, the former 1 m., the latter $1\frac{1}{2}$ m., and on the western side of the entrance to the harbour of Canso. The E. end of Crow Id. and W. of Cranberry Id. touching, N. by W., clears the Cape Breaker to the eastward; and the Roman Catholic steeple at Canso open E. of Glasgow Hd., N.W. $\frac{1}{2}$ N., leads just clear to the N.E. of the Cape Breaker and the Keeper and Kirby Rk.

To the N.N.W. of the Kirby Rks., distant $\frac{1}{2}$ a mile, are the *Black Rks.*, 5 ft. above water, therefore easily seen, and serve to point out the entrance to Glasgow Harbour, which is between them and the Kirby Rks. *Man-of-War Rk.* bears N. by W. from the *N. Black Rk.*, distant 6 cables' length; and from Glasgow Id. E.N.E., about $\frac{1}{2}$ a mile. It is much in the way, but is usually shown by breakers, and covers at $\frac{1}{2}$ tide. The mark to clear it to the eastward is the eastern end of the Black Rks. and Cape Canso Rk. in one S. $\frac{1}{2}$ E. It is better to keep Cape Rk. open to the eastward of the Black Rks. until the *Man-of-War Rk.* is passed; the mark for knowing which will be, when Flag Hill comes in line with the steep bank (not the beach) of Fort Pt., bearing N.W., which will lead clear to the N.E. of the rock, and also the *Mackerel Rk.*, $\frac{1}{2}$ a mile to the N.W.

The Bootes is a shoal between the Black Rks. and *Man-of-War Rk.* nearly midway, but rather to the W. of the line of bearing between them. It has but 6 ft. as least water. The *Mackerel Rk.* has 10 ft. water, and seldom shows, making it the more dangerous on that account.

Grassy Reef lies N.N.W. from the *Mackerel Reef* on the other side of the channel, and is extremely dangerous, projecting S. by E., $\frac{1}{4}$ of a mile from the S.E. extremity of *Grassy Id.*, narrowing the breadth of the deep water between it and the *Mackerel Rk.*, and rendering it difficult for large vessels to pass this crooked and narrow channel.

The South Shoal is on the W. side of the Ship Channel. It has 7 ft. least water, and extends 3 cables' off shore, half way across toward Fort Pt. of *Grassy Id.*, but leaving a clear channel between it and *Grassy Reef* of $1\frac{3}{4}$ cables' in breadth. From hence to *Grave Id.* the channel is clear, and when near the latter take care to give it a berth of $\frac{1}{2}$ a cable, and you can round into Canso Harbour.

The HARBOUR of CANSO, within *Piscatiqui Id.*, is well sheltered, with good ground, and sufficient depth for vessels of any burthen. In a rough sea the dangers show themselves; but with smooth water it is hazardous to enter the passages without a pilot, or a leading wind.

TIDES.—It is H.W., F. and C. at Canso Harbour at 7h. 48m.: ordinary springs rise $6\frac{1}{2}$ ft., neaps $4\frac{1}{2}$ ft. The duration of the rise and fall and still more of the streams, is influenced by winds or other causes, but the rate of the streams in the N.W. entrance of the harbour, where they are strongest, does not often exceed one knot. The flood comes from the southward, the ebb from the opposite direction.

From Cape Canso, the coast of *Andrew Id.* trends to the S.W., $1\frac{1}{4}$ m. to *Gannet Pt.*, off which extend the *Gannet Ledges*, the outermost of which with only 3 or 4 ft. upon it extending S.E. by E. nearly a mile from *Gannet Pt.*; there is also foul ground, with 6 and 9 fms. over it, a mile further to the S.E. The *Old Man Id.* and other reefs lie closer inshore between *Gannet Pt.* and Cape Canso.

The Patch Rk. is the most seaward danger on the S.E. of *Andrew Id.*, but has not less than 30 ft., although the sea breaks on it occasionally. It bears from Cape Canso S.S.E. $\frac{1}{4}$ E., $1\frac{3}{4}$ m.; and from *Gannet Pt.* E. by S. $\frac{1}{2}$ S., $2\frac{1}{4}$ m. Within the *Patch Rk.*, between it and the *Gannet Ledges*, is the *Boom Rk.* of 2 fms., bearing S. about $1\frac{1}{2}$ m. from Cape Canso; E.S.E., $1\frac{1}{2}$ m. from the S. point of *Andrew Id.*; and S. by W. $\frac{1}{2}$ W. from *Cranberry Id.* Lt.-ho. These dangers are situated on the western side of *Andrew Passage*, and a good mark to clear them to the S. is the S.W. extreme of *Dover Id.* open of *White Pt.* W. $\frac{1}{2}$ S.

Directions.—Sailing from the westward into Canso Harbour, so soon as you have passed the *Roaring Bull*, over which the sea generally breaks, and the *Cape Breaker*, run N.N.W. for *Petit Pas*, or *Red Id.*, taking care when above the *Black Rks.*, to keep them open of the rocky islets off Cape Canso until you bring *Flag Hill* and *Fort Pt.* in one, bearing N.W., which will carry you above *Man-of-War* and *Mackerel Rk.*; then make for *Grave Id.*, keeping *Walsh's-ho.* (on *Durell Id.*) just open to the S.W. of it, which will lead between the *Grassy reef* and the *South Shoal*, and clear of the shoal water off *Grassy Id.* When nearly up to *Grave Id.*, you must not approach nearer than to have the depth of 5 fms.; then anchor to the N.-westward of it, on a bottom of mud.

Coming from the eastward, pass between Cape Canso and Cranberry Id., giving the latter a berth of $\frac{3}{4}$ of a mile to avoid the *shoal* which stretches to the southward of it, and steer for Petit Pas, as before directed.

The northern passage between Durell and Piscatiqui Id., notwithstanding its narrowness, yet, having a depth of water and a clear channel, will be found to be the best passage. In taking this channel from the northward you must be careful of the *Bald Reef* on the eastern side, which dries, and lies off Bald Id., the latter being 30 ft. high, and off the N.W. point of Piscatiqui Id.; and on the western side there are the *Net Rks.* dry at $\frac{1}{4}$ ebb, and the *Whitman Rk.* of 2 ft. The channel in is between these. The mark to clear the Bald Reef is the Roman Catholic Church on the main, in one with the house on Cutler Id., bearing S. $\frac{3}{4}$ W.; and on the western side to clear the *Net Rks.*, and the *Whitman Rk.*, bring the same steeple and W. side of Cutler Id. in one S. $\frac{1}{4}$ W. When approaching the narrow part of the channel between Cutler Id., and Piscatiqui there is no danger, keeping mid channel, until you get Grave Id. in sight, when you must bring Lanigan's ho. (on the main, behind) only just to the eastward of Grave Id., and it will lead through the narrow pass and clear of the *Starling Rk.*, which lies within 120 yards of the shore of Piscatiqui Id.; then steer S.W. and anchor.

ANDREW PASSAGE is to the westward of Andrew Island, between it and the mainland, and leads to Glasgow Harbour, and through that to Canso Harbour; but it is not available to any but those well acquainted with it, therefore a written description would be of no service. However, we shall notice a few of the dangers on the W. side of the approach to the passage, until we round *White Pt.*: the southern point of White Id., and the E. point of Dover Bay.

White Point Ledges extend $5\frac{1}{2}$ cables to the southward of White Pt.; and S. by E. from the point, distant 1 m. is the *White Rk.* of 5 fms., which breaks in heavy gales. This rock lies about $\frac{1}{2}$ a mile further out than the extremity of the ledges.

The Gannet Shoal lies E., 1 m. from White Pt., and has but 9 ft. on it; and to the northward of it off Madeline Pt. are some other rocks at the entrance of *Little Dover Run*. A mark to clear them to the eastward is Cranberry Id. Lt.-ho. kept open to the eastward of the trees on Cape Canso, bearing N.E. $\frac{1}{2}$ N.

DOVER BAY is a wild, deep indent, with a number of islands and *sunken rocks* at its head; yet shelter may be found on the western shore; or during a S.E. gale, by giving a berth to the rocks off White Pt. on the E. side, and on the W. side, the rocks that lie off the S. end of Dover Id., which are clearly visible in bad weather; haul up under White Id., and anchor between the small islands on the eastern side. Within these islands is *Little Dover Run*, which continues out S.-eastward, having 20, 28, and 50 ft., and quite safe. At the S.E. entrance there is a cast of 2 ft. nearly in the middle, but a chart only can point out these with accuracy.

We have already spoken of the dangers on the E. side of Dover Bay entrance; we shall now notice those on the western side, and in the bays.

DOVER ISLAND is on the W. side of the bay, and Dover Hd. is the eastern point of the Id., within which is *Dover Passage*, carrying but 14 ft., and used only by small coasting vessels.

Dover Shoals and Snorting Rocks lie on the W. side of entrance to Dover Bay; the former off the S.W. extremity of Dover Id., and never cover, and are nearly joined to the Id. at L.W. Some sunken rocks extend $\frac{1}{4}$ of a mile W. by S. from the Snorting Rks. The Dover Shoals lie S. $\frac{3}{4}$ E., distant $5\frac{1}{2}$ cables from the Snorting Rks., and have 4 fms. on each.

The other dangers are, a rock with 3 ft. on it, with Dover Hd. bearing N.N.E. $\frac{1}{2}$ E., $\frac{1}{2}$ of a mile. *Blackman Shoal*, of 25 ft. from which Dover Hd. bears N.W. by W., $\frac{3}{4}$ of a mile; *Bay Shoal*, with 30 ft., lying nearly half way across from Dover Hd. to White Pt., and breaking only after heavy gales; *Horne Shoal*, with 18 ft., lying

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nearly in the middle of the bay, between Louse Hd. and White Id., and the *Lumsden Shoal* of 14 ft., from which White Pt. bears S.E. by E., distant $6\frac{1}{2}$ cables.

LOUSE HARBOUR is on the western side of Dover Bay, 1 m. within Dover Hd., and is capable of holding large vessels. The entrance is to the N. of Louse Id., and has $3\frac{1}{2}$ fms. in it, but is very narrow.

PORT HOWE is the next westward of Dover Bay, and is exceedingly dangerous. It has a good depth of water, but scarcely room for large vessels to swing, where they are not exposed to the swell from the southward. *Port Id.* lies within the entrance, and there is good anchorage within the island, and in the mouth of Dover Passage: but the best anchorage is in the mouth of the western arm; and in taking this be careful to avoid a *sunken rock* of only 8 ft., which lies rather more than a cable S. by E. $\frac{1}{2}$ E. from the point which separates the northern from the western arms.

The dangers to be avoided in approaching from the eastward are, the Dover Shoals and Snorting Rks., and ledge off; those on the western side are as follow:—

Avery Shoal with 20 ft. on it lies nearly a mile to the southward of *Whale Id.*, (which latter is situated $\frac{1}{2}$ a mile outside, and to the westward of Port Howe), and $\frac{3}{4}$ of a mile from the S.E. extreme of *Millstone Id.*, in one with the Lt.-ho. on *White Head Id.*, bearing W. by N. $\frac{1}{2}$ N. The *Vache Shoals* and *Ledge*, carrying 10 and 20 ft., lie 4 cables to the E.N.-eastward. The *Whale Shoal* of 3 fms., and the *Whale Rks.*, which dry at L.W., lie on the western side of the channel leading to Port Howe. The *Black Rk.*, 4 ft. high, lies off Fluid Pt., on the western side; and the entrance to the port is between this rock and the rocks lying 2 cables off Howe Pt. on the eastern side.

Directions.—The mark to clear the shoals on the western approach is Dover Hd. open to the southward of Snorting Rks., bearing E.N.E. This mark will lead clear of danger to off the entrance, where you will get the *Black Rk.*, off Fluid Pt., in one with the remarkable Sugar Loaf Hill, 180 ft. high, and about $1\frac{1}{2}$ m. inland. On coming from the eastward bring these marks in one, bearing N. $\frac{3}{4}$ W., and run towards them, until the S. extremes of Whale and Millstone Ids. are nearly in one, bearing W.S.W., then steer round the *Black Rk.* at the distance of a cable to what part of the harbour you may choose. The country here is rocky and barren, and there is a quarry of granite, much in request for millstones.

Wine, Crane and *Raspberry Coves* are small places within the islands, and very intricate, and so choked up with sunken rocks that none but the native fishermen can navigate them, with their small craft and boats.

WHITE HEAD ISLAND is the next island of importance, and situated on the E. side of the entrance to Whitehaven. The island is composed of whitish granite rock 120 ft. high, and is wooded with dwarf spruce trees in the interior, but the S.W. point is a bare rock, on which a Lt.-ho. is erected.

Light.—On the S.W. point of White Head Id. is the Lt.-ho., in lat. $45^{\circ} 11' 58''$, and long. $61^{\circ} 8' 2''$. The building is 35 ft. in height, and 55 ft. above the level of the sea, and coloured white; it exhibits a *revolving* Lt. every 20 seconds, and vis. 11 m. The Lt. is not totally obscured during the eclipses. The flashes and eclipses are each of 10 seconds duration.

WHITEHAVEN is 4 m. to the westward of Port Howe, and is a secure harbour when in, with sufficient depth of water for a fleet of the largest ships; but the aspect of the place is so wild, and the entrances are so intricate, that no large vessel ought to attempt them at night, even with aid of White Head Lt., or in dense fogs that so frequently prevail. The shores of the harbour are barren, and the woods have been burnt off the hills, but more so on the eastern than the western side of the harbour. There are very few inhabitants at this place, and these reside principally in Doliver and Marshall Coves on the western side.

Dangers on approaching Whitehaven:—Eastern Passage, between Millstone Id. and White Head Id.

The East Bull, a shoal of 6 ft., lies with the Lt.-ho. of White Head Id. bearing N.W., distant 6 cables; and half way between it and White Head Id. is the *Sculpin Rk.*, drying at L.W. These two dangers form the W. side of the eastern entrance. Immediately to the W. of White Head Id. is the Southern Passage between that island and the Gammon Islets; through which there will not be found less than 10 fms., and no danger in clear weather with a leading wind.

To the westward of the Lt.-ho., at the distance of $\frac{1}{2}$ a mile is the *Rocky Ledge*, then the *Shag Ledge* and *Black Ledge*. The Rocky and Shag Ledges are never covered, and are nearest to the Lt.-ho.; the Gammon Islets, of bare granite, will be visible to the northward of them. The Black Ledge dries at L.W. Its western extremity bears from the Lt.-ho. W. $\frac{3}{4}$ N., at little more than a mile. This ledge forms the eastern side of the western passage into the harbour.

The Bald Rock, Outer and Inner Gull Ledges are on the western, or rather northern side of the Western Passage, and extend nearly a mile from Deming Id., which is united to the mainland. These ledges and rocks are above water, but with reefs around and between them. The most dangerous of these, because it forms the northern boundary of that part of the Western Passage, is a rock with 6 ft. on it, lying S.S.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ cable from the Outer Gull Ledge.

Threetop Island lies within the entrance, and is easily recognised by three remarkable hills, 50 or 60 ft. high. The main channel is to the N.E. of this island; the other channels N.W., are only fit for small craft, being full of rocks and very narrow. A short distance within the entrance on the eastern side, and nearly abreast of the middle of Threetop Id. is a rock with $3\frac{3}{4}$ fms. on it, which reduces the breadth of the channel to $1\frac{1}{2}$ cable. The mark to lead clear to the S.W. of this rock is the opposite extremities of the Gammon Islets and White Id. Id. very slightly overlapping and bearing S. by E. $\frac{3}{4}$ E.; and this mark also clears the shoals further in off Doliver Id. and Deming Pt., on the western side of the harbour. *Fisherman Id.* lies $1\frac{1}{4}$ m. further up the harbour than Doliver Id.; and *Kelp Shoal*, with only 3 ft. water, lies to the S.W. of Fisherman Id., and directly in the way of vessels passing westward of that Id. There is a channel between it and the Id., only $\frac{1}{2}$ a cable wide, the mark for which is the western extremities of Pilot Pt. and Yankee Islet in one, bearing S. $\frac{1}{2}$ E. The best anchorage is $\frac{3}{4}$ of a mile above Doliver Id. on the eastern shore, just above Yankee Cove, and at Marshall Cove, just above Fisherman Id., on the western side of the harbour.

Directions.—In coming from the eastward, and making for Millstone Id. with the intention of taking the *Eastern Passage*, the mark will be the *N. Hill* on *Threetop Id.* and *Dogfish Pt.* (which is the northern point of White Head Id.) in one, bearing N.W. $\frac{1}{4}$ W.; this will lead up to Paddy Ledge (the next past Millstone Id.) abreast of which off the opposite side of the passage, and nearly in the middle is the *Middle Rk.* of 6 ft., so that it would be well to edge a little to the northward of the leading mark at this part of the channel. From this spot steer N.W. $\frac{1}{2}$ N., $\frac{1}{2}$ a mile; then N.W. by W. up to Threetop Id.

In taking the *Southern Passage*, which is only a cable wide, take care in coming from the eastward, that you keep clear of the East Bull and Sculpin Rks.; the mark to do which will be, Dover Id. and S. point of Millstone Id. in one, E. by N. This mark also clears the S.W. Bull Rk. to the southward. Do not bring the Lt.-ho. on White Head Id. to the westward of N.W. by N., but having it on that bearing, you may steer N.W. for the western side of White Head Id., which you may coast at a distance not exceeding one cable; open out Millstone Id. until you get the S. point of it touching Dogfish Pt., bearing S.E. $\frac{3}{4}$ E., then alter course to N.W. $\frac{3}{4}$ W., which will lead to the southward of Turtle reef and rock off Spry Pt. As soon as you get the Lt.-ho. open of Gammon Islets bearing S.S.E. $\frac{1}{2}$ E., steer N.N.W. $\frac{1}{2}$ W., and take up the inner marks for the harbour.

The principal entrance to Whitehaven is through the *Western Passage*; attention must be paid to the following marks:—if coming from the eastward, take care of the S.W. Bull Rk., the clearing mark to the southward of which we have already given,

until you get *Flying Pt.* (the next point westward of Whitehaven), in line with the *Bald Rk.*, N.N.W. $\frac{1}{4}$ W.; this will clear to the S.W. of the Bull Rk., and also to the S.W. of the Black Ledge; then to clear the Black Ledge on the western side, bring Doliver Id. and Fisherman Id. touching and bearing N. by E. $\frac{1}{4}$ E. Or coming in from the westward, bring Net Rk. (a rock to the S.E. of Threetop Id., and joined to it by a reef) in line with Spry Pt., bearing N.E. by E. $\frac{3}{4}$ E.; this will clear the Bald Rk. and reef to the eastward of it. The Black Ledge is generally seen by the breakers upon it, and it can then be safely passed at the distance of one or four cables. Having well noticed these clearing marks, run in nearly midway between the Black Ledge and the rock off the outer Gull Ledge; bring Net Rk. to bear N.E. and steer for it, and pass round it to the northward at the distance of about one cable. Here again the marks for the inner harbour may be taken up.

TIDES.—It is H.W., F. and C., in Marshall Cove, Whitehaven Harbour, at 8 h. 0 m.; springs rise 6 ft. and neaps 4 ft. The rate of the tidal streams in the entrance of the harbour seldom exceeds half a knot, excepting at the time of heavy rains or the melting of the snow, at which time the ebb stream is accelerated.

TORBAY is the next place of any note westward, and is an extensive bay, being 9 m. long and 4 m. deep, and includes Molasses Harbour at the eastern end; and *Cashman Cove*, *Cole Harbour*, *English and American Coves*, and *Carlo Harbour* on the northern shores, and *Larry River* and *Webber Cove* at the western extent. Some of these harbours afford secure anchorage for small vessels, but they are inaccessible to strangers and require a native pilot to conduct you to them. Before the bay, on the eastern side thereof, are the Sugar Ids., low, and formed of clayslate, not exceeding 30 ft. in height; and the principal entrance into Torbay, is between these islands and Berry Id. to the W., the eastern extreme of a peninsula, about 80 ft. in height in some parts, and united to the main by a beach and range of sand hills. Berry Id. is low and rocky, and shallow water extends off the peninsula $\frac{1}{3}$ of a mile to the southward.

Dangers off Torbay.—Flying Pt. may be said to be the western point of Whitehaven Harbour and eastern point of Torbay, and off it between the bearings of W.S.W. and N.W., within the distance of a mile are the *Flying Pt. Shoals*, carrying but 6, 12, and 18 ft. on the shoalest parts. *Torbay Ledges*, on the eastern side of the entrance, are very dangerous; the *French Rk.*, the farthest out, has only 10 ft. water on it, and lies with *Topstone Ledge*, the western extremity of the Sugar Ids., bearing N. by E., $1\frac{1}{2}$ m., and Berry Id. N.W. by W. $\frac{1}{2}$ W., $1\frac{1}{4}$ m.; and with the *Bull Rk.*, another of the ledges, having only 4 ft. upon, and which usually breaks, bearing E., $\frac{2}{3}$ of a mile. These ledges extend to the northward, between those we have noticed and the Sugar Ids., and have deep water between them, but too intricate for vessels to navigate with safety. On the western side of entrance there is the *Tuffin Rk.*, of 6 fms., and although this can hardly be called a danger, still it is asserted to break occasionally, after heavy gales. It bears S.W. by W. $\frac{1}{2}$ W. from Berry Id., distant $4\frac{1}{2}$ m., and is about 2 m. from the nearest land. The *Net Rk.* of 20 ft. water, lies S.S.E., $\frac{1}{2}$ a mile off the entrance to Little Harbour. The *Shag Rk.* lies W. by S. $\frac{1}{4}$ S., a little over 2 m. from Berry Id., and S.E. by E. $\frac{1}{2}$ E., distant 1 m. from Little Harbour. It rises 2 ft. above ordinary H.W., and between it and the shore there are rocks that dry at half-tide; shallow water also extends from it 4 cables to the S.E. Next to the Shag Rk., in approaching the entrance, is the dangerous *Gull Rk.*, of 15 ft. It is of small extent, and bears from Berry Id. S.W. $\frac{3}{4}$ W., nearly 1 m., and from the Shag Rk. E., $1\frac{1}{4}$ m.

Clearing Marks.—Hog Id. touching Leblanc Pt., bearing N.E. by E., leads to the eastward of the Bull Rk.; and Cole Harbour Id. open to the westward of Topstone Ledge N.N.E. $\frac{1}{2}$ E., leads to the westward of all the Torbay Ledges with the exception of the *Brig Rk.*, which is the westernmost, and carries only 9 ft., and lies with Topstone Ledge bearing N.E. by N., distant 3 cables. These ledges are steep-to, and the lead affords very little assistance.

Directions.—In running for Torbay with a fair wind, endeavour to bring Cole Harbour Id. open of Topstone Ledge (one of the former leading marks), or if your

vessel will lie better to the wind, bring the western extremity of Sugar Ids. (not Topstone Hd.) touching Mars Hd., bearing N.E. $\frac{1}{2}$ E.; keep either of these courses until Berry Hd. bears W. $\frac{1}{2}$ S., in line with the points to the westward, then steer N.N.W., $1\frac{1}{2}$ m. till you get the southern extremities of Topstone and Green Ledges in line bearing E.S.E.; from this position you can steer W.N.W. about $\frac{1}{2}$ a mile, until Berry Hd. and Flat Pt. come in line, bearing S., then W. to the anchorage off Webber Cove, in 6 fms., mud. In steering these courses for the anchorage, and being careful of the bearings, you will clear the *Webber Shoal*, which has 12 ft. upon it, and lies off the N. side of the peninsula, from 3 to 6 cables' length from the shore.

NEW HARBOUR COVE is $5\frac{1}{2}$ m. to the westward of Berry Hd., and is an open bay to the S.S.E., affording no safe anchorage for shipping. From Shoal Pt. on the western side, a rocky shoal runs out $\frac{3}{4}$ of a mile to the S.S.E. St. Catherine R. flows into this bay.

CODDLE HARBOUR is 4 m. further westward, where secure anchorage can be found for small vessels, in from 12 to 14 ft. at L.W. within Coddle Id. The entrance to the anchorage is from the eastward, but no one can take it without a local knowledge, as the dangers are too numerous for a written description to be of any use.

Off this part of the coast are three islands named *Green*, *Goose*, and *Harbour Islands*, and which lie on the western side of the channel leading to Isaac and Country Harbours. They are low and wooded with small spruce trees. Goose Id., the middle of the three, is the highest and largest, one part being about 80 ft. above the level of the sea.

Before we proceed to the next following harbour, we must notice the

Dangers E. and S.E. of Goose Id.—The best directions we can give the mariner here, is not to approach this part of the coast eastward of Goose Id. within a distance of 5 m., or nearer than a depth of 30 fms., especially in dark nights or foggy weather.

Brandy Ledge is a rocky shoal, running about parallel with the coast of New Harbour Hd., and is nearly a mile long, and $\frac{1}{2}$ a mile wide. Part of the ledge, near the middle, covers only at H.W., and from it New Harbour Hd. bears N. by E., $1\frac{1}{2}$ m.

Split Rock itself is very small, and comes awash at L.W. springs, and is situated near the southern end of a long rocky shoal, $2\frac{1}{2}$ m. E. $\frac{1}{2}$ N. from Green Id. Two detached patches of 4 and 5 fms. extend a mile to the N.N.W. of the rock.

White Rock, which carries 10 ft., lies E., 1 m. from Green Id.; and on the same bearing $\frac{1}{2}$ of a mile further, there is a rock with 28 ft. water. There are other patches nearer the island, the southernmost of which has only 14 ft., and bears E. $\frac{1}{2}$ S., $\frac{2}{3}$ of a mile from the S. extremity of the island.

Ragged Ledge extends $1\frac{1}{2}$ m. E.S.E. from the E. point of Goose Id., and dries partly at L.W. There is no passage between Green Id. and this ledge, or between Goose and Green Ids., for all this is shallow water, and breaks heavily in bad weather. The *Frying Pan* and *Pan Rks.* are two reefs, one above, the other under water on the shoal ground, between Green and Goose Ids.

Dutch Shoal, of 8 ft., lies E. by N., nearly 1 m. from the E. point of Goose Id., in what is called the Sound.

ISLAND HARBOUR is situated on the N. side of Harbour Id., between two long shingly points. On the opposite coast is *Drum Hd.*, a small island, and Darby Pt. next eastward of it. This bay affords anchorage for the summer months, in 7 fms., but is too intricate for large vessels. Pilots may be had at Harbour Id., but they do not like handling vessels over 10 or 12 ft. draught.

TIDES.—It is H.W., F. and C., at Island Harbour at 7 h. 40 min.; springs rise $6\frac{1}{2}$ ft., neaps $4\frac{1}{2}$ ft. The flood stream comes from the eastward, and its rate is usually less than one knot, and is much influenced by the winds.

ISAAC HARBOUR is situated between Island Harbour and Country Harbour, being separated on the E. by Red Head, and on the W. by Ragged Pt. To the northward of Red Hd. is a small peninsula, from which Webb reef runs out westward $2\frac{1}{4}$ cables, leaving a passage between that reef and the Ragged Rks. on the opposite side only 2 cables wide, with 7 fms. in it. The Ragged Rks. cover at H.W., and extend one cable off shore. To a stranger, the assistance of a pilot is necessary in taking this harbour, in which, however, is anchorage in $3\frac{1}{2}$ to 4 fms., muddy bottom.

COUNTRY HARBOUR.—This fine harbour is navigable for the largest ships 8 or 12 m. from its entrance. It is at present but thinly settled along the shores, and the inhabitants are principally occupied in the lumber trade and the fisheries. The shores are bold, and the anchorage soft mud, with a depth at entrance of 13 fms. to 5 fms. towards the head. It may easily be known by the three islands on the eastern side, which we have described, and by Country Harbour Hd. on the western side; this latter being a bold and precipitous headland, 160 ft. high, and which separates Country Harbour from Fisherman Harbour to the W. Three miles further up than this head, the harbour becomes not above 3 cables wide at Harbour Pt., where there is a depth of 11 fms. From thence the harbour continues from $\frac{1}{2}$ to $\frac{1}{2}$ a mile in width, with 10 to $5\frac{1}{2}$ fms. to Stewart Cove on the eastern side, where the anchorage is excellent in $4\frac{1}{2}$ to 7 fms. On the western shore, at $\frac{2}{3}$ of a mile within the entrance, is Green Pt., which has a large pond enclosed by the point of shingle; and $\frac{2}{3}$ of a mile further is Mt. Misery, a remarkable round hill, 140 ft. in height.

TIDES.—It is H.W., F. and C., at 1 m. from the head of Country Harbour at 8 h. 45 min., springs rise $6\frac{1}{2}$ ft., neaps $4\frac{1}{2}$ ft.; extraordinary tides rise 7 ft. The streams are weak, seldom exceeding $\frac{1}{2}$ a knot.

FISHERMAN HARBOUR is to the westward of the entrance to Country Harbour, and is nearly 2 m. wide at its entrance, between Country Harbour Hd. and Cape Mocodome. It is quite open to the S.E. Large vessels may anchor here in the summer months, in from 4 to 7 fms., off a cove on the southern shore, as the dangers off the mouth of the bay protect, in some measure, the anchorage. Small vessels may lie inside the cove, in from 10 to 15 ft., on a bottom of mud.

Dangers on approaching Country and Fisherman Harbours on the eastern side:—

Tom Cod Shoals.—To the S.S.W. of Green Id. lie several shoals, called the *Tom Cod Shoals*, the *Tom Cod Rk.*, the *Gull Nest*, and the *Shoal Place*. The Shoal Place is the farthest out of the easternmost Country Harbour Ledges. It is small and rocky, having 5 fms. least water, and in a heavy sea is seen by the breakers. From it Green Id. bears N. $\frac{1}{4}$ W., $2\frac{1}{4}$ m. Tom Cod Rk. covers at H.W., and lies to the N.W. by N. of the Shoal Place, $1\frac{1}{2}$ m. It is usually seen by the breakers, and serves to point out the approach to the Tom Cod Shoals of 2 and 3 fms. to the W.N.W. and N.; the northern patch, called the Gull Nest, lying from the Tom Cod Rk., N. by E. $\frac{1}{4}$ E., 4 cables; and from Green Id. S.S.W. $\frac{1}{2}$ W., $\frac{2}{3}$ of a mile, with a clear passage between. The mark to clear them to the westward is Harbour Pt. and Mount Misery summit in one, bearing N.N.W. $\frac{1}{4}$ W.

The Middle Ledge, or S. Easter, is a rock which covers at half tide, and lies upon a rocky shoal about 4 cables long from N.W. to S.E., with deep soundings around it. It is commonly shown by the breakers, excepting at H.W. and a very smooth sea, so that there is no difficulty in avoiding it on either side; the mark to sail clear eastward of it, is the summit of Mt. Misery and Country Harbour Hd., N. by W. $\frac{3}{4}$ W.; the nearest danger on the western side is the Taylor Shoal of 3 and 4 fms., which lies W. by N. $\frac{1}{4}$ N., $1\frac{3}{4}$ m., so that in passing westward of the Middle Ledge it is only necessary to pass the rock or breakers at the distance of $\frac{1}{2}$ a mile. To clear it southward, bring Pollux Rk. and Hollin's Hd. in one.

In noticing the dangers westward of Country Harbour, we shall take the neighbourhood of Hollin's Hd., which forms the S.E. point of Indian Bay, and the S.W. point of Hollin's Bay; the latter, together with Port Bickerton, we shall speak of presently.

Nixonmate Shoal.—A reef runs out S.S.W. $\frac{1}{2}$ W., $1\frac{1}{2}$ m. from Hollin's Hd., on which are the Nixonmate Shoal and Webb Rk., distant $1\frac{1}{2}$, and 4 cables respectively, from the head, and carrying 10 and 6 ft. at L.W. The Castor Rk. and Cape Mocodome in one, bearing E. by N. $\frac{1}{2}$ N., lead $\frac{1}{2}$ a mile to the southward of these shoals; and there is a clear passage between them and the Castor Shoals $\frac{1}{2}$ a mile wide.

Castor Rock lies to the S.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ m. from Hollin's Hd., and is composed of dark slate, 4 ft. in height above ordinary tides. The Castor Shoals, some rocky patches of 3, 4, and $4\frac{1}{2}$ fms., lie off to the eastward, westward and southward. The outermost of these shoals, called the Fleck Shoal, of $3\frac{1}{4}$ fms., bears from the Castor S.S.W. $\frac{1}{2}$ W., $1\frac{1}{2}$ m. Green Id., open to the southward of Pollux, clears the whole of the Castor Shoals to the southward.

Pollux Rock lies S.E. by E. rather more than 2 m. from the Castor; and S.S.W., $2\frac{1}{2}$ m. from Cape Mocodome, and is a similar rock to the Castor. A reef extends from it to the N.N.W. to the distance of 4 cables. To sail to the westward of it, you must get Country Harbour Hd. to be just seen in one with the bank or cliff off Cape Mocodome. There is a clear passage between this reef and the Castor Shoals more than a mile wide.

Bingly and **Taylor Shoals** lie to the E. and S.E. of the Pollux, the Taylor having been already noticed in connection with the Middle Ledge. The Bingly Shoal has but 15 ft. upon it, and lies E., $\frac{1}{2}$ a mile from the Pollux. The Taylor has 18 ft., and lies $\frac{2}{3}$ of a mile further to the southward, bearing S.E. $\frac{1}{4}$ S., nearly 1 m. from the Pollux. The two last-named dangers, as well as the Castor Shoals, not being shown by breakers, excepting when there is a heavy sea running, are among the most dangerous rocks on this part of the coast.

The Rose Shoal is a formidable danger off Fisherman Harbour, and is a rocky ledge $\frac{2}{3}$ of a mile long, having least water, 6 ft. Its outer extremity bears from Cape Mocodome S.S.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ m., and from the Pollux N.E. by E. $\frac{3}{4}$ E., nearly 2 m.

The Bull is a small rock which dries at L.W., $3\frac{1}{2}$ cables from Cape Mocodome, from which it bears S.E., and situated on a rocky shoal which extends $\frac{2}{3}$ of a mile from the cape, and upon which are other rocks of 6 ft. These are exceedingly dangerous at H.W. when the sea is calm, for at such time there are no breakers to point out their positions. The Cape Rk., 4 ft. in height, lies S.W. by S., one cable from the cape.

Black Ledge lies nearly in a N. and S. direction, more than a mile in length, directly off the mouth of Fisherman Harbour, to which, as we have already observed, it affords some shelter from the heavy seas from the S.E. The central part of this ledge is 2 ft. above the ordinary spring tide, and in several other places it dries, or nearly so, at L.W. From its southern extremity, which is steep-to, and has only 2 ft. on it at L.W., Cape Mocodome is in line with Hollin's Hd., bearing W. $\frac{1}{2}$ N. The head kept well open clears it to the southward; and the summit of Mount Misery open of Country Harbour Hd. N. by W. $\frac{3}{4}$ W., clears it on the eastern side.

PORT BICKERTON is a safe and convenient little harbour for small vessels, 2 m. to the westward of Cape Mocodome. It has a clear but narrow entrance with 6 fms., between Bickerton Id. and Barachois Id. At each point of the entrance a reef extends out to the S.E. 2 cables. Barachois Hd. may be known by its white cliff.

HOLLIN'S BAY is the next inlet westward of Port Bickerton, and is open to the S.E., and affords shelter at its head to boats and other small craft. On the N.W. of entrance, $\frac{1}{3}$ of the distance across from Bickerton Id., is the Hollin's Shoal, with only 6 ft. on the shoalest part.

Directions.—It is to be supposed that in running for any of the intricate harbours of this coast that you do so with a fair wind for taking them, otherwise the risk is great, for many of the marks for beating are difficult to make out, and are only to be picked up with certainty by those sufficiently acquainted with the navigation, as not to require the aid of written description. Vessels therefore, having passed the Middle Ledge, which may be avoided by giving the breakers a good berth, or by any

of the leading marks given in the description, may open the summit of Mount Misery only just to the eastward of Country Harbour Hd., bearing N. by W. $\frac{3}{4}$ W., and run with these marks on until about midway between Rose Shoal and the S. point of Goose Id.; then steer N. until Mount Misery comes in one with Harbour Pt. N.N.W. $\frac{1}{2}$ W., when you can steer towards the narrow entrance of the harbour and enter mid-channel, and anchor anywhere within it. Be cautious of the sunken rock lying half a cable off the S. eastern point of the peninsula of Mount Misery.

To enter *Fisherman Harbour*, bring Holly Pt., on the western side of entrance to Isaac Harbour, just open of Country Harbour Hd., and when past Rose Shoal you should open the point more, in order to give the Bull Rk. a wider berth. As soon as the small island of Dorkin, at the head of the harbour opens to view, the vessel may haul to the westward into the bay, where the only danger to be avoided is the rocky shoal stretching out $\frac{1}{4}$ of a mile from the clay cliff, next eastward of the cove and shingly beach.

In making for Island Harbour you should have the large chart by you, for that will give the best idea of the approaches. Coasting vessels from the eastward usually take the inner route through the Sound, passing New Harbour Hd. at the distance of $\frac{1}{2}$ a mile, steering W.N.W., and keep Drum Hd. only just open of Darby Pt. in running towards it, until abreast of Beach Pt.; then steer W. by N. for Burke Pt., taking care to avoid the Burke Shoal of 8 ft., which lies $\frac{1}{4}$ of a mile E.S.E. from Burke Pt., and anchor in the road.

If with a southerly or easterly wind you are approaching from the southward, take the channel between Harbour and Goose Islands, steering N.N.E., keeping nearer Goose Id. than to Harbour Id., to avoid the reef off Saladin Pt. and the Middle Ground, which having passed, haul up N., until Red Id. and Drum Hd. come in one; then steer N.W. $\frac{1}{2}$ N. to clear the Burke Shoal, and take the road as before.

In approaching from the westward, there is a ridge of rocky ground extending from the eastern side of Isaac Harbour to Harbour Id., a distance of $1\frac{1}{2}$ m., upon which there are some patches of 12, 16, and 18 ft.; and to keep clear of these, pass the N.W. point of Harbour Id. at a distance of 2 or 3 cables, steering N.E. by E., until you get Drum Hd. and Darby Pt. in one E.S.E.; then keep away to the eastward, and bring Burke Pt. in one with the remarkable hill on Goose Id. S.E. by S.; then run in and anchor.

INDIAN BAY is next westward of Hollin's Hd., and is bounded on the W. by Walter Id.; is entirely open to S.S.E. winds, and only affords shelter from S.W. winds to small craft and fishing vessels, and for these even the anchorage is not considered safe. On the western side of the bay is a rocky reef extending E., $\frac{3}{4}$ a mile from Wine Id., called *Rude Shoal*. Rude Pt. (a low shingly point a mile to the northward of Walter Id.,) in one with Fleming Cliff, ($1\frac{1}{4}$ m. to the northward of Rude Pt.), and bearing N. by W. $\frac{1}{2}$ W., will clear this shoal. *Walter Shoal* of 20 ft., lies $\frac{3}{4}$ of a mile from Walter Id.; and to clear it to the S.E. do not open Wedge Islet* to the S. of Liscomb Id.

CAPE ST. MARY.—W. by S. $\frac{1}{2}$ S., 2 m. from Walter Id. is Cape St. Mary, in lat. $45^{\circ} 2' 20''$, and long. $61^{\circ} 51' 16''$, the eastern headland of St. Mary's River. The height of the land nearest to the sea is about 137 ft.

ST. MARY RIVER falls into the bay between Cape St. Mary and Barachois Pt., and $1\frac{1}{2}$ m. to the N. of Wedge Islet. The navigation of this river is impeded by two bars of sand, over which there are about 10 ft. at ordinary L.W. of spring tides. The outer bar extends from Wharf Pt. to Black Id.; the inner bar about $\frac{1}{2}$ a mile further up. Above the bars the channel is crooked and dangerous, there being two sunken rocks of 6 and 8 ft. a little below the small islet of Horton. Above these rocks the channel widens to about 50 yards, and has a depth of 15 ft., between mud

* On this islet is a beacon 100 ft. high.

flats, and gradually decreases in depth as you ascend. When at the distance of $6\frac{1}{2}$ m. from the bar it divides into two branches; on one of which, to the eastward, is the village of Sherbrooke; the other branch ending in a swamp. On the E. side of the river, at about $1\frac{1}{2}$ m. above the first bar is a church 75 ft. high, forming an object that is plainly visible when approaching from sea. The flood tide at the entrance runs from $\frac{1}{2}$ to 1 knot per hour.

TIDES.—It is H.W., F. and C. within the bar of St. Mary River, 8 h. 0 min.; ordinary springs rise 6 ft., neaps $4\frac{1}{2}$ ft.

It would not be prudent for any stranger to attempt to take a vessel into St. Mary River. A good pilot can be obtained from McDiarmid Cove, at the eastern side of the entrance, by any vessel hoisting the usual signal.

JEGOGAN HARBOUR.—This is a deep inlet next westward of St. Mary River' and N.-eastward of Liscomb Id. Redman Hd. forms the western point of the bay, from which it runs in 4 m. to the head. Vessels drawing 18 ft. may find shelter near its head, but cannot be recommended without a pilot. In the mouth of the bay below Rae Id., the anchorage is exposed to the sea from the offing: and the dangers of Shag Rock, and Tobacco Ledges, as well as the Crook Shoals, to the eastward of Liscomb Id., render the approach to this and Little Liscomb Harbour difficult.

Dangers off St. Mary River and Jegogan Harbour:—

Wedge Islet is small, and lies $1\frac{1}{2}$ m. S. of Barachois Pt. It is formed of clay, and towards the mainland rises abruptly to the height of 50 ft. Upon this islet a **beacon** is erected, 100 ft. above H.W., which may be seen at the distance of 10 m., and forms a good mark for the neighbouring harbours, as the coast hereabout has much the same appearance, and is so uniformly low, that it is not recognisable until very near. The island is surrounded with rocky ledges, both on the N. and S. sides to the extent of $\frac{1}{2}$ a mile. On the N. side there is passage between *Steering Reef*, which stretches from main, but it is obstructed by rocky ledges, and carries a depth of 20 ft. by keeping the N.E. extreme of Walter Id. touching Cape St. Mary, bearing N.E. by E. $\frac{1}{2}$ E.

Sand Shoal lies S. by E., $1\frac{3}{4}$ m. from Wedge Islet, and has 5 fms. upon it.

HEMLOE and **LISCOMB ISLANDS** form the entrances to Little Liscomb and Liscomb Harbours; the former is the innermost, the latter being 120 ft. high, and wooded, and forms the E. side of the entrance to Liscomb Harbour. It lies N.W. and S.E., being 2 m. in length, and $\frac{3}{4}$ of a mile in breadth. Off the E. extreme of the island called Crook Pt., the Crook Shoals extend S.E., nearly a mile. Wedge Islet bearing N.E. $\frac{3}{4}$ E., and touching Wine Hd., (near Walter Id.) leads about $\frac{1}{2}$ a mile to the S.E. of the shoals.

Saddle Rock with 5 fms. upon it, bears S. $\frac{1}{2}$ E. from Crook Pt., distant $2\frac{3}{4}$ m. *Gull Ledge*, touching the N. side of *Little White Id.*, (both situated to the westward) leads to the southward; and by bringing the church steeple at Liscomb N. by W., will lead to the westward. This latter mark should be well noticed, as it clears all the dangers on the W. side of approach to Liscomb Harbour, as well as the *Liscomb Shoals* off Liscomb Pt., the W. point of entrance; and also the *Mackerel Shoal* off Cranberry Hd., the S.W. point of Liscomb Id., and leads well through the entrance until Liscomb Harbour to the westward, comes well open.

The Channel Rock lies $2\frac{1}{2}$ m. S.E. of Crook Pt., and has 3 fms. on it at L.W., and breaks when there is much swell. *Smoke Pt.* (the N.E. point of the peninsula of Liscomb) well open of Cranberry Pt., leads to the westward; and the *Black Prince* (a rock on the W. side of the approach to Liscomb) in one with the S. point of Barren Id., leads to the southward.

Tobacco Island and **Ledges** are situated at the mouth of Jegogan Harbour. It is low and wooded, and ledges extend from either end; that from the S. point extends S. by E., 1 mile; that from the N. point, about $\frac{1}{2}$ of a mile. The clearing mark for the S. ledge is to keep Pye Pt. touching Liscomb Id.

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Shag Rock is a low dark rock only 5 ft. above H.W., lying E.S.E., 6 cables from Redman Hd. Westward of this rock are several dangers, yet leaving a passage, 2 cables wide near Redman Hd., a steep wooded bluff 100 ft. high. *Byrne Rk.* is a small rock of 2 fms., nearly midway between the S. Tobacco Ledges and Wedge Id., and a patch of 3 fms. lies $\frac{1}{4}$ of a mile S.S.E. of it.

Directions.—In approaching St. Mary River from S.E. or eastward, keep a good look out for the beacon on Wedge Id., which is generally the first object recognized. Steer for this beacon on a W.N.W., or a N.W. course, so as to open the mouth of the river. Look out for a red store and wharf, (a mile above the bar) and when you get them in one, bearing N.N.W., steer in on that course. A pilot is necessary further.

Jegogan Harbour.—A vessel intending to take this harbour, should bring the N.E. side of Hemloe Id. to touch Redman Hd., (this mark also serves for entering Little Liscomb Harbour), bearing N.W. $\frac{3}{4}$ N., and steer in until Shag Rk. is in one with Brig Pt., (a low wooded point on the W. side of Jegogan Harbour), bearing N. by W.; then steer N. through the Middle Passage, between Tobacco Id. and Shag Rk., passing a cable's length eastward of the ledge and continue up the harbour to the anchorage, abreast of the houses on the W. side of the harbour, between Brig Pt. and Coote Hd. A little more than $\frac{1}{4}$ of a mile above Brig Pt. the channel is narrowed by a rock having only 13 ft., lying N.N.E., 4 cables from the point, and a ledge of rocks stretching from the opposite shore.

Little Liscomb Harbour.—To enter this harbour you must endeavour to pick up the same leading mark as Jegogan Harbour, passing $\frac{3}{4}$ of a mile to the eastward of the Channel Rk., right up to Redman Hd., which is bold-to, and may be passed at a cable's length; then steer round it to the N.W., and anchor in 3 fms., mud. A pilot is requisite to work in.

LISCOMB HARBOUR.—The entrance to this harbour, which is one of the best on the coast, and landlocked, is between Liscomb Id. to the E. and Liscomb Pt. on the W. At $1\frac{1}{4}$ m. within the entrance it trends to the W.N.W., for 4 m.; but about half way up is narrowed by some rocky shoals.

Dangers off the Entrance.—The *Saddle* and *Channel Rocks*, noticed in page 17, form the eastern outlying dangers, and *Hawbolt Rk.*, the outermost on the western side. The latter has 27 ft. on it, and lies S., 4 m. from Liscomb Pt. It is not often the sea is observed breaking on this rock. Gull Ledge, touching the S.W. side of Tuffin Id., clears it to the southward.

Sand Shoal is the next towards the land, and has 9 ft. upon it, and lies S., 3 m. from Liscomb Pt. Gull Ledge, touching the N. side of Little Wood Id., (50 ft. high, and wooded) and bearing W. $\frac{1}{2}$ N., leads to the southward of this shoal, and to the northward of Hawbolt Rk.

Mackingly Shoal, of 28 ft., lies N.E. by E., 4 cables from Sand Shoal.

Black Prince Shoal lies S. from Liscomb Pt., distant 2 m. This rock uncovers at half-tides, and generally breaks.

Lang Shoal, the shoalest water, 9 ft., lies between Sand Shoal and the Black Prince.

N.E. Breaker and Lump Rock lie nearer the entrance than the Black Prince, the former N.N.E., $6\frac{1}{2}$ cables from the Black Prince, and has but 4 ft. upon it. The latter has 9 ft., and lies N., at 9 cables distant, and $1\frac{1}{4}$ m. from Liscomb Pt.

TIDES.—It is H.W., F. and C., at Liscomb Harbour at 8 h. 0 min.; ordinary springs rise $6\frac{1}{2}$ ft., and neaps $4\frac{1}{2}$ ft. The streams are weak and irregular, being much affected by the winds.

Directions.—Ships making for Liscomb Harbour from the eastward, should bring *Smoke Pt.*, (which is about a mile N. of Liscomb Pt.) in line, touching *Pye Pt.*, (on the opposite side of the harbour) N.W. by N. nearly, and run in until abreast of the Mackerel Shoal, and when the church steeple bears N. by W., steer for it,

and passing Smoke Pt., which has 6 fms. pretty close to it, alter the course to N.W. by W. $\frac{1}{2}$ W., and run up to the anchorage in $4\frac{3}{4}$ fms., mud, which will be off the entrance to *Spanish Ship Bay*, a large cove on the N. side of the harbour, and much encumbered with rocks. Coming from the westward, bring the Church Steeple well open of Liscomb Pt., and stand in; and when within 5 m. of the entrance, bring the church in line with the low trees on Hemloe Id., bearing N. by W., when this mark will lead in clear of danger.

BAY OF ISLANDS.—The coast between Liscomb and Beaver Harbours, an extent of 6 leagues, is denominated the Bay of Islands. Within this space the islets, rocks, and ledges, are innumerable; they form passages in all directions, which have in general a good depth of water.

MARY-JOSEPH HARBOUR.—At the eastern part of this labyrinth, next to Liscomb, is *Mary-Joseph Harbour*, an excellent harbour when in, and has the advantage of entrances to the E. and W.

NICUMCIGUM INLET is the next, opening westward, but is a place of little note, as only a few schooners frequent it, and find snug anchorage. Everybody would prefer the excellent harbour of Mary-Joseph, which has the same entrance.

NICOMTAU BAY is the next in rotation, and is the outlet of the *Moser River*, which is a small stream, capable only of admitting schooners of light draught, and has a few inhabitants and farms.

NEWTON QUADDY is to the eastward of Beaver Harbour, between that and Nicomtau, and will admit schooners of small tonnage; but its entrance is encumbered by numerous shoals, rocks, and islands, so that it is but little frequented.

Dangers.—We shall here enumerate the principal islands, and outlying dangers on this part, with short directions, supposing with a fair wind, but at same time recommending all to seek the assistance of a pilot for either of the harbours named.

BARREN AND GOOSE ISLANDS.—Mary-Joseph Harbour is formed on the S. by these islands, which are the largest in the extent named, *Hawbolt* and *Round Ids.* being situated inside the harbour, and of small extent. Barren Id. is about 78 ft. in height; Goose Id., somewhat lower, declining westward.

Seal Ledges extend $1\frac{1}{2}$ m. from the E. point of Barren Id., and consist of several rocky heads, one of which is 4 ft. above water. Between these ledges and the Black Prince and shoals described, is a channel nearly a mile wide, leading round N.W. to the eastern entrance of Mary-Joseph Harbour, but which should not be attempted without a pilot, unless with a fair wind and clear weather. The mark to lead clear of the eastern edge of the Seal Ledge, is Gravel Pt., (the N. extreme of Liscomb Id.) open of Liscomb Pt., bearing N.N.E. $\frac{1}{2}$ E.

Thrumcap Islet and Shoal.—This small islet lies at the eastern entrance of Mary-Joseph Harbour, and is above 15 ft. high, having a small clump of trees upon it. E. of it are some patches of shoal water, forming the Thrumcap Shoal, whilst on the W. side is a dry ledge, leaving a small channel between it and Smith Pt. south of the Thrumcap Shoal; and extending $3\frac{1}{2}$ cables from Barren Id. is the *Pan Shoal*, of 10 ft., thus forming the channel into the harbour. To clear this 10 ft. rock, get Turner Pt. (the N. point of Hawbolt Id.) to touch Smith Pt., bearing W.N.W., and this will lead to the entrance.

Gull Ledge lies S.S.W., $1\frac{1}{2}$ m. from the S. part of Barren Id., and is about 30 ft. high, being composed of two bare ridges of slate. Close to the ledge the water is deep.

Nightcap Ledge is situated about midway between the Gull Ledge and the S. part of Barren Id., and is a similar rocky ledge about 10 ft. above water. Between this ledge and the Gull is the *West Rk.*, with only 2 ft., which renders the passage between these ledges dangerous.

Smith Rock, with 12 ft. upon it, lies S.W., about 6 cables' length from the Gull.

WHITE ISLANDS.—These islands are situated nearly half way between the harbours of Liscomb and Beaver, and derive their name from cliffs of slate, which appear white to seaward, and are 80 ft. high at their eastern end, and wooded. These islands lie about 9 m. to the eastward of Beaver Lt.-ho., and are the outermost of the groups of islands and rocks, so numerous on this part of the coast. There are several channels between these islands and some snug anchorages, but only for those that are used to navigate this part of the coast.

Between the Gull Ledge and the White Ids. is the *Little White Island*, a small island about 30 ft. high, and surrounded, excepting on the S.W. side, by reefs. *West* and *East Black Ledges* are to the eastward of Little White Id.

Crab Rock, of 5 fms. lies S.S.E., $1\frac{1}{4}$ m. from Little White Id.; and *Lockwood Rk.*, with 3 fms. on it, lies $\frac{3}{4}$ of a mile S. by W. $\frac{3}{4}$ W. from Crab Rk., and S.E. by S., rather more than 2 m. from the E. point of White Id. By keeping the whole of Tuffin Id. (the next large island N.N.W. of White Ids., and 90 ft. high) open E. of White Id., it will lead to the eastward; and to the westward when it is shut in behind White Id.

Horse Shoe Shoal, with 3 fms. on it, lies S.S.W., nearly $1\frac{1}{2}$ m. from the middle of White Id. The W. end of Halibut Ids., kept open of the W. end of Bowen Ledge, leads to the S.W. of the Horse Shoe.

David Shoal, with 4 fms. on it, lies N., $\frac{1}{2}$ a mile from the Horse Shoe Shoal.

Bowen Ledge is a bare, flat, slaty rock, only 8 ft. high, lying S.S.W., $\frac{1}{2}$ a mile from the low W. point of Camp Id., which is the westernmost of the White Ids. On the northern side of this ledge, between it and Camp Id., there is a navigable channel about $3\frac{1}{2}$ cables' wide.

The passages into Mary-Joseph Harbour are between the White Islands and Halibut Ids., and to the northward of the Frying Pan; also to the eastward of the White Ids., and between the E. and W. Black Ledges; but all these channels are too intricate for directions to guide, without a local knowledge of the coast.

Halibut Islands lie on the eastern side of the channel to Nicomtau Bay, and of the deep water channel leading to the anchorage under shelter of Brokenback Id.; and 2 m. N.W. by N. from Bowen Ledge. Pollock Shoal of $3\frac{3}{4}$ fms., lies $\frac{1}{4}$ of a mile to the southward.

We now come to the ranges of islands, rocks and shoals that extend from the mainland to the eastward of Beaver Harbour, to the distance of 5 m.; these are too numerous to make a written description of any service. We therefore notice the most outlying only.

Bird Islands are the outermost group of small low islands, destitute of trees, and lie E.N.E., $3\frac{1}{4}$ m. from Beaver Lt.-ho., and W. by N., 5 m. from the White Ids.

Bassoon Reefs lie to the S.E. of Bird Ids., and bears E., 4 m. from Beaver Id. Lt.-ho., and are composed of large rounded stones, part of which uncover at L.W. Breakers will generally be observed upon them; but at H.W., with the wind off shore, there will be some difficulty in recognising their position; the *Snapper Shoal*, of $4\frac{1}{2}$ fms., lies E.N.E., 1 m. from the outermost Bassoon Reef.

Clearing Marks.—Brokenback and Baptiste Ids. centre, N.W. by N., leads E. of Bassoon Reefs and Snapper Shoal; and to the westward of the Bowen Ledge and Pollock Shoal, as indeed, up the deep water channel to the anchorage under Brokenback Id.

North side of Pumpkin and Brother Ids. in line bearing W. by N., clears the Bassoon Reefs to the southward. This latter mark, when well made out, will lead clear to the southward of all the reefs off the islands as far eastward as Lockwood Rk.

BEAVER HARBOUR is formed at the head of a straight deep channel, about $\frac{1}{2}$ a mile wide, and although open to S.S.E. winds, it affords excellent shelter. There

are a few inhabitants here, principally at the cove on the W. side, and at Salmon River. Firewood, and a small supply of provisions may be generally obtained.

BEAVER ISLAND is the outermost of the range of islands forming the W. side of Beaver Harbour entrance. It is about 40 ft. high, and partially covered with scrubby trees; its white slate cliffs showing to seaward.

Light.—A Lt.-ho., 36 ft. high, and elevated 70 ft. above H.W., is erected on the S.E. part of Beaver Id., and exhibits a white Lt. which *revolves* every two minutes, and visible in clear weather, 12 m. The house on which the lantern is placed, is painted white, with *two black balls* to the S.S.W.; lat. $44^{\circ} 49' 34''$, long. $62^{\circ} 20' 13''$.

TIDES.—It is H.W., F. and C., in Beaver Harbour, at 7 h. 40 min. Springs rise $6\frac{1}{2}$ ft., neaps $4\frac{1}{2}$ ft.

Dangers, &c., on approaching and entering from the eastward:—

Chapel Shoal.—S.S.W., distant $1\frac{1}{4}$ m. from the easternmost of the Bassoon Reefs is the *Chapel Shoal* of 6 fms., and W. $\frac{3}{4}$ S. the same distance from the S.W. breaker of the Bassoon Reefs, is the Hard Shoal, the least water, $5\frac{1}{2}$ fms., being distant $2\frac{1}{2}$ m. from the Lt.-ho. on Beaver Id., on an E. by S. bearing; and which is the leading mark to clear the Bassoon Reefs to the southward.

Marmot Rock is the outermost danger on the E. side of the channel, and is only awash at L.W. springs. It seldom breaks, being sheltered by the Beaver Ids. from the S.W. winds, which are so prevalent on this coast. You will avoid it by not opening Pumpkin Id. much to the N. of the Brothers, until the Harbour Rk. comes in line with the W. end of Rocky Id., bearing N.N.W.

Middle Shoal, of 15 ft., lies N.W. by W. $\frac{3}{4}$ W., about $1\frac{1}{2}$ m. from Marmot Rk., and N.N.E., nearly $1\frac{3}{4}$ m. from Beaver Id. Lt.-ho. This and two patches of 24 ft., close by, may be avoided by not opening Harbour Rk. to the westward of Rocky Id. On the eastern side of the entrance to Beaver Harbour, nearer to the main, are the Quoddy Shoals, and Harbour Ids., but which we consider unnecessary to notice, being really in pilots' water.

On the Western side of entrance:—

William Shoal, of 18 ft. on it, and which only breaks occasionally, requires more caution to avoid than any other danger on approaching Beaver Harbour. From it the Lt.-ho. bears N.N.W., distant 2 m.; and to clear it to the eastward, keep the conical hill on Sutherland Id. open E. of Beaver Id.

Horse Shoal, least water $5\frac{1}{2}$ fms., lies between William Shoal and Beaver Id., with the Lt.-ho., bearing N. by E., 1 m. Inside of Beaver Id., which we have already noticed, there are the *Brothers*, *Horse Id.*, and *Sutherland Id.*; the latter is woody and has some cliffs of slate. On it is a conical hill, 107 ft. high, which forms the mark for William Shoal.

Beaver Point is the point on the main to the northward of Sutherland Ids., and is of dark appearance, wooded.

Harbour Rock is a bare slate rock, 12 ft. high, and lies higher up the harbour on eastern side of the channel; shoal water extends from it a cable's length to the W.N.W.

Sandy Island lies $\frac{3}{4}$ of a mile N. from Harbour Rk., and at its S. end has a red clay bank, 12 ft. high; between it and the rock, the ground is uneven and rocky, in some spots only 3 fms.

Directions.—The entrance to Beaver Harbour is not very difficult for the mariner to take, even at night, in clear moonlight weather, with a fair wind, and the aid of the large scale chart. In the day time, if from the eastward, bring the Lt.-ho. on Beaver Id. W.N.W. and steer for it, and when within $1\frac{1}{4}$ m. you will get the Harbour Rk. and W. end of Rocky Id. in one N.N.W.; or, if coming in from the southward, bring the Lt.-ho. to bear N.N.W. $\frac{1}{2}$ W., and when about 5 or 6 m. from it, steer N.N.W., and when passing the E. end of Beaver and Horse Ids., take care that

Beaver Pt. is open to the E. of Sutherland Id. When approaching the latter about a cable's length distant, continue N.N.W., passing Beaver Pt. at about the same distance; then keep the Lt.-ho. astern open to the E. of Sutherland Id., and steer up to the N.W., and anchor off the Fisherman's Harbour, with the hill of Quoddy in line with the S. end of Hardwood Id., in 7 fms., muddy bottom. If you prefer the inner anchorages of *Macleod Cove* or the *Salmon River* you must have a pilot.

SHEET HARBOUR.—The next harbour to the westward is Sheet Harbour, which derives its name from a blank cliff on a rocky islet at the entrance, which appears like a suspended sheet, and which is named *Sheet Rk.* The harbour may be said to have two entrances, the outer between Guilford Id. and the S.W. point of Sober Id., with the Sheet Rk., as a beacon thereto; and the inner entrance between Danberry Id. and Western Id. This entrance is $\frac{1}{2}$ of a mile wide, and good and safe anchorage may be found immediately within on the western side, where there is plenty of room.

From the inner entrance the harbour runs in N.E. by N., 3 m., then turns N.W. by N. for $3\frac{1}{2}$ m. to its head, where there are mills turned by the water from the stream of a chain of lakes. On the eastern shore of the harbour, just above the turn N.-westward, is a church, half a mile above which is anchorage; and 2 m. further up on the same side is a kirk, and near the mills at the head of the harbour on the western side is a chapel. At $1\frac{1}{2}$ m. above the church is *Church Pt.*, the western point of the N.E. Arm. This arm as well as the N.W. Arm is pretty fairly settled.

Dangers off the entrance.—Of these we shall take the outermost:—

Pumpkin Island is a small steep round islet, 90 ft. high, without trees, and lying W.N.W. $\frac{3}{4}$ W., $1\frac{1}{4}$ m. from the Lt.-ho., on Beaver Id.; to the southward and S.S.W. of it, rocky ledges extend to the distance of $\frac{1}{2}$ a mile. S. by W. $\frac{2}{3}$ W. from Pumpkin Id., distant $2\frac{1}{4}$ m., is *Sam Ground* of 8 fms., rocky bottom; round this there are 15 to 18 fms.; between it and Pumpkin Id. 15, 12, 9, 7, and 8 fms.

Eastern Shagroost lies W. by S. $\frac{1}{4}$ S., $1\frac{2}{3}$ m. from Pumpkin Id., and is a low and rocky ledge, barely 5 ft. above H.W. It is surrounded on its N. and W. sides by rocky shoals, upon which the sea breaks; but on its S. and S. W. sides it is steep-to, with from 8 to 14 fms. between it and the Pumpkin Id.

Western Shagroost is also a low rocky ledge, 6 ft. above H.W., and always visible. A reef extends eastward of it to the extent of $\frac{1}{2}$ a mile, in the direction of the Eastern Shagroost, having some rocky heads, and 2 or 3 fms. on it; also S.W. $\frac{1}{2}$ W. from the rock a ledge extends $\frac{2}{3}$ of a mile, in some parts dry, and only 4 ft. on it at L.W., near the S.W. extremity, where it breaks.

Monroe Rock of 12 ft. water, lies S. by E. $\frac{1}{4}$ E., nearly a mile from the Western Shagroost, with that rock and Sheet Rk. in one. Pumpkin and Horse Ids. touching, N.E. by E. $\frac{1}{4}$ E., lead $\frac{1}{4}$ of a mile to the southward of this rock, and also close to the southward of Geddes Shoal.

Logan Rock which has 20 ft. water on it, bears S.W. $\frac{1}{4}$ S., $1\frac{1}{2}$ m. from the Western Shagroost. This is a dangerous rock, and seldom seen breaking. It bears from the *Yankee Jack Shoal* (a shoal on the western side of the fair channel into Sheet Harbour, and noticed hereafter) E. by S. $\frac{1}{4}$ S., distant nearly $1\frac{1}{2}$ m., which will be the width of the passage; between are 25, 23, 18 and 9 fms.; the latter depth near to the Yankee Jack.

Geddes Shoal, of 5 fms., lies about $\frac{3}{4}$ of a mile S. by E. $\frac{1}{2}$ E. from the Logan, and upon which the sea only breaks after heavy gales. From it the Sheet Rk. appears in the entrance of the harbour, bearing N., distant about $4\frac{1}{4}$ m., and seen between the Western and Danberry Ids.

To the northward of the Western Shagroost there are several patches of 4 fms., and the dangerous *Babin Shoal* of 16 ft. This spot bears from the Western Shagroost N.N.W. $\frac{1}{4}$ W., $1\frac{1}{2}$ m., and about $1\frac{1}{4}$ m. from the shore of Sober Id.

Macdonald Rock and Shoals.—This rock, which dries at L.W., is situated on the shoals that stretch from Macdonald Pt. on Sober Id., and from which it bears S.W. $\frac{1}{2}$ W., $\frac{1}{2}$ a mile; beyond this rock to the westward, the outermost patch of the shoals, having but 12 ft. upon it, bears from the point S.W. by W. $\frac{3}{4}$ W., $\frac{3}{4}$ of a mile.

Clearing Mark.—Sheet Rk., touching the E. point of Western Id., N. $\frac{1}{2}$ W., leads clear to the westward of the Breaker on the Western Shagroost, the Babin Shoal, and the western extremities of Macdonald Shoals; and between the latter and a shoal of 28 ft. at L.W., from which Sheet Rk. bears N. by E. $\frac{1}{2}$ E., distant a mile, and appears touching the western point of Danberry Id.

Another rocky shoal of 30 ft. at L.W., lies in the fair channel, about $\frac{3}{4}$ of a mile W. by N. from Babin Shoal, and bears from Guilford Id. (on the western side) S.S.E. $\frac{1}{2}$ E., nearly a mile. These shoals require attention in a heavy ship. A detached patch of the Macdonald Shoals carrying 14 ft., lies to the northward of the rock, with Sheet Rk. bearing N.W. by N., and about half way between that rock and the Macdonald Rk.

On the Western side of entrance.—The principal dangers on the western side of entrance are the *Yankee Jack*, the *Taylor Goose*, the *Mushaboon Shoal* and the *Pyche Shoal*; also the ledge $\frac{1}{2}$ of a mile to the S. of Guilford Id.

Yankee Jack is a small rocky shoal, with only 3 ft. on it, bearing W. by S. $\frac{1}{2}$ S., $2\frac{1}{2}$ m. from the Western Shagroost Rk., and from Taylor Id. (on the main), S.E. by S., $2\frac{1}{2}$ m. W. by N. $\frac{3}{4}$ N. from it, $\frac{1}{4}$ of a mile distant, is another rock of 12 ft. These rocks are shown by breakers, excepting at H.W., when they become dangerous, especially in a smooth sea, but the Taylor Goose, next noticed, will serve to point out this position at that time.

Taylor Goose.—This is a dangerous rock, awash at H.W., and bears from Taylor Hd. S.S.E., $1\frac{3}{4}$ m., being always visible, and bears from the 12 ft. rock of the Yankee Jack, N.W. $\frac{1}{2}$ N.

Mushaboon Shoal, having 18 ft. upon it, is a small rocky patch, bearing from Taylor Hd. S.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ m. This is a very dangerous spot, as it is seldom shown by breakers, but the Taylor Goose serves also as a beacon for this as well as the Yankee Jack, bearing from the Goose N.E. $\frac{3}{4}$ N., about $\frac{3}{4}$ of a mile.

Pyche Shoals.—These shoals are situated about a mile from the land of Pyche Id., from which they are separated by a narrow channel. The least water upon them is 17 ft., and the outermost point of the shoal, where there are 18 ft., bears from Taylor Id. E. $\frac{3}{4}$ S., $1\frac{1}{2}$ m., and from Guilford Id. S.W. $\frac{1}{2}$ W., the same distance. Besides these shoals there are some rocky patches of $3\frac{1}{2}$ and 4 fms., off Taylor Hd. The shoals that we have noticed may be said to form the only dangers immediately to the westward of Sheet Harbour; there are indeed some shoal grounds of 8 and 9 fms. to the S. and S.E. of Yankee Jack, within $1\frac{1}{2}$ m.; one of these is called the Pollock Ground, and situated on the Broad Bank, but they are not dangerous.

Clearing Marks.—The mark noticed before of the Sheet Rk., touching Danberry Id., N. by E. $\frac{1}{2}$ E., leads to the eastward of Yankee Jack, and between that and Logan Rk. is a fairway for the harbour.

East extremes of Danberry and Sheet Rk. in one, N.N.E. $\frac{3}{4}$ E., will lead between the Yankee Jack and the Taylor Goose; also to the eastward of the Mushaboon Shoal and Ledge off Guilford Id.

East extremes of Guilford and Western Id., in one N.N.E. $\frac{3}{4}$ E., just clears the shoal that extends northward $\frac{1}{4}$ of a mile from the Goose, to the westward, as it does also the Mushaboon Shoal: but Sheet Rk., touching E. extreme of Danberry Id., N.E. $\frac{1}{2}$ N., gives the shoal of the Goose a berth of 2 cables to the eastward, and clears the Pyche Shoals and other patches off Taylor Id. to the eastward.

Lat. of Taylor Id. $44^{\circ} 47' 25''$, and long. $62^{\circ} 32' 43''$.

TIDES.—It is H.W., F. and C., in Watering Cove, Sheet Harbour, at 8 h. 6 min.; ordinary springs rise $6\frac{3}{4}$ ft., and neaps $4\frac{1}{2}$ ft.; but strong winds cause some irregulari-

ties. In the entrance of the harbour it is H.W. about $\frac{1}{4}$ of an hour earlier, and the tide rises there less by about 2 ft.

Directions.—There are four different passages that may be taken, according to circumstances, into Sheet Harbour.

The *Eastern Passage* is to the eastward of Geddes Shoal and the Logan Rk., and between them and the Monroe Rk., and the Breaker of the Western Shagroost; the mark is Sheet Rk., only just open to the eastward of Sheet Rk., N. $\frac{1}{4}$ W.; but having passed the Western Shagroost, and approaching Babin Shoal, steer over N.W. towards Guilford Id., and proceed to the westward of the Sheet Rk., taking care to keep to the eastward of a line joining the eastern points of Guilford and Western Ids.; and also to avoid the rock, $\frac{1}{2}$ a cable's length off the W. point of Sheet Rk., which is always visible.

The *Middle Passage* is between the Logan and Yankee Jack, and is the widest of the four. Bring Sheet Rk., touching Danberry Id. N. by E. $\frac{1}{4}$ E., and run in with that mark until Guilford Id. bears N.W. $\frac{1}{2}$ N.; then steer N. by W. $\frac{1}{2}$ W., to clear the 28 ft. shoal off Macdonald Shoals, and proceed as in the former case.

Passage Eastward of Taylor Goose.—This passage is between Yankee Jack and Taylor Goose, and to the eastward of Mushaboon Shoal. Bring the E. extremes of Danberry and Sheet Rk. in one N.N.E. $\frac{1}{2}$ E., which will lead clear of all danger up to the Sheet Rk.

Passage Westward of Taylor Goose.—Bring Sheet Rk. to touch the E. point of Danberry Id., N.E. $\frac{1}{2}$ N., and run in until the northern part of Pyche Id. comes about N.W.; you will then have cleared the Pyche Shoals, and proceeding northward keep away a little to the eastward, to avoid the Guilford Ledge, and round up N. to the Sheet Rk.

To pass the inner entrance give the Western Ids. a berth of a cable's length, to avoid a sunken rock of 4 ft. off that point, then haul in to the northward and westward, and anchor anywhere within the Western Ids., about $1\frac{1}{2}$ cable off shore, in 6 $\frac{1}{2}$ and 7 fms., mud.

Inside the harbour on the eastern side, at nearly $\frac{1}{2}$ a mile from Danberry Id., is the *White Rk.*, which dries at L.W. To clear this rock bring Sheet Rk. open westward of Danberry Id., and when past the rock steer over to the E., and bring the western point of Danberry Id., and Sheet Rk. in one, bearing S.S.W. $\frac{1}{4}$ W., and steer with these marks astern, until you come nearly abreast of Slab Pt.; then sheer a little to the eastward to avoid the Slab Shoal on the western shore, and pass between it and Salmon Id. This island has a reef running from it $1\frac{1}{2}$ cable, leaving the passage between it and the Slab Shoals only 2 cables wide. When past this narrow passage you may round Olding Pt., and anchor to the N.W. in 7 fms., on a bottom of mud. Do not attempt the harbour higher up without the aid of a pilot, and indeed take one before if you can get him.

MUSHABOON.—To the westward of Sheet Harbour is a small bay, open to S.S.E. winds, and affords indifferent shelter at its head only, in from 7 to 5 fms., muddy bottom. It is connected to Sheet Harbour by a narrow and intricate passage called the Gates, between Malagash and Gibb's Id. This channel is about 40 fms. wide, and 12 or 14 ft. in depth.

Directions.—In taking this harbour it is only requisite to get one of the eastern leading marks for Sheet Harbour, until the two points on the N.E. side of Pyche Id. bear N.W.; you may then run up the bay, N.N.W. $\frac{1}{2}$ W. for the Yellow Rk., and passing on either side, anchor at the head of the bay.

SPRY HARBOUR.—Taylor Id. divides Mushaboon from Spry Harbour. It has, on each side of the entrance, a high, rocky, barren cape, distinguished at a long distance. When sailing in, you will perceive the land in the centre of the harbour, appearing in three distinct hills. In the anchorage, at the western head of the harbour, a fleet may lie land-locked on a muddy bottom. This harbour is open to S.E. and S.S.E. winds: at the entrance the flood-tide sets in at about a mile an hour.

POPE HARBOUR, on the western side of Gerard Id., has a depth sufficient for large ships. The best shelter is under the smaller island, called Harbour Id., on the eastern side, where there are from 8 to 6 fms., with good clay ground; and here, on account of the deep water being little more than a cable in width, it will be necessary to moor. In the bay, outside of Harbour Id., a heavy swell rolls in during southerly gales.

TANGIER HARBOUR, next to Pope Harbour, is formed by craggy barren island, and affords secure anchorage for small vessels, especially in Mason's Cove, above Hog Id., at its head; but is too full of rocks, and too shallow for large ships. At $1\frac{3}{4}$ m. within the entrance is the *Whale Back*, a ledge which seldom uncovers, and having a channel on either side. Half a mile further up is the *Shag Ledge*, nearly in the centre of the harbour, always above water. There is a narrow channel into Shoal Bay, to the westward, between the Inner Baltee Id. and the main, and a still wider passage between Baltee and Tangier Ids., but they are intricate, and full of rocks. Here are some good tracts of pasture land, and the few inhabitants are occupied in the fishing and coasting trades.

SHOAL BAY is the next inlet W. of Tangier Bay. This bay has a good depth of water, and excellent anchorage on fine white sand and strong mud. The latter is to the northward of the island called Charles Id., and vessels lie in it, land-locked, in 5 fms. Some parts of the harbour will admit large ships to lie afloat, along side the shore, over a bottom of black mud. Supplies of stock, &c., may be obtained from the inhabitants of this place.

SHIP HARBOUR.—The entrance to this harbour is between *Charles Id.* to the E., and *Nichol Id.* to the W.; two of the largest islands on this coast, although they in no part exceed 100 ft. in height. The western shore of Ship Harbour is well settled, as also a portion of the eastern shore as far as Salmon Pt. At the head of the harbour, at 5 m. from the entrance, is Little River, and on the western side, not far from the *Little R.* is a rapid stream, on which there are mills, and this stream discharges into Ship Harbour Lake. A Roman Catholic Chapel stands on the western side at $1\frac{1}{4}$ m. from the entrance, and also an Episcopal Church a mile further in on the same side.

OWL'S HEAD BAY, which is next to the W. of the harbour last described, although smaller than many other harbours on the coast, has sufficient space for anchorage on the N.E. and S.W. parts of the bay. It may be known, at a distance, by Owl's Hd., on the western side, which appears round, abrupt, and very remarkable. The neighbouring coast and isles are rugged and barren, but the harbour has a few settlers. The entrance is of sufficient breadth to allow coasters to turn into it. In taking a berth, you will be guided by the direction of the wind; as, with a S.W. gale, the western anchorage is to be preferred, and the eastern with a S.E.

We shall now describe the **outlying dangers** between *Mushaboon Harbour* and *Owl's Hd. Bay*.

Redman Shoal, of 5 fms., lies on the eastern side of the approach to Spry Harbour, and bears from Taylor Hd. S.W. $\frac{1}{4}$ W., $1\frac{1}{2}$ m.; the eastern sides of Leslie's Id., and Tomlees Hd. in one, N.

Mad Moll Reef is the greatest danger on this side of the bay, and runs out nearly a mile W. by S. from Taylor Hd. On this reef are two small patches of shingle, always above water. To the northward, $\frac{1}{2}$ a mile, but connected with the reef, are two rocky patches, nearly dry at L.W.

Herring and Maloney Shoals.—These shoals are on the western side of the entrance to Spry Harbour, though there is indeed a channel in to the W. of the latter shoal. This shoal is of considerable extent, and has 12 ft. water on it. It bears from Maloney Rk., which is always above water, S. by W. $\frac{1}{2}$ W., distant over $\frac{1}{2}$ a mile. The S. extremity of the dry shingle on Mad Moll Reef, in one with Taylor Hd., E. $\frac{1}{4}$ N., leads $\frac{1}{4}$ of a mile to the southward; and Bald Rk. just open to the eastward of Maloney Rk. N. $\frac{1}{2}$ E., leads to the eastward. The *Herring Shoal* lies W., $\frac{1}{4}$ a mile
[CANSO TO C. COD.] E

from Maloney Shoal, and has 12 ft., least water, on the shoal that stretches from *Phoenix Id.*, $\frac{1}{2}$ a mile from the land. A reef, having but 3 ft. at its extremity, runs S., $\frac{1}{2}$ a mile from Stoney Id., on the western side of the passage.

Maloney Rock, which is always above water, is about $\frac{1}{2}$ a mile N. by E. $\frac{1}{2}$ E. from Maloney Shoal; and *Neverfail Shoal*, with 17 ft. water on it, lies E. $\frac{1}{2}$ S., $\frac{1}{4}$ of a mile from Maloney Rk., with Tomlees Id. and Leslie Id. appearing touching, bearing N. $\frac{1}{2}$ E. There is a rocky patch of $4\frac{1}{2}$ fms., lying N., $\frac{1}{3}$ of a mile from the Neverfail; and another $\frac{1}{4}$ of a mile further to the E.N.E., with 30 ft., but these latter are seldom dangerous.

Ram Rock is another danger on the western side of Spry Bay. It lies E. by S. $\frac{1}{4}$ S. from Lawler Pt., the N.E. point of Gerard Id., distant about $1\frac{1}{2}$ cable's length, and dries at L.W. From it the Bald Rk. bears E. $\frac{1}{2}$ S., distant $\frac{1}{2}$ a mile, with a clear passage between them.

Horse Rock.—This is a most formidable danger off Pope Harbour, and has only 4 ft. water upon it, and lies the furthest out, bearing from Pope's Rk. (noticed next), S.S.E. $\frac{3}{4}$ E., $1\frac{1}{2}$ m., and in line with the E. end of Ironbound Id., (which divides Pope Harbour from Tangier Harbour).

Pope Rock is above water, and distant $\frac{3}{4}$ of a mile from Ironbound Id., and between are the *Drunken Dick* and *Soup Rks.* There is a passage within them, but it is not practicable to strangers, on account of some sunken rocks. The *Pope Shoals* are exceedingly dangerous, and extend more than half-way from Pope Rock towards the Horse Rk. There are $2\frac{1}{2}$ fms. $\frac{1}{2}$ a mile S. of the rock, and the soundings are rocky and irregular the remaining distance; there are also 2 fms., about $\frac{1}{2}$ a mile eastward of the rock. The *Schooner Rk.*, of 1 fm. upon it, lies N. $\frac{1}{4}$ W., a mile from Pope Rk., and $\frac{1}{2}$ of a mile out from the islets at the entrance of Shelter Cove. *Black Rk.*, which is 6 ft. above water, lies $\frac{1}{3}$ of a mile further, on the same side, with deep water between it and the Barrier Reef, on the opposite side of the harbour.

The Silver Shoal.—This is the outermost shoal at this part of the coast, carrying 5 fms. at least water, and bears from Charles Pt. (the easternmost point of entrance to Ship Harbour), S.E. $\frac{2}{3}$ S., $3\frac{3}{4}$ m., and from the S.E. point of Outer Id., (the easternmost point of entrance to Shoal Bay), S. $\frac{1}{2}$ E., $2\frac{3}{4}$ m. The sea sometimes breaks over this shoal after heavy gales.

Off *Outer Id.* the reefs extend to the distance of $\frac{1}{2}$ a mile or more. *Balter* and *Net Shoals* are both on the eastern side of Shoal Bay, and *Eve Ledge* to the N.E.

Little Rock and **Broad Shoal**.—As we are taking the dangers eastward of Owl's Hd. Bay, the next outermost is the *Little Rock*, of 4 fms., bearing S.S.W., nearly $3\frac{1}{2}$ m. from Charles Pt.; W. $\frac{1}{4}$ S., $3\frac{1}{2}$ m. from the Silver Shoal, and S.E. $\frac{3}{4}$ S. from Fryer Id., (the eastern point of entrance to Owl's Hd. Bay), distant $2\frac{3}{4}$ m. This shoal breaks occasionally after heavy gales. *Broad Shoal*, of 4 fms., lies S. by E., easterly, $1\frac{1}{2}$ m. from Charles Pt., and also shows occasionally by breakers, from which reason it is sometimes termed the Broad Breaker.

Bull Rock.—The next danger on the western side of Shoal Bay is the *Bull Rk.*, with only 4 ft. upon it at L.W., and which is often shown by a breaker. It bears from Charles Pt. S.E. $\frac{1}{2}$ S., 6 cables, and is situated on a shoal stretching from the point, and including various heads of rocks, both above and under water; the whole of which may be cleared to the southward by bringing Long Pt. (the southernmost point of Nichol Id.) open to the southward of Bear Rk. (noticed presently), and bearing not less than $\frac{1}{2}$ a point to the northward of W.

Clearing Marks.—A mark to clear these shoals to the eastward up Shoal Bay, is the Red Cliff at head of Shoal Bay, open of Borgle Bluff (the N.E. point of Charles Id.) This mark also clears the Borgle Shoal of $2\frac{1}{2}$ fms., on the western side of the bay, about $\frac{1}{4}$ of a mile from the shore of Charles Id. There is a *Middle Ground* in the N.W. of Shoal Bay of 2 fms., which you must avoid in taking up the anchorage, either N.W. or S.E. of it. A mark to clear the Bull Rk., and the shoals further in the entrance of Ship Harbour, and off the Western Ids., is *Passage Id.*,

(N.W. of Nichol Id.) just hidden behind Wolf Pt., bearing N.W. $\frac{1}{2}$ W., (Wolf Pt. being the N.E. point of Nichol Id.) Another mark will be to bring Ship Rk., seen over Bald Id., and in one with Tucker Pt., bearing N. by W. $\frac{3}{4}$ W. This latter is a good leading mark for a vessel taking Ship Harbour by the eastern Passage, eastward of Bear Rk. and clear of the Broad Shoal.

Bear Rock divides the entrance of Ship Harbour into two entrances. This rock rises 4 ft. above H.W., but a reef extends from it $1\frac{1}{2}$ cable to the westward, and dries at L.W. On each side of the rock there is a clear channel of about $4\frac{1}{2}$ cables broad.

To the S.S.W., $\frac{1}{2}$ a mile off Long Pt. (Nichol Id.), is *Friar Id.*, 20 ft. high. This island is surrounded by dangers to the N.W., S.W., S.E., E. and N.E. These are too numerous for us to give a useful description of, and therefore notice only the *Owl Rk.* and *Camp Rk.* to the N.W.; the *Friar Id. Ledges* $\frac{1}{3}$ of a mile S.W. of that Id.; the *W. Bull*, *E. Bull*, and *Flat Ledges* to the S.E.; the *Middle Ground* and *N.E. Shoal* to the E.; and the *Pot Rk.* to the N.E.; the latter shoals forming the western dangers to the entrance of Ship Harbour.

Clearing Marks.—A good leading mark for the harbour is Ship Rk. and Bald Id., off Tucker Pt., N. 7° W.; this will clear all the dangers on the western side, and the Bear Rk. on the eastern side, and in a good depth of water, from 14 to 7 fms., up to Wolf Pt. Then to clear all these dangers to the southward, you must bring Bald Rk. and Egg Id., (to the westward of Owl's Hd. Bay, and off the coast, the former 8 ft. and the latter 40 ft. high), nearly in a line, or Bald Rk. just open of Egg Id.; and to clear them all to the westward, and run up to Owl's Hd. Bay, bring Cable and Wisdom Pts. in one N.N.W.; Wisdom Pt. being at the head of the bay, and Cable Pt. the S.W. point of Cable Id.

TIDES.—It is H.W., F. and C. at Pope Harbour at 7 h. 40 m.; springs rise $6\frac{1}{2}$ ft., neaps $4\frac{1}{2}$ ft., but these times are not regular, strong winds causing the tides to flow more or less. The tidal streams are weak and irregular. At Ship Harbour the tide flows at 7 h. 54 min., ordinary springs rise $6\frac{1}{4}$ ft.; neaps $4\frac{3}{4}$ ft.; subject to the winds as in the former case, extraordinary springs rising 7 ft., and neaps only 4 ft. The ordinary rate of the tidal streams does not exceed half a knot; but after the melting of the winter's snow, or strong S.-easterly gales, the ebb stream is said to be much stronger.

Directions.—After having detailed the principal dangers lying off the coast, together with those to be avoided on approaching the different harbours, and in most cases the marks for avoiding them, there remains but little in the way of directions to be given, more especially as we strongly advise all to take a pilot or fisherman acquainted with the coast. It is worth all the expense, and no person can reasonably expect to escape some accident if he neglects such assistance on such an intricate coast.

Pope Harbour.—When bound to Pope Harbour with a fair wind, and about $2\frac{1}{2}$ m. from the outer islands, bring the *Church Steeple*, near the head of the harbour, in line with Gerard Hd. (the S.W. point of Gerard Id.), bearing N. by W. $\frac{3}{4}$ W., and it will lead to the eastward of the Horse Shoal, and in between Phoenix Id. and the Pope Shoals. When you get Pope's Hd. and Taylor Id. in one, bearing E. $\frac{1}{2}$ S., steer N.W. by N., mid-way between the reef off Gerard Hd. and the Schooner Shoal, until you get the chapel (without a steeple in 1855) and Harbour Id. in one, and it will lead between the *Black Rk.* to the westward, and the Barrier Reef to the eastward; from hence you steer round Harbour Id., and anchor to the N.E., well sheltered.

Tangier Harbour.—In coming in from sea for Tangier Harbour, there are two very good leading marks for avoiding the dangers on either side, providing a person can pick them up readily, but to a stranger they are not so easily recognized. *Porcupine Hill*, 120 ft. high, on the eastern side within the entrance well open to the westward of Ironbound Id., this will clear the Pope Shoals; and for the other side of the harbour, bring Porcupine Pt. to be just hidden behind Sandy Cove Pt., bearing N. $\frac{3}{4}$ W. Above Porcupine Pt. there are the *Whale Back* and *Shag*

Ledge, the one at $\frac{1}{2}$ a mile from the point, the other about a mile; the passage is to the eastward of these, when you may round Hog Id., and anchor in Mason Cove, in 15 or 16 ft. at L.W., and lie land-locked.

Shoal Bay.—In running for the anchorage in Shoal Bay, you must round Outer Id., at the distance of $\frac{1}{2}$ a mile or more, and thus avoid the reefs off that island, and clear the Baltee Shoal, by bringing Borgle Bluff to bear to the northward of N.W. $\frac{1}{2}$ N., in running up the bay. On the western side we have given a good leading mark to avoid the Bull Rk. and Borgle Shoal. By either of these tracks you will leave the Net Shoal to the eastward, and may round Borgle Pt., and bring the western extremity of the remarkable and highest red clay cliff, open to the westward of Mary Id., bearing N.W. by N.: this mark leads very close to the S.W. of the Eve Ledge, which is awash at H.W., and always visible; you may then anchor to the N.W., taking care to avoid the Middle Ledge. This anchorage is quite safe, though some swell sets in from the S.E., after heavy gales from that quarter.

Ship Harbour.—In all these cases we are giving the directions as approaching from the eastward, and with a fair wind, because it would be at great risk for the mariner to attempt to beat into any of these harbours without the aid of a pilot. In the present case, approaching Ship Harbour from the eastward, the Bull Rk. and the other ledges off Charles Id. will be avoided by keeping Long Pt. (the southern point of Nichol Id.), open to the southward of Bear Rk., and bearing to the northward of W. $\frac{1}{2}$ N.; steer this course, and keep a good eye up the harbour to starboard, and when you see Passage Id. disappear behind Wolf Pt., bearing N.W. $\frac{1}{2}$ W., steer for that point past the Western Ids., and thence midway between Wolf Pt. and Bald Id.

In this part of the navigation, at $\frac{3}{4}$ of a mile above Bald Id., you will observe the *Ship Rk.* on the N.E. side of the harbour; this is a remarkable cliff of clay-slate, 70 ft. high, and easily recognized, giving its name to the harbour; and as its name implies, has, when seen from a distance out at sea, the appearance of a vessel under sail, and with Bald Id. and Tucker Pt., forms the leading marks for the Bear Rk.

When you have rounded Wolf Pt., and arrived abreast of Passage Id., haul in to the westward, towards Day Cove, and get the house on Eisan Pt. (some 4 m. distant up the harbour on the western side) in one with the N.E. point of Caroline Id., which will then be seen over a small shingle islet off Salmon Pt. (on the eastern shore), and nearly touching the clay cliff of the latter, bearing N.N.W. $\frac{1}{2}$ W. This mark will lead in between the dangers on either side. Here the channel narrows to 70 fms. wide, between the 3 fm. line, where you may haul to the westward and anchor.

In running in from the westward there is very little instruction required beyond keeping to the southward of the shoals and reefs, $1\frac{1}{4}$ m. from Nichol Id., by bringing Bald Rk. and Egg Id. in one nearly, or by passing $\frac{1}{2}$ of a mile or more outside of Flat Ledge, which can always be seen at that distance: and when Ship Rk. comes in one with the western point of Bald Rk., bearing N. $\frac{3}{4}$ W., steer in with this mark on, and it will lead between the N.E. shoal and the reef off Bear Rk., and clear to the eastward of the Pot Rk., until the former mark comes on, viz.:—Passage Id. disappearing behind Wolf Pt., then proceed as before.

Owl's Head Bay.—Little can be said of this bay, but that it is occasionally used as a stopping place for coasters, on account of the facility with which they can beat in or out, the passage being full half a mile wide. The only danger to be avoided is the Owl Rk., and the reef off Friar's Id., on the eastern side; and on the western side the rock, $1\frac{1}{2}$ cable N. of the Black Ledge, and the reef $1\frac{3}{4}$ cable from Cockold Hd. The most prominent feature in the bay is a remarkable round mound and cliff at its extremity, called Wisdom Pt. Bring this point and Cable Pt. in one, bearing N.N.W., when it will lead well up the bay to where you may anchor on either side, according to the wind. At the head of the bay are a few settlers.

The harbours and bays on this coast being so numerous, and the dangers lying off them and at sea, appertaining as much to one as to the others, we have found it more convenient to group the description of the dangers over several of the approaches; we shall continue in this instance, and possibly on other occasions as we proceed.

JEDORE HARBOUR.—From the appearance of this harbour on the charts, it might be presumed that it is spacious and commodious; but, on examination, it will be found really different. The entrance is intricate on account of the *Thorn Shoal*, which stretches out from the western shore nearly $\frac{1}{2}$ a mile, just outside the entrance, leaving the channel between this shoal and East Hd., $3\frac{1}{4}$ cables wide from the 3 fms. line; and carries a depth of 26 ft. at L.W.

Just within the entrance, on the eastern side of the harbour, is the *Bar Pt.*, composed of shingle, behind which is a pond. From the Bar Pt., the shingle extends more than half way across the entrance, diminishing the navigable channel to a cable's length, in which there is $6\frac{1}{2}$ fms. water.

The channel within is narrow and winding, and there are *extensive mud flats*, covered at H.W., and uncovered with the ebb; hence a stranger can enter with safety only at L.W., the channel being clearly in sight, and the water sufficient for large ships. The best anchorage is abreast of the *sandy-beach*, 2 m. within the entrance, in 7 fms. on a bottom of stiff mud. At $2\frac{1}{2}$ m. above the beach the harbour divides; one branch on the port hand is navigable nearly to its extremity, and has *several sunken rocks* in it; while to the starboard is a large space, with a clear bottom, and from 3 to 4 fms. On the eastern shore are Oyster Pond and Navy Pool, two deep inlets, but choked at their entrance by a *bed of rocks*; the river terminates with a rapid.

The lands at the head of the harbour are stony, but tolerably good; the rest barren and deplorable. The inhabitants, an industrious people, subsist chiefly by coasting, and supply Halifax with wood, which they cut from the unoccupied lands around them.

Jedore Head is a remarkable headland, 200 ft. high. On its western side, the red clay cliffs are 70 ft. high, whilst on its S.-eastern side, Jedore Cliff, 135 ft. high (a mark for the outlying dangers) may be seen. This cliff also is of red clay.

TIDES.—It is H.W., F. and C., at *Arnold Cove*, $2\frac{1}{2}$ m. within the entrance on the starboard side, at 7 h. 45 min.; ordinary springs rise $6\frac{1}{2}$ ft.; and neaps $4\frac{1}{2}$ ft. The streams do not exceed the rate of 2 knots. In the entrance of the harbour, the tides will be a few minutes earlier, and the water will rise 2 ft. less, and the ordinary rate of the streams only one knot. The indraught of the flood tides is felt several miles off this harbour, and off the inlets to the westward of it.

CLAM BAY.—This bay is just to the eastward of Jedore Harbour, between that and Owl's Hd., before which are numerous islands, rocks and ledges, with various shoal patches and banks. The channels in between these, or the bay itself, afford no safe anchorage for vessels; and as they are far out of the way of ships bound E. or W., we enjoin the mariner not to get entangled with them. The large scale chart will show at once more than any written description. We, however, shall notice a few of the outermost, as some of the rocks afford leading marks.

Outer Dangers.—We have already noticed *Black Ledge* on the western side of Owl's Bay; *Woody*, *Laney*, and *Bald Id.*, together with the larger ones of *Laybold* and *Porter*, stretch along near the shore, and enclose *Little Harbour* and *Clam Harbour* on the main, two places of no note. *Long Id.* lies further off shore in the bay, and is the largest, being $\frac{3}{4}$ of a mile in length, N. by E. $\frac{1}{2}$ E., and S. by W. $\frac{1}{2}$ W., and being 50 ft. in height is easily distinguishable.

Bald Rock is small, and only 8 ft. high. The water is deep on the N. and S. sides, but at its E. and W. ends reefs extend $1\frac{1}{2}$ cable's length; and W. by S. from the W. point, at the distance of $\frac{1}{4}$ of a mile, there is a sunken rock of 6 ft. The passage between the *Bald Rk.*, and the shoal water off *Bald Id.* is $\frac{1}{2}$ of a mile wide, and clear. Within the islands the navigation is dangerous. *Bald Rk.* lies S.W. $\frac{1}{2}$ W., $1\frac{1}{4}$ m. from *Black Ledge*, and E. $\frac{1}{2}$ N. from *Egg Id.*, distant $2\frac{1}{2}$ m.

Egg Island is the outermost of the islands off this part of the coast, and is 40 ft. high. It lies S.E. by E., $1\frac{1}{2}$ m. from the S. end of *Long Id.* These two last named rocks form the leading marks we have given for clearing the ledges S. of *Nichol Id.*

Psyche and Grizzle Rocks.—These two shoals lie to the E.S.E. and S.E. of Egg Id., the former being the most dangerous, having but 18 ft. water on it, is $\frac{3}{4}$ of a mile distant; the latter having 4 fms., somewhat less distant. To the westward of these, and within $\frac{1}{4}$ of a mile of Egg Id., are the Transport Ledges, always above water.

Inside of Egg Id., between that and the shore is the *Flint Ledge*, 10 ft. above water; and between Flint Ledge and Long Id., are the *Tomfool Shoals* and *Stoddard Ledge, Goose Id., &c.*, but too intricate to describe. The passage is clear between Flint Ledge and Egg Id., by keeping nearer to the latter.

Hurley Shoal and Barse Rock.—These are two rocky patches, very small, and having each 4 fms. upon them, and deep water all around. They lie much in the way of vessels running along the coast, and would be dangerous to large vessels in light weather, for in heavy weather the sea breaks over them and points out their positions, if you have anything of a good reckoning.

Two Fishing Banks lie to the southward of Egg Id.: the *Duck Bank*, of 7 fms., bearing from Egg Id. S. by W. $\frac{1}{4}$ W., $1\frac{1}{2}$ m.; and the *John Bank* in 12 fms., $2\frac{1}{2}$ m. The sudden shoaling of the water on these grounds causes at times a very heavy sea, otherwise they are not dangerous.

The South-West Ledges, Bull Rock and Bull Shoal.—The first of these dangers, no doubt, has obtained its name from lying in that direction from Long Id., the nearest land: they are three rocky patches, which dry at L.W., and cover a space 3 cables long, in a S.W. $\frac{1}{2}$ W. direction. The N. easternmost ledge bears from the S. point of Long Id. S.S.W. $\frac{1}{2}$ W., $1\frac{1}{2}$ m., having a clear passage between them. The S. westernmost ledge is covered only at spring tides, therefore, with that exception can always be seen.

The Bull Rock is one of the most dangerous of these ledges, and has but 5 ft. water over it at L.W., and at high tide is only observed by a breaker, when there is any sea running. It bears S.E. $\frac{1}{4}$ S., $6\frac{1}{2}$ cables from the S. westernmost ledge; S. by W. $\frac{1}{4}$ W., $1\frac{1}{2}$ m. from the S. end of Long Id.; and W.S.W., 2 m. from Egg Id. *Bull Shoal*, with 3 fms. on it, bears W. by S. $\frac{1}{2}$ S., distant $4\frac{1}{2}$ cables from the Bull Rk.; and S., $5\frac{3}{4}$ cables from the S. westernmost ledge. This shoal is rarely shown by a breaker, and therefore requires great caution. A mark for it is, the *Old Man, Jedore Rk.* and *Jedore Id.*, nearly in one, bearing N.W. $\frac{1}{2}$ W.

Tom Bank is a small spot of 9 fms., with 13, 18 and 19 fms. close to it, bearing S.S.E., $1\frac{1}{2}$ m. from the S. westernmost ledge, and S.W., $2\frac{1}{2}$ m. from Egg Id.

Brig Rock lies nearly due W., $1\frac{1}{2}$ m. from the Bull Shoal, and has but 3 ft. on it at L.W., at which time it is generally shown by a breaker, and at low spring tides and a heavy sea, the rock itself is visible between the waves. It bears from Egg Id. W. by S. $\frac{1}{2}$ S., $3\frac{3}{4}$ m.; from *Jedore Rk.* S.E. $\frac{1}{4}$ S., $3\frac{3}{4}$ m.; the *Old Man* (on with the centre of *Jedore Cliff*), bearing N.W. by N., northerly, about 3 m.; and from the S. westernmost ledge S.W. by W. $\frac{3}{4}$ W., $1\frac{1}{2}$ m.

Brig Shoal.—This shoal has 5 fms. on it, and bears S.E. by S., 4 cables from the *Brig Rk.*, with the *Bull Shoal* and *Rk.* in line with the S. side of Egg Id., bearing E. by N. $\frac{1}{4}$ N. This is a dangerous shoal after very heavy gales, and is then said to break at irregular intervals. The *Brig Rk.* not being shown by a breaker at H.W. is the most dangerous. The mark to clear these dangers to the W. is the eastern extremity of *Jedore Cliff* in one with the *Old Man*, bearing about N.N.W. $\frac{1}{4}$ W.; this leads 4 cables to the westward, and between them and the *E. Pollock*.

The Macdonald Rock, which has 14 ft. water on it, bears E., $1\frac{1}{2}$ m. from the S. point of Long Id.; and E. by S., southerly, $2\frac{3}{4}$ m. from the *Old Man*.

The Hopkin Rock has 11 ft. on it, and from it the *Old Man* bears W., $1\frac{1}{2}$ m., with the breakers of *Arnold Rk.* just open to the southward of it. Both these rocks are small, with deep water all round them, and are only observed breaking in heavy weather.

The Pollocks are some rocky fishing grounds, $1\frac{1}{2}$ m. to the westward of the Brig Rk., upon which the sea breaks after heavy gales. The least water is 33 ft. on the *Inner Pollock*, from which Jedore Rk. is in one with the eastern extremity of Jedore Cliff, bearing N. by W., 3 m.; the Old Man in one with the W. Head of Jedore, N., $2\frac{1}{4}$ m., and Egg Id., E. by N., $5\frac{1}{2}$ in.

Outer Pollock, the least water 6 fms., lies nearly a mile farther out on the same bearing from Jedore Rk., with Egg Id. bearing E. by N. $\frac{3}{4}$ N., $5\frac{1}{2}$ m.

The Middle Pollock has 7 fms. upon it, and lies nearly midway between the two former ones; the *Eastern Pollock* is a small spot of 7 fms., with deep water all around it, and bears from the Inner Pollock E. $\frac{1}{4}$ N., half a mile.

Clearing Mark.—Jedore Cliff, open to the westward of Jedore Rk., leads to the westward of them all, to the eastward of the Arnold.

We now approach those dangers situated nearer the entrance of Jedore Harbour, the most noted of these being the *Old Man*, *Jedore Rk.*, because they are used as marks, together with the *Arnold Rk.*, *Shoals*, &c. These may be said to be the most western dangers; while the *Mehanny* and *Gull Rks.*, *Middle Rk.*, and the *Spritsail Rk.*, *Barren Id.* and *Roger Id.* form the group of dangers immediately to the eastward of the entrance. The principal of these we shall describe, by taking first

The Old Man.—This is a small Rk. 12 ft. high, and lies with Jedore Rk. in line with Jedore Hd., N.W. $\frac{1}{2}$ W., $\frac{2}{3}$ of a mile. It is bold-to on the eastern side; but at a cable's length from it to the S.W. by S. is a sunken rock, with only 4 ft. water on it. Jedore Hd., open to the westward of Jedore Rk., leads to the westward of it.

Jedore Rock, 50 ft. high, lies $\frac{3}{4}$ of a mile N.W. by W. from the Old Man. It bears from Jedore Hd S.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ m.; a small detached rock lies close to the eastern point, and a sunken reef, with 3 fms. at its extremity, extends $1\frac{1}{2}$ cable off its western point.

Arnold Rock is the only danger about here to the westward of Jedore Rk., from which it bears S.S.W., $\frac{1}{2}$ a mile distant. It dries at L.W. and is mostly visible.

Arnold Shoal, which has 6 fms. upon it, lies $\frac{3}{4}$ of a mile to the southward.

The passage between the Old Man and Jedore and Arnold Rks. is clear, having 9 to 13 fms.; so also is the passage between Jedore Rk. and the head, excepting some patches of 5 and 6 fms., on which the sea very rarely breaks. To pass to the westward of Arnold Rk. and Shoal you must keep the harbour's mouth open to the westward of Jedore Rk. To pass to the southward of Arnold Rk., Long Id. must be kept open to the southward of the Old Man.

The Mehanny Rocks, some of which are dry at L.W., and nearly always visible, bear from the Old Man N.E., $\frac{3}{4}$ of a mile; the other rocks and islands mentioned above, lie to the N.E. beyond these, and together with some others, will not require a description, with a reference to the large chart. There is a clear passage between the Old Man and Mehanny Rks.

Directions.—The approach from the eastward is only for coasting vessels and those well acquainted with the inshore navigation, and is to the northward of Egg Id. Coming in a mile to the southward of Bald Rk. (page 29), steer W.N.W. until you bring Egg Id. to bear S., then W. for 2 m., when you will be about half way between the S.W. Ledges (page 30) and Long Id., with the S. point of the latter bearing N.N.E. $\frac{3}{4}$ E.; you may then steer W.N.W. again towards the Jedore Rk., $3\frac{1}{2}$ m., and when you have the Old Man on your port bow, bearing W. by S., haul N. by W., until the steep bank of Marsh Pt. (not the sand beach) touches the shingly beach of Bar Pt., bearing N. by E. $\frac{1}{2}$ E. Steer in with this latter mark and it will clear the Thorn Shoal, and when you get Roger Id. (the nearest island to the coast) touching East Hd., and bearing S.E. by E., steer N. by W. to clear the Bar Shoal; but be cautious not to approach the western shore or shingly beach to within $1\frac{1}{2}$ cable before you keep away to the northward and eastward, so as to round Marsh Pt. at the distance of $1\frac{1}{2}$ cable, and anchor abreast of Pea Pt. The best time to take this harbour is at or near L.W., at which time the Bar Shoal, or part of it is shown by breakers, and the steep banks are visible on either side.

From the Southward.—In this case you should get the harbour's mouth seen between the Old Man and Jedore Rk., or endeavour to get the whole of Jedore Cliff open to the westward of Jedore Rk.; either of these marks will carry you to the westward of the Pollocks. In sailing on either of these marks, when within a mile of Jedore Rk., steer to the N.N.E., between the Jedore Rk. and the Old Man, which is as we have before noticed, all clear, and when approaching the harbour's mouth bring the marks for running in on, as we have advised in the former clause; or you may pass to the eastward of the Old Man, and when you get the rock to bear (as in the coasting track) W. by S., steer N. by W., as then recommended.

In approaching from the westward, say from Halifax, and got hold of Jedore Hd., steer E.N.E., midway, nearly, but rather towards the Jedore Rk., until the mark given in the first clause comes on, *i.e.* Marsh Pt., touching the Bar Pt.; by this means you will avoid the 5 and 6 fms. patches, previously mentioned, and which rarely ever show themselves by the breaking of the sea.

SHUT-IN ISLAND.—This is a small island almost joined to the main at Graham's Hd., 8 m. E. of Halifax, and bears from Jedore Hd. W. $\frac{1}{4}$ N., 10 m. It is of low clay slate rock, 3 cables long, and forms the western side of Three Fathom Harbour.

Between Jedore Hd. and Halifax, there are no harbours of any consideration for shipping, but there are numerous settlements. The land in this extent is, in general, of moderate height, rising gradually from the shore. The features of the coast are remarkable, every headland being formed of red and precipitous cliffs, the characteristic of the eastern coast. These may be seen 7 or 8 m. off.

Between Jedore Hd. and Shut-in Id., are the following harbours:—

MUSQUIDOBOIT INLET, PERPISAWICK INLET, CHISSETCOOK INLET, and THREE FATHOM HARBOUR; of these none can be recommended to the mariner, as they are shoal and intricate, and only available to those who know them well.

West of Shut-in Id., distant 8 m., is Devil Id. off Hartland Pt., the eastern point of entrance to Halifax Harbour: between is **PORTER LAKE, LAWRENCETON LAKE, COLE HARBOUR, and COW BAY.** These as the last-mentioned inlets are of no use to shipping, we therefore leave them for the chart.

Dangers off this extent of coast.—*Musquidoboit Shoal.*—This is a rocky shoal, 6 cables long from N.E. to S.W. The least water on it, 3 fms., is near its centre, and bears from Jedore Hd. W. by S., 2 m.; on the other extent of the shoal are 4 and 5 fms.

Musquidoboit Ledge is to the N.E. of the shoal, and between is a passage $\frac{1}{4}$ a mile wide, with from 5 to 7 fms. This ledge extends a mile to the southward of *Harbour Islet*, a stony islet, dividing the channel to Musquidoboit Inlet into two parts, carrying 2 $\frac{1}{2}$ fms. on either side.

Perpisawick Shoal is a small rocky patch, with 4 $\frac{3}{4}$ fms. upon it, bearing E. $\frac{3}{4}$ S., 5 $\frac{1}{2}$ m. from Shut-in Id., and S. $\frac{3}{4}$ W., 2 $\frac{1}{2}$ m. from Perpisawick Hd., the nearest land. There are irregular soundings of 6 $\frac{1}{2}$ and 7 fms. for a short distance around it, and 16 fms. outside, or to the southward of it, within the distance of half a mile.

Round and Cordray Shoals lie nearer inshore, and more out of the way of shipping coasting along; the least water on them is 4 $\frac{1}{4}$ fms. The former bears from Flying Pt. on the western side of the entrance of Musquidoboit Inlet S.W. $\frac{1}{2}$ W., nearly a mile; and the latter from Perpisawick Hd. (the reefs from which extend nearly out to it), S.W. by S. about the same distance.

Pat Shoal is a small rocky patch of 4 $\frac{1}{2}$ fms., bearing E. $\frac{3}{4}$ N., nearly 3 m. from Shut-in Id., and S. by W., 1 $\frac{1}{2}$ m. from Storey Hd. It is 1 $\frac{1}{2}$ m. from the nearest shore, with a depth of 6 and 7 fms. between, and 10 fms. within $\frac{1}{4}$ of a mile to the southward of it.

Darby and Yankee Banks.—These are two rocky fishing grounds, on which at times there is a heavy swell, but which are not otherwise dangerous. On each, the least water is about 14 fms.; the former bearing from Shut-in Id. S.S.E. $\frac{3}{4}$ E., 6 $\frac{1}{2}$ m.; the latter S.E. $\frac{1}{4}$ S., 6 $\frac{1}{2}$ m.

Shut-in Shoals extend to the westward $1\frac{1}{2}$ m., and to the southward of Shut-in Id., $\frac{1}{2}$ of a mile. They are rocky, of 16 ft. water, and extremely dangerous. There are soundings of 20 fms. within a mile of them, and vessels should not approach nearer than that depth unless in daylight and clear weather.

Clearing Marks.—The red cliffs of Sellar Hd., open E. of the eastern point of entrance of Three Fathoms Harbour, bearing N.E. by N., will clear the S.E. point of the shoals: and the Lt. on Devil Id., when visible, should not be brought further to the westward than W. by N. $\frac{1}{2}$ N., in order to clear them to the southward.

FROM HALIFAX TO CAPE SABLE.

HALIFAX, the capital of Nova Scotia, is one of the finest harbours in the world, and has depth and space to accommodate any number and size of shipping in perfect safety, and is easier of access and departure than any other harbour of equal size on the coast; although the dangers off its entrance require great caution, especially with the winds from sea, which are mostly accompanied by fogs. The harbour is bounded on the N.E. by Devil Id., and on the S.W. by Chebucto Hd., bearing S.W. $\frac{1}{4}$ W., and N.E. $\frac{1}{4}$ E. of each other, distant $5\frac{1}{2}$ m. The direction of the harbour from the line of entrance is N., 8 m., N.W. by N., 3 m.; and N.N.W., 3 m. to Sackville, at the head of Bedford Basin.

The city of Halifax is situated on the declivity of a peninsula, at the western side of the harbour, about 9 m. from the entrance, and in 1853 contained about 25,000 inhabitants, a Naval Yard, and Hospital, together with a Citadel; the latter is immediately in the rear of the city, and elevated 227 ft. above H.W., and is easily recognised at sea, and with its flagstaff, forms a mark for the entrance of the harbour. The Naval Yard is situated to the northward of the city, as is also the Observatory and Admiralty, with Fort Needham further to the northward on an eminence.

The town of Dartmouth stands on the eastern side of the harbour, immediately opposite the Naval Yard and to the northward of Dartmouth Cove. Eastern Fort, with its tower, will be seen 2 m. to the southward of Dartmouth, on the same side of the harbour, and opposite to George Id. and the southern part of Halifax city. The eastern side of the harbour appears to be pretty well settled as far as Hartland Pt.

Lights.—On the eastern side of the harbour there are two Lt.-hos., the first is erected on the S.W. part of Devil Id., in lat. $44^{\circ} 34' 38''$, and long. $63^{\circ} 27' 27''$. This Lt.-ho. is of octagonal shape, painted dull red, with white belt; the Lt. is *fixed*, elevated 45 ft. above H.W., and vis. 8 m.: shows bright *red* to seaward. Pilots are stationed at the island.

SHERBROOKE TOWER, on Maugher Beach, W. side of Macnab Id., exhibits a *fixed* Lt. 58 ft. above H.W., vis. 12 m. The building is white, circular, and the roof painted *red*, being 48 ft. in height. Lat. $44^{\circ} 36' 6''$, and long. $63^{\circ} 31' 55''$.

Devil Id., as before observed, forms the N.E. point of the entrance, and is composed of slate, 15 ft. high, and $\frac{1}{3}$ of a mile in length, and about the same distance from Hartland Pt. on the eastern shore of the harbour. Between the island and the shore there is a reef which connects them, and a reef extends $\frac{1}{3}$ of a mile to seaward.

Barrie Beach, composed of shingle, lies about $\frac{3}{4}$ of a mile to the northward of Devil Id., and encloses a shallow pond. The eastern shore is formed of ridges of drift sand, clay and boulders, on a foundation of clay slate, and is not so rocky and barren as the shore to the westward of the harbour.

[CANSO TO C. COD.]

Thrum Cap.—At W.N.W., 2 m. from the Lt.-ho. on Devil Id., is the Thrum Cap, a small islet at H.W., 33 ft. high, and $1\frac{1}{2}$ cable long. It has a cliff of red sand and clay, which the sea is fast washing away. This islet is connected with Macnab Id. by long shingly beaches; which, like Barrie Beach, enclose a shallow pond.

Thrum Cap Shoal extends to the southward of the islet, and is one of the principal dangers in the entrance of the harbour. It dries about $\frac{1}{2}$ a mile to the southward, and from thence has $\frac{1}{2}$, 1, 2 and 3 fms.

Buoy.—At the S.W. extremity of the Thrum Cap Shoal, is a red buoy, with staff and vane, lying in 8 fms., with George Id. just open to the westward of Ives Pt.; Graham Hd. (near Shut-in Id., 10 m. to the eastward), well open to the southward of Devil Id., and the Lt.-ho. on Devil Id., bearing E. $\frac{1}{2}$ N., 2 m.

MACNAB ISLAND forms the eastern side of the main channel into the harbour, and is 3 m. long, if we include the shingly beaches which stretch towards the Thrum Cap. The northern portion of it is 152 ft. above the sea, and is well cultivated. There is good anchorage in *Macnab Cove*, to the northward of Maugher Beach, in from 8 to 7 fms., muddy bottom; the best berth is with Sandwich Pt., seen over the Horse Shoe, with the western sides of George Id. and Ives Pt. in one.

Lighthouse Bank extends $\frac{3}{4}$ of a mile to the southward of Maugher Beach, and has from the beach, 2, 3, 4 and 5 fms. upon it. Devil Id. Lt.-ho., open S. of Macnab Id., and seen over the shingle beaches, bearing S.E. by E. $\frac{1}{2}$ E. clears its S. point in 5 fms. To the westward and northward of Maugher Beach, shallow water extends to the distance of 2 cables. In the latter direction it dries at L.W., and is called the *Horse Shoe*, which should be avoided in taking the anchorage in Macnab Cove. Ives Pt. is the N.W. extremity of Macnab Id., a steep clay bank, with a little beach to the N.E.

Ives Knoll.—This is a small spot, which is awash at low springs, and rises from the rocky bank which runs out from Ives Pt. towards George Id.

Buoy.—A red buoy is moored in 8 fms., near the western side of this bank, distant one cable W. from the Knoll.

Lawler Island lies between Macnab Id. and the main, is 75 ft. high, and about 1 m. long, by $\frac{1}{4}$ of a mile wide, dividing the *Eastern Passage* into two channels. Off the S. end of the island are some rocks.

Eastern Passage.—To the eastward of Lawler Id. and between that and the main is the deepest, having 10 ft. over its bar at L.W., and at this time of tide only 5 ft. can be carried through between Lawler and Macnab Ids.; there are also some rocks at the S. entrance near to the Macnab shore. This passage is only fit for small vessels which have a knowledge of the dangers, there being a 6 ft. shoal, lying $1\frac{1}{2}$ cable distant from a brook on the eastern shore of the main, and $\frac{1}{2}$ a mile to the northward of Lawler Id., and a rock 60 fms. off the N.E. point of Macnab Id.

We will now take the western shore from Chebucto Hd. to inside the harbour; then the detached shoals and dangers situated between the western and eastern shores.

Chebucto Head, as we have before said, is considered the southern extreme of the entrance to Halifax on the western shore. It is 106 ft. high, and is composed of whitish granite, which together with clay slate will be mostly found on the western shore of the harbour. Northward of Chebucto Hd., $1\frac{1}{4}$ m. is Portuguese Cove, inhabited by fishermen. Inland will be seen Camperdown flagstaff, situated 168 ft. above the sea.

Herring Cove is situated 3 m. more to the northward, is distinguished by the steeple of a chapel, and the houses of the fishermen, built on its rocky shores, and is about $1\frac{1}{4}$ m. from Sandwich Pt., where the entrance to the harbour of Halifax begins to narrow. It is fit for small craft, having 6 ft. at L.W. in its narrow entrance, and 8 ft. within, on soft mud.

Inside of Sandwich Pt., at $\frac{2}{3}$ of a mile is *York Redoubt*, 177 ft. above the sea, with its flagstaff, and nearly abreast of Maugher Beach Lt.-ho. ; next will be seen, close to the coast, the Roman Catholic Chapel, and the Episcopal Church, between the Redoubt and the entrance to the N.W. Arm. *Pleasant Pt.* is the N.E. point of entrance to the N.W. Arm, and about $2\frac{1}{2}$ m. further in, from Sandwich Pt. ; it will be readily recognised by its batteries, and by the tower on its summit, 114 ft. above the sea. *George Id.* is $1\frac{1}{2}$ m. further, off the southern part of the city, and will also be known by its redoubt and tower.

N.W. ARM is between Pleasant Pt. and shoal, and Purcell Cove. It has a depth of 8 fms., and large vessels may ascend it to very near its head.

BEDFORD BASIN.—This is an extensive sheet of water, containing about 9 square miles and safe anchorage, having a depth of 36 fms. There is a clear passage for the largest ships through the Narrows into the basin. On the eastern side, $1\frac{1}{2}$ m. within, is *Navy Id.*, inside of which there is a small, but secure anchorage. To enter you must pass round to the northward of the island. There is plenty of water, excepting in one spot, that of an old wreck, over which there is a depth of 18 ft. The principal danger in the basin is the *Wellesley Rk.*, of 13 ft., near the head of the basin, and lies about $\frac{1}{2}$ over from the eastern towards the western shore ; above this the basin contracts up to Sackville River.

TIDES.—It is H.W., F. and C., at Halifax at 7 h. 49 min. Springs rise 6 ft., neaps 5 ft. ; equinoctial springs rise 7 ft. ; neap tides range 3 ft., and rise to 4 ft. above the level of L.W. springs. The rise of the tides is greatly influenced by the prevailing winds.

Dangers and Shoals on approaching from the eastward :—

Rockhead Shoal.—This is the most dangerous shoal, and the furthest out to sea ; it carries 20 ft. least water, and lies with the tower of George Id. in line with Ives Pt., bearing N. by W. ; Sambro Lt.-ho. Island touching White Hd., S.W. $\frac{1}{4}$ W., the Lt.-ho. on the island being open ; and Devil Id. Lt.-ho. N.E., $2\frac{1}{4}$ m.

Buoy.—A *black* buoy with *white*, carrying a bell, is moored near the S.W. end of this shoal in $6\frac{2}{3}$ fms., rocky bottom, with the eastern end of George Id. in line with Ives Pt., and Sambro' Lt.-ho. island open of White Hd.

Portuguese Shoal lies W.S.W., $\frac{1}{2}$ a mile from Rockhead. The least water is 5 fms. ; it is marked by a *black* buoy on its western side, which marks the eastern side of the best channel for large ships. This buoy is moored in 6 fms., with George Id. just open to the westward of the Lt.-ho. tower on Maugher Beach, bearing N. $\frac{1}{2}$ W. ; Camperdown flagstaff W. by S., and Devil Id. Lt.-ho. N.E. $\frac{2}{3}$ E.

Neverfail Shoal.—This shoal lies about $1\frac{1}{2}$ m. to the N.N.W. of Portuguese Shoal, and carries 27 ft. least water, with the eastern side of George Id. in line with the steeple of a chapel at Dartmouth ; the tower on Pleasant Pt. over the point of York Redoubt ; and Hartland Pt. over the northern point of Devil Id., and in line with the Thrumcap buoy, which latter bears E. by N., distant a mile.

Lichfield Rock.—This rock lies W. by N. $\frac{1}{2}$ N., $\frac{2}{3}$ of a mile from the Neverfail, nearly midway between that and the western shore, and has 15 ft. least water upon it. A *white* buoy, with staff and vane, lies on its eastern side, with the tower on George Id. in line with Sandwich Pt. ; Devil Id. and Hartland Pt., touching and bearing E. by N. ; and the steeple of the chapel at Herring Cove N.W. by N.

The *Thrumcap* and shoals on the eastern side of the harbour have been described (page 34).

Mars Rock, of 20 ft. water, is situated on a rocky bank, separated from the shore by a very narrow channel. A *white* buoy, with staff and vane, is moored in 6 fms. on its eastern side, with the citadel flagstaff, and also the town clock, just open E. of Sandwich Pt., which is distant $\frac{2}{3}$ of a mile ; Hartland Pt., open S. of Thrum Cap beaches ; and the N. side of Herring Cove, W. by S.

Middle Ground, to the northward of Maugher Beach, carrying 28 ft. water, bears W. $\frac{1}{2}$ N., $\frac{1}{2}$ a mile from the northern point of Macnab Cove; and E.N.E. from the steeple of the Episcopal Church at Falkland village.

Pleasant Shoal extends $\frac{1}{2}$ a mile S.E. from Pleasant Pt., and dries in some parts, having only a few feet of water to its edges. It narrows the channel between the main and Macnab Id. to $\frac{1}{2}$ a mile. The eastern side is marked by a *white buoy* in $7\frac{1}{2}$ fms., which must always be left to port, or passed on the eastern side.

Reed Rock lies 6 cables to the northward of the buoy on the Pleasant Shoal, 2 cables off shore, and must be left on the same side of the channel. It is small, with 5 ft. least water, and is marked by a *white buoy* with staff and vane, in 8 fms.

Belleisle Spit is $\frac{2}{3}$ of a mile further in, and extends $\frac{1}{4}$ of a mile from the shore, to a *white buoy*, with staff and vane, in 5 fms. About $\frac{1}{4}$ of a mile further is the *Leopard white buoy*, with staff and vane, and marks the western side of the channel inside George Id. To the northward the wharves of the city are pretty steep-to, until we come to the Dockyard, where the shoal extends $1\frac{1}{2}$ cable out, and is marked by a *white buoy* with staff and vane, moored on the eastern edge of the shoal in 5 fms. Within the buoy there is only 9 ft. at L.W.

Leading Marks for the Shoals at Entrance.—Sambro' Id. Lt.-ho. well open S.E. of White Hd., bearing S.W. $\frac{1}{2}$ W., leads clear to the southward of the Rockhead and Portuguese Shoal.

The tower on George Id., touching the E. side of the Lt.-ho. tower on Maugher Beach, N. $\frac{3}{4}$ W., will lead through between the above shoals.

George Id., well open to the W. of the Lt.-ho. tower, N. $\frac{1}{2}$ W., will lead clear to the westward of them, and also nearly midway between the Neverfail and Thrumcap Shoals.

George Id., open E. of Sandwich Pt., bearing N. $\frac{1}{2}$ E., leads clear to the eastward of the Lichfield Rk.; and the citadel flagstaff in line with Sandwich Pt., bearing N. 4° W., will lead through between the Lichfield and the Neverfail, which is the most direct, and therefore the best channel.

The steeple of a chapel at Dartmouth, in line with the eastern side of George Id., leads to the eastward of the Middle Ground; and Chebucto Hd., only just open E. of Sandwich Pt. clears it to the westward, and also the Pleasant Shoal and Reed Rk. to the eastward.

In approaching the harbour of Halifax, you will perceive the coast about its environs, particularly to the southward, to be ragged and rocky, with patches of withered wood about, but the land is rather low in general, and not visible 20 m. off, the high mountains of Le Have and Aspotogon excepted, which may be seen 9 leagues off. When Aspotogon hills, which have a level appearance, bear N., and you are 6 leagues distant, an E.N.E. course will carry you to Sambro' Lt.-ho.

In standing in for the land off Halifax Harbour, you may know on which side of the harbour you are, by a remarkable difference that exists in the colour of the shores, which, if red, denotes that you are to the eastward, and if white, to the westward of the entrance.

Dangers, &c., to the W. of Halifax Harbour:—

Sambro' Island Light.—This Lt.-ho. is built near the Middle of Sambro' Id., which is small, and situated $1\frac{1}{2}$ m. from the shore at Cape Saubro', the northern shore of the island is about 50 ft. in height. The building is octagonal, white, 60 ft. in height, and the lantern exhibits a *fixed white Lt.*, elevated 115 ft. above H.W., and vis. 20 or 21 m. Vessels approaching the light in a fog, and firing a gun, will be answered from the island, where a heavy gun, under the direction of a small party of artillery, is stationed for the purpose. This very much contributes to the mariner's safety by warning him off the adjacent breakers.

Sambro' Ledges.—Upon casting the eye over the large chart of these rocks, as they have been surveyed under the orders of the Admiralty, it will be seen that the chart itself presents the best directions, and at any rate, no one would allow himself, if possible to avoid, to be entangled among the various shoals and rocks that surround Sambro' Id. without he had a local knowledge of the district. However, we shall notice a few of the most prominent dangers, and give some marks for their avoidance.

Duncan Reef runs off the mainland to the S.E., nearly $\frac{1}{2}$ of a mile, at about $\frac{1}{2}$ a mile to the southward of Chebucto Hd., and dries in some places. The *Duck Reef* is similar, $\frac{1}{2}$ of a mile more to the southward.

The Bell Rock, with 7 ft. least water on it, lies E., $\frac{1}{2}$ a mile from White Hd. or Catch Harbour Hd., and 4 cables off shore. There is another rock of 27 ft. water, lying N. by W., 1 cable from the Bell Rk. There is a channel between these latter rocks and the Duck and Duncan Reefs, but it cannot be recommended.

CATCH HARBOUR is about $1\frac{3}{4}$ m. to the S.W. of Chebucto Hd., has 9 ft. water on its bar, and 16 ft. mud, within. It is inhabited by some fishermen.

Ede Rock, of 9 ft. water, lies S.W. $\frac{3}{4}$ S., $2\frac{3}{4}$ m. from Chebucto, and N.E. by E. $\frac{1}{2}$ E., $1\frac{1}{2}$ m. from Sambro' Lt.-ho.

The Sisters are the easternmost of the Sambro' Ledges, and are distant $1\frac{1}{2}$ m. from Sambro' Id. Lt.-ho., between the bearings of E. by N. and E. by S. Several of these rocks uncover at L.W., and can always be seen. Their position may be known by the *Black Rk.*, $\frac{1}{2}$ of a mile to the N.W. by W. This rock is 15 ft. in height, and easily recognised.

The Blind Sister has only 9 ft. at L.W., and lies S.S.W. $\frac{1}{2}$ W., $\frac{1}{2}$ of a mile from the Outer Sister, and is more dangerous. The Black Rk. bears from it N. $\frac{3}{4}$ W., $\frac{1}{2}$ a mile; and Broad Breaker, which almost always shows, W. $\frac{1}{2}$ N., 4 cables.

The Hennesy Shoal Ground, Barse Ground and Outer Bank.—Neither of these shoals are dangerous, and are noticed here as warnings to the inner and dangerous rocks nearer to Sambro' Id. They are rocky fishing grounds, and no further dangerous to shipping than that they cause a heavy half-breaking sea in bad weather.

The Hennesy is a small rock of 8 fms., lying $\frac{3}{4}$ of a mile to the southward of the Blind Sister, with Sambro' Lt.-ho. bearing N.W. by W., $1\frac{1}{4}$ m.

The Shoal Ground, with 8 fms. on it, lies a mile S. of the Hennesy, with Sambro' Lt.-ho. bearing N.N.W. $\frac{3}{4}$ W., 2 m. The Barse Ground is a rock with 9 fms. least water, with Sambro' Lt.-ho. bearing N. by E., $2\frac{1}{4}$ m., and the Outer Bank in 14 fms., S.S.E. $\frac{1}{2}$ E., $2\frac{3}{4}$ m. This is the southernmost shoal water of that depth, but the Sambro' Bk. continues out $2\frac{1}{2}$ m. beyond the Outer Bank, to where there is a depth of 30 fms., and terminating in a point, from which Sambro' Lt.-ho. bears N., $6\frac{1}{2}$ m.

Clearing Mark.—To clear the Sambro' Ledges to the eastward, as also the Bell Rk. and Duncan Reef, you must bring the *fixed white* Lt. on Maugher's Beach, kept just open of Chebucto Hd., bearing N. by E.; or Sandwich Pt. in line with Chebucto Hd. N. $\frac{1}{2}$ E., will lead one mile to the eastward of them.

On approaching these ledges from the eastward the lead gives no warning, as they are very steep on that side; 45 fms. are found within $\frac{1}{2}$ a mile of the Sisters.

The S.W. Breaker lies S.W. $\frac{1}{4}$ S., $1\frac{1}{2}$ m. from Sambro' Lt.-ho., and $1\frac{1}{2}$ m. eastward of Smithson Rk., with Chebucto Hd. seen over the eastern extremity of Sambro' Id. It almost always shows.

Smithson Rock.—This is the outermost of the western ledges, and has only 2 fms. water on it. From it Sambro' Lt.-ho. bears N.E. by E. $\frac{3}{4}$ E., $2\frac{1}{2}$ m., and Pennant Pt. N.W. by N., $2\frac{1}{2}$ m.

SAMBRO' HARBOUR.—This harbour is inside the Sambro' Ledges, and is formed by Pennant Pt. on the W. and Cape Sambro' on the E., and has anchorage within the Isle of Man, this latter being a small island somewhat within the entrance of the harbour. When within this harbour the heavy sea, which sets in with S.W.

winds, is in a great measure broken by the ledges outside, which as the chart will show, are so numerous that it should never be attempted by a large ship, except in extreme cases, when a knowledge of the place is requisite. Indeed, when in, the shelter is imperfect.

Directions for Halifax Harbour.—In coming from the eastward towards Halifax Harbour in the night time, and being to the westward of Jedore Ledges, run along the land in the depth of 30 fms., until you get sight of the Lt. on Sambro' Id.; then steer for Chebucto Hd., until the Lt. on Sambro' Id. bears S.W. by W. wide open to the S.E. of White Id., and the Lt. on Devil Id. N.E. by N.; in this position you will have the Lt. on Maugher Beach bearing N.; you may then steer for it, keeping it between N. and N. by E.

Having proceeded in this direction to within $1\frac{1}{2}$ m. of Maugher Beach, or with the Lt. on Devil Id. in line with the S. extremity of the Thrumcap, bearing E.S.E. you may alter course to N. by W. to avoid the Lt.-ho. bank. When the Lt. on Maugher Beach bears E., steer N. by E. for St. Ives Pt., in order to avoid the Middle Ground, until the Lt. bears S. by E.; then a N. by W. course will lead between the shoals and buoys right into the harbour; or if a vessel choose to wait daylight, she may anchor in the stream of Macnab Id.

If you are running in daylight along shore from the eastward you may steer for Chebucto Hd., until the citadel flagstaff is only just open of Sandwich Pt., N. $\frac{1}{2}$ W.; then steer for it. Keep the flagstaff only just open, and it will lead between the Lichfield and Neverfail Shoals, and up to the Mars buoy, which you must leave on your port hand. You will now be nearly up the Sandwich Pt., which having passed, steer towards George Id., keeping Chebucto Hd. in sight, E. of Sandwich Pt., until past the Middle Ground. When past the latter shoal you may open out the head more, by which means you will leave the Pleasant Shoal and Reed Rk. to the westward. Or, if you prefer to go to the eastward of the Middle Ground, bring the steeple at Dartmouth in one with the eastern side of George Id., bearing N. You will thus have arrived up to George Id., and may proceed on either side into the harbour, leaving the Belleisle and Leopard Buoys to the westward.

There is a passage to the N. of Rockhead Shoal, between that and the Thrumcap, which it might be preferable to take in a N.-easterly wind. In such case, having made the Sambro' Lt. as before, and passed Shut-in Id., steer so as to pass to the southward of the red Lt. on Devil Id., at the distance of not less than $\frac{1}{2}$ a mile, or more than a mile, steering W. $\frac{1}{2}$ S. (made good), until the Lt. on Maugher Beach bears N., when you may steer for it, until abreast of the Thrumcap, and proceed as before.

In day-time, Graham Hd., open S. of Devil Id., the whole breadth of the island is a good mark to lead to the southward of the Thrumcap Shoal and buoy, and when George Id. opens out W. of the tower on Maugher Beach, bearing N. $\frac{1}{2}$ W., steer for it, until abreast of the Thrumcap, then edge away to the westward to clear the Lt.-ho. Shoal, keeping the Lt.-ho. on Devil Id. in sight, until you get the steeple at Dartmouth to bear N. in one with the E. side of George Id.

In approaching Halifax Harbour from the westward at night, there is not much to be said, and vessels should shape a course E.N.E., passing not nearer than 3 m. S. of Sambro' Id. Lt. In this course they will have not less than 30 fms., until the Lt. bears N.; they will then be crossing the Outer Bank or Shoal Ground, and when dropping again into deep water, may haul up N.N.E., until the Lt. on Maugher Beach opens out E. of Chebucto Hd., bearing N. by E., when steer for it, keeping it between N. and N. by E. and proceed as before.

In day-time you may pass Sambro' Id. at the distance of 3 or 4 m., and when Sandwich Pt. opens out E. of Chebucto Hd., stand in N. by E., or N.N.E., according to wind, until the citadel flagstaff opens E. of Sandwich Pt.; then proceed as in former case.

PENNANT BAY.—This bay lies to the westward of Pennant Pt., and between that and Mars Hd., being 3 m. across, and about 2 m. deep. These two points bear about E.N.E. and W.N.W. This bay is encumbered with numerous rocky shoals and islands, but affords shelter to those acquainted with its navigation. The land at the back of the bay is of moderate height, the principal hill, called Hospital Hill, rising 250 ft. above the level of the sea.

PENNANT HARBOUR is at the N.E. angle of Pennant Bay, and has a secure anchorage inside of all. In the fairway to the anchorage is a Middle ground, with only 6 ft. water on it, much in the way of vessels proceeding to the anchorage. In rounding Pennant Pt. be careful to avoid the reefs which extend 2 cables off it to the southward and eastward.

TURNER BAY is about 2 m. within Mars Hd., and at the N.-western angle of Pennant Bay. It is open to S.S.E. winds, but the anchorage is good in 8 or 9 fms., mud, off the fishing coves, to the northward of Church Pt. on the southern shore; but to take these anchorages you ought to have the aid of a pilot, or be locally acquainted.

Mars Head is a rocky peninsula cape, 75 ft. high: in lat. 44° 26' 16", and long. 63° 43' 24".

REMARKS.—Leaving Halifax, and sailing westward, you will find the shores to be steep, and appear from seaward broken and rocky, with whitish cliffs; the high lands of Aspotogon and Le Have, before mentioned, are conspicuous and remarkable; to the westward the rocks about the land appear black, with reddish banks of earth. Le Have appears bald or barren at the top, with red earthy hillocks under it, and between Cape Le Have and Port Metway, are some hummocks inland, the coast to seaward being level and low, and the shores marked with white rocks, with low barren points; from thence to Shelburne it is woody. Near Port Latour are several barren places, and thence to Cape Sable the land is low, with white sandy cliffs particularly visible at sea.

The following remarks on sailing between Halifax and the Gut of Canso are by Mr. H. Davy, Master of H.M. ship *Cornwallis*.

"H.M. ship *Cornwallis* left Halifax June 4th, 1838—wind N., with fine weather. Sailed for the Gut of Canso. Passed out between the Thrum Cap buoy, having 10 fms. This channel is quite safe. Being thus cleared, steered E.S.E., 27 m., which led us to the southward of the Jedore Shoals, then E., for White Hd.; wind and weather looking favourable.

"Just to the eastward of Cold Harbour is a remarkable red cliff, making in a well-formed saddle; the red is bright, and the eastern coast easily to be recognized, from the circumstance of the coast W. of Halifax having white cliffs. It is advisable for strangers running from Jedore to Canso, not to approach the coast nearer than 10 m., until abreast of Torbay. This is a spacious bay, having Berry Hd. as its western point, and Cape Martingo as its eastern, 5 m. apart. White Head Id., immediately to the eastward of Torbay, is the most remarkable land on the coast, and is as a beacon to the pilots; it stands well out, and from the westward terminates the eastern view. Being 10 m. S. of it, steer N.E. by E. 18 m. and N., 4 m., where you will have Canso Lt.-ho. bearing W.; then steer N.N.W., until George Id. bears W., thence N.W. by W. and N.N.W. for Cape Argos, avoiding the *Cerberus Shoal*, which is very dangerous, and directly in the track, leaving it on your starboard hand. Cape Argos makes like a round island, and is bold to approach; passing this, the distance across the gut becomes narrowed to 1½ m."

PROSPECT HARBOUR lies about 3 m. to the N.W. of Cape Prospect, which forms the W. side of Pennant Bay, and its entrance is encumbered with a cluster of islands; at the back of these islands is a considerable inlet, called by Des Barres, Parker's River, but little frequented. Prospect Harbour wears at its entrance a rugged broken appearance, but it is safe, commodious and extensive, and in rough

weather the dangers mostly show themselves. Vessels coming from the eastward, and rounding Cape Prospect, must beware of a *rock* with 17 ft. over it; it lies S. about $\frac{1}{4}$ of a mile from the cape; do not go between it and the cape, but proceed on its southern side in 20 and 21 fms. water, and by keeping more than $\frac{1}{2}$ a mile from the land, you will be quite clear of danger, and may steer boldly up the eastern channel, between Prospect and Betsey's Ids.; having passed these, the channel narrows; the western passage is between Hobson's Nose and Dorman's Rk.; there is good anchorage for large ships above Pyramid Id., and also for small vessels, within Betsey's Id., in $4\frac{1}{2}$ fms., blue stiff clay. At the entrance to this harbour the depths are very irregular, and there is a *rock*, on which the sea breaks, having 3 fms. over it, and lying 2 cables' length to the eastward of Dorman's Rk. There are some residents on the western side of the bay.

LEITH HARBOUR.—This lies about $2\frac{1}{2}$ m. to the N.-westward of Prospect Harbour; and here are situated the inlets called Shag and Blind Bays, both possessing excellent anchorages. At its entrance lies the *Hog*, a *sunken rock*, having 6 ft. water over it, and bearing E.S.E., about $1\frac{1}{2}$ m. from Taylor's Id. In fair weather the Hog Rk. may be readily perceived by a constant ripple over it; and in bad weather, with an on-shore wind, it will be distinguished by the breakers. There are good channels on both sides, but the eastern one is always to be preferred, on account of the *ledge* which extends E.S.E., about $\frac{1}{2}$ a mile toward it from Taylor's Id.

DOVER PORT lies at the western side of the entrance to Blind Bay, and is chiefly formed by Taylor's and the adjacent islands; this is the Port Durham of former charts, and affords safe and good anchorage; the eastern passage is the best; and in sailing in, you must give the *reef* that stretches off the E. end of Taylor's Id. a sufficient berth, anchoring within the body of the largest island in 7, 8, 9, or 10 fms., muddy bottom. The western entrance has some *sunken rocks* in it, and is in some places shallow.

Between the harbours of Halifax and Dover the shores are craggy, broken, and barren, steep-to, iron-bound, and destitute of trees; but the creeks and inlets abound with fish, and great quantities of cod, herrings, and mackerel are caught and cured here for the markets.

MARGARET'S BAY.—The entrance to this bay, is to the westward of Taylor's Id., about a league; the bay itself is full 25 m. in circumference, in length 9 m., and in breadth, from Peggy's Pt. to Owl's Id., about 2 m.; here are harbours capable of receiving ships of the line, even against the sides of the shores. The high lands of Aspotogon, which appear to the westward, on the isthmus which separates Margaret's and Mahone Bays, are 438 ft. above the level of the sea, and may be seen 7 or 8 leagues off.

OWL'S HEAD is very remarkable, being round and abrupt. The lands and islands in the neighbourhood are rugged and barren. The body of the flood-tide sets in from S.W., at the rate of a mile an hour.

Following the coast, which runs nearly 2 m. W.N.W. from Taylor's Id. to East Pt., there is a *rock* uncovered at L.W., which lies near the land, having a passage between, with 4 and 5 fms. water; the shore all the way is rugged and steep, against which the sea beats violently. N.N.W. from East Pt., a mile, is Contact Pt., and in the same direction, $1\frac{1}{4}$ m. farther, is Peggy's Pt., beyond which, a short mile, is Shut-in Id., 200 ft. high, and covered with trees; off the southern part of this island there is a *shoal* of 9 ft., with 6 and 7 fms. between it and the island, and near to Peggy's Pt. there is another of 15 ft., with 6 fms. to the northward of it. During southerly gales the water on the lee side of the islands becomes smooth, and the bottom holds well. Indian Harbour runs in here, and forms a place fit for small vessels, having a channel into it on either side of Shut-in Id. To the E.N.-eastward of Indian Harbour is Haggett's Cove, distant a mile, a cove or harbour of similar description. Luke's Id., Thrum Cap, Jolliman, and Wedge Ids., all lie off the eastern side of Margaret's Bay, and contribute to break off the force of the sea; so that under the lee of Luke's and Jolliman's Ids. there is good anchorage at all times for ships of every description.

FRENCH COVE is easy of access, and may be considered as a natural dock, extensive, with plenty of water, well sheltered, and inhabited. There is a *shoal* of 10 ft. water lying opposite to the entrance to this cove at the distance of 2 m.; but as the islands of the eastern shore are bold-to, no vessel need go out so far into the bay as to approach too near this danger.

HEAD HARBOUR, or **DELAWARE RIVER**, lies at the farther end, on the N.-eastern extremity of the bay, and is an anchorage of most excellent description, forming so complete a place of safety that a fleet of ships might be securely moored side by side, and remain undisturbed by the most violent hurricane; the surrounding lands are high and broken. Mason's Pt. is in itself a good farm, well stocked with cattle, and excellently cultivated; and Moser Ids. at its entrance are used as sheepfolds. The land on the port side of the entrance to the Head Harbour is 446 ft. high.

INGRAM RIVER.—To the westward of Head Harbour is Ingram R., running in to the northward of Moser Ids.; at its entrance it is $\frac{1}{2}$ of a mile wide, with 7, 6, and 5 fms.: it then gradually decreases to its head, which is shallow and sandy. To the westward is Gaspar's Indent, open, shallow, and seldom frequented. These indents or coves have rugged points projecting southward; and it is from these places small craft are employed to take limestone, building sand, &c., the former of these being of a very superior quality. Cooper and Indian Rivers are both shallow rocky nooks, but are the resorts of salmon; and in the lakes above, trout abound in great quantities, of delicate flavour, and commonly of a deeper red than the salmon.

HUBBERT'S COVE, the Fitzroy River of Des Barres, is situated at the N.W. corner of Margaret's Bay. Here at the entrance is a *ridge of rocks*, about 100 fms. long, and covered at H.W., so that when the sea is smooth it becomes invisible; in order to avoid this danger you have only to keep towards the western or eastern side of the harbour, for both sides are bold-to; the western channel is much the wider and better of the two; and by keeping the port shore on board, a stranger, or a ship dismasted, or in distress, or without anchors, may turn in and find shelter, running aground with perfect safety. In the neighbourhood is a saw-mill, and the inhabitants can furnish you with a carpenter and cooper, if wanted.

Long Cove is 2½ m. to the southward of Hubbert's Cove, and affords good anchorage with a westerly wind. To the southward of Long Cove the coast is bold and rugged, without any danger, except a *small rock*, of 6 ft. water, which lies close in to the land.

NORTH-WEST HARBOUR is about a league to the southward of Long Cove; at its entrance is Horse Id., which divides it into two channels. There is a good passage, with 10 fms. water, on each side of the island; and small vessels may find good anchorage behind it, in from 6 to 9 fms., or farther up, in 5, 4, and 3 fms. Several families are settled at this place. Owl's Hd. is an abrupt precipice, and forms the S. point of entrance to North-West Bay.

South-West, or *Holderness Island*, is a remarkable rocky island, full 50 ft. high, and steep on all sides. Directly to the northward of the northern part of the South-West Isle is a *small spot*, of 3 fms. water; and to the N.-westward of the island is what is commonly called the South-West Harbour, formed between Owl's Hd., which literally is a rocky island, separated from the main by a very narrow passage, not even navigable for boats. Here are 5, 6, and 7 fms. water; but the place is seldom frequented. To the E.N.E. of South-West Id., distant nearly $\frac{1}{2}$ a mile, is a *rocky shoal*, of 4 fms.; this the sea frequently breaks over in bad weather; but it cannot be considered dangerous, unless to vessels that draw very deep water.

The **Horse Shoe**, or **Dog Rock**, lies about S., distant 1½ m. from South West Id., directly W. from East Pt., distant 2¾ m., and from Taylor's Id., W. by N., 4½ m.; there are several *small sunken rocks* about it: part of it is constantly above the surface of the water, shelving on all sides, and the sea, in stormy weather, breaks violently over it. At a little distance from it, on the western side, are 6 fms.; and on

its eastern side, at a similar distance from it, are 8 fms.; it then sinks into deep water: between the Horse Shoe and the South-West Id. there are 12, 14, 26, 34, and 30 fms.

Vessels from the eastward, bound for Margaret's Bay, commonly go in between the Horse Shoe and East Pt. A northerly course will carry you midway between them, right up to the head of the bay, without encountering any danger, except those already described.

To the westward of South-West Id. is Aspotogon Harbour, too shallow for shipping. At its entrance are *Black, Saddle, and Gravelly Islands and Shoals*; to the southward of these is *Seal Ledge, shallow and dangerous*, which lies W. $\frac{1}{2}$ N., distant $2\frac{3}{4}$ m. from the Horse Shoe, and W.S.W., nearly 3 m. from the southern part of South-West Id.

IRONBOUND ISLAND.—W.S.W. $\frac{1}{2}$ S. from the S. point of South-West Id., distant 5 m., is Ironbound Id., about a mile long, narrow, and steep-to; it lies S.S.E. $\frac{1}{2}$ S., $1\frac{1}{2}$ m. from the extremity of the peninsula, which divides Margaret's and Mahone Bays, and is called New Harbour Pt., between which is a good channel, with from 6 to 17 fms. water, the ground being chiefly a black sand.

GREEN ISLAND.—S. $\frac{1}{2}$ E., distant a league from Ironbound Id.; S.W. by S., 7 m. from South-West Id.; W.S.W., 3 leagues from Taylor's Id., and W.N.W. $\frac{3}{4}$ W. from abreast of Sambro' Lt.-ho., lies Green Id. Midway between Ironbound and Green Ids. there is said to be a *shoal* of only 2 fms., but its exact position is not accurately known, and therefore it is omitted in the charts. The mariner, in passing through the channel between these islands, will do well to look out for, and guard against, the probable existence of such a danger; there is otherwise water sufficiently deep for any vessel.

MAHONE BAY is separated from Margaret's Bay by the peninsula, upon which the high and conspicuous mountain of Aspotogon is situated; the appearance, in three regular risings, is a very remarkable object to seaward, being visible more than 20 m. off. The entrance of the bay is encumbered with several islands, between all of which are good passages, with plenty of water and few dangers; these lead to most excellent harbours, and places convenient and well adapted for the fisheries. We have already noticed Green and Ironbound Ids.; these lie on the eastern side of the entrance to the Bay of Mahone. Adjacent to these, and on the same side, are the Tancook Ids., Flat Id., and the Knohne Rk: there are also the Bull Rk. and the Outer Ledge. On the western side are the Duck and other islands.

Great Duck Island lies W. by S. from Green Id., distant $4\frac{1}{2}$ m. *Little Duck Id.* lies N.W. $\frac{1}{2}$ N., about $1\frac{2}{3}$ of a mile from *Great Duck Id.*, and W. $\frac{1}{2}$ N., $5\frac{1}{3}$ m. from *Green Id.* Nearly midway between *Green Id.* and *Little Duck Id.* lies the *Outer Ledge*, over which the sea always breaks; this danger bears from the E. end of the *Great Duck Id.* N.E. $\frac{3}{4}$ N., distant $1\frac{2}{3}$ m.; and from *Green Id.* W. $\frac{1}{2}$ N., a league; over it is 4 ft. water, and round it are $4\frac{1}{2}$, 5, and 7 fms.

Flat Island lies due W. from *Ironbound Id.*, distant $1\frac{1}{2}$ m.; and, in a similar direction from *Flat Id.*, somewhere about a mile off, lies the *Bull Rk.*; but the exact situation of this danger is not correctly ascertained, for Mr. Des Barres places it more to the southward, and Mr. Lockwood to the northward of this position: it is a *blind rock*, uncovered at $\frac{1}{2}$ ebb, with deep water all round it. The southern part of *Flat Id.*, in a line with the southern points of *Ironbound Id.*, will lead on the rock, as Mr. Des Barres has placed it; while the northern part of *Flat Id.*, in a line with the northern shore of *Ironbound Id.*, will lead to the northward of it; and *Chester Church* open of *Great Tancook Id.*, will carry you clear to the westward of it in 7 and 10 fms.

Great Tancook is $1\frac{3}{4}$ m. long, and about a mile broad; to the eastward, between it and the main land, is the *Little Tancook Id.*, separated by a channel $\frac{1}{4}$ of a mile broad, in which are 7, 8 and 9 fms. A similar passage is between *Little Tancook* and *Indian Pt.* on the main, but there is a *middle ground* in it of 4 fms. *Knohne Rock*

is above water, and is shoal all round; it lies to the eastward of the S.E. part of Great Tancook, where anchorage will be found in 8 or 10 fms.

Westward of Great Tancook, $\frac{1}{2}$ of a mile, is a *rocky shoal*, of 6 ft., the channel between which has 10 fms. To the W. by N. of this shoal, a mile, is *another* with from 6 to 12 ft. over it. Between these shoals the passage is good, and has from 12 to 25 fms. in it. Off the N.W. part of Great Tancook is Star Id.; and a little to the eastward of it is a *rocky patch* of shallow ground, so that vessels should never attempt the passage between Star and Tancook Ids. There is yet another *danger*, called the *Coachman's Ledge*; it lies 2 m. to the northward of Great Tancook, and is only visible at L.W. To lead clear to the eastward of this ledge, you should bring the eastern point of Great Tancook and the E. side of Flat Id. in one; to clear it to the southward, bring the W. end of Ironbound Id. open of the W. part of Little Tancook; and Frederick's Id. N. point, bearing W.S.W. $\frac{1}{2}$ S., will carry you safe to the northward of it.

Having passed the Coachman, the head of the bay lies open. On your starboard side is the high land and small river of Aspotogon, where small vessels occasionally run in and anchor; there is a *rocky shoal* at its entrance, which must be avoided. To the northward is Cumberland Arm, easy of access, and affording good anchorage, with 7 and 8 fms., observing to give a berth to the starboard shore, which shallows some distance out. There is also good riding on the port shore, behind an island which lies on the eastern side of the Chester Peninsula; here vessels can ride, well-sheltered, in 8 fms.

CHESTER TOWN is situated at the northern part of Mahone Bay, and is surrounded by a fine and fertile country: its inhabitants are industrious, and the adjacent islands are well stocked with sheep: wood and water are in abundance, and several vessels are built here. The anchorages between the various islands and before the town are good, well sheltered and secure, and the depth of water moderate. The only danger is a *shoal*, which partly dries at L.W.; this lies W. $\frac{1}{2}$ S. from the town of Chester, from which it is distant $1\frac{1}{2}$ m.

On the port side of Mahone Bay, and directly W. of Tancook Ids., is a large inlet, or branch of a river, named by Des Barres, Prince's Sound; the passages into it are very safe, only giving a wide berth to the southern end of Edward's Id.: steer mid-channel, and, when well in, anchor in 9 fms., or, within the innermost islands, in 5 or 6 fms.; farther in it becomes flat and shallow.

To sail into Mahone Bay from the eastward, the first land visible will commonly be Green Id, which is round, bold, and moderately high: thence to Ironbound and Flat Ids. (both steep-to) is 3 m.; you may proceed and pass between them towards the Tancook Ids., which are inhabited: the channels between them are bold, and the anchorages under their lee good, in from 7 to 12 fms. But if you are proceeding for Chester, between Green and Duck Ids., you must beware of the *Outer Ledge*, which always shows itself by breakers. The mark to lead clear through this passage is Chester Church well open of Great Tancook Id.; this mark will also carry you safely to the westward of the Bull Rk., already described; and when you get near, or within $\frac{1}{2}$ a mile of Tancook Id., steer out westward, and bring the same church to bear about N., and this will lead you up to the town. It is H.W., F. and C., in Mahone Bay at 8 h.; tides rise 7 ft.

LUNENBERG BAY, called also the Malaguash, is now a place of great population and considerable trade: vessels carrying wood, cattle, vegetables, &c., are constantly employed from here to Halifax. The harbour is very easy of access, and there is good anchorage to the town. At its entrance lies Cross Id., about 30 ft. high, and containing 253 acres of land. On the N.E. side of this island is a nook, where coasters ride in safety. Off this part lie the *Hounds Rks.*, which, in passing, must have a berth: the W. and S. sides of the island are bold; and 2 m. from its southern end is an excellent fishing bank, with from 14 to 17 fms. There are good channels on either side of Cross Id.

Cross Island Lighthouse, upon the S.E. point of Cross Id., in lat. $44^{\circ} 18' 43''$, and long. $64^{\circ} 9' 57''$, at the entrance of Lunenburg Bay, is an octagon tower, painted red, with two lights placed vertically, and 34 ft. apart. The lower light is *fixed*, and the upper one *revolving*, which shows a flash at intervals of a minute, being *white* 45 seconds, dark 15 seconds. The upper Lt. vis. 14 m.; the lower one 8 m. The lantern is painted black. Cross Id. is low, and thickly wooded. Pilots resort here.

Vessels sailing in or out, through the northern passage, should endeavour to keep about the middle of the channel, in order to avoid the *shoals* and *rocks* above mentioned, and also those adjacent to the opposite, or Colesworth Pt.; having passed these, you should keep the northern shore on board, bringing Battery Pt. to bear nearly N.W., by which you will also go clear of the *Sculpin*, or *Cat Rk.*

The *Sculpin*, or *Cat Rk.*, lies nearly in the middle of the bay, bearing N.E., distant $\frac{3}{4}$ of a mile from Oven's Pt. According to Des Barres, there are about 3 ft. over this danger; but it will easily be discovered by the breakers over it at L.W.

Sailing through the western channel, which is to be preferred, you should endeavour to steer N.N.W., between Cross Id. and Rose Pt., where you will have 10 and 12 fms. Keep the town of Lunenburg in sight, over the low land to the eastward of Battery Pt., and this will lead you clear of the *rocky reefs* about the Oven's Pt.; but beware how you lessen your water below 7 fms., for the soundings about the point are very irregular; bring the waggon-road at Lunenburg open to the westward of Battery Pt., and this will run you to the westward of the *Sculpin*, and between it and a *rocky knoll* of 4 fms.; having passed the *Sculpin*, haul up towards the northern shore, until you bring Moreau and Battery Pts. in one, this being the direct mark for the *Sculpin Rk.*: steer on in the direction of Battery Pt., approaching it no nearer than a cable's length; then round Battery Pt., and bring the road well open of Moreau Pt.; this will run you clear into the harbour, and between the Long Rk. and the shoals off Battery Pt., when you may direct your course for the town, where you will find 12 and 13 ft. water alongside the wharves; and near to them 20 and 24 ft., soft muddy ground, and perfectly secure.

Vessels having occasion to go to the southward of the Long Rk., which is the wider and safer passage, will observe that a *reef* runs out from Woody Pt., called the *Shingles*, which must be carefully avoided: to do this, when you have so far entered the bay as to be equi-distant between the Ovens (which are hollow cliffs), Battery, and Woody Pts., then edge off a little to the westward, until you bring a farm-house, that stands over the middle of Sandy Bay, on with the end of a wood, close to an opening like an avenue, bearing N.W. $\frac{1}{2}$ N.: steer with this mark on, until the W. end of Lunenburg Town comes over Moreau Pt., then steer N.-eastward a little, approach Battery Pt., and proceed as before directed.

The best anchorage in the Bay of Malaguash, or Lunenburg, is on its western side, about $\frac{1}{2}$ a mile from the shore, and nearly midway between Oven's and Woody Pts.; where, with good ground tackle, you may safely ride out a S.-easterly gale; but the bottom is generally rocky and uneven. Wood, water, meat, and vegetables may easily be procured in abundance.

It is H.W., F. and C., at 8 o'clock: and the tides rise from 6 to 8 ft.

Dartmouth Bay.—This is situated between Oven and Rose Pts.; there are some settlements about the shores, and on an island at the bottom of the bay; it is easy of entrance, and you may anchor abreast of this island in 3, 4, 6 or 7 fms.: in sailing into this bay, it will be always advisable to borrow somewhat towards the Rose Pt. shore, because of the *shoals* which lie to the southward of the Oven's Pt.; there is otherwise no danger whatever.

From Lunenburg to Ironbound Id., at the entrance to Le Have River, the shores are bold, and much indented with irregular inlets or bays. Ironbound Id. lies about W.S.W. $\frac{1}{2}$ S., distant nearly 2 leagues from Cross Id.; it is inhabited, and some small *rocky islets* surround its northern shore: S.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ m. from this island, is a *bank* of 20 and 25 fms.; W.S.W., $\frac{3}{4}$ of a mile from that, is a small spot of 15 fms.; these have from 30 to 40 fms. about them.

Ironbound Island Light.—This Lt.-ho. is erected on the S. side of the island, near the edge of a cliff, 40 ft. high, in lat. $44^{\circ} 13' 33''$, and long. $64^{\circ} 16' 19''$, and is a square tower 29 ft. in height, and painted white. It exhibits a *revolving* Lt. every 30 seconds, at 72 ft. above H.W., and vis. 13 m.

LE HAVE RIVER.—Vessels coming from the S.-eastward for Le Have R., will not fail to discover Cape Le Have, a steep abrupt cliff, 107 ft. high, bearing W. $\frac{3}{4}$ S., about 12 leagues distant from Sambro Lt.-ho. S.E. by S., a mile from the cape, is the *Black Rk.*, 10 ft. high, and 100 ft. long, with deep water all round it, and 9 to 11 fms. between it and the shore, except on a small *knoll*, lying off and opposite to the cape, over which are only 4 fms. W. by S., distant $3\frac{1}{2}$ m., is Indian Id.; and to the northward of the cape lie several islands, with passages between them; but the best entrance to the river Le Have is to the northward of them all. There is also a channel to the northward of Ironbound Id., but it is narrow, and to navigate this you must give the Ironbound Id. a good berth; you will then have from 12 to 4 fms. all through it; but the best passage is to the westward of the island, which is above $1\frac{1}{2}$ m. broad, and has from 10 to 14 fms. within it; about 3 m. to the N.-westward of Ironbound Id., is a *bar* which runs across from shore to shore; over this are 12 and 15 ft., the deepest water being $\frac{1}{2}$ across from the eastern shore: the soundings from Ironbound Id. towards the bar are 11, 14, 12, 9, 7, 6, 5, 4, and 3 fms., the latter depth being close to the edge of the bar; but when you are well over that, you drop into 4, 5, and 6 fms., the river continuing navigable 12 m. up, or so far as the falls; the general width of the river is $\frac{1}{2}$ a mile, and when you are 8 m. up it, you will meet with the road from Lunenburg to Liverpool, where a ferry is established. There are several settlements on the banks of this river; and the whole wear a face of improvement and cultivation.

Within and to the westward of Cape Le Have is Palmerston Bay; at the head of this is Petit Riviere, a settlement formed by the French, the farms belonging to which are in excellent condition. Off the eastern entrance of this bay lies Indian Id., bearing W. by S., distant $3\frac{1}{2}$ m. from Cape Le Have. At Cape Le Have it is H.W., F. and C., at 8 o'clock: the tides rise from 5 to 7 ft.

PORT METWAY lies between Cape Le Have and Liverpool Bay, and is rising into considerable consequence, on account of its navigable capacity and convenience to the fisheries; it is, therefore, pretty numerously populated, and has several saw-mills, the inhabitants carrying on a good trade in timber, &c. The entrance to this port bears from Indian Id. W.S.W., distant 7 m., the land to the eastward of it being remarkably broken and hilly.

Port Metway Light.—A beacon or harbour light has been erected on Admiralty Hd., on the W. side the entrance to Port Metway. The building is square, painted white, with a black square in the centre of the seaward sides. It is a *fixed white* Lt., elevated 44 ft. above the level of the sea, and vis. 10 m.

On the starboard point of the entrance to Port Metway lies Frying Pan Id., which is connected by a *sandy reef* to numerous islets which stretch along in a N.N.E. $\frac{1}{2}$ northerly direction, until they join the main land: that which is next to Frying Pan Id. is commonly called Glover's Id., and lies $\frac{1}{2}$ a mile to the northward, and bears S.E. $\frac{1}{4}$ S., a good $1\frac{1}{2}$ m. from Metway Hd. The entrance to this port may be known by the high land at Cape Metway, and the low ragged islands before mentioned; the width of the channel is about $\frac{2}{3}$ of a mile, and the depth of water from 5 to 14 fms. Directly in the way of your making for the entrance of the channel, lies the *S.W. Ledge* and the *Stone Horse Rk.*; the former bears from the Frying Pan Id. S. $\frac{1}{2}$ E., $\frac{3}{4}$ of a mile. There are 19 ft. water upon it, and the sea, in rough weather, breaks over it. The latter, or Stone Horse Rk. lies E. by S., distant $\frac{1}{2}$ of a mile from the S.W. Breaker, and dries at L.W.: there are 6, 7, and 8 fms. between it and the Frying Pan Ledge; and should you pass this way, you must give the island a good berth, on account of a *spit* which runs out from it, in the direction of the Stone Horse Rk., a full $\frac{1}{4}$ of a mile; but the best course will be $\frac{1}{2}$ a mile outside of both these dangers: you will then pass in 12 and 14 fms., and running on W., a little southerly, towards Kempenfelt Hd., you will open the channel, and may steer in

directly N. Or, you may avoid the S.W. Ledge and Stone Horse Rks., in coming from the eastward, by bringing the Liverpool Lt.-ho., which stands on Coffin Id., open of the land to the eastward of it; and when Frying Pan Id. comes on N.N.E., distant $1\frac{3}{4}$ m., steer in N. $\frac{1}{2}$ E., which will carry you past Metway Pt.; and when opposite to Neil's Pt. you may anchor in 4 or $4\frac{1}{2}$ fms.; from hence mud banks considerably narrow the passage, and a pilot will be found necessary; but should you proceed farther without one, you will continue mid-channel from abreast of Neil's Pt., N.N.W. $\frac{1}{2}$ N., until Collin's Id. bears W., and Alicia River is just opening of Pt. Lucy, then steer N.W. by N. and W.N.W. $\frac{1}{2}$ W., and anchor in 3 or 4 fms., muddy ground.

To run up Alicia River, you must sail between Grass Id. and Pt. Lucy, keeping close to the southern and western shores, in order to avoid the *flat* which extends from the northward, leaving a deep but narrow channel. Barry's Bay, or Branch, which runs up to the westward, is shallow, and full of *rocky shoals*; and so is Brier Bay, which is situated on the N.E. side of the port. The tide runs commonly with great strength, and it is H.W. at 52 min. after 7; springs rise $7\frac{1}{2}$ ft., neaps $5\frac{1}{2}$ ft.

LIVERPOOL BAY.—The entrance to this bay bears about W. by S., distant 17 or 18 leagues from Sambro Lt.-ho., Halifax; and W.S.W. $\frac{1}{4}$ W., 15 m. from Cape Le Have. Before it lies Coffin Id.; between this island and the western land is the bay affording good anchorage for large ships, especially with the wind off shore. In the bay there is sufficient room for turning to windward, and the deepest water will be found near the western coasts. The land in the vicinity of the harbour is broken, rocky, and of a barren appearance. The commerce of the town is very considerable. The channel to the northward of Coffin Id. is shallow, having a *sandy spit* running from it and joining the main land; therefore, none but small vessels ever attempt it; but the passage to the southward is full $1\frac{1}{2}$ m. wide, and has 15, 16, 17, and 18 fms.

Light.—On Coffin Id., in lat. $44^{\circ} 1' 58''$, and long. $64^{\circ} 37' 34''$, is a Lt.-ho. of an octagonal form, painted red-and-white, in horizontal stripes. The building is 66 ft. in height, and 72 ft. above H.W., and exhibits a *revolving* Lt. every two minutes, vis. 16 m. Light 40 seconds, dark 80 seconds.

Harbour Light.—On Fort Pt., at the head of Liverpool Bay, is a square white Lt.-ho., 17 ft. in height, and 30 ft. above H.W., showing a *fixed* Lt., vis. 7 m.

Directions.—Give the Lt.-ho. point of the island a small berth, as a *flat* of 3 and 4 fms. encompasses it, and there is no other danger. Western Hd., 3 m. from Coffin Id., is bold-to, and rendered remarkable by its having no trees upon it. Having entered this bay, and passed between Coffin Id. and Moose Hd., bringing the Lt.-ho. to bear E. by N., distant a mile, steer N.W.; this will bring you abreast of Herring or Schooner's Cove, situated on the N.E. side of the bay, and affording good shelter from sea-winds in 3 fms., on a bottom of mud: or, proceeding farther, vessels of 200 or 300 tons, with H.W., may pass over the bar, which stretches from Fort Pt. to the opposite shore, leaving the buoy to the southward; but at L.W. this cannot be done, for then there is not more than 9 or 10 ft. over it; when within the bar you will perceive the channel winds S., westerly, and you can anchor in not less than 2 fms., opposite the town of Liverpool. Herring Cove is much exposed to the heavy S.-easterly swells of the sea, and has not room for more than two sloops of war.

TIDES.—It is H.W., F. and C. in Liverpool Bay, at 7 h. 52 m.; springs rise $7\frac{1}{2}$ ft., neaps $5\frac{1}{2}$ ft.

PORT MOUTON.—This port is formed by the Island Mouton, which lies across its entrances, dividing it into two channels.

Dangers on approaching.—Coming from the eastward for Port Mouton, and having passed Western Hd., you will see White Pt. bearing from the former W. by S. $\frac{1}{2}$ S., nearly 4 m. This point forms the northern boundary of Port Mouton, and has a reef, and shoal water to $3\frac{1}{2}$ fms. $\frac{1}{3}$ of a mile from it.

White Point Shoal of 6 fms., rock, lies S.E., $1\frac{1}{2}$ m. from White Pt., and S.W. $\frac{1}{2}$ W. $3\frac{1}{2}$ m. from Western Hd.

White Pt. Rock of $2\frac{3}{4}$ fms., lies $\frac{3}{4}$ of a mile W. $\frac{3}{4}$ S. of the shoal; S. by E. $\frac{1}{4}$ E. $1\frac{1}{4}$ from White Pt., and E. $\frac{3}{4}$ N., $1\frac{1}{2}$ m. from the Round Rk. of the *Brazil Rks.*, and in line with Halibut Id., the N. eastern point of Mouton Id. This mark leads also to the White Pt. Shoal.

Brazil Rocks.—In the eastern passage also lies the *rocky ledge*, called the *Brazil Rocks*, partly dry; this is about a mile to the eastward of the island, and lies S.W. by W. $\frac{1}{2}$ W., distant 5 m. from Western Hd.; the passage on either side of this ledge has deep water, with sufficient room to turn into the harbour. From the N.W. part of Mouton Id. a *shoal* runs off a full mile, having $2\frac{3}{4}$ fms. near the outer extremity; over some parts of this shoal you will have 3, $3\frac{1}{2}$, and 4 fms.; here also is a small *spot of foul ground*, with 20 ft. over it; this lies N.W. $\frac{1}{2}$ N. from the N.W. end of Mouton Id., and N.E. from the Northern Spectacle Id., distant $\frac{1}{2}$ a mile. The Spectacles lie to the W.N.-westward of Mouton Id., and are visible as you enter the port; to the northward and westward of them are 10, 11, and 12 fms., muddy and sandy ground, with good anchorage, secure from all winds.

Devastation Shoal lies about $\frac{3}{4}$ of a mile to the E. of the South Pt. of Mouton Id., and has 2 fms. least water upon it, and is about $\frac{3}{4}$ of a mile long, N. by W. and S. by E. Off the South Pt. of Mouton Id., nearly $\frac{1}{4}$ of a mile, is the *South Rk.*, uncovered at L.W., with 4 fms. close to the S. of it, and a spot of $4\frac{1}{4}$ fms., $\frac{1}{4}$ of a mile W. by S. $\frac{1}{2}$ S. from the rock.

Directions.—To sail into Port Mouton by the Eastern Channel, and with a leading wind, to the northward of the Brazil Rocks, you may steer in W. $\frac{1}{2}$ N., passing at the distance of $\frac{3}{4}$ of a mile from White Pt., until you bring some white sand cliffs, on the main, open to the northward of the Spectacle Ids. S.W. $\frac{1}{2}$ W.; this will carry you clear to the northward and westward of Mouton Id. N.W. Shoal; then haul up S.W. by W. for the anchorage before mentioned.

To sail into the westward of the Brazil Rocks, you should steer in N.W., mid-channel, or nearly, $\frac{1}{2}$ a mile from Mouton Id.; in this passage you will find from 9 to 13 fms.

The Western Passage to Port Mouton is between the island and main, and only frequented by coasters and vessels of small draught of water; it is encumbered with *shoals*, and too intricate for strangers; the channel is narrow, and close to the main land, passing between it and the Bull Rock; having passed which, you can proceed to the anchorages either off the N.W. shore of Mouton Id., or round the Spectacles; always giving the southern part of the island a berth, on account of a *sandy flat* which runs off it. In adopting this channel, mariners must look out for the Devastation Shoal, noticed above.

The land now turns S.W. $\frac{3}{4}$ W. from Pt. Mouton towards Port Jolie: midway is a black craggy point, with *several rocks* about it. S. $\frac{1}{2}$ E., distant $2\frac{1}{4}$ m. from Black Pt., and S.W., 15 m. from Liverpool Lt.-ho., lies Little Hope, an island 15 ft. above H.W., and 200 fms. long, having a white pyramidal **beacon** upon it, 20 ft. high. Round the island is *shoal ground*, partly drying, and with 3 and 4 fms. upon some parts; it lies direct E.S.E. from the eastern point of entrance to Port Jolie, from which it is distant 2 m.

Little Hope Shoal, of $1\frac{3}{4}$ fm., which breaks with a heavy sea, lies W. $\frac{3}{4}$ S., 2 m. from Little Hope beacon, and S. $\frac{1}{2}$ W. from Jolie Pt., distant a mile. This is a dangerous shoal, and should be carefully avoided, as with a smooth sea, it may not easily be recognized.

Lesser Hope is a rocky islet 10 ft. high, one of a reef of rocks off the western point of Port Jolie. It lies about S.S.E., nearly $\frac{1}{2}$ a mile from the main, but with no passage within. On the western side of the entrance of the port off Sandy Cove, are some rocky ledges, which show themselves by the breaking of the water over them.

PORT JOLIE is an inlet, more than 5 m. deep, but very shallow, and having scarcely water enough for large boats. The lands adjacent appear barren and stony, yet have some families of fishermen settled there.

PORT EBERT.—This is the third inlet W. of Liverpool, and may readily be known by the steep and abrupt appearance of its western head; and also by Green Id., which lies to the S.-westward of its entrance. This Id. is somewhat remarkable, being destitute of trees, and 45 ft. high. Port Ebert is divided from Port Jolie by a peninsula, which, at the head of the respective ports, is $1\frac{1}{2}$ m. across. The channel in runs nearly N., 6 or 7 m.; but, although small vessels may run a considerable way up, ships of larger size can only find anchorage at its entrance; the depth, $\frac{1}{2}$ a mile from the head, is from 9 to 12 ft.; but at the mouth of the port are 6, 4, and 3 fms. The leading mark into the port is a white house on with Shingle Pt., bearing N. $\frac{1}{2}$ E., northerly; both these are on the western side of the harbour, the white house farthest up the harbour.

SABLE RIVER lies to the S.-westward of Port Ebert, distant $4\frac{1}{2}$ m.; at its entrance nearly midway of the channel, is a *rocky islet*, called Bantam, which lies S.W. by W. from Green Id., distant $2\frac{3}{4}$ m. S.S.W. $\frac{1}{2}$ W., within $\frac{3}{4}$ of a mile of the Bantam, are 3 or 4 spots of $4\frac{3}{4}$ and $3\frac{1}{4}$ fms., the shoalest of which is named the Bastard. There is a passage on either side of the rock; that to the eastward has 11, 13, and 15 fms., but that to the westward is somewhat shallower; the two points of entrance of the river are distant from each other $1\frac{1}{2}$ m., with from 6 to 11 fms. between them; but there is a *bar*, which renders this place totally unfit for affording shelter to any but the smallest class of vessels; it is, however, not destitute of inhabitants, some of whom are settled in a small nook close to the westward of the river, which is called the Little Harbour.

From Sable River the coast trends S.W., 3 m. to *Hemeons Hd.*, to the eastward of which is *Black Rk.*, 10 ft. high., and to the S.S.W. at the distance of $\frac{1}{2}$ a mile is *Ram Id.*, 21 ft. high. S.S.W. $\frac{1}{2}$ W. of Ram Id. to the distance of 1 m., are the *Potter's Ledge*, always visible, and the *Emulous Breakers*, seen at L.W.; beyond these is the *Farm Ledge* of $3\frac{3}{4}$ fms., and other patches of 5 fms., the farthest of which is about $2\frac{1}{4}$ m. from Ram Id. A clear course W.S.W. for 15 m., will take you from Little Hope beacon to clear of this ledge.

This point, island and ledges, separate Sable River from Rugged Island Harbour, which bears N.N.W. from the outer spot of 5 fms., of the Farm Ledge, distant $3\frac{1}{2}$ m.

W.N.W., $1\frac{3}{4}$ m. from Ram Id., is *Black Pt.*, which is the eastern point of Rugged Id. Harbour, off which a reef extends southward more than $\frac{1}{2}$ a mile; and in the same direction and distance farther, is the *Blow Breaker*, or Eastern Bull, of $4\frac{1}{2}$ ft. These are on the eastern side of the harbour entrance.

Western Hd.—The western point of entrance to Rugged Harbour lies W. $\frac{1}{2}$ S., $4\frac{1}{2}$ m. from Ram Id., and between which, on the western side of the entrance, are the following dangers:—The *Gull Rk.* (on which is a Lt.-ho.); the *Whale Rk.* and *Kelp Shoal*; the *Chain Ledges*, and *Trinidad Rk.*; together with the *South Ledge*, the *Long Shoal*, and *Bull Rk.*, lying more to the S.E. and S. from the Western Hd.

The **Gull Rock** lies E. by S., $1\frac{1}{4}$ m. from Western Hd., and is a reef, running N.E. by N., and S.W. by S., $\frac{1}{2}$ of a mile; to the S.E. is a reef of $3\frac{3}{4}$ fms., $\frac{1}{4}$ of a mile distant. The *Whale Rk.* is $\frac{1}{3}$ of a mile to the E.N.E., and as it always breaks, will point out the *Kelp Shoal* to the S. The *Trinidad Rk.* of $4\frac{1}{2}$ ft., is $\frac{1}{2}$ a mile to the northward of the Whale Rk., and the *Chain Ledges*, 10 ft. above H.W., are situated $\frac{1}{3}$ of a mile to the westward of the Trinidad, and run nearly a mile parallel with the land, from which they are distant about $\frac{3}{4}$ of a mile.

The **South Ledge**, of 3 fms., lies due S., over $\frac{1}{2}$ a mile from the Gull Rk.; the *Long Shoal* of $3\frac{1}{2}$ fms., S.W., 1 m. from the same, and a little over that distance S.S.E. $\frac{1}{2}$ E. from Western Hd.

The **Bull Rock**, of 3 ft., and a patch of $1\frac{3}{4}$ fm., $\frac{1}{4}$ of a mile N.N.E. of it, form a prominent danger, but as it generally breaks, gives timely notice to the mariner to avoid it when coming from the westward for Rugged Harbour, or from the eastward for Shelburne.

Light.—On Gull Rk., in lat. $43^{\circ} 39' 14''$, and long. $65^{\circ} 5' 5''$, is a square white Lt.-ho., 39 ft. in height, and 44 ft. above H.W., exhibiting a *fixed Lt.*, vis. 10 m.

RUGGED ISLAND HARBOUR seems to have been so named from its craggy and rugged appearance, and the numerous *dangerous ledges* and *sunken rocks* at its entrance. This harbour is difficult of access, and seldom resorted to, unless by the fishermen, who are familiar with its navigation; yet the anchorages are good, with $4\frac{1}{2}$ and 4 fms. During gales of wind, the unevenness of the ground frequently causes the sea to put on a most formidable appearance, breaking violently from side to side.

Directions.—Vessels coming from the eastward will perceive Ram Id., lying S.W. by W. $\frac{1}{4}$ W. from Green Id., distant 6 m.; this island having high rocky cliffs on its eastern side, affords a good mark for the harbour, and having cleared it at the distance of $2\frac{1}{2}$ m., and brought it to bear N.E. by N., you may run N.N.W. for the harbour, W. of the Blow Breakers, and clear of the dangers on the western side, and for which the Gull Lt. will be a good guide. In so doing you must be careful to avoid a *shoal* which stretches half-way over from the starboard shore, narrowing the channel very considerably, so that between the shoal and Muffatt Id. the passage is not above $\frac{1}{4}$ of mile wide; hence pursuing a N.N.E. course, you will readily reach the anchorage in the Northern Arm. Small vessels may be well sheltered within Cubb Basin, which is to the northward of Muffatt Id.; and vessels coming from the southward or westward will have deep water on either side of the Gull Rocks, or between the Emulous and Blow Breakers. At Rugged Id. Harbour it is H.W., F. and C., 7 h. 59 min., springs rise $7\frac{1}{2}$ ft., neaps 6 ft.

GREEN HARBOUR AND RIVER JORDAN.—Green Harbour is to the westward of Rugged Id. Harbour, having an island on the western side of the entrance, and running in full 3 m.: this, and the River Jordan, situated still farther to the westward, appear to be places where good anchorages may be obtained, but they are at present little frequented by shipping, although they have many inhabitants; they are open to southerly winds, which cause a heavy rolling sea.

SHELburnE HARBOUR is, according to Mr. Lockwood, justly esteemed the best in all Nova Scotia, from the ease of its access, and the perfect security of its anchorages. At the entrance of the harbour is the island of M'Nutts, which is nearly 3 m. in length, and $1\frac{1}{2}$ in its broadest part. On the S.E. point of this island stands an excellent Lt.-ho.; this point is a high cliff of white rocks, the summit of which is without trees: the W. side of the island is low.

Shelburne affords excellent shelter for ships in distress, and is secure against any wind, except a violent storm at S.S.W.; abreast of the town the wind from S. to E. does no harm, although from S. by W. to S.W. by S., if blowing hard for some considerable time, it will set the smaller vessels adrift at the wharves; but in the stream, as has been observed before, with good cables and anchors, no winds can injure you. Here you may be supplied with cordage, duck, spars, provisions and water. Carpenters, pump, block, and sail-makers, can be obtained, if required; and the port charges for vessels which put in for supplies only, is no more than 4d. per ton, light money on foreign bottoms; but should you enter the custom-house, the duties become much higher.

Lights.—The Lt.-ho. on M'Nutts Id. is painted black-and-white, in vertical stripes, and has a remarkable appearance in the day-time, on account of a dark wood that is behind it; while at night two *fixed* Lts. are exhibited from it; the upper Lt. is 120 ft. above the level of the sea, and the lower about 55 ft. below the lantern at the top of the building; these Lts. are visible at the distance of 18 and 10 m. The Lt.-ho. bears from the Lt.-ho. of the Gull Rk. west, northerly, $7\frac{1}{2}$ m., being in lat. $43^{\circ} 37' 17''$, and long. $65^{\circ} 15' 45''$.

Dangers on approaching Shelburne.—The dangers to be left to the eastward of you, are those adjacent to Rugged Id. Harbour, already mentioned, and the **Bell Rk.**, which is always visible, appearing black and bold-to, lying E.N.E. $\frac{1}{2}$ E., distant $2\frac{1}{2}$ m. from the Lt.-ho. On the western side, the **Jigg Rk.**, which has only 7 ft. over it, and lies S.S.W. $\frac{1}{2}$ W., $1\frac{1}{2}$ m. from the Lt.-ho.

Directions.—When coming in from sea make for the Lt.-ho., bringing it to bear N.W., or N.W. by N.; then steer directly towards it, and you may coast the eastern shore of M'Nutts Id. at the distance of $\frac{1}{2}$ a mile.

In coming from the eastward for this harbour, be careful to avoid, and give a good berth to the *shoals* off Rugged Id. Harbour, and do not haul up for the harbour until you get the Lt.-ho. on M'Nutts Id. to bear W. by N. $\frac{1}{2}$ N., by which precaution you will go clear of every danger; or you may stop a tide at the entrance, in from 16 to 10 fms., sand and clay.

In coming from the westward, you may steer for the entrance on either side of the Jigg Rk.; and if from the eastward, on either side of the Bell Rk. When you are abreast of the Lt.-ho. you may sail in to the northward of M'Nutts Id., about N.W. by N., keeping nearly in mid-channel: the island's side is bold-to, and the anchorage is good in 7, 8, or 10 fms., the bottom mud. Keep the western shore on board, for there is a *shallow spot*, called the *Middle Rks.*, of $2\frac{1}{4}$ fms., on the eastern side, about a mile above M'Nutts Id., and $\frac{3}{4}$ of a mile below Sand Pt., and abreast of the remarkable boulder point, called Surf Pt. Sand Pt. is about 2 m. beyond the N.W. part of M'Nutts Id.; give it a berth, for a *sandy spit* extends from it 300 yards. With M'Nutts Id. locked to this point, the anchorage is exceedingly good, and shipping may, with good ground tackle, ride in safety during the most violent storm.

In the channel, about S. $\frac{1}{2}$ W., distant a mile from Hart Pt., lies the *Adamant Rk.* and *Man-of-War Rk.*, abreast of Durphy's House; this will easily be avoided by going into no less than $4\frac{1}{2}$ or 5 fms. The inlet which runs up to the N.W., called Birchtown Bay, has several *shoals* in it; but the eastern shore of the eastern arm which runs up to Shelburne, has regular soundings from Sand Pt. upwards, and is free from danger, while in the upper part of the harbour, above Hart Pt. vessels may ride in 5, 6, or 7 fms., the ground holding well. We have already stated, that your course, from the entrance towards Sand Pt., will be about N.W. by N., and having rounded Sand Pt. you can proceed N. by W. and N., according to the wind, to the westward of Adamant Shoal.

Leading Marks for Shelburne Harbour.—Red Bk., which is the N.E. point of M'Nutts Id. touching Sand Pt., bearing S. by E. $\frac{1}{4}$ E., clears Man-of-War's Rk. to the westward; Greys Id. which is the next island S.W. of M'Nutts Id. open to the eastward of Surf Pt. boulder, bearing S. $\frac{3}{4}$ W., clears the Adamant Rk. to the eastward; Churchover Church tower open to the northward of Durphy's Wharf, bearing N. 85° W., clears Man-of-War's Rk. and the Adamant to the northward; White house (on a hill to N.E. of Shelburne town) open to the S.E. of the tower of the Episcopal (the southernmost) Church, bearing N.E. $\frac{1}{2}$ N., clears Hart Pt. Rk. and all the dangers on the western shore above Hart Pt. and below the town.

TIDES.—It is H.W., F. and C., at Shelburne, at 8 h. 4 m.; springs rise 7 ft., neaps $5\frac{1}{2}$ ft., but a fresh breeze from the S.E. commonly brings on H.W. sooner, and causes an additional rise of 2 or 3 ft.

CAPE NEGRO HARBOUR is named from Cape Negro, the eastern limit of an island which lies before its entrance. This cape is remarkably high, rocky, and barren, bearing S.W. $\frac{1}{4}$ S., distant $7\frac{1}{2}$ m. from Shelburne Lt.-ho. The island is very low midway, and has the appearance of being two islands. There are two passages into the harbour, one to the eastward of the island, and the other to the westward of it; the former is much the better of the two, but is rendered dangerous on account of *two sunken rocks* which lie off its entrance; these are called the **Grey Rks.**, and the **Budget**: the Grey Rk. lies N.E. by N. from the cape, distant nearly a mile, and is situated on the starboard side of the channel. Some parts of these rocks are always visible, being 10 ft. above H.W., and serve as a mark for the harbour.

The *Budget* is a *blind rock*, of 6 ft., lying nearly mid-channel, and only $\frac{1}{3}$ of a mile from the island, having deep water round it. In the channel to the eastward of the Budget you will have 10, 12, and 14 fms.; and the best direction to enter the harbour will be to steer $\frac{1}{2}$ from the rocks off the eastern point, until Shelburne Lt.-ho. is shut in, when you will be within the danger. There is excellent anchorage off the N.E.

part of Negro Id., in from 6 to 4 fms., on a bottom of stiff mud. The northern part of the island presents a low shingly beach, from which a *bar* extends quite across to the eastern shore, over which are 15 ft. at L.W.; above this bar it is navigable full 6 m., having a smooth clayey bottom, with 3, 4, and 5 fms.

The passage to the westward of Negro Id. is somewhat intricate, encumbered with rocks and dangers, and should not be attempted, except in cases of extreme emergency; in such cases a close study of the large scale chart, and a good look-out from aloft by the commander, will be the best guide.

Dangers.—From *Green Pt.*, the S. point of the peninsula forming the W. side of the western entrance is surrounded with reefs and rocks to the extent of 2 m. S.E. and E. from the point; besides the rocks there is an island, called *Blanche Id.*, narrow, and 15 ft. in height; this is about $\frac{3}{4}$ of a mile S.E. by S. from the point. The *Salvages*, a reef of detached rocks, lies within a mile E.S.E. of *Blanche Id.*, and extends a mile N.E. by N. and S.W. by S.; some of these rocks are 10 ft. above water. N.E. $\frac{1}{2}$ N., $\frac{3}{4}$ of a mile from the northern rock of the *Salvages*, are the *N.E. Rocks*, one of which dries 2 ft. above L.W., the others just visible and awash. The *Shag Rk.*, 6 ft. above H.W., lies a mile N.W. of the N.E. Rk. This latter rock is within $\frac{3}{4}$ of a mile of the eastern shore of the peninsula, and with those we have enumerated, encloses *Sheep Ledge* and *Passage Rk.*, and various rocky heads, that you must be careful not to get entangled with. The *Triangle* is a reef of rocks more over towards Negro Id., and a small spot is awash at L.W. springs; other parts have 3 ft. and less upon them.

Directions.—In coming from the westward for Negro Harbour, having passed Cape Sable at the distance of 2 m., and cleared the heavy tide rip off it, you may steer E. by N., towards *Baccaro Pt. Lt.*, which course will carry 2 m. of the point and clear of the *Bantam Rks.*, and $3\frac{1}{2}$ m. well inside the *Brazil Rk.* When you get *Baccaro Pt. Lt.-ho.* to bear N. you will be near or upon a small shoal patch of 7, 8, and 9 fms., and may continue your course 6 m., and you will get the western entrance of the harbour open, with *Davis's Id.* (the largest and westernmost island at the head of the harbour) a sail's breadth open of *Purgatory Pt.* (the N.E. point of the peninsula) bearing N. by W. $\frac{3}{4}$ W., and run in in that direction, giving the N.E. rocks of the *Salvages* a berth of $\frac{1}{2}$ of a mile, which having rounded, steer N.W. towards the *Shag Rk.*, and you will thus clear the *Triangle*; when abreast the *Shag Rk.* steer N. up the harbour past the N.W. spit of Negro Id.; then N.N.W. towards *Davis Id.*

To sail through the N.E. passage, which is not so difficult, keep *Grey's Rks.* on board, and steer N.W. for *Point John*, until you see across the isthmus in the middle of Negro Id., or until *Shelburne Lt.-ho.* is shut in; having thus passed the *Budget*, haul over to the westward, keeping along the shore about 3 cables' length from the island to avoid the shoal, which extends half the distance over from *Point John* towards the island; and when you have opened the small islands at the head of the bay, shape your course N.N.W. to the anchoring ground; the bottom is mud and clay; along the N.E. side of Cape Negro Id., the anchorage is good stiff clay.

The *River Clyde*, which descends from a chain of lakes, that extend E.N.E. and W.S.W., a considerable distance in the interior, falls into the head of Negro Harbour, after a run of 28 m.; and the adjoining lands are well cultivated, and have an increasing population, who combine fishing and farming with considerable success.

PORT LATOUR is situated a little to the westward of Negro Harbour, being separated from it by the narrow peninsula, noticed above; the extreme points which bound the entrance to the southward, are *Green Pt.*, to the eastward, and *Pt. Baccaro* to the W.: between and within these are several clusters of rocks, rendering the harbour unfit for any but small craft; and the tide leaves the head of the inlet dry in many places; the adjacent lands are barren, and the settlers are but few.

Light.—*Port Latour Lighthouse* is a square building, painted white, with a black ball on its seaward side, on *Baccaro Pt.*, which forms the E. side of *Barrington Harbour*. It exhibits a *revolving Lt.*, bright 15 seconds, and dark 25 seconds, elevated 49 ft., and vis. 12 m.

Dangers off Entrance.—The entrance to this port, like the western entrance of Negro Harbour, has several ledges off to the East, S.E. and S.W. The *Brazil Rk.* lies S. $\frac{1}{2}$ W., $5\frac{1}{2}$ m. from Baccaro Pt., and will be noticed separately.

Bantam Rocks lie S.W., a little more than a mile from Baccaro Pt., and uncover at L.W. springs, and nearly always breaking. They consist of two heads, with $2\frac{1}{2}$ and $3\frac{1}{2}$ fms. S. of them, and $4\frac{3}{4}$ fms. to the N., in all about $\frac{1}{4}$ of a mile in extent. The *Shot Pouch* is a rocky shoal, situated on a flat that stretches out W.S.W. from Baccaro Pt., to the distance of $\frac{1}{2}$ a mile, and then runs up along shore, narrowing, to Cat Pt. in Barrington Bay.

South Ledge consists of 2 rocky heads, lying N.N.E. and S.S.W. of each other, a cable apart, bearing E., $1\frac{1}{2}$ m. from Baccaro Pt. and the *Stone Horse* of $4\frac{1}{2}$ ft., $\frac{1}{4}$ of a mile to the S.E. The southern ledge is never entirely covered, the top being always seen; the northern ledge is covered from last $\frac{1}{4}$ flood until first $\frac{1}{4}$ ebb. *Baccaro Outer Ledge*, the least water $3\frac{1}{2}$ fms., lies S.E. $\frac{1}{4}$ E. from Baccaro Pt., and is a small shoal, little over $\frac{1}{4}$ of a mile N.N.W. and S.S.E. Between the Outer Ledge and the S. Ledge, the soundings are 5, 6 and 7 fms. S.W. of Outer Ledge there are 8 and 9 fms., close to, deepening to 14 and 15; then 13 and 11 towards the Bantam Rks. Inside the Bantam, between them and the shoal off Baccaro Pt., there are 5, 6, 7 and 8 fms. Almost in a line from Baccaro Pt., and the northern rock of the South Ledge, is a small head of rock, awash at L.W. springs, called the *Cuckold Rk.*, about $\frac{1}{2}$ a mile from the land, leaving a passage between it and the S. Ledge, a little over $\frac{1}{2}$ a mile in width, with 7 and 9 fms. S.E. by E. $\frac{1}{2}$ E., $\frac{3}{4}$ of a mile from the point there is a cast of $5\frac{1}{4}$ fms.

North Ledge.—This ledge lies further up the port, $\frac{1}{2}$ a mile to the northward of the South Ledge. It is a small shoal of about $\frac{1}{4}$ of a mile in extent, and has several rocky heads; the southern one comes awash at L.W., and the northern patch is about 3 ft. above H.W. Between the N. and S. Ledges, there are 6 and 9 fms. in the channel. Inside the Cuckold is 6 and $4\frac{1}{2}$ fms., and along the land to the northward of Baccaro Pt. the shore is rocky, to $\frac{1}{4}$ of a mile distant, for upwards of a mile; it there forms a sandy or shingly head, running N.E. towards the *Crow's Neck*.

Crow's Neck.—This is a neck of rocks, off Braham Id.; the outermost rock is awash at L.W., and runs out more than $\frac{1}{2}$ of a mile to the S.S.E. from the island; the island being about 40 ft. in height. Between this rock and the N. Ledge there are 6 and 9 fms., and about the same water between the N. Ledge and the western shore. E. of these dangers there is deep water mid-channel, 20, 19, 17, 13 and 10 fms.; then shoaling gradually up the port. N.N.E., $\frac{1}{2}$ a mile from the Crow's Neck, is Page Id., 25 ft. high, with several rocks above water, round which, to the westward, is Port Latour (proper). The larger island, called John's Id., is in the upper end of the bay. South of John's Id., $\frac{1}{4}$ of a mile, is a small rock, awash at L.W. springs. The *Mohawk Ledge* lies in to the westward about half-way to the shore. The flood-tide sets fairly up the harbour.

Directions.—*Mr. Des Barres* says, "To sail into this port, coming from the westward, continue your course easterly, until you have Braham Isle a ship's length open to the eastward of North Ledge: thence you may steer northerly for Isle John, and when you come up within the distance of 3 or 4 cables' length from its S. end, incline to the westward in a direction with the western extremity of Pond Beach, until you open Prospect House on the N. side of the northernmost Mohawk Ledges, and then haul into anchorage in 3 fms., muddy bottom."

BARRINGTON BAY.—This is a spacious inlet, situated to the westward of Port Latour, and formed by Cape Sable Id., which lies in front of its entrance; there are two passages into it; that to the eastward is between Baccaro Pt. and Cape Sable Id., being at its entrance 3 m. wide; that to the westward is not more than a mile broad; both are encumbered with numerous and *extensive flats*, narrowing the passage, and rendering the navigation dangerous; for although the channels may generally be discovered, by the waters appearing dark, yet it will require a leading wind through to the anchorage, which is towards the head of the bay, and about $1\frac{3}{4}$ m.

below the town; here there are from 30 to 36 ft. water. The passage to the northward and westward is used by small vessels only, and is not safe without a commanding breeze, as the tide of ebb is forced unnaturally through to the eastward, by the Bay of Fundy tide, at the rapidity of 3, 4, and sometimes 5 knots an hour; setting immediately upon the rocks which lie within it.

The town of Barrington is situated at the N.-eastern extremity of the bay; the land is somewhat stony, but affords excellent pasturage, and the stock of cattle is very considerable, the inhabitants being generally in good circumstances. Vessels venturing into this bay by the eastern passage, must be very careful to avoid Baccaro Pt., on which the Lt.-ho. stands, giving it a wide berth of full 2 m., on account of the *Bantam*, *Shot Pouch*, and other rocks which lie off it.

CAPE SABLE is the S.-eastern extremity of a small narrow island, which is separated and distinct from Cape Sable Id.; it lies in lat. $44^{\circ} 23' 19''$, and long. $65^{\circ} 37' 11''$; it is low and woody, but the cape itself is a broken white cliff, apparently in a state of decomposition, and visible 4 or 5 leagues off; from this island *spits of sand* extend outward, both to the S.E. and S.-westward; indeed the whole of the eastern shore should be avoided, as it is environed with rocks and shoals, some of which extend $1\frac{1}{2}$ m. from the shore, the outermost of which, called the *White Knoll Ledge*, and which is seen breaking with a heavy sea, bears N.E. by E. $\frac{1}{2}$ E. from Cape Sable, distant $2\frac{3}{4}$ m., and W. $\frac{1}{4}$ S., 5 m. from Baccaro Pt. *Stoney Island Shoal*, least water $3\frac{1}{2}$ fms., lies nearly on the parallel of Baccaro Pt., about midway of the entrance to the bay, but inclining to Sable Id. side. The *S.-Eastern Ledge* is called the *Horse Race*, and runs out 2 m. S.S.E.

S.W. Ledge.—Black Id. is the point of the island, $1\frac{1}{2}$ m. N.W. $\frac{1}{2}$ N. of Cape Sable, and from it the S.W. Ledge bears S.S.W., 2 m. This ledge is in two or three different patches, the outermost being the most dangerous, having two different heads of rocks, which show 3 and 4 ft. at L.W., and one that comes awash; beyond these are sunken heads, that generally break heavily.

The tides, both flood and ebb, set directly across these ledges at the rate of 3 and sometimes 4 knots an hour, causing a strong rip to a considerable distance, particularly when the wind is fresh; it will then often extend full 2 leagues out, shifting its direction with the tide, the flood carrying it to the westward, and the ebb to the eastward, the former running a considerable time longer than the latter. This rippling or breaking of the water, may be considered hazardous to pass through in a gale of wind, but there are not less than 8, 10, 12, and 20 fms., rocky ground.

Light.—On Cape Sable, a white conical Lt.-ho. has been erected, 50 ft. in height, and 53 ft. above H.W., and exhibits a *fixed red* Lt., vis. 12 m.

It is H.W. at Cape Sable, F. and C., at 8 h. 27 min., and the spring-tides rise $8\frac{1}{2}$ ft., neaps $6\frac{1}{2}$ ft.

CLARKE HARBOUR.—To the N.-westward of Cape Sable is a small island, called Green Id., 20 ft. high, to the N.E. of which an inlet runs in to Cape Sable Id., forming Bonetta Cove, where good anchorage may be found in 3 fms.; the entrance to it is narrow, and runs in between a *spit* and the island; this will be too difficult for a stranger to discover, but it is frequented by the coasters and fishermen.

Green Id. Bank, of $4\frac{1}{2}$ fms., lies W. $\frac{3}{4}$ N., $\frac{3}{4}$ of a mile from Green Id. *Green Id. Ledge* and *Black Id. Ledge*, are to the southward of Green Id., the former bearing S.S.W., $1\frac{1}{2}$ m. from the island. Black Id. Ledge is within this, between it and the land. Keep outside these, as it would be difficult for a stranger to extricate himself if driven in among these dangers.

FAVOURITE COVE is situated in the Western Channel, and about the middle of Cape Sable Id.; here also small vessels may run in and anchor in $2\frac{1}{4}$ fms., behind a small islet which lies mid-channel, at its entrance, affording a passage on either side; but that to the eastward is the best, and has the deepest water. With S.W. gales there is always good anchorage off the N.E. side of Cape Sable Id.; but Shag Harbour, which lies on the opposite side of the Western Channel, and bears N.W. by W.

from Clarke Harbour, is full of *shoals*, and must not be attempted unless you are well acquainted with it.

THE BRAZIL ROCK.—This is a *flat rock*, covering a space of but one cast of 12 ft., and close to the eastward are 30 ft. at L.W. ; a tail extends 90 or 100 yards from its base, having 6 to 8 fms. water ; the sea breaks heavily over this in bad weather, and in fine weather it only shows itself by a tide rip. Southward of the rock, at the distance of about a mile, you will have 17 and 18 fms., then 30 and 34 at 2 m. N. by E. $\frac{1}{2}$ E. ; at nearly a mile is a cast of 9 fms., otherwise the depth is 12 to 18 fms., towards Baccaro Pt. Towards the Cape Sable shore the soundings are regular, from 19 to 15 fms. ; you will then lessen your water to 10 and 7 fms., when you will be at the edge of the *Horse Race*. The exact position of this rock has been much disputed, but the place assigned to it by the recent surveys, is in lat. $43^{\circ} 21' 28''$, and long. $65^{\circ} 26' 45''$.

At the Brazil Rk. the tide turns half an hour before L.W. at Cape Sable.

General Directions.—Vessels from Europe, when bound to the Bay of Fundy, should endeavour to keep in the parallel of about 43° or $43^{\circ} 5'$; and after obtaining soundings on the western part of Sable Island Bk., should not fail to keep the deep-sea lead going, to the westward, sounding progressively on the Le Have and Cape Sable Bks. ; the former may be known by the hard rocky bottom, and the latter by being generally black gravel. These precautions become more necessary as a fair wind is frequently accompanied by a thick fog, often for several days together. The neglect of the lead has been the greatest cause of the fatal disasters which have occurred on this coast.

In thick weather, by a careful attention to the soundings on your approach towards Cape Sable, and keeping your vessel under commanding canvas for getting soundings, you may round the cape with safety in 35 or 40 fms. ; the soundings will inform you when off the cape, being small black stones, sand, and gravel. When across this bank you fall into deep water in the bay, and may shape a course for the American shore, and endeavour to make the land about Moose Peck Id., or Machias. Mount Desert and the Shuttock Hills may be seen at a great distance ; sometimes they may be seen clearly from the mast-head over the fog.

THE WEST AND NORTHERN COASTS OF NOVA SCOTIA, AND
THE COAST OF NEW BRUNSWICK, INCLUDING THE
BAY OF FUNDY, WITH THE MANAN ISLANDS, ETC.

Variation allowed $1\frac{1}{2}$ point West.

CAPE SABLE TO BRIER'S ISLAND.

THE COASTS, ISLANDS, &c.—Before we give a description of the main land from Cape Sable to the entrance of the Bay of Fundy, it may be proper to notice the islands and rocks which lie adjacent and to the westward of Cape Sable; these are the *Blonde Rock*, the *Seal*, and *Mud Islands*; the *Tusket Islands*, the *Gannet Rock*, and *Green Island*, &c.

The **SEAL ISLAND'S** southernmost point bears from Cape Sable nearly W.N.W. $\frac{1}{2}$ W., distant 17 m., and lies in lat. $43^{\circ} 23' 30''$, and long $66^{\circ} 0' 52''$, the island being somewhat more than 2 m. in length from N. to S. Its southern part is covered with scrubby trees, elevated about 30 ft. above the sea. A *dangerous reef* extends $\frac{1}{2}$ of a mile S. from the south end of the island.

Seal Island Light.—This Lt.-ho. stands on the S. point of the island $\frac{1}{2}$ of a mile inland. The building is 60 ft. in height, is of an octagon shape, built of wood, and painted white; it shows a *fixed Lt.* 98 ft. above H.W. mark, which may be seen, when approaching, from every point of the compass, at the distance of 18 m.

Elbow Shoal lies to the southward of Seal Id., and is about a mile in extent, and stretches nearly 2 m. from the island, but with a depth of 6 and 7 fms. between it and the island. On the northern part of the shoal is the *Elbow Rk.*, and the next shallowest water is $2\frac{1}{2}$ fms. The *Zetland Shoal* consists of 3 or 4 patches $\frac{1}{2}$ a mile to the westward, least water $3\frac{1}{2}$ fms.

Blonde Rock, S. $\frac{1}{2}$ E., $3\frac{1}{2}$ m. from the Lt.-ho. on Seal Id. is the Blonde Rk., so named from a vessel of that name having been wrecked upon it in 1777. One head of this rock shows itself 2 ft. above L.W. of springs, and it is in general seen breaking. Just N. of the head are 2 fms., and to the southward $2\frac{1}{4}$ fms.; around it are 6, 8, 9 and 12 fms. About a mile westward of the Blonde is a very heavy tide-rip, which shows like a breaker. A slight tide-rip sets over the Blonde Rk., as well as over the Zetland Shoal, and also the southern part of the Elbow Shoal. In the deeper water, between the Elbow and the island, the tide-rip becomes heavy, and the flood-tide sets through W.N.W.

Purdy Rock.—S.E. by E. $\frac{1}{2}$ E., $2\frac{1}{4}$ m. from Seal Id. Lt.-ho. is the Purdy Rk., of $2\frac{1}{4}$ fms. It is of small extent, with 8 and 10 fms. close round it, and breaks in heavy weather.

Off the western side of Seal Id. are two small rocky islets, called the Devil's Limb and the Limb's Limb; the former is the southernmost, and has the Loch Foyne Shoal to the southward of it about $\frac{1}{4}$ of a mile. These are situated within a mile of the W. shore of the island, the Devil's Limb being 8 ft. above H.W. The Limb's Limb shows one hour after H.W., and the Loch Foyne Shoal uncovers at L.W. springs. *Crowell Cove* is on the W. side of the island, where there is a landing slip, and anchorage off in $4\frac{1}{2}$ fms.; but the principal landing place is on the E. side of the island, in a small bay N.E. of the Lt.-ho., from where there is a pathway to the Lt.-ho. Here there is also anchorage with the wind from the S.W., in $5\frac{1}{2}$ to

6 fms. The ebb-tide coming from the N.W. divides at the N.W. point of the island, called from that circumstance *Division Pt.*, and runs on both sides of the island to the southward. In the channel to the northward of Seal Id. the current of flood sets N.W., and the ebb S.E., at the rate of 3.8 knots per hour.

It is H.W., F. and C. at Seal Id., at 8 h. 54 m.; spring tides rise $11\frac{1}{2}$, neaps $8\frac{1}{2}$; neap tides range 5 ft. 10 in.

THE MUD ISLANDS are a range of 4 or 5 low ragged islands, the southernmost of which lies N.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ m. from the northern point of Seal Id. To the S.E. of this island is a tide-rip or overfall in $5\frac{1}{4}$ fms., which extends a mile from the island. The largest of the Mud Ids. is the second from the southward, and is about $1\frac{1}{4}$ m. long, and $\frac{1}{2}$ broad, and thickly wooded, the northern part being 15 ft. high. This is Mud Id. proper, the southern islet being called *Noddy Id.*, and 18 ft. high; to this island the petrels resort in great numbers during the breeding season. *Round Id.* is a small wooded island not $\frac{1}{4}$ of a mile in extent, but 25 ft. in height. About $\frac{1}{2}$ a mile N. of Mud Id. is Flat Id., a narrow islet 13 ft. and 10 ft. high, barely $\frac{1}{2}$ a mile long, E.N.E. and W.S.W., with some smaller islets, $\frac{2}{3}$ of a mile W. by N. from Round Id. At $\frac{1}{2}$ a mile N.E. by N. from the northern and highest part of Flat Id. is a shoal of $1\frac{1}{4}$ fm. To the westward of Mud Id., about due W., distant a mile from the centre, is the *Black Ledge*, which covers at H.W. springs; and N. by E. of this at $\frac{1}{2}$ a mile is a spot of $2\frac{1}{2}$ fms., with rocky ground between.

Mud Island Shoal, of 4 and 5 fms. for the extent of $\frac{1}{4}$ of a mile E.N.E. and W.S.W., lies W. by N. $\frac{1}{4}$ N., $2\frac{1}{4}$ m. from the southern point of Mud Id. This shoal breaks in very heavy weather.

The western side of the Mud Ids. is the least dangerous, and anchorage may be had abreast the centre of Mud Id., at $\frac{1}{3}$ of a mile from the shore in 6 fms.; keep that distance from the southern part of this, and also from Noddy Id. Anchorage may also be had $\frac{2}{3}$ of a mile N. from Round Id., and about the same distance from Flat Id., in 9 fms.; also at about $\frac{1}{4}$ of a mile N. from the highest part of Flat Id., in $5\frac{1}{2}$ fms.; but of course these anchorages must be taken in respect to the wind and weather. Do not approach the western shore of Mud Id. to within $1\frac{1}{4}$ m.; indeed, it would be prudent to keep westward of Mud Id. Shoal, for between that shoal and the Black Ledge there are spots of $4\frac{2}{3}$ and $4\frac{1}{2}$ fms., which might pick up a heavy ship when there is much scud of the sea. The ebb tide sets round southward from the N.W., the flood almost in an opposite direction.

Directions.—The course from 2 m. S. of Cape Sable to clear S. of the Blonde Rk., will be W. $\frac{3}{4}$ N., 18 m., but with the flood make allowance for a N.W. current; with the ebb you will be assisted clear of the Blonde Rk. From abreast of Cape Sable, to pass between the Seal and Mud Ids., steer N.W. by W. $\frac{1}{4}$ W., 20 m., taking care to keep clear of the S.W. ledge of Cape Sable, which will generally be seen breaking on your starboard bow, and making allowance for the tide, as just observed. You may meet with some overfalls or tide-rips in this direction, but there is no danger. The N. end of Seal Id. is bold-to, and there are 5 to 7 fms. within $\frac{1}{4}$ of a mile of the shore. In sailing between Seal Id. and the Mud Ids., large vessels should always keep $1\frac{1}{4}$ m. from the southern of the latter, by which they will avoid the tide-rip of $5\frac{1}{4}$ fms. Should the currents be perplexing through this strait, you may find anchorage in 12 fms., at L.W., with Noddy Id. bearing W., and the northern part of Seal Id. S. by E.

The tide runs with rapidity past the Seal and Mud Ids., which occasions the sea to break over the shoals in their vicinity, making them appear more extensive than perhaps they really are; but at the same time rendering them more conspicuous for the mariner to avoid.

THE TUSKET ISLANDS are a cluster of islands lying to the northward of the Mud Ids., and S.-westward of the entrance to the Tuskett R., and close to the main. Some of them are of considerable dimensions, the largest of which forms Frenchman Pt., being $1\frac{1}{2}$ m. long, and a mile broad, and at L.W. becomes as it were a peninsula,

being connected with the main by a rocky ridge or isthmus $\frac{3}{4}$ of a mile long; the channel called the *Shuice*, close northward of the island, commences opening at $\frac{1}{4}$ flood, thereby forming the island. These islands are over twenty in number, the highest about 100 ft. above the sea; there are many *shoals* and *dangers* among them, and although there are many navigable channels between them, no stranger should attempt these passages, and no directions we could give would aid the mariner in so intricate a navigation. In the channel which separates these islands from the Mud Ids., there are a number of dangers which we shall here attempt to describe sufficiently to caution the mariner of their positions. First to the N.W. of the Mud Ids. is the

Soldier's Ledge, which is a dangerous reef, and shows 2 hours after H.W., and generally breaks. It is situated N.N.W. $\frac{1}{2}$ W., $2\frac{1}{2}$ m. from the highest part of Flat Id., and has shoal water to $4\frac{1}{2}$ fms., running from it N. $\frac{3}{4}$ of a mile; and to the same depth $1\frac{1}{4}$ m. S.S.W. Between the ledge and Flat Id. there is generally under 6 fms., and in one place only $4\frac{1}{2}$ fms., about $\frac{3}{4}$ of a mile from Flat Id.

Clearing Mark, S.E. extreme of Frenchman Id., open of the N. end of Bald Tusket (which is the southernmost of the Tusket Ids., and 50 ft. in height), N.N.E. $\frac{1}{2}$ E., clears the Soldier's Ledge to the westward.

The **Cleopatra Shoal** lies on the meridian of Flat Id., at 4 m. to the northward, and S. by E., $1\frac{3}{4}$ m. from the Bald Tusket. This is a small shoal of 2 and 3 fms., about $\frac{1}{4}$ of a mile over, with a tide-ripple over it.

Clearing Marks.—Half Bald Tusket, open to the eastward of Bald Tusket, clears Cleopatra Shoal to the eastward N. by W. $\frac{1}{4}$ W.: Half Bald Tusket, open to the westward of Bald Tusket, clears the shoal to the westward, N. $\frac{1}{2}$ W. Beside the Cleopatra Shoal there are 2 other tide-rips about half-way between that shoal and Bald Tusket, with $2\frac{1}{2}$ and 3 fms. upon them, the shoalest to the eastward, and about $\frac{1}{2}$ a mile apart. W.S.W., a mile from Bald Tusket is another tide-rip of 4 and $4\frac{1}{2}$ fms.; this is of considerable extent, and is a continuation of the rip from the S. of Bald Tusket, and which extends from thence in a heavier ripple in a southerly direction to the northern shallow of $4\frac{1}{2}$ fms. of the Soldier's Ledge. In this ripple, about $1\frac{1}{4}$ m. northward of the Soldier's Ledge, there is a cast of 5 fms., as also one at a similar distance S.W. of the Cleopatra Shoal.

Jacko Ridge.—This appears to be a new discovery, as not appearing in any former charts, until the survey by Captain Shortland. It appears to be formed of two patches, the southern one lying N.N.E. and S.S.W., $\frac{1}{2}$ a mile, with 5 fms.; the other about $\frac{1}{2}$ a mile to the northward, lying about W.N.W., and E.S.E., $\frac{1}{2}$ of a mile, with $4\frac{1}{2}$ fms. This ridge shows a long tide ripple, and is said to break in a heavy sea, and bears from the highest part of Flat Id., between W. by N. and N.W. by W., $6\frac{1}{4}$ m.

In following up the shoals and dangers to the northward, we come upon several under the designation of *Gannet*, from the Gannet Rk., a peaked rock 50 ft. above H.W., and situated in lat. $43^{\circ} 38' 8''$, and long. $66^{\circ} 8' 50''$. We shall commence with the southern one of that name.

Gannet South Shoal.—This is a very small shoal of 4 fms., with 9 and 11 fms. close to, and shows a small ripple, sometimes breaking in a very heavy sea, bearing from Flat Id. N.W. $\frac{1}{2}$ N., and from Bald Tusket W. $\frac{3}{4}$ S., $4\frac{3}{4}$ m. From this shoal the peak of the Gannet Rk. bears N., a trifle easterly.

Gannet S.W. Shoal.—This shoal lies to the N. westward of the former, and is about $\frac{1}{2}$ of a mile true N. and S., with 3 and $3\frac{1}{2}$ fms. upon it. It shows a small ripple and breaks in a heavy sea. The shoalest part is upon the parallel of 43° , long. $66^{\circ} 9' 40''$, and bears W. $\frac{3}{4}$ N. from the Bald Tusket.

Gannet Dry Ledge.—This is the outermost reef under this name, and lies to the N. $\frac{1}{2}$ W. of the last mentioned shoal. It consists of several heads more than $\frac{1}{4}$ of a mile N. by E. and S. by W., and bears from the Gannet Peak S.W. $\frac{3}{4}$ W., $1\frac{3}{4}$ m., and from the Bald Tusket W.N.W. It uncovers about 2 hours ebb, and generally breaks. About these shoals the flood-tide sets to the N.W. by N.

[ANSO TO C. COD.]

Gannet Rock.—We shall next take the Gannet Rk. mentioned above, because its peak affords a good bearing for the others in the neighbourhood. The rock itself is a very narrow island lying N. $\frac{1}{4}$ E., and S. $\frac{1}{4}$ W., about $\frac{1}{2}$ of a mile, with a little concavity to the westward. North from the peak, distant nearly $\frac{1}{2}$ of a mile, is a pinnacle of rock showing about $\frac{1}{2}$ tide, and called the *North Rk.*; and about 2 cables' length S. $\frac{1}{2}$ W. from the peak are two other detached pieces of rock.

The South Rock is another pinnacle of rock, showing about $\frac{1}{2}$ tide, and bearing from the peak S. $\frac{3}{4}$ W., $\frac{3}{4}$ of a mile.

The S.E. Rock lies to the S.-eastward of the South Rk., and consists of a rocky head under water, in about the centre of a shoal running N. by W. $\frac{1}{4}$ W., and S. by E. $\frac{1}{4}$ E., $\frac{1}{2}$ a mile; to the northward of the rock are but $2\frac{1}{2}$ fms., while around it are 5, 6 and 7 fms. The rock bears from the peak of the Gannet Rk. S. by E. $\frac{1}{4}$ E., distant $1\frac{1}{2}$ m.; and from the Bald Tusket, N.W. by W. $\frac{1}{4}$ W., and breaks in a heavy sea.

N.E. $\frac{1}{2}$ N., $1\frac{1}{2}$ m. from the peak of Gannet Rk., there is a cast of $4\frac{1}{2}$ fms.; and although the depth of water about here is not considerable, we point this out as the least water; several casts of 6 and 7 and even $5\frac{1}{2}$ fms. are shown on the new charts that are not marked as defined shoals; so that we recommend those unacquainted, or not having the large scale charts, to keep 5 or 6 m. from the land, in about 30 fms. at L.W., provided they are not bound to Yarmouth or ports adjacent, and then to obtain the assistance of a pilot.

The westernmost of the Tuskets Ids. is *Spectacle Id.*, and to the N.N.E. *Holmes Id.*; to the northward of Holmes Id., the Holmes Spit stretching N. by W., a mile: and to the N.N.E. of the spit is *Murder Id. Shoal*, dividing the northern entrance of the channel amongst the islands into two branches, the one to the southward of Murder Id. Shoal, called *Ellenwood Passage*, while that to the N.-eastward, between the shoal and Murder Id., is called the *Schooner Passage*.

S.S.W. from the S. point of Spectacle Id., distant $\frac{2}{3}$ of a mile, is the *Spectacle Ledge*, of $1\frac{1}{2}$ fm., and N. by W. $\frac{3}{4}$ W., $\frac{3}{4}$ of a mile from this, is a spot of 3 fms. Each of these shoal patches makes a tide-rip. *Clearing Marks.*—To those that are able to pick out the marks, the following will clear the Spectacle Ledge. Cliff on the S.W. end of Ellenwood Id., open to the eastward of Spectacle Id., N.N.E., clears the Spectacle Ledge to the eastward; S. end of Peases Id. on with the N. end of Half Bald Tusket, E.N.E., clears the Spectacle Ledge to the southward.

On the eastern side of the group of Tuskets Ids., E.N.E., 1 m. from the Bald Tusket, is the *Old Man*, a dangerous reef showing in several heads, only 1 hour before L.W. The shoal water of the ledge under 4 fms., lies N. by W. and S. by E., nearly a mile. *Little Bald Tusket Shoal*, of 9 ft., lies N.W. by N. from the rocky heads of the Old Man, distant about $\frac{1}{2}$ a mile. A good *Clearing Mark* to the eastward is Owl's Id., open to the eastward of Allen Id., N. by W. $\frac{1}{2}$ W. This clears the Old Man and Little Bald Tusket Shoal.

THE MAINLAND.—From Green Id., N.W. of Cape Sable to the S. point of *Bon Portage Id.*, is N.W. $\frac{1}{2}$ N., $3\frac{1}{2}$ m. This island is of a sandy nature, having a pond at its northern point, and lies in a N. $\frac{1}{2}$ W. and S. $\frac{1}{2}$ E. direction, being $1\frac{1}{4}$ m. long, and $\frac{1}{2}$ of a mile wide. It is situated on an extensive shallow bank, which extends northward almost to the entrance of Pubnico Harbour, and upon which are the *Mutton Ids.* and *St. John Id.*, the former with Bon Portage Id., forming the western side of Shag Harbour and Cockerwit Passage. At $\frac{2}{3}$ of a mile W.N.W. of the central part of Bon Portage Id. is *Gull Id.*, a small island situated on the edge of the bank that surrounds Bon Portage Id. and the islands to the northward. One mile S.W. from the S. point of Bon Portage Id. there is a heavy tide-rip, extending 2 m. in a N.N.W. and S.S.E. direction; but the least water will be 7 fms. Here the flood-tide sets to the N.W., and the ebb in a contrary direction.

SHAG HARBOUR.—The entrance to Shag Harbour is upwards of a mile in width, and with a good depth of water, 10, 9 and 8 fms. A north course from the en-

trance will take you up through Cockerwit Passage to the Narrows, where you may obtain anchorage in 6 fms., but like the passage to the northward of Cape Sable Id., it is too intricate to navigate by any written description, and therefore cannot be recommended to strangers.

Directions.—With Cape Sable Lt.-ho. bearing E.N.E., distant $2\frac{1}{2}$ m., your course to the northward along shore, and outside of danger, will be N.W. by N., 7 m.; then N. by W. for $3\frac{1}{2}$ m., when you may haul in N.N.E. $\frac{1}{2}$ E. past St. John Ledge and island for Pubnico Harbour. In these courses you will have the benefit of a true tide, if on the flood.

ST. JOHN ISLAND lies about 2 m. to the southward of Pubnico Harbour, and is about $\frac{3}{4}$ of a mile long, and above $\frac{1}{2}$ broad. On its western side, facing the sea, is a cliff 30 ft. in height. This island with the main, forms the northern entrance of Cockerwit Passage, which leads to Shag Harbour. Within the harbour is a spit of sand and shingle, on which is a small island called *Egg Id.* S.E. from the S. point of the Id., there is a small ledge which shows 2 hours before L.W.

Under the northern side of St. John Id. is a good shelter in S.-easterly gales; and small vessels frequently lie round the beach which forms its eastern side; but coasters commonly pass through the inner channel, within St. John's, Mutton and Bon Portage Ids., by Cockerwit, and thence towards Barrington Bay by Shag Harbour, but these places are partly shoal, and totally unfitted for large vessels.

St. John Ledge.—This is a dangerous ledge, situated $1\frac{1}{4}$ m. to the westward of the Mutton Ids., and would be more so, but that it is generally seen breaking, therefore more plainly pointing out its position in coasting along. The shoal itself is almost a square form, little over $\frac{1}{2}$ a mile in extent, with a depth of 2 to 4 fms. around the rocky head that breaks.

Clearing Mark.—Pubnico Lt.-ho., open to the westward of St. John Id., N.E. by N., clears the St. John Ledge to the westward.

PUBNICO HARBOUR is, according to Mr. Lockwood's account, an excellent ship-harbour, easy of access, and well situated for vessels bound for the Bay of Fundy, and distressed for either shelter or supplies. Its entrance is distant from the S.-end of Seal Id., $1\frac{1}{4}$ m. from which it bears N.E. by E., the depths of water between them being from 16 to 18 fms., and from thence to 12 and 7 fms. up so far as Beach Pt., a mile above which is the proper place for strangers to anchor. Above this beach, on the western side, is a *ledge*, which becomes partly dry at L.W., and which is marked by a **buoy**.

Pubnico Light.—A Lt.-ho. is erected on Beach Pt., S.E. side of entrance, 60 fms. from L.W. mark. This building is a square, coloured white, 27 ft. in height, and 28 ft. above H.W., and exhibits a *fixed* Lt. vis. 8 m. The Lt. kept open westward of St. John Id., bearing N.E. by N., clears St. John Ledge, as noticed previously; but making the harbour from any other direction, the Lt. must be brought to the northward of E.N.E. before it can be steered for, to avoid the shoal water off St. Ann's Pt.

TUSKET BAY AND RIVER.—From St. Ann's Pt. (the northern point of Pubnico Harbour) to Frenchman Pt. of the Tuskett Ids., the bearing and distance is W. $\frac{3}{4}$ N., a little over 3 leagues. This will include what we have termed Tuskett Bay, and also the river. In this bay there are several shoals and dangers, but we shall endeavour to describe the outermost of them, with a few marks for avoiding them. The principal branch of the river is to the westward, where a Lt.-ho. has lately been erected. The estuary of the river is formed by innumerable islands, low and wooded. *Jones' Anchorage* is $3\frac{1}{2}$ m. to the eastward of the principal branch. This and the anchorage up the Tuskett R. are the only anchorages recommended, but even these cannot be taken without a pilot. There are several settlements, the principal of which are Argyle, Eelbrook, Tuskett and Plymouth.

St. Ann's Shoal, carrying $2\frac{1}{2}$ fms. at L.W., lies nearly 2 m. N.W. from St. Ann's Pt. A small tide-rip sets over this shoal, which is of small extent, about $\frac{1}{2}$ a mile N.

and S., and $\frac{1}{4}$ of a mile E. and W. Between this shoal and the shore about $\frac{1}{2}$ a mile from the latter, is a tide-rip of $2\frac{1}{2}$ fms. The *Twins* are some rocky heads on the eastern shore of the bay, about $2\frac{1}{2}$ m. to the northward of Pubnico, and within $\frac{1}{2}$ a mile of the shore. Some shoals of $1\frac{1}{4}$ and $2\frac{1}{2}$ fms. lie close to the northward of them.

Abbot Island is $4\frac{1}{2}$ m. northward of Pubnico, and lies close to the main, and has anchorage within it in $3\frac{1}{2}$ and 4 fms., for small craft. *White Head Id.* is nearly on the same parallel as Abbot Id. at $1\frac{1}{4}$ m. to the westward; it is small and 72 ft. high. *White Hd. Ledge* lies about half way between these two islands, and shows at L.W. springs. *West Shoal* of 2 fms. lies $\frac{1}{2}$ of a mile N.W. of White Hd. Id. This island with *Pumpkin Id.*, $\frac{1}{2}$ a mile to the N., point out the entrance to Jones' Anchorage, which leads also to *Robert's Anchorage*, 6 m. above Pumpkin Id., and to the Eelbrook Settlement, 3 m. further.

Gull Island lies W. by N., 2 m. from White Hd. Id., and is almost in the middle of the bay, and surrounded by shoal water, which continues to the northward, and joins the flat whercon are situated the *Eastern Bar Id.*, the three *Fish Ids.*, and *Tucker Id.*, which flat divides the mouth of the Tuskett R. into two branches, which unite above Tucker Id., and run 5 m. to Plymouth Settlement, and 4 m. further to Tuskett village.

Gull Ledge.—S. by W., 2 m. from Gull Id. is the Gull Ledge, a rocky head, situated on a shoal of from $2\frac{1}{4}$ to 4 fms., $\frac{3}{4}$ of a mile N. by W. and S. by E. A good mark to point out the position of this rock, but not to avoid it, is a large barn on Sheep or Wilson Id., and western tangent of Gull Id., N. by E. The *S.W. Shoal* is a cast of $2\frac{1}{2}$ fms., lying W. by S., 1 m. from Gull Id.

Lights.—On *Fish Id.* at the entrance of the Tuskett River, in lat. $43^{\circ} 41' 30''$, and long. $65^{\circ} 56' 50''$, a Lt.-ho. is erected which exhibits 2 *fixed* Lts., placed horizontally and visible seaward.

Western Bar Island is a small island on the flat that extends from the western shore, $2\frac{1}{2}$ m. N.E. from the Frenchman Pt. *Snipe* and *Lobster Ids.* lie between Western Bar Id. and the point.

Old Woman Ledge is another danger on the western side of the bay, and is a rocky head which shows itself at 2 hours ebb. It bears E.S.E., $1\frac{1}{4}$ m. from Frenchman Pt., and situated upon a shoal of $1\frac{1}{2}$ to 4 fms.; other small shoals of similar depths lie $\frac{1}{2}$ a mile N.E. of it.

Clearing Marks.—A good mark for the Old Woman and the other shoals just mentioned to the southward, is the S. point of Spectacle Id., open S. of Pease's Id., W. by N.; then when the Lt.-ho. on Fish Id. is brought N.N.E. you may run for the Western Bar. With the Lt.-ho. N. by E., you will clear the S.W. shoal to the westward; and the Lt.-ho. N. $\frac{2}{3}$ W. will clear eastward of the Gull Ledge, and westward of Gull Id. between that island and S.W. Shoal towards the Western Bar.

Within this bay the water is shallow, in no place over 12 fms., at L.W., but mostly 9, 8, 7 and 6 fms. There are too some isolated spots of $4\frac{1}{2}$ and $4\frac{1}{4}$ fms. in the eastern portion of the bay, and a cast of $3\frac{1}{2}$ fms., between the Gull Ledge and S.W. Shoal; but nothing can point these out equal to the large scale charts.

TIDES.—The flood tide sets round the eastern side of the bay to the northward and up the eastern branch of the river; part of it deflects westward, towards the Western Branch, and across the bay towards the Tuskett Ids. The ebb may be said to run very fairly in a contrary direction. It is H.W., F. and C., at Pubnico at 9 h. 25 m.; springs rise 12 ft., neaps 10 ft.; neaps range 8 ft. At Jones' Anchorage 9 h. 27 m.; springs rise $12\frac{3}{4}$ ft., neaps $10\frac{1}{2}$ ft., and range $8\frac{1}{2}$ ft. At Pinch Gut, $1\frac{1}{4}$ m., above Tucker Id. on the western branch at 9 h. 33 m.; springs rise 13 ft., neaps 10 ft., and range 7 ft.

Directions.—From the entrance to Pubnico, a W. $\frac{3}{4}$ N. course for 4 leagues will lead clear to the southward of the Tuskett Ids., and the Cleopatra Shoal; but in this route you must be very careful to avoid the Soldier's Ledge, as well as the Cleopatra

Shoal, both of which have been already described. Having passed to the westward of the Mud and Tusket Ids., you will encounter, in your passage to the northward, the *Gannet Rk.*, which lies N.W. $\frac{1}{2}$ W., nearly 6 m. distant from the Bald Tusket Id., and S. by W., 10 m. from Cape Fourchu.

GREEN ISLAND lies N. by E. $\frac{3}{4}$ E., distant 3 m. from the Gannet Rk. Shoal water to $3\frac{1}{2}$ fms., runs to the southward about $\frac{1}{2}$ a mile, and the island itself is about 50 ft. high. Round this reef are 6 and 7 fms., and between it and the Gannet Rk. from 12 to 19 fms.

To the northward of the Tusket Ids. there is very little to notice till we come to Yarmouth, a distance of 8 m., excepting *Little River* and *Jebogue River*. Both entrances to these rivers are encumbered with numerous islands and mud banks, which form intricate channels up. E. by S., $2\frac{1}{2}$ m. from Green Id., and $1\frac{1}{4}$ m. N.E. by N. from Murder Id. (the northernmost of the Tusker Ids.) there is a shoal patch of 2 and 3 fms.; to the eastward of this no one ought to go without being acquainted with the coast.

JEBOGUE RIVER is the westernmost of the two rivers, and is only 4 m. to the southward of Yarmouth Lt.-ho. *Jebogue Pt.* (which is about 30 ft. high) forms the western point of entrance, whilst the small island on the eastern side, called *Reef Id.*, and 52 ft. high, together with Reef Ledge and Shoal, form the eastern boundary.

Reef Island lies N. $\frac{1}{2}$ W., 3 m. from Murder Id., and *Reef Id. Ledge*, W. $\frac{1}{2}$ N., $\frac{1}{2}$ a mile from Reef Id., and shows at $\frac{1}{4}$ ebb. From this ledge, shoal water, to $1\frac{3}{4}$ and 3 fms., runs S. by E. a full mile. *Reef Shoal*, of 2 and $2\frac{1}{4}$ fms., lies W.S.W., 1 m. from Reef Id., and makes a small tide-rip: between this and the shoal water of Reef Ledge there is a depth of 7 and 11 fms.; $\frac{1}{2}$ a mile N. of this shoal there are $3\frac{3}{4}$ and $4\frac{1}{2}$ fms.; between them 6 and 8 fms.

Jebogue Shoal, of $2\frac{1}{2}$ and $2\frac{1}{4}$ fms., lies W. by N., $1\frac{1}{2}$ m. from Reef Id., and S.S.W. $\frac{1}{4}$ W., $\frac{3}{4}$ of a mile from Jebogue Pt. *Jebogue Ledge*, the least water only $1\frac{1}{2}$ foot, lies $\frac{1}{4}$ of a mile westward, and may be said, with the shoal water surrounding, to form with Jebogue Shoal, one shoal stretching from Jebogue Pt., but having somewhat deeper water between the shallow part and the point. The outer shoal part of the ledge breaks with an ordinary swell at L.W., and makes a small tide-rip.

Clearing Marks.—Yarmouth Lt.-ho., open to the westward of W. Tangent of Jebogue Pt., clears the Reef Shoal and other patches to the eastward, and leads through the Inner Channel, N. $\frac{1}{2}$ W. Earthy Cliff to the northward of Garden Id. (which is the next head eastward of Jebogue Pt.) open to the southward of Jebogue Pt., leads between the Foul Ground (a shoal to the northward), and Jebogue Ledge E.N.E. $\frac{3}{4}$ E.

The fairway of the channel is intricate and shoal, and the harbour is the common resort of fishermen and coasters. The lands adjacent are moderately high, and are both well cultivated and settled.

TIDES.—It is H.W., F. and C., at Jebogue R. at 10 h. 4 min.; springs rise 15 ft., neaps $11\frac{3}{4}$ ft., and range 8 ft. The flood-tides run fairly along the coast to the northward, and the ebb to the southward.

Between Jebogue Pt. and Yarmouth Harbour there are two or three shoals that require attention to avoid; these are the *Foul Ground*, and *Roaring Bull*; the first lies N.W., 1 m. from Jebogue extreme point, and has over a considerable extent but 9 ft., and makes a tide-rip; $4\frac{1}{2}$ fms. are on the other shoal parts of the bank, and between it and the shore $5\frac{3}{4}$ and 8 fms. W. by N. $\frac{1}{4}$ N., $1\frac{1}{2}$ m. from Jebogue Pt., there is a cast of $4\frac{1}{4}$ fms., with 12 and 14 close by. The *Roaring Bull* is a detached pinnacle of rock appearing 3 ft. above L.W. springs, upon a small shoal of 4 fms., and having $5\frac{1}{2}$ fms. between it and the northern part of the Foul Ground. There are several casts of $4\frac{3}{4}$ fms. each, to the northward of the Roaring Bull, about $\frac{1}{2}$ a mile from the shore, and only in the way of large ships beating up with a northerly wind to Yarmouth Harbour. Yarmouth Church spire (which is 150 ft. above H.W.) on

the middle of the *Low Beach*, between *Bunker Id.* (inside Yarmouth Harbour), N.E. by N. $\frac{1}{4}$ N., will clear these shoals to the westward, and also just clears the *Hen* and *Chickens*, some rocks on the starboard side of the entrance to the harbour, which cover at $\frac{1}{3}$ flood.

CAPE FOURCHU, so called from the island which forms it, having two narrow prongs running out to the southward; but the inlet formed between these, called *Outer False Bay*, must not be mistaken for Yarmouth Harbour, which lies to the eastward of them both. This cape is in lat. $43^{\circ} 47' 40''$, and long. $66^{\circ} 10' 12''$, and forms a remarkable object in these parts, being rocky, high, and barren; it bears from *Jebogue Hd.*, N. by W., distant $4\frac{1}{2}$ m.

Cape Fourchu Light.—This Lt.-ho., which is built on the S. point of the East Cape of the island of *Fourchu*, a little more than $\frac{1}{2}$ a mile S.E. by E. from the cape, exhibits a *bright revolving* Lt., at 117 ft. above the level of the sea; it is visible $1\frac{1}{4}$ minute, and invisible $\frac{1}{2}$ a minute. The building is 59 ft. in height, octagon, and painted red and white, in vertical stripes. This Lt. has been reported as one of the best on the coast, and may be seen in clear weather 20 m. A fog bell in thick weather.

YARMOUTH. Directions.—Vessels intending to run for Yarmouth Harbour, will find it the safest way to proceed to the westward of *Seal Id.*, the *Gannet Rk.*, and *Green Id.*, giving the *Gannet* a berth of about 2 m.; they will then have no danger to encounter, but have from 30, 20 and 10 fms. all the way. Being abreast of *Green Id.*, with it bearing E. by S. $\frac{1}{2}$ S., distant $1\frac{1}{2}$ m., their course towards Yarmouth Harbour will be about N.N.E. $\frac{1}{2}$ E., and distance 6 m. This is considered a safe but small harbour; the fairway is to follow the eastern shore until you reach the eastern point, which you are to give a berth, and proceed mid-channel: you will readily perceive the **beacon** on the spit that runs out from the isthmus on the starboard side, as also the isthmus, with a battery upon it; to the northward is the anchorage; the ground is good, and the depth of water from 5 to 6 fms.

About a mile above the anchorage is the town of Yarmouth, which is numerously peopled, the houses large, though straggling, the grounds adjacent well cultivated, and the circumstances of the inhabitants generally good. This has lately become a port of considerable trade; and there are several fine vessels belonging to it, which indicates its rising importance.

From *Cape Fourchu* to *Cheggogin Pt.*, the bearing and distance are N. by E. $\frac{1}{2}$ E., $3\frac{1}{2}$ m.; between is a small shallow bay, in the S.E. corner of which is a boat passage into Yarmouth Harbour at N.W. From *Cheggogin Pt.* to *Cape St. Mary* is N. $\frac{3}{4}$ E., 14 m.; between these two capes, the principal points of the coast are *Cranberry Pt.*, *Red Hd.*, *Burns Pt.*, and *Black Pt.* The coast all along may be approached to $\frac{3}{4}$ of a mile, and the flood and ebb tide setting fairly with the coast; the flood to the northward at the rate of $1\frac{1}{2}$ knot per hour. The land to the northward of Yarmouth is thickly wooded; 2 miles to the S.-eastward of *Cape St. Mary* is a Roman Catholic Church, the spire of which is 156 ft. high, and visible at sea. Eastward of this church the land makes a gradual rise of 300 ft., which it attains about 5 m. inshore. A heavy tide-rip runs a mile to the S.W. of *Cape St. Mary*, and here the flood tide strikes off to the N.W., towards *Bryer Id.*

The LURCHER SHOAL.—This danger was formerly called the *Lurcher Rk.*, but is now discovered to be a shallow ground of considerable extent, and forms some heavy tide-rips. Two shoaler spots than the rest of the shoal are termed the S.W. Shoal and N.E. Shoal. The former lies N.W. by W. $\frac{2}{3}$ W. from *Cape Fourchu*, distant $14\frac{1}{2}$ m., and has 9 ft. to 3 fms. on its shoalest part; $4\frac{1}{2}$ fms. are found immediately to the westward of this part, then 6, 13, 16, and 12 fms. into 30 at a mile westward; $5\frac{1}{2}$, 8, 10 and 11 fms. are to the southward; 4 and $4\frac{3}{4}$ fms. are found to $\frac{1}{4}$ of a mile eastward, and to the northward similar depths to those to the southward. At $1\frac{1}{2}$ m. radius from the S.W. Shoal, in a S.-easterly direction, are from 25 to 31 fms. Here the flood tide sets about N. $\frac{1}{2}$ W., at the rate of $2\frac{1}{2}$ knots per hour at neaps. The other shoal spot, called the *N.E. Shoal*, has 5 fms., and lies N.E. of the former, distant

2 m: this has 6, 12, 14, and 13 fms. around, and two casts of 10 fms., within $\frac{3}{4}$ of a mile to the northward. Between these two spots, the least water is 7 fms., and the deepest 17 fms., so that there is no further danger than the two shoaler parts. The N.E. Shoal has also a heavy tide-rip; 38 and 50 fms. have been found $2\frac{1}{2}$ m. to the N.W. Latitude of the shoal part $43^{\circ} 50' 12''$, and long. $66^{\circ} 29' 30''$.

TRINITY LEDGE.—This danger lies N.W. by W., 12 m. from the shoal part of the Lurcher; N. by W. $\frac{1}{2}$ W., 10 m. from Chegoggin Pt., and S.W. $\frac{3}{4}$ W., $6\frac{1}{2}$ m. from Cape St. Mary. This shoal lies about E.N.E. and W.S.W., about $\frac{1}{4}$ of a mile over the shoalest part. Upon it there are several heads of rock, the highest of which is 3 ft. 6 in. above L.W. springs; others just awash, and breaks heavily in blowing weather. On the shoalest part of the shoal, besides the heads of rock are from $2\frac{3}{4}$ to 1 fm.; then close round it $4\frac{1}{4}$ to 7 and 8 fms.; indeed the depth of 8 and 10 fms. will be found within $1\frac{1}{2}$ m. S.W., and a similar depth, and even as little as 6 fms., within the same distance to the N.E.; and in this direction from the ledge there is a heavy tide-rip over the shallow water just noticed. Here the flood tide sets N. and the ebb S., at the rate of 2-6 knots per hour. Between this ledge and the shore there is no greater depth than 10 or 12 fms., and as little as 6 fms. at $1\frac{1}{2}$ m. of the land.

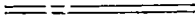
From Cape St. Mary to the *Gull Rk.* (S.W. of Bryer Id.) the bearing is N.N.W. $\frac{1}{2}$ W., $10\frac{1}{2}$ m., and clear S.W. of the tide-rip of Bryer Id. S.W. Ledge; the course is N.W., 11 m.

Directions.—Vessels coming round Cape Sable, and intending to take the Tusket Passages, may steer N.W. by N., and proceed through either of the channels which have been described before, as best suits their convenience, or else proceed to the southward of Seal Id. This latter route is the safest, and passing to the distance of 5 or 6 m. to the westward of Seal Id., may steer N.N.W., 40 m. clear of the Lurcher; then if the wind is not too far to the northward, may bear up N., or keep tacks so as to insure getting the Bay of Fundy well open.

Take notice that the flood and ebb tides set fairly N.W. and S.E., so that in taking the Tusket Passages you will have the flood in your favour; the ebb, the contrary. Observe also, that in taking, as we have said the more prudent course to the southward of Seal Id., and in setting course to the N.-westward, that, if on the ebb, the tide does not catch you on the port bow, and cause you to bear up to clear the Lurcher, and perhaps compel you to take the Grand Passage between *Bryer Id.* and *Long Id.*, into the Bay of Fundy.

As these parts have been so elaborately surveyed, the mariner may with the aid of the chart proceed with far greater confidence than formerly, and many former fears and anxieties may be dispelled; still we can recommend any one who is not compelled to run for any of the ports on this coast, or not bound to them, and being unacquainted with the locality, to give the shore a berth, or at least to keep off when any appearance of thick weather.

We have been careful in not giving the minute particulars of the very many harbours along the coast of Nova Scotia that can only be taken with the aid of a pilot, but we trust that those we have pointed out may afford shelter in distress, as well as being clearly directed if bound thereto.



BRYER ISLAND, AT THE ENTRANCE TO THE BAY OF
FUNDY, TO CHIGNECTO BAY.

BRYER ISLAND lies at the S.W. entrance to St. Mary's Bay; it is $3\frac{1}{2}$ m. long and $1\frac{1}{2}$ m. broad; on its western side stands a Lt.-ho. There is a *long and narrow reef* runs out S.W. from the S.-eastern part of the island full $1\frac{3}{4}$ m., some parts of which are visible at $\frac{1}{2}$ ebb., and near the extremity is the *Gull Rk.*, which is 6 ft. above H.W.; to the S.W. by W. $\frac{3}{4}$ W. is Bryer Id. *S.W. Ledge*, a *small spot* of 2 fms., lying about $1\frac{1}{2}$ m. from the extremity of the reefs: to the N.E. and S.W. of the ledge there is shoal water, to 7 and 8 fms.; between the knoll and the reef, and also around the knoll, there are from 15 to 34 fms.; vessels, therefore, going round to the southward of Bryer Id., must always give it a wide berth. The flood tide sets N.W. by N., and the ebb S.W. by S.

Dartmouth Pt. (the S. point of Long Id.) just open of the Gull Rk., leads on the S.W. ledge, N.E. by E. $\frac{1}{2}$ E. A narrow tide-rip extends more than 3 m. from the Gull Rk., to beyond the S.W. Ledge, which about the shallow part of the ledge becomes heavy.

Light.—A Lt.-ho. is built on the W. point of Bryer Id., in lat. $44^{\circ} 14' 57''$, and long. $66^{\circ} 23' 33''$, which is 55 ft. in height, and 92 ft. above the level of the sea, and exhibits a *fixed Lt.*, visible 15 m. The building is of octagon form and painted white.

About 3 m. N.W. $\frac{1}{2}$ N. from the northern end of the island, lies the *N.W. Ledge*, of 6 ft.: it is small and *dangerous*. Nearly W.S.W., one mile from this, is *Beatson's Ledge*, consisting of two rocky heads of 2 fms. each, termed *Beatson Rks.*; and between these two ledges and the island are *two others*, of $5\frac{1}{2}$ and 6 fms., the inner one called the *Frenchman's Elbow*. A heavy tide-rip sets over the whole of these shoals, and extends a mile to the S.W. of Beatson Rks. The flood tide sets to the northward at the rate of about 4 knots, at the S.W. of the rocks. Over the Frenchman's Elbow it sets more N.N.E. towards the Bay of Fundy, with deep channels between them.

Leading Marks.—Gull Rk. on with Whipple Pt., (which is a point of Bryer Id. to the southward of the Lt.-ho.) leads between Beatson and N.W. Rks., S. $\frac{1}{2}$ W.

Manrilyans Mark (a large granite boulder on Long Id.) on with the N. point of Bryer Id. clears the N.W. Rk., S.S.E. $\frac{3}{4}$ E.

The coast of Bryer Id. runs about N.E. by E. from the Lt.-ho., $3\frac{1}{4}$ m. to the *North Pt.*, and is all clear to within $\frac{1}{4}$ of a mile of the shore, excepting a rock N.N.E. $\frac{1}{4}$ E., $\frac{1}{3}$ of a mile from the Lt.-ho., which uncovers at last $\frac{1}{4}$ ebb. The shore from the S.W. point runs in about the same direction 2 m. to *South Pt.* of the Grand Passage.

Vessels beating to the northward, when westward of the S.W. Ledge, should not bring the Lt. on Bryer Id. to the northward of N.E., for that bearing will clear them of the Gull Rk. and S.W. Ledge; nor to the southward of S. by E., for that bearing clears the Beatson Rks. The channel between the Frenchman's Elbow and the shore of Bryer Id. is about 2 m. wide, and may be taken in daylight or with a good bearing of Bryer Id. Lt.

LONG ISLAND is separated from Bryer Id. by a narrow channel, called the Grand Passage, in which are from 5 to 15 fms.; the island runs in a N.E. and S.W. direction, being nearly 10 m. long, and about $1\frac{1}{2}$ m. broad; its coasts are almost straight,

and at its farther end is the Petit Passage, dividing it from a narrow neck of land which continues so far as the Gut of Annapolis; thus Bryer Id., Long Id., and this peninsula, form the northern shores of St. Mary Bay.

ST. MARY BAY.—The southern shore from Cape St. Mary upwards is low, and runs out, with *sandy flats*, in some places almost so far as $1\frac{1}{4}$ m.; the opposite, or northern shore, is constituted of high cliffs, having deep water close under them. About 24 m. up the bay, and within 7 m. of the head, is *St. Mary Shoal*, a rocky shoal, the least water being in one place $4\frac{1}{2}$ ft., and $2\frac{3}{4}$ to $1\frac{1}{2}$ fms. on other parts, whilst on each side of it are channels of 12 and 15 fms., muddy ground.

Far up the bay, and on the southern shores, is the River Sissibou, the entrance to which is shoal. This river has a *hard bar* at the entrance, which nearly dries across at L.W., spring-tides; but at H.W. there are 14 or 15 ft. on this bar, sometimes 1 or 2 ft. more. Ships of 300 tons sometimes go here to load timber and deals; as there are two saw-mills, one near the entrance, the other about 2 m. up the river. At L.W. the channel of the river is narrow, so that it is necessary to moor head and stern; but there is sufficient water for a vessel to load afloat at L.W. In the summer a vessel may, after loading to about 14 ft. inside, take a part of her cargo in without the bar, where there is good riding, in 6 or 7 fms.

Both sides of the river are well settled, and there are several good farms. The village on the E. side of the river is called Weymouth; here is an English Church and parsonage house. On the W. side of the river stands the village of New Edinburgh; here the collector of the Customs resides.

At the farther end of St. Mary Bay is an extensive *sandy beach*, on entering which you will lessen your depth from 4, 5, and 6 fms. to 12 ft., and should you advance it will become more shallow. On the N. side, and nearly opposite to Sissibou River, is Sandy Cove, where vessels, when it comes on to blow hard, may run aground on a bottom of soft mud, and lie sheltered from all winds.

GRAND PASSAGE.—We have already stated that this channel runs in between Bryer and Long Ids., its southern entrance bearing N. $\frac{1}{4}$ E., distant 29 m. from Cape Fourchu, and N. by W., $11\frac{1}{2}$ m. from Cape St. Mary. In running for it, from abreast of Cape St. Mary, you will have no impediment whatever, but a depth of 14 to 30 fms. At the entrance of the passage are 18 fms. mid-channel, and having advanced within, you will perceive Peter's Id., the best channel being to the eastward of this island, where there is a depth of 14, 6, and 8 fms. The channel to the westward of the island has not above $2\frac{1}{2}$ and 3 fms. in it, and is much narrower than that to the westward: here, a little to the northward of the island, is one of the best and safest harbours in the vicinity, called *Westport*.

Peter's Island Lights.—*S. entrance of Grand Passage.*—The building is square, painted white, and shows two *fixed* Lts., horizontally, elevated 40 ft. each, and vis. 10 m.; seen from the northward, between S. by W. and S.S.W.; and from the southward, between N.E. by E., and N.N.W. $\frac{1}{4}$ W., and is intended to lead vessels into Westport, or through Grand Passage.

In the Grand Passage to the N. of Peter's Id., at the distance of about $\frac{1}{3}$ of a mile, is a rocky shoal, lying directly opposite the anchorage of Westport. This shoal is about $\frac{1}{4}$ of a mile N.E. and S.W., thereby narrowing this part of the passage, especially that to the eastward of it. This is called the *Passage Shoal*. The passage to the northward of this shoal is about $\frac{1}{3}$ of a mile wide, and is all clear till we come to the *Cow Ledge*, on the eastern side of the N. entrance. This ledge runs off the boulder point of Long Id., $3\frac{1}{2}$ cables, and is dangerous. The *Cow Ledge Shoal* is 2 cables to the northward of the ledge, and has $2\frac{1}{4}$ fms. upon it; this also is on the eastern side, and there is a narrow passage between the shoal and ledge. Shoal water extends a short distance off the N. point of Bryer Id. on the opposite side of the passage. In the passage to the northward of Westport there are 7, 9, 10, 12, and 15, and 12 fms. abreast of the Cow Ledge. The mark for the northern entrance either in or out is, the Lt.-ho. on Peter's Id. S., the breadth of the island open to the westward of Sand Pt. (the most western point of Long Id.) S.W. by W. $\frac{1}{2}$ W. This clears the

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Cow Ledge and Shoal, as well as the shoal water off North Pt.; you are then clear of the Grand Passage, and may steer N.N.W. for St. Andrew; N.N.E. $\frac{1}{4}$ E. for St. John, or N.E. by N. for the Bay of Fundy.

PETIT PASSAGE lies at the farther extremity of Long Id., and is the channel which separates that island from the main. It is situated about 3 leagues to the N.-eastward of the Grand Passage, and is 280 fms. wide in its narrowest part: its shores are bold-to, and there are from 20 to 24 fms. water within it; a N.N.E. course from abreast of Cape St. Mary will carry you to it. Near its northern entrance, on the western side, is Eddy Cove, a convenient place for vessels to anchor in, for here they may ride out of the stream of tide, which commonly runs so rapidly, that without a fresh leading wind, no ship could possibly stem it.

At the southern entrance in St. Mary Bay, the flood sets N.E. by N., at the rate of 7 knots. At the eastern point of the S. entrance a small reef extends a short distance, which is covered at half flood; and off the western point of the northern entrance, called *Boar's Hd.*, at the distance of 2 cables, there is a shoal of $7\frac{1}{2}$ ft., with $4\frac{1}{2}$ fms. between it and the point. There is no danger in the passage, provided you have good steerage way, and keep the centre of the channel, in deep water. Long Id. is inhabited, and is computed to contain 7000 acres of land.

Light.—On Boar's Hd., the western point of the northern entrance to Petit Passage, in lat. $44^{\circ} 24' 0''$, and long $66^{\circ} 13' 0''$, is a Lt.-ho., which exhibits a *revolving* Lt. every minute; alternate red and white flashes.

TIDES.—It is H.W., F. and C. at Westport, in the Grand Passage, at 10 h. 43 min.; spring-tides rise $27\frac{3}{4}$ ft., neaps 17; neaps range $13\frac{1}{4}$ ft.; at the Petit Passage, at 10 h. 41 min.; springs rise 22 ft., neaps 18 ft.; neaps range 14 ft. At Sandy Cove East, within St. Mary Bay, at 10 h. 33 min.; springs rise $21\frac{1}{2}$ ft., neaps $17\frac{3}{4}$ ft.; neaps range 14 ft. At Sandy Cove West, at 10 h. 47 min.; springs rise 23 ft., neaps 19 ft.; neaps range 15 ft. At Gulliver Hole, at 10 h. 51 min.; range 26 to $13\frac{1}{2}$ ft. At the northern entrance of Digby Gut, at 11 h. 2 min.; range 28 to $16\frac{1}{2}$ ft.

The flood and ebb tides set fairly along the land, the flood to the N.E., and the ebb to the S.W., at the rate of $1\frac{3}{4}$ to 2 knots per hour. Off Digby Gut the tide turns in-shore a little before, and off-shore a little after H. and L.W. respectively. Eighteen miles to the N.E. the tide turns off-shore 20 min. after H. and L.W., in-shore a little before.

DIGBY, or ANNAPOLIS GUT.—Pursuing the coast along from Bryer Id. to Digby Gut, it has a very few curvatures; the shore is bound with high rocky cliffs, above which a range of hills rises gradually to a considerable height; their summits appear unbroken, except at the Grand and Petit Passages, at Sandy Cove, and Gulliver's Hole, where they sink down in valleys, and near the Gut, where they terminate by an abrupt and steep declivity. The mariner, in navigating this coast, will, by keeping about a mile or $1\frac{1}{2}$ m. from the land, have 50, 40, and not less than 30 fms. water all the way; and when at the entrance of the Gut, $1\frac{1}{2}$ m. distant from the Lt.-ho. on Pt. Prim, he will find the latter depth. The Digby Gut lies in lat. $44^{\circ} 41' 30''$, and long. $65^{\circ} 46' 15''$. The shores on both sides of the Gut are iron-bound for several leagues; the stream of ebb and flood sets through the Gut with the velocity of 4 to 5 knots an hour, causing various eddies and whirlpools; but the truest tide will be found off the eastern side, which is so bold to approach that a ship may rub her jib-boom against the cliffs, and yet be in 10 fms. water.

Pt. Prim, the western point of the northern entrance, runs off shoal, about 30 fms., and off the western shore, a mile within Prim Pt., is the *Man-of-War Rock*; it lies about a cable's length from the land, and has no channel within it. The entrance to the Gut is very narrow, but keep mid-channel, and after you get within it the harbour widens, and ships can anchor on the E. and W. side of the basin, or run up to Goat Id.; if the latter, they should observe that when they get within $\frac{1}{2}$ a mile of the island, they must stretch $\frac{2}{3}$ of the way towards the port shore, until they are past the island, which is shoal all round, and from thence they can steer up mid-channel towards the shore, in 4 and 5 fms.

Light.—There is a Lt.-ho. on Prim Pt., at the entrance of the Digby Gut, on the right hand side on entering the harbour, 22 ft. high; it is of a square shape, built of wood, painted red and white vertically, and a *fixed* Lt. is exhibited at an elevation of 76 ft. above H.W., vis. 13 m. Caution is requisite in approaching the Gut, as Gulliver's Hole, 2½ leagues to the westward, has a similar appearance, and a mistake would be dangerous; but the Lt.-ho. on Prim Pt., if attended to, will be sufficient to distinguish them.

In addition to the above, Mr. Lockwood observes, that "The abrupt precipices of the high lands which form the Gut, cause those gusts of wind which rush down so suddenly and so violently from the mountains. The tide also hurries your vessel through with great force. At the entrance there is no anchorage, except close in shore, near the outer western point; in some places the depth is from 40 to 80 fms., and the scenery in entering the basin is exceedingly beautiful; the farms are increasing, and becoming more valuable and extensive; the herring fishery has risen to such consequence, that the merchants of Halifax and St. John's give to them a decided preference for foreign markets. There is also a regular packet established from hence across the Bay of Fundy to St. John's in New Brunswick, which is well regulated, and generally makes the passage in a few hours."

ANNAPOLIS TO THE BASIN OF MINES.—From Digby Gut the coast trends E. by N. ½ N., 16½ m. to *Marshall Cove* or *Port Williams*, where there is a small breakwater or pier. In this extent of coast there are two or three coves of no note, but at 5 m. S.W. of Port Williams is St. Croix Bay, where anchorage may be had with the wind off the land.

Lights.—At Port Williams is a square white Lt.-ho. 22 ft. in height, elevated 60 ft. above the sea, which exhibit two vertical Lts. vis. 5 m. At the distance of about 5 m. it will show a *white* Lt., and on a nearer approach *green*. Both the Lts. will be invisible when bearing to the northward of E. by S. Lat. 44° 56' 52", long. 65° 16' 1". The green Lt. is 3 ft. below the white Lt.

Five and three-quarter miles in the same direction is Port George, where there is a small pier; and 4½ m. beyond is Margaretville, where there is also a small pier and Lt.-ho. Margaretville Bank lies half a mile off shore to the N.E. of the town, and has 1½ ft. as least water about half a mile from the town, and 1½ fms. at the N.E. end about a mile from the same.

Lights.—At Margaretville there is a similar Lt.-ho. to that at Port Williams; it exhibits a *white* Lt. at an elevation of 30 ft., and a *red* Lt. 3 ft. below. These Lts. are not visible when bearing to the northward of E.N.E.

E. by N., 6 m. from Margaretville, is *Morden* or *French-Cross*, where there is a small pier, to the northward of which at half a mile distant is a tide-rip of 3½ fms. E. ¾ N., 8¾ m. from Morden is *Black Rk.*, close to which is a rock which shows at half-tide. Between these last named places there are small piers at Ogilvie's Brook and Gibbon's Brook, and beyond Black Rk. at Canada Creek and Chipman's Brook. At Black Rk. is a Lt.-ho.

The tides continue here along the land, the ebb to the S.W. and flood to the N.E. as previously noticed, save that the rate is accelerated to 2½ and 3 knots.

Light.—The Lt.-ho. at Black Rk. Pt., in lat. 45° 10' 10" and long. 64° 46' 0" is a square white building 35 ft. in height, and elevated 45 feet above the sea, exhibiting a *fixed* Lt., vis. 12 m. This Lt. will be a useful guide to vessels bound to the small piers hereabout as well as to Spencer Id. anchorage and the Basin of Mines.

From Black Rk. Pt. to the bight of Scotsman's Bay the bearing is E. ¾ N., distance 19 miles, when the coast throws back to the N.W., 4½ m. and forms Cape Split, off which to the N.W. are some rocks and a heavy tide-rip. The land of Cape Split is about 400 ft. high. The bight to the southward of Cape Split, called Scotsman's Bay, is shallow to 5 fms. at 2½ m. from the shore. The coast from Digby Gut to Cape Split continues straight and nearly in the same direction, with a few rocky cliffs near the Gut or Narrows, and many banks of red earth under highlands, which appear very even.

Light.—On the western side of the R. Avon at Horton's Bluff in lat. $45^{\circ} 6' 15''$ and long. $64^{\circ} 2'$, is a square white Lt.-ho., 20 ft. in height and 92 ft. above H.W., and exhibits a *fixed* Lt., vis. 20 m.

The Avon River is much encumbered with shoals, as indeed is the eastern portion of the Basin of Mines. To those unacquainted with its navigation a pilot is requisite, though the elaborate surveys of Captain Shortland, R.N., clearly point out the dangers of this part, as well as the other parts he has so minutely examined.

Light.—On *Burncoat Hd.*, in the Basin of Mines, is a square Lt.-ho., 50 ft. in height and 75 ft. above the sea, exhibiting a *fixed* Lt., vis. 13 m.

The northern shores of the Basin of Mines is, like the southern shore, not to be approached to the eastward of *Frazer Hd.* nearer than 2 m., or 5 m. from the head; and from thence it is advisable to keep at the distance of 4 m., or until the Lt. on Burncoat Hd. comes E.S.E., when a vessel may round eastward nearly mid-channel. On the southern shore it is prudent not to bring the same Lt. to the northward of E. $\frac{1}{2}$ S. to avoid the *Hogback* and Walton Bar Shoals, lying off that coast.

Light.—At $2\frac{3}{4}$ m. to the westward of Frazer Hd. is the entrance to Parrsboro' R., on the western side of which in lat. $45^{\circ} 23'$ and long. $64^{\circ} 19'$ is a Lt.-ho. of octagon form, painted white, 32 ft. in height, and 37 ft. above the level of the sea, which exhibits a *fixed* Lt., vis. 9 m.

In the channel, or narrows, leading into the Basin of Mines, from Cape Split to Cape Blowmedown, and from Cape D'Or on the N. side, to Partridge Id., the land rises almost perpendicularly from the shore to a very great height. Between Cape Blowmedown and Partridge Id. there is a great depth of water, 30 to 57 fms., and the stream of the current, even at the time of neap-tides, runs with considerable force, 5 to 6 knots on the northern side, and even 7 and 8 on the southern. Having passed Cape Blowmedown, a wide space opens to the southward, leading to the Avon R. and settlements of Canning, Wolfville, Horton, Hantsports, Falmouth, Newport, &c.; these are now rising into great mercantile consequence, and abound in mines of coal, plaster, and limestone. While to the eastward the river extends to Cobequid Bay, having on its banks the towns of Londonderry, Truro, and Onslow, this latter forming a direct communication with the Bay of Tatamagouche in the Gulf of St. Lawrence.

Off Cape Split there are considerable whirlpools, which, with spring-tides are *very dangerous*, and frequently run 7 to 8 knots an hour. Should a vessel be at anchor between Cape Sharpe and Partridge Id., and be desirous of proceeding to Windsor R., it will be necessary to get under way 2 hours before L.W., in order to get into the stream of the Windsor tide on the southern shore; otherwise without a commanding breeze a vessel would run the hazard of being carried up with the Cobequid tide, which is the main stream, and runs very strong, both with flood and ebb; while the Windsor tide turns off round Cape Blowmedown to the southward, and is then divided again, one part continuing its course up to Windsor and the other forming the Cornwallis tide, running up the river of that name.

TIDES.—It is H.W., F. and C. at Cape Chignecto at 11h. 42min. Springs rise 39 ft., neaps 33 ft.; at the entrance of the Avon R. at 12 h. 30 min., springs rise 48 ft., neaps 40 ft., and further up the Basin of Mines at Cobequid Bay at 12 h. 41 min., springs rise $50\frac{1}{2}$ ft., neaps $43\frac{1}{2}$ ft.

HAUTE ISLAND.—This island is situated at the entrance of the Mines Channel and is not $1\frac{1}{2}$ m. in length, and about half a mile broad; it bears from Cape Chignecto S.W., distant 5 m.; the channel on either side is good: that between it and the cape has 14, 20, and 24 fms. in it, and that between Haute and Morden from 20 to 30 fms.; it forms a prominent and very remarkable object, from the height and steepness of its rocky cliffs, which, in a most singular manner, seem to overhang its western side; there is, however, a fair landing at its eastern end, and anchorage half a mile off in 18 fms., with the low point bearing about N.E. by N.; here is a stream of fresh water running into the sea; off the S. side about quarter of a mile there is a tide-

rip in from 6 to 14 fms., with 10 fms. between it and the island. Off the N.E. there is also a similar tide-rip.

CAPE CHIGNECTO, in lat. $49^{\circ} 19' 30''$ and long. $64^{\circ} 56' 30''$, is very high land with steep cliffs of rock and red earth, and deep water close under them. The land of the cape rises to upwards of 800 ft., and sweeps round to Cape D'Or, another similar steep cape, but not quite so high, bearing from Cape Chignecto S.E. by E., 7 m., thus forming Advocate Bay, in which there is a good depth of water, with a sandy beach in the eastern part. The flood-tide sweeps round Cape D'Or to the eastward, forming off the point of the cape a heavy tide rip. Here the land turns E. $\frac{1}{2}$ N., 3 m. to Cape Spencer, to the N.E. of which at a mile distant is Spencer Id., about half a mile from the land, with 2 and $2\frac{1}{2}$ fms. between. From Cape Spencer the land trends to the northward a little, and then eastward to Ram Id. and Partridge Id. opposite to Cape Split, where the channel is 3 m. wide, with, as before observed, deep water between.

CHIGNECTO CHANNEL.—From Cape Chignecto the coast turns to the N.E. by N., $6\frac{1}{2}$ m. to *Squally Pt.*, close under which is *Dudgeon's Rk.*; N.E. by E. $\frac{1}{2}$ E., $3\frac{1}{2}$ m. from which is Cape Capstan or Hetty Pt., the N. point of entrance to Apple R., where a Lt.-ho. is established.

Lights.—On the point just mentioned, in lat. $45^{\circ} 26'$ and long. $64^{\circ} 50'$ is a Lt.-ho., which exhibits 2 *fixed* horizontal Lts. 8 yards apart, at the respective heights of 40 and 16 ft. above the sea. The building is square, white, and 24 ft. in height, and the Lts. are visible about 10 m.

APPLE RIVER is little more than half a mile wide between the points of entrance, and dries at L.W. a short way within. At Spicer's Cove, 3 m. to the westward, it is H.W., F. and C. at 11h. 35m., spring tides rise 37 ft., neaps $30\frac{1}{2}$ ft. Off the entrance the flood and ebb run E. by N. $\frac{1}{2}$ N. and W. by S. $\frac{1}{2}$ S., $1\frac{1}{4}$ knot per hour.

From *Apple Hd.* the general trend of the coast on the S. side of Chignecto Channel is E. by N. $\frac{3}{4}$ N., 22 m. to the entrance of Cumberland Basin, between Cape Maringouin and Bass Pt., the coast partaking much of the same character as that of Capes Chignecto and D'Or.

Chignecto Channel runs up E.N.E., and may be considered to be the N.-eastern branch of the Bay of Fundy; it is divided from the Mines Channel by the peninsula, of which Cape Chignecto is the western extremity. Having advanced about 12 or 13 m. within it, you will see a point on the port or northern shore, running out to seaward; this is called Cape Enragé, or Enraged Cape.

Light.—On the pitch of Cape Enragé, in lat. $45^{\circ} 35' 34''$ and long. $64^{\circ} 46' 55''$, is a square white Lt.-ho., 23 ft. in height, and 120 ft. above the level of the sea, which exhibits a *fixed* Lt., vis. 15 m. on the bearings of N. W. round by the S. to N.E.

At about 11 m. beyond Cape Enragé it divides into two branches, the one leading to Cumberland Basin, and by the R. Missequash to Verte Bay, in the Gulf of St. Lawrence, and now becoming a place of very considerable commerce, having the townships of Amherst and Sackville on its shores; the other running northerly, and taking the name of the Petit Coudiac R. On this branch are situated the townships of Hopewell and Hopewell Corner, Hillsborough, Moncton, and Salisbury; while on the Memramcook R., a branch of the Petit Coudiac, 8 m. from the entrance on the eastern side, are Dorchester and Charter's Corner.

These two branches of Chignecto Channel are encumbered by extensive flats of quicksand and mud, many of which are left dry at L.W., and require careful pilot navigation. At the entrance of the Petit Coudiac R. is Grindstone Id., with a Lt.-ho., and another island to the westward between Grindstone Id. and the shore, which has a small pier, near to a quarry.

Light.—On the W. part of Grindstone Id. a Lt.-ho. is erected, built of wood, octagonal shape and white, being 60 ft. in height, showing a *fixed* Lt. vis. 12 m. from N.E. by E. round by N. to E. by S., or 315° , from which Cape Enragé Lt.-ho. bears S.W. by W. $\frac{1}{2}$ W., about 10 m.

TIDES.—In these bays the tide comes in a *bore*, rushing with great rapidity, and rise at the following places:—At Sackville, in Cumberland Basin, it is H.W., F. and C. at 11 h. 55 min., springs rise 45½ ft., neaps 38 ft.; at Harvey Corner, 11 h. 47 min., springs rise 41 ft., neaps 34½ ft., and at Folly Pt. the junction of the Coudiac with the Memramcook R., 11 h. 49 min., springs rise 45 ft., neaps 38 ft.

CHIGNECTO BAY TO THE MANAN ISLANDS, AND PASSAMAQUODDY BAY.

THE NORTH COAST OF THE BAY OF FUNDY, from Cape Enragé, towards Quaco, in the township of St. Martin's, runs W. $\frac{3}{4}$ S., 20 m., and is at present but thinly inhabited, and it continues to be so as far as St. John's. The land is good, but much broken with steep valleys; the weather is generally humid, the winds boisterous and changeable, and the intervals of sunshine limited and evanescent: but from Quaco to St. John's the interior hills rise in easy inequalities; the ravines of the cliffs are deep and gloomy, and the indentations frequently have beaches. In this extent of coast there is not much that requires particular notice: in Salisbury Bay, which is 8 m. across in a westerly direction from Cape Enragé to Matthew's Hd. (a high headland of upwards of 700 ft.) there is shoal water to some distance from the shore, and in the middle of the Bay, the Salisbury Shoal with 3½ to 5 fms. upon it. St. Martin's Hd., 10 m. to the westward of Matthew's Hd. is a detached rock (100 ft. high) though connected with the main by a dry sand at L.W., and from the shore to this rock the shallow water extends some distance E. and W. Salmon R. is about 10 m. W. of Martin's Hd., to the eastward of which is Long Beach, with shoal water more than $\frac{1}{2}$ a mile off shore. Quaco Hd. is 8 m. further westward, and forms the bay of Quaco to the northward. This bay is open to the E.S.E., with the town of Quaco and its Roman Catholic tower situated on a little river at the bottom of the bay. Shoal water environs all the shores of the bay; off the entrance, or rather across the mouth of the bay, is the Quaco Shoal of 1½ to 3 fms., extending N.E. and S.W. a mile. There is a clear channel to the northward and southward of the shoal, the former having 10, and the latter 8 and 10 fms. in it, with 9, 6, and 7 fms. to the westward of the shoal, and between it and the shallow water of the bay. It is H.W., F. and C. at Quaco at 11 h. 35 min., springs rise 30 ft., neaps 25 ft.

Light.—On a small rock off Quaco Hd., in lat. 45° 19' 20" and long. 65° 31' 55", is an octagon Lt.-ho. painted in horizontal bands, red and white, 46 ft. in height, and 53 ft. above the level of the sea, which exhibits a *revolving* light every 20 seconds, vis. 15 m.

Two miles and a quarter to the westward of Quaco Hd. is Rogers Hd., 400 ft. high, and 7 m. further is Mc Coy's Hd. These two capes form a leading mark to the S.E. of Quaco Shoal, viz.: Mc Coy's Hd. open of Roger's Hd. To the W.N.W. of Mc Coy's Hd. is the Black R., which is a safe inlet for small vessels, although it is dry from half-tide. Off the shore between these two latter places are the *Sisters*, two separate rocks that cover at H.W.

From Black R. the coast turns W.S.W. for 6 m. round Cape Spencer, 410 ft. high, thus making a bay 2½ m. across, in which is situated a detached rock, nearly half a mile from the shore with 6 fms. inside it, and at the bottom of the bay is Balls Creek. On the western side of the bay is Mispick Pt., the eastern point of St. John's Harbour.

Quaco Ledge.—This is a *dangerous gravelly shoal*, situated about $13\frac{1}{2}$ m., S.E. $\frac{3}{4}$ S. from Quaco, and W. by N. $\frac{1}{2}$ N., distant $14\frac{1}{2}$ m. from Haute Id.; shows two rocky heads 13 ft. above L.W., is of small extent, and has a heavy tide-rip when covered. The shoalest water is to the eastward of it, being 7 and 9 fms. pretty close to, while there are 11 and 10 to the westward, soon running into the general depth. A good mark to clear the ledge to the N.E., will be the R. C. Tower at Quaco open of the cliff off Quaco Hd. The tide of flood and ebb sets about E. by N. and W. by S., at the rate of $1\frac{1}{2}$ knot per hour.

The night tides here, and generally throughout the bay, are highest. At St. John's they are so during the summer, but the contrary during the winter months, or between the equinoxes. The mark to go clear to the southward of the Quaco Ledge is Cape D'Or on with the S. side of the Island Haute.

ST. JOHN'S HARBOUR.—The entrance to this harbour bears from Digby Gut about N., distant 11 leagues; it is distinguished by a Lt.-ho. which stands on Partridge Id.

Light.—**PARTRIDGE ISLAND.**—This Lt.-ho. exhibits a *fixed* white Lt., 119 ft. from H.W. mark, and is vis. 20 m.; the Lt.-ho. is octagon, painted red and white, in vertical stripes, and is furnished with a steam whistle, to be sounded every minute for ten seconds, in thick weather.

Buoys.—E. $\frac{1}{2}$ S., distant 3 cables from the Lt.-ho. on Partridge Id. is a beacon Bell Buoy, coloured red, lying in 19 ft. water, near the edge of the shoal water stretching from Partridge Id., and in line with the stone barracks in one with chapel, N. $\frac{3}{4}$ E. This mark also clears the Partridge Reefs, and is the mark for the anchorage, S.S.E. $\frac{1}{2}$ E.

N. by W., distant 5 cables from the bell buoy on the opposite side of the channel, is a *red* nun-buoy, in about 19 ft. water.

Spit.—**Beacon Light.**—Within Partridge Id., and upon a *spit or bar*, which extends about $\frac{1}{2}$ a mile S.S.E. off Sand Pt., and which dries at $\frac{3}{8}$ ebb, stands the beacon tower; upon this tower a Lt. is established, which is eminently useful to the coasting trade of St. John's; and to all other vessels having pilots on board, as it enables them to enter the harbour all hours of the night. The house is painted white and black, in vertical stripes, and exhibits a *fixed* white Lt., 35 ft. from H.W. mark, and vis. 10 m.

Vessels bound to St. John's are forbidden by the laws of the province to throw any ballast overboard within three miles of the S. point of Partridge Id.

Vessels coming from seaward, and making for this harbour, should, so soon as ever they can well discern the Lt.-ho., make the signal for a pilot; but if unable to succeed in reaching the harbour that tide, then endeavour to run in between Meogenes Id. and the main, going either on the S. or on the N. side of the island; in doing which you will nowhere have less than 4, 5, and 6 fms. water, with a bottom of sand and mud. Here you will obtain the best anchorage, by bringing the three hills in the country to the N.E., in a line over Rocky Point Id., and the house on Meogenes Id. S.E. by S.

The CITY of ST. JOHN stands on an irregular descent, having a southern aspect, and, on entering the river has an imposing appearance. Partridge Id. is about 2 m. to the southward of the city, answering the double purpose of protecting the harbour, and by its Lt.-ho., guiding and directing the mariner to its entrance. The ground, for several miles to the southward of Partridge Id., is muddy and the depths gradual, from 7 to 20 fms., affording excellent anchorage. The passage westward of this island has in it 7 and 6 ft.; that to the eastward has 16 ft., and abreast of the city are from 7 to 22 fms.

A breakwater is erected farther on at the eastern side of the channel, and below the town; this greatly intercepts the violence of the sea, which southerly gales usually occasion. Every possible assistance is here given to ships wanting repair; they lie upon blocks, and undergo a thorough examination, without incurring the expense, injury, and loss of time occasioned by heaving them down.

The population and commerce of St. John's are rapidly increasing; and within the harbour is a valuable fishery, where large quantities of salmon, herrings, and chad are cured for exportation; the ship-building has long been carried on here to a great extent. Ships of 1000 tons and upwards have been built here.

"The River St. John," says M. Des Barres, "has sufficient depth of water for large ships to the falls; whence it continues navigable 80 m. up the country, for vessels of 100 tons. At Fort Frederick, the rise of the tide is 18 ft., and at equinoctial spring-tides 25 ft.; above the falls it seldom rises more than 4 ft. When the tide has risen 12 ft. at the fort, the falls become smooth, after which, during the space of 20 minutes, they are passable. At times, great freshes, which generally happen between the beginning of April and the end of May, from the melting of the snow, the falls are absolutely impassable for vessels going up the river, for then the tide does not rise to their level."

The falls are situated nearly 2 m. beyond the City of St. John; it is a narrow channel 80 yards wide, and 400 long; this channel is straight, and has a *ridge of rocks* stretching in such a manner across it, as to hold and retain the river water from running out into the sea. After passing the falls you enter a gullet, which is $\frac{1}{4}$ of a mile wide, and 2 m. long, winding in different courses, and having 16 fms. in the channel. Next to this gullet is a fine extensive basin, $1\frac{1}{2}$ m. wide, and 8 m. long, which enters the main river. The river branches some hundreds of miles up, in a serpentine manner, and runs through a country which abounds with timber, coal, and limestone; and the surrounding lands are now becoming highly cultivated. There is water sufficient to navigate vessels of 50 tons as high as Fredericton; and in all the branches of the lakes adjacent, except in dry seasons.

A regular steam-packet communication is kept up between St. John's and Fredericton; the passengers embark and disembark at Indian Town, a little village about a mile above the falls. A steambot also runs once a week to Boston in the United States.*

In the middle of May, or earlier in favourable seasons, the snow and ice in the country dissolving, occasion a general overflow in the river, which, in some years, rises so high as to inundate all the low lands.

SIGNALS MADE AT PARTRIDGE ISLAND.—On the approach of vessels to the harbour when the weather is foggy, a gun will be fired from the island, in answer to each heard at sea. The tower of the fog bell is similar to the Lt.-ho.

A flagstaff and yard are erected near the N.E. side of the Lt.-ho.

For 1 square rigged vessel.....	a ball close up.
„ 2 ditto ditto.....	a ball half hoisted.
„ 3 ditto ditto.....	two balls close.
„ 4 ditto ditto.....	two balls separated.
„ 5 ditto ditto.....	a pendant of any colour.
„ 6 ditto ditto.....	a pendant under a ball.
„ 7 ditto ditto.....	a pendant over a ball half hoisted.
„ 8 ditto ditto.....	a pendant under two balls.
„ 9 ditto ditto.....	a pendant under two balls separated.
„ 10 ditto ditto.....	a flag of any colour.

The above signals are made at the E. or W. yard-arm, according to the direction in which the vessels are at first observed; as soon as their rig can be distinguished, descriptive colours will be hoisted at the mast-head as follows:—

For a small armed vessel..... union jack, with a white pendant over.

For a merchant ship..... a blue pendant.

For a brig..... a red pendant.

* A marine hospital has been established at St. John's, and is supported by a small tonnage duty on every vessel which enters the port. There is also a similar establishment at the Port of St. Andrew.

For a foreign vessel	a white-and-blue pendant.
For a top-sail schooner or sloop	a white-and-blue pendant (without a ball)
For the East-port, or St. Andrew's steamer.....	} a red flag, pierced white.
For a vessel on shore, in distress, should immediate aid be necessary, guns to be fired	

To enter St. John's Harbour on the E. side of Partridge Id., you should bring the Stone Barracks in one with the Wesleyan Chapel; this mark will lead you clear of the foul ground off Partridge Id. N.W. point, and as soon as you get Carlton Church on with the end of the cliff, starboard your helm, and keep this mark on for about $\frac{1}{2}$ of a mile, or until you bring the stone church (which stands at the N. part of the City of St. John), in one with the outer end of the breakwater, then immediately change your course, and run in by this latter mark past the Spit Beacon Lt.-ho., leaving it on your port hand; passing this, run up the middle of the harbour, and anchor off the wharves.

Should the tide of ebb have taken place at the beacon, then it would be highly improper to attempt gaining the harbour that tide, but wait for the next half-flood to go over the bar, as both sides the entrance to the harbour are composed of *sharp rocks*, which dry at L.W., and the tide of ebb, especially in the spring of the year, when the ice and snow are dissolving, is so exceedingly rapid and strong, that all the anchors you possess will not be sufficient to prevent your ship from driving.

It will seldom or ever happen that a stranger has to enter the harbour of St. John's without a pilot, as they are always on the look out, and are sometimes met with near Grand Manan, and in a fog, by firing a gun occasionally, they will generally find the ship.

TIDES.—The tides of the River St. John, at F. and C., flow until 11 h. 21 min.; mean spring-tides rise 27 ft., neaps 23 ft.; neaps range 19 ft. After the first quarter-flood, the tide below the surface runs into the harbour. During the summer and the depth of winter the tide generally flows in at half flood.

In autumn the river is swollen by rains, and between the middle of April and the beginning of May, by the melting of the ice and the great quantity of snow that accumulates on the banks of this vast navigable river. From these causes the water streams out to seaward continually; therefore vessels at that time seldom enter the harbour without a fresh leading wind. The falls are then impassable, as the tides do not rise to their level.

The body of the river is $17\frac{1}{2}$ ft. above L.W. mark; consequently, after the tide has risen to that height, the water descends, or literally falls up into the river. When the tide has flowed 12 ft. the falls are smooth and passable for 20 minutes. Above the falls the water rises 4 ft., and at Majorfield, which is 60 m. in the interior, it rises only $1\frac{1}{2}$ ft.

Captain Napier, of H.M. ship *Jason*, says, "The great volume of fresh water which constantly flows down the harbour of St. John, in April and May, causes a continual ebb-tide during that period, sometimes to the depth of nearly 5 fms., under which the flood and ebb-tides flow regularly; the maximum of its velocity was found to be $4\frac{1}{2}$ knots, and the minimum at 2 knots; but as the log floated very deep in the fresh water, and ultimately sank into the salt water underneath, it will not be too much to estimate the maximum of 5 knots, and the minimum of $2\frac{1}{2}$ knots. The fact of the undertide beginning at the depth of 5 fms., was ascertained by the sinking a lead down to that depth, when it was carried the same way as the current on the surface; but when lowered below that, it was drifted in a contrary direction."

To the W.S.-westward of Meogenes Id. is Flat Bay, called also Visarinkum; it is a small harbour, with 5 and 4 fms. water, used sometimes by the coasters. From hence the land runs nearly W.S.W., passing Negro Hd. to Cape Musquash, off the point of which is *Spit Rk.*, lying close to the cape, with 8 fms. water very near it, being distant

from Partridge Id. $8\frac{3}{4}$ miles; the shore is iron-bound all the way, and has deep water close in to the land.

MUSQUASH HARBOUR lies about a mile to the westward of the Spit Rk.; its entrance is about $\frac{1}{2}$ a mile wide, and there is good anchorage a little way in, with 4 fms. water; but farther on, a *bar* runs across the harbour, over which is only $1\frac{1}{2}$ fm. Small vessels sometimes pass to the westward of the islands, and run up the river, which, when past the bar, has 2, $2\frac{1}{2}$, and 3 fms. water; but this harbour is open to the southward.

From the entrance to Musquash the coast runs W. by S. westerly, nearly 10 m., to Point Lepreau; in this space are 4 or 5 inlets, but only calculated for small craft; the first of these is about $1\frac{1}{2}$ m. to the westward of Musquash western point, and is of no note whatever; in your way to it, a berth must be given to the shore, particularly about Musquash Pt., on account of some *rocks* lying off that part; there are channels between these rocks, but few vessels will venture through them.

About a mile farther is Chance Harbour, which is a mere shallow cove of 2 fms. water. Little Dipper is more westerly still and situated $3\frac{1}{2}$ m. from Musquash Pt.; this also has only 18 ft. in it, and scarcely fit for anything but boats. Great Dipper is divided from Little Dipper by a flat point of land, round which are several *scattered rocks*; this harbour can accommodate small craft, which sometimes run in there for shelter; but it is by no means to be recommended, unless in cases of necessity; a creek of fresh water runs into it, called Moose Creek. Farther westward, and about 2 m. from Point Lepreau, is Carriage Harbour; this is open to the eastward, and affords anchorage at its entrance, in from 7 to 3 fms.; the land all the way from Musquash to Point Lepreau, is high, broken, and many *scattered rocks* lie off it, therefore vessels in passing should carefully give it a good berth.

POINT LEPREAU **Lights**.—A Lt.-ho. has been erected upon this projecting headland, on which two *fixed* Lts. are exhibited, one above the other, distant 27 ft. The lower lantern is fixed to the outside of the building, and throws its light quite inshore, both to the eastward and westward, into Maces Bay. The Lt.-ho. is octagon, painted red and white, in horizontal stripes 5 ft. broad, and bears from the easternmost Wolves, E. $\frac{1}{2}$ N., 11 m. The highest Lt. is elevated 81 ft., and is vis. 15 m.

MACES BAY is formed to the westward of Point Lepreau, between it and Red Id.; these bear from each other N.W. $\frac{1}{4}$ W. and S.E. $\frac{1}{4}$ E., distant $5\frac{3}{4}$ m.; there are numerous *rocks*, *shoals*, and *small islets* within it, but its navigation seems insecure, for Mr. Lockwood observes, "This point ought to be classed as one of the dangers of the Bay of Fundy, for many serious accidents have lately happened in the neighbourhood of this promontory." Maces Bay he calls "a deep and ugly indent, so much so, that ships bound to the River St. John, dreading to pass its entrance, get frequently embayed there, and some valuable vessels have thus been lost. Yet, at the head of this bay," he observes, "is a place called Pok Logan, where there is good shelter. Several rivers appear to fall into this bay; and perhaps a better knowledge would tend much to strip it of its fancied dangers."

In the River Lepreau is good anchorage within the entrance, in 3 to 4 fms. Here are saw-mills, and vessels sometimes load cargoes of deals here, and shelter may be found from a S.E. gale. In running for Point Lepreau, leave all the clusters of *islets*, called the *Brothers*, on your starboard hand; but Maces River is not so good to get out of as Beaver Harbour, to the westward, when the wind shifts to the westward.

BEAVER HARBOUR lies $6\frac{1}{2}$ m. to the westward of Red Id.; this is an excellent place to run for when caught by an easterly wind in the bay, and unable to fetch St. John's Harbour. It is above a mile wide at the entrance, with 10 fms. water on each side, and 20 fms. mid-channel. In entering, keep the western shore aboard, until you bring the Goal Rk. to bear E., distant about $\frac{1}{2}$ a mile, where you may anchor in 4 or 5 fms., good holding ground. There are no regular pilots, but the fishermen on the coast are well qualified for the task; although in clear weather they

are not absolutely necessary. Bring the easternmost Wolf Id. to bear S., and steer N. for the entrance; keep on the W. side, and anchor just before you come to the houses, which you will see as soon as you get well in. Wood, provisions, and water, to a limited extent, may be procured here. H. W., F. and C., 11 h. 19 m.; mean springs rise $23\frac{1}{2}$ ft., neaps 20 ft.; neaps range $16\frac{1}{2}$ ft.

ETANG HARBOUR lies to the westward of Beaver Harbour, and runs in to the N.-eastward; before it lie several islands. There are three entrances to this harbour, so that vessels may go in or out at any time; the western entrance leads to La Tete Harbour, where anchorage may be obtained, in 10 to 5 fms.; but there is no passage for ships round the northern end of Cailiff Id. The channels between Cailiff and Bliss Ids. are considered the best, as they will admit vessels working through them; but the eastern passage requires a leading wind. A pilot will be necessary, on account of the intricacies of the channel, but one can easily be obtained anywhere on the coast. The bay is extensive, secure, and well sheltered. The tides are the same as at Beaver Harbour.

WOLF ISLANDS.—The Wolves may be passed on either side, having deep water close to them; but they afford no sheltered anchorage except for small vessels in summer time; they are from 60 to 100 ft. high. With light winds, a lee tide, or thick weather, you may let go an anchor anywhere between the Wolves and Beaver Harbour, in good holding ground, with a depth of 20 to 25 fms.

THE MANAN ISLANDS.—Grand Manan is an island situated at the N.-western entrance of the Bay of Fundy; it is in the province of New Brunswick, and forms a part of Charlotte County, being 13 m. in length, and 6 m. in breadth, grossly estimated at 37,000 acres. Its northern point is in lat. $44^{\circ} 48'$, and long. $66^{\circ} 47'$. The N.-western part of the island is distant from Passamaquoddy Hd. about 7 m.; its N.-eastern point, or Bishop's Hd., bears from Cape Mispeck W. by S. $\frac{1}{2}$ S., nearly 41 m., and N.W. by W. $\frac{3}{4}$ W., 43 m. from Digby Gut, the entrance to Annapolis Basin; and from Petit Passage, N.N.W. $\frac{1}{2}$ W., 33 m. Its S.W. end, or head, bears from the Lt.-ho. on Bryer Id., N.N.W. $\frac{1}{2}$ W., from which it is distant 30 m., and N.W. $\frac{3}{4}$ W. from the northern entrance to Petit Passage, distant 31 m. Thus situated it commands an uninterrupted view of every vessel that passes to or from the Bay of Fundy; it is naturally strong, and possesses harbours where the largest ships may ride in perfect security; its fisheries are in great estimation, its soil is generally good, and its trees are the firs, birch, beech, and maple, which in size and quality are equal to all the purposes for which those woods are commonly used.

On its western side the cliffs are nearly perpendicular, rising in some parts to 400 ft. above the level of the sea; but on this side there is only one little inlet along the whole range that can even shelter boats; it is commonly called Dark Cove, being situated about 4 m. from the northern part of the island: there is, indeed, a place called Bradford's Cove, about $8\frac{1}{2}$ m. more to the southward, but this is of no note whatever. There are soundings all along the shore, from Long Eddy Pt. (the northern point) to the S.W. Head, 3, 4, 5, and 6 fms. close to the land, deepening to 13, 20, 21, and 22, $\frac{1}{4}$ of a mile off; to 38 and 40 fms. at a mile distance, and still deeper as you increase your distance from the island.

The N.-eastern, or Bishop's Hd., is abrupt and bold; but on its eastern side there is anchorage in a place called Whale Cove; this is situated between Swallow's Tail and the North Pt.; here vessels frequently ride during southerly winds, to wait the turn of tide; the soundings are from 10 to 21 fms.; but it must not be resorted to in northerly gales.

Light.—On *Swallow's Tail*, in lat. $44^{\circ} 45' 52''$, and long. $66^{\circ} 44' 4''$, is a wooden octagon Lt.-ho., painted white, 50 ft. in height, and 148 ft. above the sea, exhibiting a *fixed* Lt., vis. 17 m. from S.W. round S. to N.W.

LONG ISLAND BAY.—This lies to the S.-eastward of Whale Cove, and is formed by the Swallow's Tail, which is a bold, high, ragged, and barren looking point; and Long Id., which bears nearly S. from it, distant $1\frac{1}{2}$ m. This bay is easy of access, and

possesses all the advantages of a harbour; the bottom of the bay is generally mud, excepting a *ridge of rocks and gravel*, which extends from the *ledge* that shows itself within the Swallow's Tail, and the *cluster of sunken rocks* that lie $\frac{1}{2}$ a mile N.N.E. from Long Island Pt., and these are 5 ft. under water at low spring-tides.

In the northern part of the bay the bottom is a stiff clay, and vessels ill provided with gear have often rode out the severest gales there; and under Long Id., opposite the beach, is good anchorage, even locking in the northern end of Long Id. with Swallow's Tail; the ground here is a strong mud, and you will ride safely and unaffected by sea or wind from any quarter.

Farther to the southward, and on the eastern coast of Grand Manan, are the Duck Ids.; here a pilot will be necessary; for though the ground is good about Great Duck Id., yet there are dangers which, when the tide becomes high, are completely hidden. To the S.-westward of Duck Ids. are the islands of Ross, the northern point of which is scarcely separated from Manan, Cheyne Id., and White Head Id.; these are connected together by a *sandy and rocky reef of foul ground*, which extends S. $\frac{1}{2}$ W. to the Diamond Rks., of which we will speak hereafter.

On White Head Island resides an able and active pilot, and the cove opposite to his house is commonly a great resort for vessels employed in the fisheries; but with easterly winds this is no desirable place. At the western side of Ross Id. is part of what is called Grand Harbour; it is a shallow, muddy basin; but vessels may enter and lie securely in it on the mud—a convenience somewhat desirable, should you have lost your anchors and cables on any of the outer ledges. The entrance to this place has $2\frac{1}{2}$ to 4 fms. water, with a clayey bottom; the channel is narrow, but secure from the sea.

A little to the westward of White Head Id. are the Green Ids.; and to the southward of the Green Ids., about a mile, are the Three Ids.: these latter are low and ledgy; the eastern, or largest one, is bold to the rocks, which are at all times to be seen; and to the N.-westward of these rocks is a *ledge*, called the *Constable*, which dries at $\frac{1}{2}$ -tide. Under the lee of these and the Green Ids., occasional anchorage may be obtained in from 14 to 7 fms.

BIG WOOD ISLAND lies off the southern part of Grand Manan, and is $1\frac{3}{4}$ m. long; it runs parallel to the S.W. head of Manan, and forms an excellent harbour between. The upper part of this inlet and the head of it afford most secure anchorage; and the inhabitants about Seal Cove and Red Id. will furnish you with all necessary supplies you may stand in need of, for these places are all well settled. Little Wood Id. lies within $\frac{1}{2}$ a mile to the southward of Big Wood Id.

THE MANAN LEDGES are those more distant *islets, rocks, and dangers*, which lie to the southward of Grand Manan; the outer and *most dangerous* of these is the *Old Proprietor*, covering a space of $\frac{1}{2}$ an acre at L.W., and drying at half ebb; but when covered the tide sets directly over it, at the rate of 4 m. an hour. It lies S. $\frac{1}{2}$ W., nearly $5\frac{1}{2}$ m. from the N.-eastern part of White Head Id.; E. by N., $5\frac{1}{2}$ m. from the Gannet Rk.; S.E. by E. $\frac{1}{4}$ E., 10 m. from the S.W. head of Manan; N. by W. $\frac{1}{2}$ W., $22\frac{1}{2}$ m. from Bryer Id. Lt.-ho.; W. $\frac{1}{2}$ S., 39 m. from Digby Gut; and S.W. $\frac{1}{2}$ S., 48 m. from the Lt.-ho. on Partridge Id.

About $1\frac{3}{4}$ m., N.E. by E. $\frac{1}{4}$ E. from the Old Proprietor is *Clark's Ground*, a *rocky shoal* of 6 fms. N. by W. $\frac{1}{2}$ W., $1\frac{1}{2}$ m. from the Old Proprietor is *Crawley Shoal*, of 18 ft.; and W. of the Crawley, $1\frac{1}{2}$ m. is the *Rans*, of 5 ft. The Proprietor foul ground lies within $\frac{1}{2}$ a mile to the westward of the Old Proprietor, and has a rock just seen at L.W. on the northern part. To the N.E. of the Old Proprietor, $2\frac{3}{4}$ m. is the *Bull Head*, a heavy tide-rip on the ebb, extending to the *Black Rks.*, which are situate about $\frac{3}{4}$ of a mile S.E. from the shore of White Head Id.; part of these rocks show 10 ft. above H.W., other parts only about 4 ft.

The mark to go clear to the eastward of all these dangers is, the N.-easternmost high land of Manan well open of the Long and Duck Ids.; the mark to lead to the southward of them is, the S.W. head of Manan open of Three Ids. In easterly winds the tide-rips are impassable.

There are also other rocks within these: a range of which lies S. of the S.W. point of White Head Id.; some of these have deep water between them, and occasion a continual ripple 3 m. from the shore, quite home to Long Pt.; these are called the *Tinker, Inner and Outer Diamonds, Rans*, and many others; some of these show themselves, others have only 3 and 4 ft. water over them.

S.E. $\frac{1}{2}$ S., about $1\frac{1}{2}$ m. from the southern point of the Three Ids., is a *knoll*, called the *Kent*, which is *dangerous*, and has only 21 ft. over it; it bears about W. $\frac{3}{4}$ S. from the Rans, and is not included within the confines of the mark given to avoid the dangers to the southward, viz., the S.W. head open of all the islands N.W. by W.

THE MURR LEDGES.—S.W. by S., distant $3\frac{1}{2}$ m. from the southern point of the Three Ids., is the *Gannet Rk.*, with its Lt.-ho. erected upon a small rock in the middle of the group. This is the most eastern danger of the Murr Ledges, which thence extend to the westward 4 m.

Light.—The Gannet Rk. is 40 ft. above L.W., and the Lt.-ho. is situated in lat. $44^{\circ} 30' 38''$, and long. $66^{\circ} 47' 1''$, and is an octagon building, striped vertically black and white, 41 ft. in height, and 66 ft. above the level of the sea, exhibiting a *revolving* Lt. three times in a minute, vis 12 m. A gun is fired to answer signals during a fog. There is boat landing on the northern side of the reef. S.E., a little over a $\frac{1}{4}$ of a mile from the rock, is a rocky patch of 2 fms., with $4\frac{1}{2}$ on it to the northward, and $5\frac{1}{2}$ and 7 fms. between it and the Gannet Ledge. N.N.E. $\frac{1}{4}$ E., just over a mile from the Gannet Rk., and nearly midway between the rock and the Kent Shoal, is a cast of $4\frac{1}{2}$ fms. W. $\frac{1}{2}$ S., $\frac{1}{2}$ a mile from the Gannet, is a pinnacle of a Half-tide Rk., with $5\frac{1}{2}$, 8, 7, and 9 fms. close around, whilst between it and the Gannet are 16, 18, and 22 fms.

St. Mary Ledge.—W. by S. $\frac{3}{4}$ S. from the Gannet, distant $2\frac{3}{4}$ m. is St. Mary Ledge, part of which is always above water, excepting at H.W. springs. This ledge being the southernmost of the dangers here, we give the lat. as $44^{\circ} 29'$, and long. $66^{\circ} 50' 7''$.

Yellow Ledge.—N.W. by W. $\frac{1}{2}$ W., $\frac{3}{4}$ of a mile from St. Mary Ledge, is the Yellow Ledge, which is a considerable head of rock, 10 ft. above H.W., and situated on a rocky flat of $3\frac{1}{2}$ and 3 fms., before it drops into the deeper water of 8 and 10 fms. Just in a line between this and St. Mary Ledge, but rather nearer the former, there is a spot of 4 ft. at L.W., which shows breakers with a moderate swell; otherwise the depth between the latter named ledges is 11 to 19 fms.

Long Ledge.—N. by E., $1\frac{3}{4}$ m. from the Yellow Ledge, is the northern rock of the Long Ledge, which rock is just seen at H.W. We have taken the northern rock of this ledge, because that rock and another, $\frac{3}{8}$ of a mile to the S.W., are the only ones seen at H.W., and are properly the Long Ledge; however, there are several rocky heads and shallows extending a mile to the southward of the latter rock, and reaching within $\frac{3}{8}$ of a mile of the Yellow Ledge, having a channel with 10 to 20 fms. between. Some of these rocky heads have but 1 and $1\frac{1}{2}$ fm. upon them, others somewhat more, whilst the southernmost shows at first $\frac{1}{4}$ -ebb; parallel with that at $\frac{3}{8}$ of a mile distant there is a rocky head just awash at L.W. springs, and to the N.E. of that $\frac{1}{4}$ of a mile there are some heads that are covered at first $\frac{1}{4}$ flood. About the centre of this Long Ledge a tide-rip runs off to the southward.

Cross Jack Ledge.—W. by N., 2 m. from the Gannet is the centre head of the Cross Jack Ledge, which covers at H.W. springs; whilst to the southward is another head which uncovers at first $\frac{1}{4}$ -ebb. This ledge is about $\frac{1}{2}$ of a mile over N. and S. S.W. $\frac{1}{4}$ W. from the southern head of the Cross Jack Ledge are two heads of rocks, just seen at L.W. springs. All about these rocks, as well as others in this locality, the water soon deepens to the average depth. There are two other ledges which we must enumerate under the above head—the West Ledge and the Wallace Ledge.

The West Ledge.—N.W. by W. $\frac{1}{2}$ W., about $\frac{1}{2}$ of a mile from the most northern rock of the Long Ledge, is the pinnacle of the West Ledge, which is just uncovered at H.W. springs; and N. by E. $\frac{1}{4}$ E., about the same distance from the West Ledge, is the Wallace Ledge of similar character, and uncovering at $\frac{3}{4}$ -ebb.

Across these ledges the flood runs to the eastward and the ebb to the westward, at the rate of 3.2 knots per hour.

Bull Rock.—This rock lies about 3 m. to the westward of the Murr Ledges, and is an isolated dangerous rock, having but 2 ft. upon it at L.W., and generally breaks. It lies S.W. by S., 6 m. from the S.W. head of Manan, and W. by N. nearly distant 7 m. from the Gannet Lt.-ho. Here the tide sets about true E. and W. at L.W.

MACHIAS SEAL ISLAND.—This island lies W. by S. $\frac{1}{2}$ S., 10 m. from the S.W. head of the Manan, in lat. $44^{\circ} 30' 7''$, and long. $67^{\circ} 6' 13''$. It is over $\frac{1}{4}$ of a mile in extent, and is situate upon a shoal, N.E. by E., and S.W. by W., nearly a mile; near the N.E. end of which is another island. A rocky reef connects the two; the rest of the shoal has from $1\frac{1}{2}$ to 4 fms., when it goes into deep water.

Lights.—On Machias Seal Id. there are two Lt.-hos. of unequal heights, above the sea, though the buildings are each 36 ft. in height. They are situate respectively S.E. by E. $\frac{1}{2}$ E., and N.W. by W. $\frac{1}{2}$ W. of each other, distant $65\frac{1}{2}$ yards. They are both coloured white, the eastern 58 ft., and the western 54 ft. above H.W., and show *fixed* Lts., vis. 15 m. A gun is fired every four hours during a fog.

S. E. Shoal.—S.E., $1\frac{1}{2}$ m. from the Lt.-hos. on Machias Seal Id. is the S.E. Shoal, carrying $1\frac{1}{4}$ fm., and breaking in heavy weather. In the same line of bearing, but only $\frac{1}{4}$ of a mile from the island, is a cast of 2 fms., with 12 between it and the island. Here the flood-tide sets N.E. by N., and ebb S.E. by S., about 3 knots.

S. E. Ledge.—This is a tide-rip which breaks in heavy weather only, in two different patches, the S.-eastern one having but 5 fms.; the other $1\frac{1}{2}$ m. N.W., 6 fms.; these are situate nearly in the same line from the Lt.-hos., (S.E. $\frac{1}{2}$ S.) the shoalest water distant $5\frac{3}{4}$ m.

North Shoal.—This shoal lies N. $\frac{1}{4}$ E., $1\frac{1}{2}$ m. from Machias Seal Id., and has but $1\frac{1}{4}$ fm. upon it at L.W., and breaks in heavy weather with a tide-rip, in a N. and S. direction. About $\frac{1}{2}$ a mile N. $\frac{1}{3}$ W. from the shoal there are 8 fms. Three-quarters of a mile E. by S. from the northern or lesser Machias Seal Id. there is a tide-rip of 6 fms.

North Rock.—N.E. by N., $2\frac{1}{4}$ m. from the Lt.-hos. is the North Rk., a ledge showing about 4 ft. above H.W. springs. There are $3\frac{1}{2}$ fms. just E. and W. of it, then sinking into deep water. A tide-rip sets over the ledge.

Middle Shoal.—Nearly in a line from the Machias Seal Id. to the S.W. head of Manan, is the Middle Shoal of 3 fms., which also breaks in very heavy weather. There is a small tide-rip extending $\frac{3}{4}$ of a mile E. and W., and like the other ledges it is steep-to. This danger bears E.N.E., 5 m. from the Lt.-hos. of Machias, and the same distance W. by S. from S.W. Hd., and N.N.W. $\frac{1}{4}$ W., $4\frac{1}{2}$ m. from the Bull Rk. Midway between the Bull Rk. and the Middle Shoal the flood-tide sets N.E. nearly, and the ebb S.W. from 1 to 2 hours' ebb.

Nearly midway between the Bull Rk. and the Machias Seal Ids. there is a tide-rip of 7 fms.

GRAND MANAN BANK.—Twenty one miles S.W. by S. from the Grand Manan Id. is the centre of the Grand Manan Bank, which is of considerable extent, stretching N.E. $\frac{1}{2}$ E., and S. W. $\frac{1}{2}$ W. some $5\frac{1}{2}$ m. being on an average $2\frac{1}{4}$ m. broad. This extent is included under 50 fms.; but as little as 24 fms., sand, are found in about the lat. of $44^{\circ} 14' 30''$ long. $67^{\circ} 3'$. Over this bank there is a tide-rip of great extent, the flood-tide setting N.E. by N., and the ebb S.W. by S., at the rate of 15 knots per hour.

PASSAMAQUODDY BAY.—This bay, with the River St. Croix, divides the British American territories from those of the United States, as settled by the respective Commissioners in 1817, by which Moose, Dudley, and Frederick Islands were ceded to the United States, and all the other islands, with Grand Manan, settled to Great Britain; but the citizens of the former are to enjoy the privilege of navigating through the Slip Channel, between Deer Island and Campobello.

The entrances to Passamaquoddy Bay comprehend a space of nearly 12 m. There are three principal channels or passages into it, namely the Western Passage, Head Harbour Passage, or Ship Channel, and Letite, or Eastern Passage. The first of these, the Western Passage, is formed by the land round Quoddy Hd. and the opposite island of Campobello; Head Harbour Passage, or Ship Channel, lies between Campobello and Deer Island; and Letite, or the Eastern Passage, runs in to the eastward and northward of both Deer and Campobello Ids. This is the passage most commonly adopted by British ships.

Campobello Island forms the eastern side of the Western and Head Harbour Passages, and lies in a N.E. and S.W. direction, being $7\frac{1}{2}$ m. long, by an average breadth of 2 m. On the N.E. point is a Lt.-ho., and to the southward of the Lt. is Head Harbour, formed by Head Harbour Id. and the main. To the N. by E., and N. by E. $\frac{1}{2}$ E. of the Lt.-ho. are the Spruce, White, Barns and Adain Ids., the former lying in the entrance of Head Harbour Passage, the latter more on the western side of the entrance to Letite or Eastern Passage. N.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ m. from the Lt.-ho., is a remarkable large rock, called the *White Horse*; this rock has a detached piece of rock off its S.W. end and two similar pieces off the N.E. end. E. by N., about $\frac{1}{2}$ of a mile from the N.E. end, lies a *sunken rock*, called *East Rk.*, having but 1 ft. at L.W.; and N.N.W. $\frac{1}{2}$ W. from the same at $\frac{1}{2}$ a mile distant is another *sunken rock*, called *North Rk.*, having the same depth of water.

Light.—A Lt.-ho. is erected on an island at the N.E. point of Campobello Id., the N. point of Head Harbour. It is situate in lat. $44^{\circ} 57' 40''$, and long. $66^{\circ} 53' 35''$, of an octagon form, and painted white with red cross. The building is 34 ft. in height, and 64 ft. above the level of the sea, showing a *fixed Lt.*, vis. 15 m. This Lt. affords a good guide at all times to Head Harbour, and also to vessels entering the main channel to West Isles, Moose Id., and the inner bay to Passamaquoddy.

HEAD HARBOUR is of easy access from the eastward, and is a safe and secure place when in, riding in 6, 7 and 8 fms., muddy bottom. Three quarters of a mile to the southward of the southern entrance of Head Harbour is *Mill Cove*, of no note; and 2 m. from the Owen Hd., the southern point of Campobello Id., is Herring Bay, a shallow place, affording no shelter.

On the inner or western side of Campobello lies De Lute Harbour, a snug place for those acquainted with it, so as to avoid the *Racer Rk.*, and one or two shoal spots. Round Bald Hd., to the southward $2\frac{1}{2}$ m., is Friar Bay, where is the little township of Welchpool, with its flagstaff on the rising ground. Here is a Queen's Wharf; the depth in the bay is 9, 10 and 12 fms., providing you do not get too far in. Two miles to the S.W. of Welchpool is the Narrows, by Lubeck on the American shore, leading to Quoddy Road, and the entrance of the Western Passage, leading to Passamaquoddy.

Light.—On W. Quoddy Hd., being the first point of the United States territory, is a Lt.-ho painted red-and-white in horizontal stripes. The building is 55 ft. in height, and 133 ft. above the level of the sea, exhibiting a *fixed Lt.*, vis. 17 m. A fog bell is sounded during thick weather.

Directions.—If bound into the Western Passage, you will make for the Lt.-ho. situate upon Quoddy Hd. This stands on a low point, being the N.-eastern extremity of the district of Maine. About S.S.E., 2 cables' length from the Lt.-ho., is the *Sail Rock*; which, seen at a distance, very much resembles a ship. To the eastward of these is an eddy; therefore, in making for the entrance, you must be careful to give the rock a berth of $\frac{2}{3}$ of a mile before you haul in; when you have got the Lt.-ho. to bear W.N.W., you may if you can, steer N.W. $\frac{1}{2}$ W. clear of the head and along the S. shore for $1\frac{1}{2}$ m., where you may come to anchor in $2\frac{1}{2}$ or 3 fms., well sheltered either by day or night; but do not proceed higher, as a *bar* stretches across, which dries at L.W. Here a pilot may be obtained, on firing a gun, and making the usual signal, who will take the ship to Snug Cove, or Moose Id., whence another pilot may be obtained for St. Andrew, or the River St. Croix.

Large ships bound into the bay should pass to the eastward of Campobello, steering nearly N.E. to the southward of the Wolves, which lie about 7 m. to the eastward of Campobello; and so soon as the passage between Campobello and Spence Id. bears W.N.W., steer for it, leaving the White Horse on your starboard side to the northward. When you have got the Lt.-ho. at Head Harbour to bear S.S.E. you may alter course to W.S.W., leaving several islands on your starboard hand, and open De Lute Harbour on the port. From thence you can steer to the S.W. by S. and W. round the southern point of Indian Id. into the western passage; which having entered, you will have little difficulty in steering a mid-channel course to the N. by W., that is, if the wind is anything to the southward after rounding Indian Id., and keeping Campobello nearest on board. The channel here, formed on the S. by Campobello, and to the northward by the Spruce and White Ids., is $\frac{2}{3}$ of a mile wide, and in it are 20 to 50 fms. The tide of the flood strikes across from the S.E. land to the White Ids. with great strength, and in light winds must be particularly guarded against. The water is deep, and inside of White Ids. you may anchor in 18 to 20 fms., mud.

ST. ANDREW.—The town of St. Andrew is situate in the Bay of Passamaquoddy, on the eastern side of the entrance to St. Croix River. It is pleasantly built on rising ground, and the streets regularly planned, with the barracks on an eminence in the rear of the town. In front of the town are various landing wharfs and jetties for the purpose of loading timber, &c., with timber ponds and a rope walk. At the E. end of the town near the rope walk is the blockhouse and Lt.-ho. Eastward of the town, round the foot of the eminence that forms the eastern point is the Race Course. Many ships load timber here, which is generally much longer than that of Nova Scotia. The merchants of this town load timber also at other places, viz:—at Oak Bay, in the St. Croix, and at Bocabec, Digdeguash, and Magaguadavic, and on the N.E. side of Passamaquoddy Bay, all these being excellent and very convenient harbours.

PORT ST. ANDREW.—The port of St. Andrew is formed by *Navy Island*, which lies opposite the town, at about $\frac{1}{2}$ a mile distant. It is upwards of a mile in length, and $\frac{1}{2}$ of a mile in breadth. The island is nearly surrounded by cliffs, excepting a small space opposite the town on the inner side. The island, as well as the shore of the main, is encircled with rocky flats, which are marked by beacons.

The port has two entrances; the eastern one is between the spit that stretches from Navy Id. and the flat where the Lt.-ho. is situate, and is narrow and intricate, but with the deepest water. The western entrance is nearly a mile to the westward of the Lt.-ho., and has but a foot of water at L.W. over the rocky flats.

Light.—At the N. point of the eastern entrance is an octagon Lt.-ho., coloured white, with red cross. The building is 34 ft. in height, and 64 ft. above the sea, and exhibits a *fixed Lt.*, vis. 15 m.

Beacons.—*Eastern Entrance.*—Two beacons mark this entrance, one to the N., built almost of a square shape, bearing S.E. by E., about $\frac{2}{3}$ of a mile from the Lt.-ho. The S. beacon being of similar construction, but surmounted by a cross, bearing S.S.E., nearly the same distance from the Lt.-ho., and S.W., $\frac{1}{2}$ a mile from the N. beacon.

In addition to the two beacons that mark the northern entrance there is an outer beacon on a patch that dries, bearing S.E. by E. $\frac{1}{2}$ E., $\frac{2}{10}$ of a mile from the N. beacon and $1\frac{1}{2}$ m. from the Lt.-ho. Very shallow water extends from this shoal to the dry ledge off the town point.

Western Entrance.—Two similar beacons, but without crosses; the northernmost marking the western entrance between the reefs, and bears N.W. by W. $\frac{1}{2}$ W., nearly a mile from the Lt.-ho.; the other western beacon bears S.W. by W. $\frac{1}{2}$ W. from the former, distant 3 cables; and W. by N. $\frac{1}{2}$ N., a little more than a mile from the Lt.-ho. and N.W., $3\frac{1}{2}$ cables' length from the W. end of Navy Id. This latter beacon is situate on a detached piece of rocky ground, that dries; and upon the shallows under 12 ft.

Buoys.—At the eastern entrance, S. by E. $\frac{1}{2}$ E., 3 cables from the Lt.-ho. there is a buoy on the southern side of the channel; and one cable from the Lt.-ho., on the northern side of the channel is another buoy, while off the end of the spit that stretches from Navy Id. to opposite the Lt.-ho. there is a similar buoy, and one on a detached shoal of small extent, just within the entrance on the northern side. The narrowest part of the channel here is not above a cable's length across. The mark for entering at H.W. is to keep the town of St. Andrew open, and steer directly in.

The western entrance is not so difficult, but with less depth of water, the bar becoming dry at the last quarter-ebb. There is a *dangerous reef of stones* running off the W. end of Navy Id., on which a **beacon** is placed. In entering you must keep close to the northward of the beacon on the bar, where at H.W. you will find 18 to 24 ft. It is H.W., F. and C., at 10 h. 50 min.; spring-tides rise 24 to 26 ft., neap-tides 20 to 22 ft.

NOTES ON THE NAVIGATION OF THE BAY OF FUNDY,

BY E. F. MASTER.

Barque *Evening Star*, of St. John's, N.B.,

Nov., 1864.

“Bound from England to St. John's, N.B., in summer, say May to October, I get soundings on La Have Bank, and then go on to Cape Sable Bank: should it be foggy I sound again, and if I have less than 40 fms., I draw off shore until I get a greater depth; when I judge myself off the Gannet dry ledge (Nova Scotia shore) I sound again, and should I find less than 45 fms., I haul to the northward and westward until I am off the bank; then I sail on angles (that is, off and on the bank), and by so doing get up to black mud in 100 fms., which is found in a direct line between Bryer Id. and Gannet Rk. Lt.-ho.; after arriving on black mud, if more than 100 fms. is obtained, I steer well to the eastward, say N.E. by E. with ebb-tide, but E.N.E. if flood, until I get about 70 or 80 fms., when I steer N.E. by N. with the flood-tide for St. John's—being now above the Old Proprietor and Beatson Ledge, the latter of which is dangerous. I have sounded within 2 m. of Beatson Ledge, and found 60 fms., so that the lead must be kept going now and then; and the tides require attention, for they are very strong but true hereabouts.

“I have beat down this bay in a new vessel, and coasted likewise; the last time I came down I was 6 days in a thick fog, was outside Grand Manan, and drifted back again inside, but by paying strict attention to tide and lead, I was not 5 m. out of my reckoning; the vessel was very crank, but I attributed the correctness of my position to my knowledge of the soundings. Proceeding up the bay you must not go into less than 40 fms., if below Bryer Id., as there are many dangers—the Lurcher Shoal, Trinity Ledge, and Bryer Id. S.W. Ledge—for, if in less depth you may strike before you could wear ship; also be sure to keep your vessel going from 4 to 5 knots, as you then have good commanding way, and can keep a good run of the ship. The tide will set you about 10 knots at neap, and 13 at flood between Cape Fourchu and Bryer Id., and say $1\frac{1}{2}$ m. more above that toward St. John's.

“In the winter I try to make the land about Petit Manan, Maine, U.S., as the N.W. wind comes out strong sometimes and the weather is generally clear. I am also then on a weather-shore. If late in the winter (say January) and I am running in with a S. wind, I pay particular attention to the weather; there is generally small drizzling rain with this wind, which is not to be feared; press onward as fast as possible.

[CANSO TO C. COD.]

M

Should, however, a few large drops of rain fall, call all hands and shorten sail (say double reef topsails) as fast as possible, for ere half-an-hour your canvass will be frozen stiff, and it will blow hard; but being on the American shore, you have a fair wind to St. John's and smooth water. I never considered the soundings on the N. shore between Grand Manan and the State of Maine to be of any service, and I would not go there during summer-time; but in the winter take that course by all means. When caught in a snow-storm during the latter season, if you are near Seal Id. or Bryer Id., run out about 40 m. and heave to, or, perhaps, you had better keep half-reaching until it is over, as it blows very hard, and is in general round the compass, ending with a N. wind; it is also very cold; therefore the American shore is the safest.

"The tides run from Seal Ids. along the shore pretty true, but as you get toward St. Mary Bay they draw you in very much, caution is therefore required; they then strike on Bryer Id. Ledge, and set well towards the N., but when above Beatson Ledge, they set (true) up the bay; as you near the rocks about Grand Manan, the tides run very rapidly, and there are *tide-rips* even in 50 fms., which sometimes show like breakers. I have seen some men much frightened by them."

GENERAL DIRECTIONS AND REMARKS FOR SAILING TO, AND WITHIN THE BAY OF FUNDY.

Ships navigating the Bay of Fundy have to encounter an atmosphere almost constantly enveloped in dense fogs, the tides setting with great rapidity over the rocks and shoals with which it abounds, and a difficulty of obtaining anchorage, on account of the depth; so that, under these circumstances, the most unremitting attention is requisite to prevent the disastrous consequences which must necessarily attend a want of knowledge and caution.

When you are off Cape Sable with a westerly wind, and destined for the Bay of Fundy, it will be advisable to make for the coast of the United States, somewhere about the Skuttock Hills, or Petit Manan Lt.-ho.; as you can pass with greater safety to the westward of Grand Manan than to the eastward, having also, if necessary, shelter in Petit River, Machias, Passamaquoddy, Etang or Beaver Harbour, &c.

Between Grand Manan and the district of Maine the passage is free from danger; vessels beating through generally stand from side to side, particularly during fogs, the depth being from 12 to 70 fms., with a bold shore on each side, and the tide through strong and regular. The Wolves may be passed on either side, having deep water close to them; but they afford no sheltered anchorage, except for small fishing vessels in summer-time; they are from 60 to 100 ft. high. With light winds, a lee-tide, or thick weather, you may let go an anchor anywhere between the Wolves and Beaver Harbour, in good holding ground, with a depth of 20 or 25 fms. Pt. Lepreau is hold-to, but dangerous in dark weather, as it projects so far out to seaward; but from thence to St. John's the course is free from danger, except those which lie near the land, and which have been already described.

When steering between Grand Manan and Bryer Ids. the utmost caution is requisite during thick weather, as vessels are frequently drawn in among the islands and ledges to the southward of Manan, by the flood setting directly upon them; the most dangerous of them is the *Old Proprietor*, which at L.W. dries for the space of half an acre. When the wind therefore veers at all to the southward, make the best of

your way to St. John's Harbour, or you may secure an anchorage in Grand Passage, or St. Mary Bay, as it seldom blows in that direction above 18 hours, without bringing on a fog.

There is no difficulty in going through Digby Gut, if you have but a commanding breeze, although the tide is very rapid, the flood and ebb running 5 knots an hour, and the eddies strong. About one-third through lies the *Man-of-War Rock*, about a cable's length from the western shore; therefore, if you keep mid-channel, you will be sure to clear it.

The prevailing winds here, and throughout the whole coast of Nova Scotia, are from W.S.W. to S.W., nearly as steady as trade winds, except during the summer months, when they become rather more southerly, accompanied with but little intermission of fog, which requires a N.-westerly wind to disperse. It is therefore recommended not to leave an anchorage without making proper arrangements for reaching another before dark, or the appearance of a fog coming on, which, with a S.W. wind, is so sudden, that you become enveloped within it unawares; neither should you keep the sea at night if you can possibly avoid it; but you will observe, that whenever the wind blows directly off the land, the fog will soon disperse.

TIDES.—The tides at the entrance, and within the Bay of Fundy, are very rapid, but regular, and although the wind against them alters the direction of the rippings, and sometimes makes them dangerous, yet it has little or no effect upon their courses. The flood-tide sets from Cape Sable to the N.-westward, through the Seal, Mud, and Tusket Bald Ids., at the rate of 2 or 3 m. an hour; and in the channels among the islands it increases to 4 and 5 m.; from thence, taking the direction of the mainland, it flows past Cape St. Mary, and then N.N.W. towards Bryer Id.; it runs up St. Mary Bay but slowly, which adds to its strength along the eastern shore; then increasing its rapidity as the bay contracts, it rushes in a bore into the Basin of Mines, and up Chignecto Bay; so that here the water sometimes rises to the extraordinary height of 54 ft.

To the above may be added the additional observations on this bay by Captain Napier, of H.M. ship *Jaseur*.

“Between Bryer Id. and the opposite northern coast, and for some distance up the bay to the eastward, the first of the flood sets strongly nearly N., so that it will be extremely dangerous for a vessel to run in the night or during thick weather, from any part of the southern towards any part of the northern coast, without making a large allowance for the set of the tides, and keeping the lead constantly going. The *Jaseur*, Captain Napier, was nearly run on shore, having been drifted by this tide in a fog $8\frac{1}{2}$ m. in 3 hours and 10 minutes.”

TIDES.—It is H.W. at the Seal Ids. at 9 h., F. and C., and spring-tides rise 12 ft.; at the Tusket Id. at 9 h. 33 m., springs rise 13 ft.; at Yarmouth Sound at 10 h. 9 min., springs rise 16 ft., neaps 13 ft.; at Cape St. Mary, 10 h. 30 min., springs rise 19 ft., neaps $14\frac{1}{2}$ ft.; at Westport, Bryer Id., at 10 h. 43 min., springs rise $20\frac{3}{4}$ ft.; at Digby Gut, at 11 h., springs rise 30 ft.; at Haute Id., at 11 h. 27 min., springs rise 35 ft.; at Cape Chignecto, at 11 h.: springs rise $37\frac{1}{2}$ ft.; at Cape D'Or, at 11 h. 42 min., springs rise 38 ft.; at Avon R., at 12 h. 30 min., springs rise 48 ft.: at Noel, Basin of Mines, at 12 h. 41 min., springs rise $50\frac{3}{4}$ ft.; at Spencer's Cove, Chignecto Channel, at 11 h. 35 min., springs rise 37 ft.; at Harvey Corner, at 11 h. 47 min., springs rise 41 ft.; at Folly Pt., Coudiac R., at 12 h. 49 min., springs rise 45 ft.; at Cumberland Basin, at 11 h. 55 min., springs rise 45 ft.; at St. John's Harbour, at 11 h. 23 min., springs rise $23\frac{1}{4}$ ft.; at Grand Harbour, eastern side of Manan Id., at 11 h. 7 min., springs rise 21 ft., neaps $17\frac{1}{2}$ ft.; and in Passamaquoddy Bay at 11 h. 30 min., springs rise 25 ft.

COAST OF THE UNITED STATES.

FROM PASSAMAQUODDY BAY TO CAPE ELIZABETH.

Variation at Passamaquoddy 17°, to 11° at Cape Cod.

GENERAL REMARKS.—The most prominent elevations of land situate between the Bay of Passamaquoddy and Cape Elizabeth are the Skuttock Hills, Mount Desert Hills, and the Hills of Penobscot. The Skuttock Hills are five in number, and at a distance appear round; they lie to the northward of the Port of Goldsborough, and are readily distinguishable from any hills to the eastward. Mount Desert Hills may, in clear weather, be seen from a distance of 15 to 20 leagues. The Penobscot Hills are visible to the N.W. and N.N.W. over the Fox Ids.; and when you are within 4 or 5 leagues of Mount Desert Hills, the Skuttock Hills will bear about N.N.E.

Directions.—In sailing towards this coast, care must be taken to avoid the *Mount Desert Rk.*, which lies $7\frac{1}{2}$ leagues to the southward of Mount Desert Id., in lat. $43^{\circ} 58' 7''$, and long. $68^{\circ} 7' 22''$; observing also to make a proper allowance for the tide, &c.: for at Mount Desert Rk., the stream of flood divides, to run eastward and westward. When the Skuttock Hills bear N.N.E., and you are within 4 or 5 leagues of those of Mount Desert Id., the tide of flood will set E.N.E., and the ebb W.S.W.; but at the distance of 9 or 10 leagues from the land, the current in general sets to the S.W., and more westerly. From Mount Desert Rk. to the Fox Ids. the flood-stream sets W.S.W. along the shore: but it still runs up to the northward into Blue Hill Sound, Isle Haute, Penobscot Bay, &c.

Light.—On Mount Desert Rk. is a conspicuous grey Lt.-ho. 60 feet in height, and 75 ft. above the level of the sea, showing a *fixed* Lt., vis. 14 m. During foggy weather, a fog bell strikes seven times in a minute.

If bound eastward to Machias or Passamaquoddy, your course from Mount Desert Rk. will be N.E. by E., 13 leagues up to Moose-a-Bec Lt.; then E.N.E. 8 m. up to Libby Lt., which you may round into Machias Bay; or you may continue E. by N., 10 m. to Little River Lt., and then N.E. by E. $\frac{1}{2}$ E., 15 m. to W. Quoddy Hd. at the western entrance to Passamaquoddy Bay; or if, after making Mount Desert Rk. you are bound direct to St. Andrew, you may steer the latter course direct, the distance being 24 leagues.

In clear weather Grand Manan will be seen a long while before you come to the Machias Seal Id., which is low; and when it bears N.E. by E. will range in line with the Machias Seal Id.

Proceeding along shore from W. Quoddy Hd., in a S.-westerly direction, about 7 m., you will open Bayle's Mistake, a place of little note; farther on is Moose Harbour, fit only for boats; and beyond that is Little River, a good harbour for small vessels: you will not be able to see it before its entrance comes N.W. or N.N.W. As you enter you will observe a bluff point of rocky land to the starboard, and near the entrance of the harbour an island. In passing this island you are to leave it to the port, and when you are $\frac{1}{2}$ a mile beyond it, you may anchor in 4 or 5 fms., safe from all winds. Your direct course from W. Quoddy Hd. to this harbour is S.W. by W. $\frac{1}{4}$ W., 14 m.; and 2 m. farther is the entrance to Little Machias Bay.

Light.—Little River Lt.-ho. is erected on an island at the entrance of the harbour, in lat. $44^{\circ} 39' 45''$, and long. $67^{\circ} 11' 45''$; the building is white, 28 ft. high, and 40 ft. above H.W., showing a *fixed* Lt. varied by a *flash* every $1\frac{1}{2}$ min., vis. 12 m.

LITTLE MACHIAS BAY has several *rocky islets* lying before it: these are nearly in the centre as you enter, and have 8 and 12 fms. close to them, being always visible, and therefore less dangerous. The bay runs in N.N.W. $\frac{1}{2}$ N., and has anchorage on the port side, in 5, 4, 3, and 2 fms., but open to the S.-eastward.

At 2 m. farther to the S.W. is Cross Id., the eastern boundary of Great Machias Bay, while Libby Id. and some others nearer the shore form the western limits.

Light.—On Libby Id., in lat. $44^{\circ} 34' 5''$ and long. $67^{\circ} 21' 42''$, is a grey Lt.-ho., 53 ft. in height, and 52 ft. above H.W., showing a *fixed* Lt., vis. 13 m. A bell during foggy weather. This Lt.-ho. is to the S.-westward of Cross Id., from which it is distant 3 m. There is also a Lt. proposed to be built on Round Id., at the entrance to Machias Bay.

GREAT MACHIAS BAY.—In sailing into this bay from the eastward, you will observe the Machias Seal Id., which has been mentioned before, and lies to the W.S.W. from the S.W. head of the Grand Manan, and $3\frac{1}{2}$ leagues to the S.-eastward of Cross Id. Great caution must be observed, when passing them in the night, if the two lights on them cannot be seen. From these islands you may shape your course to the N.W. for Machias. Leave Cross Id. on the starboard hand, and having passed Libby Lt. steer N. In passing Cross Id. you must be careful of some *dangerous ledges* lying off it $1\frac{1}{2}$ m. in a S.W. direction. On this course you leave a large *white rock*, called the *Channel Rock*, on your port side: and if not bound into Machias Harbour, you may haul to the westward. When you have advanced $\frac{1}{2}$ a mile above the rock, bring a high round island, which is covered with trees, to bear N., and anchor in 4 or 5 fms., muddy bottom; this is called Jones's Harbour; but if you mean to go up to the town of Machias, keep on a northerly course until you have passed the high round island on your port hand; then steer W.S.W. or W. by S. for a point covered with birch-trees, having a house upon it. On the starboard hand are *several flats* and *shoals*. You may keep on the port side after you pass this house, until the river opens to the northward, then run up to Cross River, and anchor in 4 fms. Machias is the chief town of Washington County, in the district of Maine.

To the westward of Machias is Little Kennebec River, Chandler River, and Englishman Bay, while off this coast are several islands, the principal of which are Great Id., Parson, Rough, Mark, and Mistake Id. On the main opposite is Moose-a-Bec Reach.

Light.—Moose-a-Bec Lt. is situated on Mistake Id., in lat. $44^{\circ} 28' 27''$, and long. $67^{\circ} 31' 35''$. The building is white, 40 ft. high, and 65 ft. above H.W., and shows a *revolving* Lt. giving a bright flash every 30 seconds, vis. 14 m.

MOOSE-A-BEC HEAD TO MACHIAS.—Give the light a berth of a mile, leaving it on the port hand, and steer N.E. by E., $2\frac{1}{2}$ leagues, when you will be up with Libby Id. Lt. on your starboard hand; then run N.N.E., 2 leagues, which will bring you up with Stones Id. on your port hand, having a *rock* lying E., $\frac{1}{2}$ of a mile from the centre of the island; from this steer N. for Round Id., from which follow the eastern direction for Machias.

MOOSE-A-BEC REACH.—When coming from the westward, and past Ladle Id. on your port hand, steer N.E. by E. for Tibbet's Id., which you also leave on your port hand. When you come to the E. end of this island, give it a good berth, for at L.W. there is a *ledge of rocks* that lies a cable's length to the S.E. of the said island; when you pass it and bring Moose-a-Bec Reach open you may steer E. for Mr. Beal's house: but you must keep the starboard hand best on board, for there is a *rock* that lies about the middle of the sound, which is 4 ft. above water at L.W. You may anchor to the westward of Mr. Beal's house.

When bound to the eastward over Moose-a-Bec bar, which you will not cross before 2 hours' flood, you steer for Kelly's coffee-ho., which lies on the port hand as you go to the eastward, on the N.E. point of Moose-a-Bec Reach; when you are entering on the bar, you will bring a bushy tree right against Kelly's ho., which stands on the point. Your course over the bar is E.; you leave the Virgin's Breasts, one on your starboard, the other on your port hand. But if you are bound to

Chandler's River, you will leave the Virgin's Breasts on your starboard hand, and Rogue's Id. on the same hand. There is a *muddy bar* which lies between Rogue's Id. and the main land, but water enough on it at 2 hour's flood. Rogue's Id. has a good harbour at the N.W. of it, safe from easterly winds, and a small distance from Chandler's River.

When you go over Moose-a-Bec bar, bound to Machias, you leave the Virgin's Breasts, as before mentioned, keeping your course E., and a *bare rock* called *Pulpit Rk.*, on your starboard hand; you must keep Libby Id. Lt. open to the southward of this bare rock. This bare rock, which you leave on your starboard, may also be left on your port, and steer E.S.E. for Libby Id. Lt.

Westward of Mistake Id. there is Wass Id., Knight Id., Miner's and Norton Ids., together with numerous rocks; near to Norton Id. is Nash Id., upon which a Lt.-ho. is erected.

Light.—On *Nash Id.*, the E. side of Pleasant Bay, in lat. $44^{\circ} 27' 51''$, and long. $67^{\circ} 44' 30''$, a Lt.-ho. is erected, coloured white, 28 ft. in height, and 47 ft. above the sea, exhibiting a *red fixed Lt.*, vis. 12 m. This Lt. you leave on the starboard hand in proceeding towards Pleasant River.

The following are the bearings and distances from Nash Id. Lt. of the following rocks and ledges, viz.:—Black Rock (always above water), S.E. by S. $\frac{1}{2}$ S., $3\frac{1}{2}$ m.; Jourdan's Outer Ledge, which is covered at H.W., S.W. by W. $\frac{1}{2}$ W., 4 m.

PLEASANT BAY lies to the N.-eastward of Petit Manan Id., and leads to Columbin, Addison, and Herrington. The Lt. on Petit Manan will be very useful, both for this and Goldsborough Harbours; but the navigation here is so intricate, that a pilot is indispensably necessary.

When coming from the westward, and bound for Pleasant River, in passing Petit Manan Lt.-ho., bring it to bear S.W. $\frac{1}{2}$ S., and steer N.E. $\frac{1}{2}$ N., 3 leagues' distance. In steering this course you will make a black rock, which you leave on your starboard hand, distant one mile from Cape Split. This harbour is safe from all winds but S.W., which blows right in: but if you anchor in a cove on the starboard side, and moor N.W., you will lie safe from all winds.

MACHIAS TO GOLDSBOROUGH.—The shores from hence to the westward are so studded with islands, and encumbered with rocks, forming such a complicated and intricate variety of channels, that no description can adequately elucidate them; we must therefore refer the mariner to the inspection of his charts, by a reference to which he will best be enabled to estimate the course and distance of the objects of his search. There are numerous good harbours and inlets where vessels may be placed in safety, but these commonly are too winding and intricate for strangers.

Westward of Nash Id., and between that and Goldsborough Bay there are the two following Lts., and also some ledges lying far off the land.

Light.—*Narraguagus Lt.-ho.*, on the S.E. point of Pond Id., in lat. $44^{\circ} 27' 20''$, and long. $67^{\circ} 49' 32''$, is raised on the centre of the keeper's dwelling, 29 ft. in height, and 45 ft. above H.W.; coloured *red*, and exhibits a *fixed Lt.*, vis. 12 m.

Light.—*Petit Manan Id.*—On the S. end of the island, in lat. $42^{\circ} 22' 2''$, long. $67^{\circ} 51' 31''$, a Lt.-ho. is erected 109 ft. in height, and 125 ft. above the sea. The building is of a grey colour, and exhibits a *fixed Lt.*, varied by a *flash* every two minutes. A fog bell is used in dark weather.

THE SKUTTOCK HILLS, before mentioned, form a good landmark for Goldsborough, as they lie to the northward, or N.N.E. of the harbour. Hence, by bringing them in that direction, and steering on that course, you will on approaching the harbour see three islands, which lie in its mouth. In proceeding through the eastern passages, these are to be left on the port hand; the small island without, called the Petit Manan, is of course to be left to the starboard. The latter, which is about a league from the land, has a few bushes, and also a Lt.-ho. upon it. From this Lt.-ho., *Moulton's Ledge*, which is marked by a *red-and-black nun-buoy*, and dries at low-tides, bears W. by N. $\frac{1}{2}$ N., distant $2\frac{1}{2}$ m.; *Jackson's Ledge*, or *Eastern Rock*, marked by

a *red-and-black nun-buoy*, and on which there are 9 ft. at L.W., bears E., 4 m.; also a ledge 2 m. E. by S. $\frac{1}{4}$ S., nearly halfway between the Jackson Ledge and Petit Manan; the *S.E. Rock*, on which are 7 ft., and marked by a *red-and-black nun-buoy*, bears S.E. by S. $\frac{1}{4}$ S., $5\frac{1}{2}$ m., and a ledge of 16 ft. bears from it S.S.E., 2 m., so that when sailing along the coast, and not intending entering the harbours adjacent, it would be prudent not to approach the Petit Manan Lt.-ho. nearer than 7 or 8 m., when you have the Lt.-ho. in a N.N.E. bearing. Petit Manan is almost connected with the shore by a *bar*, which dries with the ebb. Within the entrance the harbour is a mile wide, and you may anchor in from 4 to 6 fms., where you please.

BOWBEAR HARBOUR.—In coming from the westward, and bound for Pigeon Hill or Bowbear Harbour, bring Petit Manan Lt. to bear N.E., and run for it, giving it a berth of $\frac{1}{4}$ of a mile, and then steer N. $\frac{1}{2}$ W., 4 m.: in steering this course you will leave the Egg Rk. on your starboard hand, when you will make the westerly shore, giving it a berth of $\frac{1}{2}$ a mile; then steer N.N.E., a mile, when you will be opposite Dyer's house, where you may anchor in 3 fms., safe from all winds.

DYER'S BAY.—In coming from the eastward, and bound for Dyer's Bay, you should give Petit Manan Lt.-ho. a berth, as before; leave it on your starboard hand, and bring the Lt. to bear N.E., $\frac{3}{4}$ of a mile, then steer N. by W., which will carry you into the mouth of the bay, leaving a large *dry ledge* on your port hand; when abreast of this ledge, which is bold-to, give it a berth of 14 or 15 fms.; then steer N. $\frac{1}{2}$ E., 4 or 5 m., where you may anchor, safe from all winds, in 4 or 5 fms., muddy bottom.

GOLDSBOROUGH HARBOUR lies N.W. $\frac{1}{4}$ N. from Petit Manan Lt.-ho., distant $4\frac{1}{2}$ m. When entering, you leave an island covered with trees on the starboard, and two islands on your port hand; then steer N.N.W., $1\frac{1}{2}$ m.; then N. $\frac{1}{2}$ E., 4 m., will bring you up to Goldsborough Pt., where you may anchor, safe from all winds, in 3 or 4 fms., muddy bottom.

In going from Mount Desert to Goldsborough, you must steer E. $\frac{1}{2}$ N., for Skuttock Pt., about 3 leagues, where there is an island, which you will pass on either side; but it is best to leave it on the port side, and then steer N.E., about 2 leagues, which will carry you up with Goldsborough Harbour. You will see three islands, which lie in the mouth of the harbour; these you must leave on your port hand, and go in the eastern passage. In standing in for this place, you will see Petit Manan Lt.-ho., which you leave on your starboard hand.

When bound over the bar, which nearly connects Petit Manan with the shore, and on which there is a *black-and-white spar-buoy*, you must observe there is a ledge that bares at half-tide $\frac{1}{2}$ of a mile N. from Petit Manan. This you will pass within a cable's length of, leaving it on the starboard side when bound eastward, at which, as you pass the bar, Skuttock Id. will be a handspike length open of Skuttock Pt.; but to go over this bar requires a pilot. When near the bar, and up with Petit Manan Id., keep E.S.E., $\frac{1}{2}$ a mile distant, which will clear a ledge, having 9 ft. at L.W., that lies E. of the channel going over the bar, $\frac{1}{4}$ of a mile distant. There is a bar, which runs from the shore to this little island, which is about a league from the land. This bar has $3\frac{1}{2}$ fms. at H.W., and 9 ft. at L.W.

Light.—On the western side of Skuttock Pt., at Winter Harbour, in Frenchman Bay, there is a Lt.-ho. erected on the S. point of Mark Id., in lat. $44^{\circ} 21' 40''$, and long. $68^{\circ} 4' 56''$. The building is circular, white, and the lantern painted black, 19 ft. in height, and 37 ft. above the sea, exhibiting a *fixed* Lt., vis. 11 m.

MOUNT DESERT ISLAND forms the northern side of the passage to Bear Id., and may be known by several high hills upon it. This island is about 12 m. long from N. to S., and 10 broad; it is nearly divided by a stream of water, called Soame's Sound, at the head of which is Eden: at the entrance of Soame's Sound are two good harbours—N.E. and S.W. Harbours.

Light.—**BEAR ISLAND** lies near the centre of the passage between Sutton Id. and Mount Desert; it is a small island covered with spruce-trees. The Lt.-ho. stands

in lat. $44^{\circ} 17' 10''$ and long. $68^{\circ} 15' 37''$, and is a red building 22 ft. in height, and 97 ft. above the sea, exhibiting a *fixed* Lt., vis. 15 m.

Light.—BAKER ID. and Cranberry Id. form the western side of the entrance of the passage to Bear Id., and are covered with spruce-trees. The Lt.-ho. is in lat. $44^{\circ} 14' 27''$ and long. $68^{\circ} 11' 36''$, and is a white building, 37 ft. in height, and 105 ft. above the sea, exhibiting a *fixed* Lt., varied by a *flash* every $1\frac{1}{2}$ min., vis. 17 m.

MOUNT DESERT EASTERN HARBOUR.—In coming from the westward, and intending to go into Mount Desert, bring Baker's Id. Lt. to bear N., and run for it, leaving it on your port hand; after passing it steer N.N.W., until the Lt. on Bear Id. bears W.N.W., and run directly for it. In running this course, you will leave Sutton Id. on your port hand. The shores around this island are very bold, and you may near it within a cable's length.

Bunker's Ledge, on which is built a **stone beacon**, with a cask placed on a staff in its centre, bears from the eastern end of Sutton Id. E. $\frac{1}{2}$ N., about a mile, which you leave on your starboard hand; you may near the ledge within 2 cables' length. When the Lt. on Baker's Id. is entirely obscured behind the eastern point of Cranberry Id., you are to the westward of Bunker's Ledge; and should you have a head wind you may stand to the northward until the Lt. on Bear Id. bears W. by N.

In running for Bear Id. Lt., you may near Bunker's Ledge within a cable's length, leaving it on your starboard hand; after passing the Lt. $\frac{1}{4}$ of a mile, you may anchor in 12 fms., with the Lt. bearing from E. to E.N.E., good holding ground; or you may run for N.E. Harbour, about a mile to the northward of the Lt. N.W. by W., $\frac{1}{2}$ a mile from Bear Id. Lt. lies a *ledge*, bare at L.W., having on its western edge a spar-buoy, painted *black*, which you leave on your starboard hand. This ledge bears from the centre of N.E. Harbour S. $\frac{1}{2}$ W.

Sutton Id. lies near the centre of the passage, but the best water is to the northward of it. If you wish to go to the westward of it, when between Bunker's Ledge and Cranberry Id., steer W. by S., until Sutton Id. eastern point bears N.E. You can then anchor, or run farther in into Hadlock's Harbour, to the S. of you; or steer W.N.W., about 3 m., for S.W. Harbour.

A *bar* extends from Baker's to Little Cranberry Ids., covered at H.W., which is often mistaken by strangers for the passage into Cranberry Id. Harbour. You must always recollect that before entering Cranberry Id. Harbour, the Lt. on Baker's Id. will be entirely obscured behind the eastern point of Cranberry Id. You may go in on either side of Bunker's Ledge, but strangers should leave it on the starboard hand. Between Herring Cove and Bear Id. Lt., near the N. shore are several *rocks* and *ledges*, covered at H.W.

THE S.W. HARBOUR OF MOUNT DESERT.—This is one of the best harbours on the coast; as many as 400 vessels have been at anchor at one time here. To run in, if coming from the westward, when up with Long Id. steer N.N.E., 6 m. (leaving the two Duck Ids. on your starboard, and the three Calf Ids. on your port hand); this will bring you up midway between the Great Cranberry Id. and Mount Desert: steer up midway, until you open S.W. Harbour, when you may haul in N.W. or W.N.W. (keeping nearest the starboard hand, on account of a *ledge* on the port hand, which runs off $\frac{1}{2}$ a mile), and anchor in 5 or 6 fms., muddy bottom, safe from all winds. It is H.W. at 12 o'clock; tides rise 12 ft.

Off the S.W. point of Cranberry Id. there is a *rock*, bearing W., distant $\frac{3}{4}$ of a mile. The eastern passage into S.W. Harbour is between Bear and Sutton Ids.; after you have passed these, run until you get the harbour open, then follow the above directions.

FRENCHMAN'S BAY, N.E. OF MOUNT DESERT, lies to the westward of Goldsborough, and with its three islands is the western opening between Skuttock Pt. and Mount Desert Id.; its entrance is wide, and within are Mosquito Harbour, Flander's Bay, Taunton and Skilling Rivers, and the town of Sullivan. On the port

side is Egg Rk., near which are several islets ; but of the particulars of this extensive bay, we possess no accurate information. On the opposite side of the entrance to Frenchman's Bay are the Cranberry Ids., already noticed ; these are situated on the S.-eastern side of Mount Desert Id. ; and to the S.S.E. of these are the Duck Ids.

Light.—Six miles to the westward of Baker Id. is Bass Harbour, on the E. side of entrance to which is a Lt.-ho., coloured white, 26 ft. in height and 56 ft. above the sea, exhibiting a *fixed* red Lt., vis. 13 m.

BLUE HILL BAY is to the S.W. of Mount Desert, running up to Union River. If you are bound here, as soon as you are past Long Id., you will open a large sound to the N.N.W., which course you are to steer 6 or 7 leagues, when you will be up with Robertson's Id., leaving the Ship and Barge on your port hand. Robertson's Id. is the only island near that place that has a house upon it. The S. part of that island on which the house stands is clear of trees. When you come near the S. part of the island, give it a berth of $\frac{3}{4}$ of a mile, as there are several *sunken rocks* off the point. When you bring this island from S.W. to N.W., you may anchor in 6 or 7 fms., muddy bottom ; but if you are bound to Blue Hill Bay, you may stand to the northward direct for the Blue Hills, which you may see 10 or 15 leagues distant. If bound to Union River, you should take a pilot at Robertson's Id. ; a stranger should not go farther without one.

Light.—*Edgenoggin Reach*, which leads from Blue Hill Sound to Penobscot Bay. On the S.E. point of Fly or Green Id., in lat. $44^{\circ} 15' 50''$, and long. $68^{\circ} 27' 40''$, a Lt.-ho. is erected on the keeper's dwelling, coloured white, with black lantern, 22 ft. in height, and 26 ft. above the sea, showing a *fixed* Lt., vis. 9 m.

ISLE HAUT.—The Isle Haut is remarkable land, composed of high, steep cliffs, and makes with a large bay on each side of it ; it has good landing on its eastern end, and anchorage $\frac{1}{2}$ a mile off, in 18 fms., with the low point bearing N.E. by N., where is also a stream of water running into the sea. The highest part of the island is the middle, and represents a saddle.

Light.—(Building 1865.)—On Spoon Id., off the E. side of Isle Haut, a Lt.-ho. is in course of construction.

SADDLE BACK LEDGE is a high black rock, formed somewhat like a saddle, in the entrance of Isle Haut Bay, and between Isle Haut and Fox Id.

Light.—On the Saddle Back in lat. $44^{\circ} 0' 51''$, and long. $68^{\circ} 43' 15''$, is a Lt.-ho., the upper part of which is painted grey, the lower white. It is 36 ft. in height, and 51 ft. above the sea, showing a *fixed* Lt., vis. 13 m. You may near the rock on all sides within a cable's length.

About 2 m. N.W. by W. from the Lt. lies a *small sunken ledge*, which breaks at low tides, with a little motion of the sea.

The southern head of Isle Haut bears from Saddle Back Lt. S.E. by E. $\frac{1}{2}$ E., $2\frac{1}{2}$ m. distant ; Seal Id. S. by W., about 15 m. ; Woodenball Id. S.W. by S. ; Matineus Id. S.W. $\frac{1}{4}$ W., 18 m. ; Brimstone Id. W. $\frac{1}{4}$ N., 2 m. ; Little Isle Haut Harbour N.E. by E. $\frac{1}{2}$ E., 6 m. ; Eagle Id. Lt. N., distant about 20 m. ; Fox Id. Thoroughfare N. by W., distant about 15 m.

Isle Haut and Deer Id. form the eastern side of Isle Haut Bay ; Brimstone and Fox Ids. the western side. The bay is about 5 m. in width, and Saddle Back lies near its centre.

In proceeding up *Isle Haut Bay*, or as it is sometimes called E. Penobscot Bay, there are the following Lts. to be observed in addition to the Saddle Back, already noticed :—

Light.—On *Heron Neck*, the S. point of Green Id., in lat. $44^{\circ} 1' 30''$, and long. $68^{\circ} 51' 23''$, a *red* Lt.-ho. 24 ft. in height, and 92 ft. above the sea. A *red fixed* Lt., vis. 10 m. ; W. side of Isle Haut Bay.

Widow Id.—On the S. coast. (*Proposed Light*)
[CANSO TO C. COB.]

Light.—On *Mark Id.* in lat. $44^{\circ} 8' 3''$, and long. $68^{\circ} 41' 52''$, a white Lt.-ho., 25 ft. high, and 52 ft. above the sea. A *fixed Lt.*, vis. 12 m.; E. side of Isle Haut Bay.

Light.—On *Eagle Id. Pt.*, some 13 m. within Isle Haut Bay, in lat. $44^{\circ} 13' 3''$, and long. $68^{\circ} 45' 44''$, a white Lt.-ho. with brown lantern, 30 ft. in height, and 106 ft. above the sea. A *fixed Lt.*, vis. $16\frac{1}{2}$ m. Guide to the N.E. entrance of Penobscot Bay.

Light.—On *Pumpkin Id.*, E. side of the bay, in lat. $44^{\circ} 18' 35''$, and long. $68^{\circ} 44' 12''$, a white Lt.-ho., 27 ft. above the sea, on the keeper's dwelling, which is brown. The Lt.-ho. exhibits a *fixed Lt.*, vis. 9 m. A guide to Buck Harbour.

Light.—On *Dices Hd.* near Castine, W. side of entrance, in lat. $44^{\circ} 22' 55''$, and long. $68^{\circ} 48' 30''$, a white Lt.-ho., 130 ft. above the sea, showing a *fixed Lt.*, vis. 17 m.

Light.—On *Old Fort Pt.* on the W. side of Penobscot R., in lat. $44^{\circ} 28' 1''$, and long. $68^{\circ} 48' 22''$, a white Lt.-ho., 27 ft. in height, and 103 ft. above the sea; with a *fixed Lt.*, vis. 16 m. To mark the entrance of Penobscot R.

MATINICUS ISLANDS.—Off this part of the coast there are several islands, the nearest of which is about 9 m. distant; the principal of these are the Matinicus Id., Ragged Id., Seal Rk., Woodenball Rk., and the Matinicus Rk., with its Lt.-ho., together with the Green Ids. and Metinick Id. Besides these there are several detached smaller rocks. The Manheigan Id. lies still more to the westward. These islands are, some of them, several miles apart, and to be best understood by the chart.

Light.—*Matinicus Rk.* is 3 m. to the southward of Ragged Id. in lat. $43^{\circ} 47'$, and long. $68^{\circ} 50' 58''$, and on this rock there are two Lt.-hos. erected 60 yards apart, bearing N.N.W. and S.S.E. of each other; they are built of grey colour, 40 and 50 ft. in height, and 85 and 90 ft. above the sea; both exhibiting *fixed Lts.*, vis. 15 m. Each lantern is attached to the keeper's dwelling. A fog-bell strikes ten times in a minute during dark weather.

Directions.—In making Saddle Back Lt. coming from sea, bring it to bear N.W. by N. to N. by W., and run it close aboard, leaving it on your port hand. If you are bound up the bay, bring the Lt. to bear S., and steer N. for Eagle Id. Lt. which you may, to within a cable's length, by leaving it on your port hand. After passing Eagle Id. Lt., steer N.N.W., about 5 m., which course and distance will bring you up to Channel Rk., which you leave on your starboard hand; give it a berth of $\frac{1}{2}$ of a mile, and steer N. by E., about 6 m., for Dices Hd. Lt. In running this course you will pass Cape Rosier, a high bluff, which you leave on your starboard hand; when up to Dices Hd. Lt., you may either go into Castine, or up to Penobscot, by the directions given.

Channel Rock may be known by its being a small rock of a yellowish cast, lying to the westward of a small group of islands, and may be seen at all times above water.

N.B.—In coming from sea, and bound for Isle Haut Bay, you leave the Woodenball and Seal Ids. on your port hand. The Woodenball is the easternmost island, and you may near it to within $\frac{1}{4}$ of a mile.

In coming from the westward and intending to go northward of Matinicus Id., and bound for Saddle Back Lt., bring it to bear E.N.E., and run for it, following the directions before given.

PENOBSCOT BAY AND RIVER.—This extensive bay is included between Pt. Naskeak or Sedgwick Pt. on the E., and White Hd. on the W.; the distance between these points is about 10 leagues, and it therefore includes the Isle Haut, Deer Id., Fox Id., Long Id., and a number of small isles, rocks, and ledges. Through the bay, to the mouth of the river of its name, the western channel is by the headland on the W., called Owl's Hd., on which there is a Lt.-ho.; thence to Camden on the W., and Cape Rosier on the E., to Dices Pt., or Castine R.

The eastern channel is between Isle Haut on the W., and the smaller isles on the E., through a channel called Edgemoggin Reach, formed by the shore of Sedgwick

on one side, and Deer Id. on the other, until it unites with the main channel between Cape Rosier and Long Id. Above this, on the E., stands Fort Castine, near to which is the town of Castine. Castine is the port of entry.

NOTE.—Strangers bound up Penobscot Bay should always take a pilot.

This noble river, which empties its waters into the bay, and which is now decorated with numerous townships, is the most considerable in the district of Maine, and has its sources about 130 m. above the inlet of Castine. The head of tide and navigation is, however, at Bangor, about 25 m. from the same; vessels of 30 tons may approach within a mile of this place. At the entrance of the river is a depth of 10 fms.

The following Lts. in approaching and navigating Penobscot Bay are to be noticed:—

Light.—On *Whithead Island*, in lat. $43^{\circ} 58' 42''$, and long. $69^{\circ} 7' 8''$, a grey Lt.-ho. 34 ft. in height, and 70 ft. above the sea. A *fixed* Lt., vis. 13 m. A fog bell, striking 3 times a minute. On the western side of the entrance to the bay.

Light.—On *Owl's Id.*, W. side of entrance, in lat. $44^{\circ} 5' 31''$, and long. $69^{\circ} 2' 19''$, a white Lt.-ho., 19 ft. in height, and 100 ft. above the sea. A *fixed* Lt., vis. 16 m., intended as a guide to vessels into Carver's Harbour and Hurricane Sound.

Light.—On *Brown's Hd.*, Fox Ids., in lat. $44^{\circ} 6' 41''$, and long. $68^{\circ} 54' 14''$, a white Lt.-ho. 23 ft. in height, and 39 ft. above the sea. A *fixed* Lt., vis. 12 m., E. side of bay.

Light.—On *Negro Id.*, S. side of entrance to Camden Harbour, in lat. $44^{\circ} 12' 4''$, and long. $69^{\circ} 2' 36''$, a white Lt.-ho., 23 ft. in height, and 52 ft. above the sea. A *fixed* Lt., vis. 12 m.

Light.—On *Grindel's Pt.*, the N. side of Gilkey Harbour, Long Id., in lat. $44^{\circ} 16' 53''$, and long. $68^{\circ} 56' 15''$, a red Lt.-ho. erected on keeper's dwelling, 28 ft. in height, and 39 ft. above the sea. A *fixed* Lt., vis. 11 m.

Directions.—From Mount Desert Rk. to White Id. the bearing and distance are W. by N. $\frac{1}{4}$ N., $13\frac{1}{2}$ leagues; and from Manheigan Id. Lt. N.E. $\frac{1}{4}$ E., 14 m. On coming in this way from the westward, when you have got Manheigan Lt. astern about 6 m., the best passage is to steer E.N.E. to the northward of Mitinick Id. and outside the Two Bush and Musclee Ledges, to where you will have White Hd. Lt.-ho. bearing W. by N. $\frac{1}{4}$ N., 5 m., as in the course from the Mount Desert Rk. You will thus open the river, and may steer N.N.E. $\frac{1}{2}$ E., 14 m., until abreast of Lime Id. off Camden, when a N.E. course for 6 m. will take you off Cape Rosier as before; or proceeding to Camden steer N. by E. $\frac{1}{2}$ E., and from thence up the river to the westward of Long Id., past Belfast Bay and Brigadier Id., keeping the port shore on board to Fort Pt. When you pass Brigadier Id. for Old Fort Pt., observe, before you come to it, that an *extensive ledge of rocks* lies about $\frac{1}{4}$ of a mile to the E.S.E. of it, which is uncovered at half-tide. These rocks are readily discoverable when the wind blows, by the breakers. You may pass within a cable's length of Fort Pt. in smooth water.

If bound up the river from Old Fort Pt., with the wind ahead and an ebb-tide, you may make a good harbour in the East R., at about a league E.N.E. from that point. The entrance of this river is on the S. side of Orphan Id.; here you may lie safe from all winds, and anchor in 6 or 7 fms., good holding ground. You leave Orphan Id., and *several rocks* which are above water, on the port hand. If requisite, you may anchor to the N.W. of the island, on the starboard hand, before you pass through; but with the wind and tide favourable, you may proceed up to Marsh Bay, keeping towards the port shore. Marsh Bay is $1\frac{1}{2}$ league above Orphan Id. When passing it keep nearly in the middle of the river, and you will have neither rocks nor shoals until you arrive at the falls.

To sail up to Castine, &c., by the S.E. and eastern side of Long Id., bring the light of Dices Id. to bear N.E. by N., and run for it, until you are within $\frac{1}{2}$ a mile of it; then steer E. by N. for the **beacon** on Hornmar's Ledge, leaving Otter Rk.

beacon on your port hand a cable's length distant, and Bull's Hd., Noddle's Pt., and the **beacon** on Hornmar's Ledge on the starboard hand. You may near the starboard shore off the entrance of Castine Harbour within a cable's length, and steer E.N.E., which will carry you up the Ship Channel. You may anchor off the town, near the wharves, in from 8 to 10 fms. This harbour is easy of access. The tide here rises, on the F. and C., 10 or 11 ft.; and it is H.W. at 10 h. 45 min.

To enter Penobscot Bay from the S.W.—On approaching White Hd., or its Lt.-ho., be careful not to haul in for it until it bears N.E., as you will thus avoid the *ledges of rocks* lying without the head. Within these ledges, at about a pistol-shot from shore, there is a safe passage. In passing the head to the eastward, you will see a good harbour to the port hand, called Seal Harbour, in which a vessel may lie safely with any wind. In going into this harbour, give the port shore a berth, in order to avoid a *sunken ledge*, extending about $\frac{2}{3}$ over, and which always breaks except at H.W.

From White Hd. to Birch Id. and Pt., the bearing and distance are N.E., 4 m. This island has a *rock*, about $\frac{1}{2}$ a mile to the S.-westward of it, which must be left on the port hand. When hauling round the island, give it a small berth, and steer for the Owl's Hd., leaving the two Owl's Islands on the starboard side.

OWL'S HEAD HARBOUR makes with a deep cove; to sail in, bring a rocky point which will be on your starboard side, to bear N.E.; and a *ledge of rocks* that lies outside of that point, to bear E.N.E., and anchor in 4 fms., muddy bottom. You will lie open to the wind at E. by N. and E.N.E., but safely with all other winds. The tide of flood here sets to the eastward, and the tide of ebb S.W., through the Muscle Ledges.

The Fox Islands divide Penobscot Bay from Isle Haut Bay; there is a passage from one to the other round the N. end of the island.

CAMDEN HARBOUR.—In coming from the westward, and bound for Camden Harbour, bring Owl's Head Lt. to bear N., and steer N. by E. for Camden Lt., leaving the Graves and N.E. Rocks on the starboard hand. The *Graves* is a *small black rock*, above the surface of the water at all times, and you may near it within a cable's length on all sides. When up with the Lt.-ho., leave it on the port hand a cable's length, and steer N.W. by N. $\frac{1}{2}$ N. or N.N.W., about $\frac{1}{2}$ a mile, and anchor near the N. shore, in 4 or 5 fms., good holding ground. If you are to the eastward, and bound for Camden Harbour, bring the Lt. to bear S.W. by W., or W.S.W., to clear the N.E. Ledges, which bear from Camden Lt. N.E. $\frac{3}{4}$ N., about $\frac{2}{3}$ of a mile.

MANHEIGAN Light.—On Manheigan Island, S. of the entrance to St. George's River, in lat. $43^{\circ} 45' 52''$ and long. $69^{\circ} 18' 37''$, is a Lt.-ho. of grey colour, 36 ft. in height, and 175 ft. above the sea, which exhibits a *revolving* Lt. every minute, vis. 19 m. There is a fog bell stationed at Manana Id., one mile W. of the Lt. You can close to the Id. on either side, taking care of some *dry ledges* on the northern side of it. In the island is a small harbour open to the S.W.

From the Lt. on Cape Cod, Manheigan Isle bears N.N.E. (true), distant 36 leagues.

GEORGE'S RIVER.—Broad Bay, leading to George's and Muscongus Rivers and the town of Waldoborough, is too intricate for description, being filled with *rocks* and small islands; its situation is between Mosquito Id. and Penmanquid Pt., on which is a Lt.-ho.

Manheigan Id., as just observed, lies off the entrance to St. George's River and Broad Bay, and bears from Matineus Rk., W. by N., $18\frac{1}{2}$ m.; and from Penmanquid Pt. S.E. by E., $10\frac{1}{2}$ m.; Burnt Id. and Old Man Id. lie N. by E., $5\frac{1}{2}$ m. from Manheigan, which together with Franklin Id., and many other rocks form the frontage of Broad Bay on the eastern side, while the Muskongua Id. and some others, form the western side.

Between White Hd. and Penmanquid Pt. are the following Lts., in addition to the Manheigan Id. Lt., already described:—

Light.—At *Tenant Harbour*, on the N.E. side of S. island, in lat. $43^{\circ} 57' 39''$ and long. $69^{\circ} 10' 46''$, is a Lt.-ho. coloured white, and lantern red, on the keeper's dwelling, 26 ft. in height, and 66 ft. above the sea. A *revolving* Lt. every minute, vis. 13 m.

Light.—At *Marshall's*, on the point, in lat. $43^{\circ} 55' 02''$ and long. $69^{\circ} 15' 21''$, a Lt.-ho. coloured white and grey, 24 ft. in height, and 31 ft. above the sea. A *fixed* Lt., vis. 10 m., to mark the entrance to Herring Gut Harbour.

Light.—On *Franklin Id.*, at the N.W. end of the island, W. of the entrance to St. George's River, and E. of the entrance to Broad Bay, in lat. $43^{\circ} 53' 31''$ and long. $69^{\circ} 22' 10''$, a white Lt.-ho., 35 ft. in height, and 54 ft. above the sea, exhibiting a *fixed* Lt., varied by a *flash* every $1\frac{1}{2}$ minute; vis. 12 m.

Light.—On *Penmanquid Pt.*, the S.W. point of entrance to Broad Bay, in lat. $43^{\circ} 50' 12''$ and long. $69^{\circ} 30' 2''$, a white Lt.-ho., 32 ft. in height, and 75 ft. above the sea, bearing a *fixed* Lt., vis. 14 m.

S. by W., $1\frac{1}{2}$ m. from the Point of Penmanquid, there is a sunken ledge, which must be avoided, and some other ledges to the E.N.E. to be noticed presently. The *White Ids.*, *Heron Id.*, *Pumpkin* and *Damiscove Ids.* lie in a S.W. $\frac{1}{2}$ W. direction from Penmanquid Pt. to the distance of 7 m., with the *Bantum Ledge*, a mile further in the same direction. These latter islands are on the western side of the approach to John's Bay and Damiscotta Bay.

Directions.—Bring the N. Damiscove Id. to bear N.W., and Manheigan Id. Lt.-ho. E., then steer E.N.E. for Franklin's Lt.-ho., leave that on the starboard side, and you may steer past within a cable's length of it. When you get abreast of Franklin's Id. Lt., steer N.E. for Otter Id., distant 4 m., and continue on until you are within $\frac{1}{4}$ of a mile of it, leaving it on your port hand, and steer E.N.E. for Cauldwell's Id., at the S.W. end of which is a high round rock, called *Goose Rk.* When abreast of this rock, pass it at a cable's length, leaving it on your starboard side, and steer N.E. by E. and N.E.; but you should keep Cauldwell's Id. best on board, to avoid a *sunken ledge* lying in the middle of the river.

Should you fall in with Manheigan Lt., and bound to George's River, steer N.N.W., leaving Manheigan Id. to the starboard, until you get Franklin's Lt.-ho. to bear N.E. by E., when you may run for it, and sail as before directed. Franklin's Lt. may safely be run for when bearing from N.E. by N. to N.E. by E. $\frac{1}{2}$ E.

In running from Damiscove Ids. for George's River, be careful to avoid the *New Harbour Ledges*, which lie E.N.E., distant 3 m. from Penmanquid Lt., and have only 5 ft. over them. When beyond these ledges, you will see the Western Egg Rk., which is large and dry, and bears about E.N.E. from Penmanquid Pt., distant 5 m., and W. by S. from Franklin's Lt.-ho. 2 m., which you leave on your port hand; you will then discover the outward Egg Rk., lying nearly S. from Franklin's Lt., 3 m.; this must be left to the starboard. These Egg Rks. bear from each other S.E. and N.W., distant about 2 m.: their appearance is very similar; but you may pass between them both and have an excellent clear and open channel. They will be easily distinguished one from the other by their bearings from the Lt.-ho.

Should you have the wind ahead, and be compelled to turn to windward, you can stand on to the northward until Franklin's Lt. comes N.E. by E. $\frac{1}{2}$ E., and to the southward until it bears N.N.E., without danger. To the northward of the range of McCobb's Id. and the western Egg Id., the ground is foul and rocky; and so it is to the eastward of the range of Franklin's Id. Lt. and the eastern Egg Id. (McCobb's Id. is that which forms the western entrance to George's River and bears N.W., distant $1\frac{1}{4}$ m. from Franklin Id. Lt.)

JOHN'S BAY HARBOUR.—Penmanquid Pt. forms the eastern side of the bay, and is a low bare point, but the shores are bold on all sides.

The *Coast Pilot* says, "Vessels westward bound, and falling in with Manheigan Id., and wishing to make a harbour in a strong S.W. wind, must observe the following directions:—Bring Manheigan Lt. to bear S.E., and steer N.W., 11 m., for Penman-

quid Pt.; and when the Lt. on the said point bears E.N.E., distant $\frac{1}{2}$ a mile, you are then up with the western point of Penmanquid: leave it on your starboard hand, and give it a berth of $\frac{1}{2}$ of a mile; then steer N. for John's Bay Harbour, leaving John's Id., and M'Coun's Pt. on your starboard; Butford's Id., Stuart's Id., and McFarling's Pt. on the port hand. If from the westward, and bound into this harbour, bring John's Id. to bear N. by E., and run until you are within a cable's length of it; then steer N., 2 m.; this course and distance will bring you up with John's Id., which you leave on your starboard hand; give it a berth of a cable's length, and steer N. $\frac{1}{4}$ W. for a high bluff on your port hand, about 12 m. distant. You may near the said bluff, within 200 ft. of the shore, and when abreast of it, steer N., $\frac{1}{2}$ a mile; when you may anchor in 4 to 5 fms. Corbett's Ledge bears from John's Id. N.W. by N., $1\frac{1}{2}$ m., and about $\frac{1}{2}$ of a mile from the western shore. If the wind takes you ahead, you may near them within a cable's length. John's Bay lies about 5 m. to the eastward of Townsend Harbour, and is a fair, open bay, having neither rocks or shoals at its entrance; and vessels may run in without fear, by following the above directions."

Light.—On *Burnt Id.*, W. side of Townsend Harbour, in lat. $43^{\circ} 49' 29''$, and long. $69^{\circ} 38' 5''$, a white Lt.-ho., 24 ft. in height, and 61 ft. above the sea, bearing a *fixed* Lt., vis. 13 m.

To the westward of John's Bay are several inlets leading up the Damariscotta River to Nobleborough. To the southward lie the Bantum Ledges, stretching into the sea 4 or 5 m.; these are the range of islands and rocks, some above and some under water, noticed previously under the name of *Damiscove*, &c., with the Bantum Ledge at the extremity, lying to the S.W. of Damariscotta Bay, and to the S.E. of Sheeps Cut Bay.

TOWNSEND HARBOUR lies about 5 m. to the westward of John's Bay Harbour; and on the port side of the entrance is a Lt.-ho. on *Burnt Id.* To enter this harbour, a pilot is necessary.

SHEEPS CUT BAY.—To the westward of Townsend Harbour is Sheeps Cut Bay, between which is Cape Newagen: this bay leads up to the town of Edgecombe, 11 m. within the entrance, and to Sheeps Cut and Dyer Rivers. Next westward is the Kennebeck River, off which is the Seguin Id. Lt.-ho. and ledges, till we come to Cape Small, in lat. $43^{\circ} 41' 50''$, and long. $69^{\circ} 50' 40''$.

In Sheeps Cut Bay, and westward to Cape Small are the following Lts.:—

Light.—On *Hendrick's Hd.*, E. side of Sheeps Cut River, in lat. $43^{\circ} 49' 20''$, and long. $69^{\circ} 38' 5''$, a white Lt.-ho., 30 ft. high, and 61 ft. above the sea, bearing a *fixed* Lt., vis. 13 m., on keeper's dwelling, E. side of Sheeps Cut Bay.

Light.—On *Pond Id.*, W. entrance of Kennebeck River, in lat. $43^{\circ} 44' 23''$, and long. $69^{\circ} 45' 54''$, a white Lt.-ho., 18 ft. in height, and 54 ft. above the sea, showing a *fixed* Lt., vis. 13 m. A fog bell.

Light.—On *Seguin Id.*, off Kennebeck River, in lat. $43^{\circ} 42' 25''$, and long. $69^{\circ} 45' 11''$, a grey Lt.-ho., 35 ft. in height, and 180 ft. above the sea, bearing a *fixed* Lt., vis. 20 m. A fog bell.

S. by W. from Seguin Id., at the distance of more than a mile, is a sunken ledge, which must have attention to avoid, when within that bearing of the Lt. To the northward of Seguin, both eastward and westward are other *sunken* rocks and islands, which require a pilot to navigate, or the aid of the large scale charts to rightly understand their positions.

Directions.—Bound for Sheeps Cut River from the westward, and making the island of Seguin, leave the Lt. on the port side, giving the island a berth of 2 m.; and passing to the eastward, bring it to bear N.W., and steer N.N.E., 8 m., which will bring you to Ebenicook Harbour; the entrance of which is narrow, but becomes broader as you get into it, and lies E. by N. Observe, you cannot get in with a N.E. or easterly wind, but must have it S. or westerly. After you are within the harbour, haul up N.E. or N.E. by N., there being several *sunken rocks* on the starboard side as you go in; there you will have 4 fms., muddy bottom, and lie safe from all winds. From Seguin Lt.-ho., Pond Id. Lt., at the entrance of Kennebeck River, bears N., distant 2 m.

Many rocks and ledges, some above and some under water, lie to the eastward of Seguin; when you get up as high as Ebenicook, leave the Mark Ids. on your port. Here it is requisite to have a pilot. The port of Wiscasset is about 5 leagues up from the entrance of the river.

KENNEBECK RIVER is one of the most considerable in the State of Maine. In coming from the westward for Kennebeck River, you should keep $\frac{1}{4}$ of a mile from Seguin Lt., to avoid *Jack's Knife Ledge*, on which there is a black nun buoy, No. 3, which bears from the Lt. N.W., distant $1\frac{1}{4}$ m., and *Ellingswood Rk.*, lying N., about $\frac{1}{4}$ of a mile distant; after passing the latter, you should bring Seguin Lt. to bear S. and then steer N. for Pond Id. Lt. Leaving this a cable's length on your port hand, care should be taken on the flood to haul quickly round Pond Id. Pt., in order to avoid the Two Sugar Loaves, two small islets, bearing N., distant $\frac{1}{2}$ a mile from Pond Id., upon which the flood sets strongly. Your course, after passing Pond Id., will be about N.W. to the fort on Hunnewell's Pt., which you must give a berth to, and steer on N. for Cox's Hd., about a mile; here also is another fort. Steer thence N.E. to Perkin's Id., which leave about a mile, to the starboard, and give it a berth of a cable's length, to avoid two ledges that lie nearly abreast of Perkin's Id., and near the middle of the river; then proceed N. for a mile farther, and you will find good anchorage at Perkin's Flats, in 4, 5, or 6 fms. water. This is as far as a vessel, conducted by a stranger to the place, should ever venture to advance, especially with a heavy ship.

There is good anchorage anywhere between Seguin and Pond Id., when the weather is moderate, in from 5 to 8 fms., within $\frac{1}{2}$ a mile of Pond Id.; but should the wind blow with any violence, and you are far enough to windward to weather Ellingswood Rk. and Seguin Ledges, it will sometimes be advisable to run for Townsend Harbour.

If bound into Kennebeck, and falling to the eastward of Seguin, bring the Lt. on Pond Id. to bear N.W. by W., and run for it till within a cable's length, then follow the preceding directions. There is safe anchorage, with an off-shore wind, any where between Small Pt. and Seguin, only taking care to avoid Jack's Knife Ledge.

Safe anchorage may be found from Cox's Hd. to Perkin's Id., nearest the eastern shore. The usual rapidity of the tide between the Seguin and the entrance to the Kennebeck is 3 or 4 knots. There is also a passage into the Kennebeck River, leaving Pond Id. on the starboard hand; but that is not recommended, for only 16 ft. can be obtained at H.W. To the eastward of Seguin you will have deep water. At the westward, the tide of flood sets strongly into New Meadows, and W.N.W. into Broad Sound and up to Portland; the ebb-tide is the reverse.

Seguin Island is remarkable when bearing E. or W., being 2 m. from land; and when it bears N., shuts in with it. From this Lt.-ho. Portland Lt. bears W. $\frac{1}{2}$ N., 20 m.; the two Lt.-hos. on Cape Elizabeth W. $\frac{3}{4}$ S., 20 m.; the Bulwark Rks., marked by a buoy, W. by S., $15\frac{1}{2}$ m.; and the Halfway Rks. (also marked by a buoy), W., northerly, $12\frac{1}{2}$ m.

There are several rocky ledges near Seguin, which bear from the light as follow:—Five-Fathoms Ledge S. by W., $\frac{3}{4}$ of a mile; Ellingswood Rock N., $\frac{1}{4}$ of a mile; Seguin Ledges N.N.E., distant $\frac{1}{2}$ a mile, which always dry; Jack's Knife Ledge N.W., $1\frac{1}{4}$ mile, over which are 8 ft. water; Wood Id. Reef N.N.W., distant $1\frac{1}{2}$ mile, which has 4 ft. water on it; and the Whale's Back N.N.E., distant $1\frac{3}{4}$ m.

NEW MEADOWS RIVER.—At about 6 leagues E.N.E. from Cape Elizabeth, and 2 m. westward of Small Pt., is the mouth of the Meadows River, a large inlet, affording good shelter during adverse winds. If you should happen to fall in with this bay with the wind at S.E. or S.S.E., and bound to the eastward, you may make a good harbour in the above river. In standing to the northward, you will have a large round island on your starboard hand, covered with spruce trees, together with two large rocks, one called the *Brown Cow*, and the other the *White Bull*, which are some distance from each other.

You must leave the Brown Cow on your starboard, and the White Bull on your port hand, the latter of which you may go within a cable's length of; when you have passed it steer for Horse Id., that lies on the starboard, and which has a house upon it. You may go within a $\frac{1}{4}$ of a mile of the Horse Id. To the westward of the island lies a *large rock*, which is covered at H.W., but bare at half-tide; you may go on either side of it when it is in sight, but the widest passage is to the eastward. When you have passed this rock, steer N. by W. or N.N.W., and it will carry you up to a large island, called Bear Id., which is covered with spruce and birch-trees. When you have passed this island about $\frac{1}{4}$ of a mile, you may haul in for the starboard shore, and anchor in 5 or 6 fms. This is the best place for anchoring with the wind S.S.E. or E.; but be careful of a *ledge of rocks* that runs to the northward of this island, about $\frac{1}{2}$ a mile off.

You may anchor in this bay according as the wind may be; if it should be to the eastward, anchor on the E. side. If you have lost your anchors and cables, there is a large cove on your starboard hand, about 2 m. from Bear Id., bearing about N., which is sufficient to hold 30 or 40 vessels; it is land-locked all round, so that no wind can damage a vessel after she gets into it.

Lights in the neighbourhood of Portland.

Light.—On *Cape Elizabeth*, in lat. $43^{\circ} 33' 50''$, and long. $70^{\circ} 11' 49''$, two Lt.-hos. are erected 280 yards apart, N.E. and S.W. These Lt.-hos. are coloured white, 53 ft. each in height, and 143 ft. above the sea; the N.E. exhibiting a *revolving* Lt. every minute, the S.W. a *fixed* Lt., and visible at the distance of 17 m. A fog bell station.

Light.—On *Portland Hd.*, S. side of harbour, in lat. $43^{\circ} 37' 22''$, and long. $70^{\circ} 12' 9''$, a white Lt.-ho, 69 ft. in height, and 101 ft. above the sea, showing a *fixed* Lt., vis. 17 m. A fog bell.

Light.—On the *Breakwater* at Portland, N.E. part, in lat. $43^{\circ} 39' 18''$, and long. $70^{\circ} 13' 48''$, a white Lt.-ho., 17 ft. in height, and 23 ft. above the sea, exhibiting a *red* Lt., vis. 8 m.

HUSSEY SOUND.—If coming from the eastward, and making Seguin Lt. on a N. bearing, distant 3 m., steer a W. by N. course towards the Portland Lt., and when within 3 m. of it, haul up N.N.W., that is, if you have day-light and a leading wind. On your starboard side you will have numerous islands and ledges, through which the tides of flood sets very strongly. When you get within 3 m. of Portland Lt. haul up N.N.W. for Hussey Sound. In this track you will go to the southward of Limboe Id. and Halfway Rk., and also the Green Ids. and Hussey Rk., and to the northward of the Bulwark Rks.

If bound into Hussey Sound, give Cape Elizabeth a berth of $\frac{1}{4}$ m., and steer N. by E. $\frac{1}{2}$ E., which will bring you up to the Sound, about 9 m. distant. When up with the Sound, give the N.E. outer point of Peak's Id. a good berth, as a reef extends E.N.E., nearly half-way across the passage, and breaks in heavy weather. Then giving Overset Id. a small berth, as its shores are very bold, continue your course midway the passage N. by W. or N.N.W., up to Cow Id., about 2 m. distant; thence steer N.E. by N., about $\frac{1}{2}$ or $\frac{3}{4}$ of a mile, and anchor between Clapboard Id., which is a high island covered with trees, and the centre of Long Id., bringing Clapboard Id. to bear N.W., and centre of Long Id. S.E. The anchorage is good holding ground, in 5 or 6 fms. at L.W. This anchorage is about 6 m. from the wharves at Portland Harbour. The flood-tide sets strong into and the ebb out of Hussey Sound. Here 500 sail of vessels may ride safe from all winds; and when wind and tide serve, you may be out to sea again in an hour.

S.E. from Little Crow Id., 50 fms. distant, there is a sunken ledge, having only 12 ft. on it at L.W., which will be avoided by keeping the starboard shore of Hussey Sound best on board.

Hussey Rock.—**Buoy.**—This rock is marked by a third-class can buoy, coloured *red-and-black* in horizontal stripes in 60 ft., twenty-five feet S.W. of the rock, which has 12 ft. upon it. Middle of the Green Id., S.E. $\frac{1}{2}$ E., 1 m. Portland Hd. Lt. W.S.W., $2\frac{1}{2}$ m., in range with Ram Id.

HALF-WAY ROCK is high and black, about 600 ft. in diameter, elevated 16 ft. above the level of the sea at H.W.; at 600 ft. from the rock, on the N.W., north, N.E., east, and S.E. sides there are 5 and 6 fms., gradually deepening to 25 fms., within $\frac{3}{4}$ of a mile of it.

WEBSTER ROCK.—About $\frac{1}{4}$ of a mile N. by W. from the centre of Halfway Rk., is a small rock with but 8 ft. on it at L.W., and 10 fms. inside of it. A *black spar buoy* has been placed about 20 ft. N. $\frac{1}{2}$ E. of the rock in 3 fms., with the centre of Halfway Rk. S. $\frac{1}{3}$ W., and Mark Id. monument N. by E.

BULWARK SHOAL of 12 ft. has a *red-and-black horizontally striped nun-buoy*, $\frac{1}{4}$ of a mile S.E. of the ledge. Cape Elizabeth E. Lt., W. by S., 6 m. Portland Hd. Lt., W.N.W. $\frac{1}{2}$ N., 6 $\frac{1}{2}$ m. Green Id., N.N.W., 5 m. The water round the ledge gradually deepens from 3 to 12 fms.

HUE AND CRY.—This rock is marked by a *black nun-buoy* (No. 1), in 36 ft. at L.W., 126 ft. E.S.E. of the ledge, where there is but 16 ft. Lt. on Cape Elizabeth bears from it N.W. by N., 4 m.; and Alden's Rks. buoy N. $\frac{1}{2}$ W., 2 m.

ALDEN'S ROCKS are two in number, bearing from each other E.S.E. and W.N.W. The distance between them is 240 ft. The western rock is about 12 ft. in diameter, and has 5 $\frac{1}{2}$ ft. on it. The eastern rock is about 36 ft. in diameter, and has 7 ft. on it. Between these rocks are from 3 to 5 fms.; 600 ft. from the eastern rock, on the eastern side are from 4 to 6 fms. A first-class *black nun-buoy* is moored 300 ft. S.E. from the rock. An iron **Bell Boat** was moored S. off the rock, at the distance of $\frac{1}{4}$ of a mile; but she is gone adrift. Cape Elizabeth E. Lt. N.W. by W., 3 m. Portland Hd. Lt. N.N.W., 6 $\frac{1}{2}$ m.

VAPOR ROCK, of 18 ft. marked by a second-class *can-buoy*, with Cape Elizabeth E. Lt. N. by W. $\frac{1}{2}$ W., 3 m. Barn on Richmond Id. N.W. by W. $\frac{1}{2}$ W., 3 m.

OLD ANTHONY LEDGE, of 22 ft., marked by a second-class *can-buoy*, with Cape Elizabeth E. Lt. N. by W. $\frac{3}{4}$ W., 2 $\frac{1}{2}$ m. Wood Id. Lt. W.S.W. $\frac{1}{4}$ S., 9 $\frac{1}{2}$ m.

TAYLOR'S REEF, of 8 ft., marked by third class *can buoy*, with Cape Elizabeth E. Lt. N. by W. $\frac{1}{2}$ W., 1 $\frac{1}{4}$ m. Barn on Richmond's Id. W. by S., 3 m.

BROAD COVE ROCK.—This rock is marked by a first-class *can-buoy*, coloured *black*, marked B.C.R., No. 7, and is in 24 ft. water. Cape Elizabeth E. Lt. S.W. $\frac{1}{2}$ S., 1 $\frac{1}{2}$ m. Portland Hd. Lt. N. $\frac{1}{2}$ W., 3 $\frac{1}{4}$ m. The buoy is to the northward of the rock, which is dry at L.W.

TRUNDY'S REEF, marked by a first-class *nun-buoy* in 24 ft., and marked T.R. No. 9, Cape Elizabeth E. Lt. S.S.W. $\frac{1}{2}$ W., 2 $\frac{1}{4}$ m.; Portland Hd. Lt. N.N.W., 2 $\frac{1}{2}$ m.

JORDAN'S REEF, OR BELL ROCK, is marked by a third-class *nun-buoy*, *red-and-black*, in horizontal stripes, in 42 ft. water; with Portland Hd. Lt. N.W. by W., 1 $\frac{1}{2}$ m.; Cape Elizabeth Lt. S.W. by S. $\frac{1}{2}$ S., 4 $\frac{3}{4}$ m. This buoy is 150 ft. S.E. of the ledge, which has 18 ft. on it.

CATFISH ROCK.—*Red spar buoy*, W. by N. from Bang's Id. Pt.

SPRING POINT LEDGE.—Second-class *can buoy*, *black*, (black spar buoy in winter) marked S.P.L., No. 11, in 18 ft.; Portland Hd. Lt. S. by E., 2 m.; Horse Id. S.E. by E., $\frac{1}{2}$ a mile.

STANFORD'S LEDGE.—*Black nun-buoy* (black spar buoy in winter), marked S.L., No. 13, in 17 ft. water, 500 ft. N. by E. $\frac{1}{4}$ E. from Breakwater Lt. Horse Id. S.E. by E., 1 $\frac{1}{4}$ m.

E. END OF MIDDLE GROUND.—*Red spar buoy* in 17 ft. Observatory N.W. $\frac{1}{2}$ W.; Breakwater Lt. S. $\frac{1}{2}$ W., $\frac{3}{8}$ of a mile.

W. END OF MIDDLE GROUND.—*Red spar buoy* in 16 ft., 300 ft. W. of the shoalest part of the Middle Ground, which has but 8 ft. Observatory, N.W. by N.; Breakwater Lt. S.E. by S. $\frac{3}{4}$ S., $\frac{1}{2}$ a mile. There is good anchorage for small vessels on the Middle Ground.

[CANSO TO C. COB.]

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The **UPPER HARBOUR buoy** is a *black spar buoy*, in 25 ft. water; is 20 ft. N.W. of the rocks, which have 4 ft.; end of Union Wharf N.W. $\frac{1}{2}$ N., 500 yards; Drawbridge S.W., $\frac{1}{2}$ a mile.

The following buoys are placed in Whitehead Passage:—

GREEN ISLAND REEF.—*Red spar buoy*, No. 2, in 20 ft., on the S.W. point of the reef; Outer Green Id. S.W., $\frac{2}{3}$ of a mile.; Halfway Rk. E. $\frac{1}{2}$ S., 6 m.

WHITEHEAD LEDGE.—*Black iron spindle*, basket top, N. point of Bang's Id. S., 200 ft. The spindle is on a ledge, bare at L.W., $3\frac{1}{2}$ fms. through the passage. This you must leave on the port hand in entering.

MARK ISLAND is small and bare, and has a **monument** erected on it, as a guide for vessels into Broad Sound. Eagle Id. is small, high, and covered with trees; these two islands form the E. side of the entrance to Broad Sound; and Brown Cow and Jewill's Ids. form the W. side. Green Ids., lie S.W., $1\frac{1}{2}$ m. from Jewill's Id.

CAPE ELIZABETH and PORTLAND HARBOUR.—Upon Portland Pt., which lies about 4 m. to the northward of Cape Elizabeth, stands the Lt.-ho., built of stone, which is of the greatest utility on this coast. The Sound or Harbour of Portland is buoyed, and the following directions are to be observed when sailing in.

On the observatory, a *red* building 70 ft. high, on the hill at eastern end of Portland, a telescope is placed, by means of which vessels approaching the coast can be discovered 15 leagues off; their colours or signals may be distinguished 8 leagues distant, if the weather be clear; and should any assistance be wanted, they will place their ensign over the private signals, and if they can be discerned, information of their situation will be made known to the owners.

A good mark to enter Portland Harbour is to keep the observatory open a little to the eastward of Portland Hd. Lt., which will also clear Aldens' Rk.

Pilots.—From November 1st to May 1st the pilot of the English Steamers, in a pilot-boat, No 1, is constantly cruising off the harbour, on the lookout for vessels requiring a pilot. The signal is the usual Jack at the fore in the daytime, and rockets or blue lights at night.

In an off-shore wind good anchorage may be found within an $\frac{1}{2}$ of a mile from Portland Hd. Lt., or Bang's Id., in from 9 to 12 fms.

THE FOLLOWING DIRECTIONS FOR PORTLAND ARE FROM THE U.S. SURVEY OFFICE, DECEMBER 7TH, 1864.

Channel between West Cod Ledge and Corwin Rock.—*From the Eastward.* Bring Cape Elizabeth Lts. to bear W. by N. $\frac{1}{2}$ N., and run for them on that bearing until Portland Hd. Lt. bears N.W. by N. $\frac{3}{4}$ N. This cross bearing is about $\frac{3}{4}$ of a mile S.W. by S. from West Cod Ledge ($4\frac{1}{2}$ fms.), and $\frac{2}{3}$ of a mile E. by N. from Corwin Rk. ($3\frac{1}{2}$ fms.). Run for Portland Hd. Lt. on the bearing of N.W. by N. $\frac{3}{4}$ N. for $2\frac{1}{2}$ m., until Cape Elizabeth Lts. are in range; then stand N. by E., nearly $\frac{1}{2}$ a mile, until Portland Hd. Lt. bears N.W. $\frac{3}{4}$ N., when run for it until within $\frac{1}{2}$ a mile.

These courses leave Willard's Rk. ($5\frac{1}{4}$ fms.) $\frac{1}{4}$ of a mile to the southward and westward; Pine Tree Ledge ($3\frac{1}{2}$ fms.) $\frac{1}{4}$ of a mile, and Jordan's Ledge, ($3\frac{3}{4}$ fms.) $\frac{1}{4}$ of a mile to the northward and eastward. The course N.W. by N. $\frac{3}{4}$ N., on Portland Hd. Lt. leads close to Willard's Rk. ($5\frac{1}{4}$ fms.), and is safe with a smooth sea; with a swell on, the courses given above should be followed. When within $\frac{1}{2}$ a mile of Portland Hd. Lt., as above, steer N. by W. up the harbour until abreast of the city.

From the Southward.—Keep 5 m. from Cape Elizabeth Lts. This distance clears well all dangers, with the Lts. between the bearings of N.E. by E. and W. $\frac{1}{2}$ N.; bring Portland Hd. Lt. to bear N.W. by N. $\frac{3}{4}$ N., and run in as above.

Channel between W. Cod Ledge and Bache Rk.—With Cape Elizabeth Lts. bearing W. by N. $\frac{1}{4}$ N., bring Portland Hd. Lt. to bear N.W. $\frac{1}{4}$ W. Run in on this last bearing, leaving West Cod Ledge 1 m. to the southward and westward, and Bache Rk. ($4\frac{1}{2}$ fms.), 1 m. to the northward and eastward, until Cape Elizabeth Lts. are in range; then steer N.W. by W. $\frac{1}{2}$ W. about $1\frac{1}{2}$ m., until Portland Hd. Lt. bears N.W. $\frac{3}{4}$ N., when run in on this bearing—leaving Willard's Rk. ($5\frac{1}{4}$ fms.) $\frac{1}{2}$ of a mile to the southward and westward: Pine Tree Ledge $\frac{1}{4}$ of a mile, and Jordan's Reef $\frac{1}{2}$ of a mile to the northward and eastward, until within $\frac{1}{2}$ a mile of the Lt., when follow directions given above.

To pass to the Northward of Bulwark and Round Shoals.—Run in with Portland Hd. Lt. on a bearing of W. by N. $\frac{3}{4}$ N., leaving Round Shoal ($4\frac{3}{4}$ fms.) $\frac{1}{2}$ a mile, and Bulwark Shoal (14 ft.) $\frac{2}{3}$ of a mile to the southward, and passing between, and $\frac{1}{4}$ of a mile from Jordan's Reef to the southward and westward and Witch Rk. (4 fms.) to the northward and eastward.

Courses along the Coast from the Eastward.—When 2 m. S. of Small Pt., if the weather is clear, Portland Lt. should be seen bearing W. $\frac{1}{4}$ N., distant $16\frac{1}{2}$ m. This bearing leads to the southward of Temple's Ledge (5 fms.) nearly $1\frac{1}{4}$ m.; Lumbo's Ledge, ($4\frac{1}{4}$ fms.) nearly $1\frac{1}{2}$ m.; Halfway Rk., $\frac{2}{3}$ of a mile; Junk of Pork and Outer Green Id., $\frac{2}{3}$ of a mile; to the northward of Witch Rk., $\frac{1}{4}$ of a mile; and to the southward of Ram Id. Ledge, $\frac{1}{2}$ of a mile.

The range of Cape Elizabeth Lts.—These Lts. bearing S.W. by W., lead clear of all dangers between Mitchell's and Willard's Rks., to the eastward of Junk of Pork, between Jewell's Id. and Halfway Rk., up to the entrance of Harpswell Sound.

In thick weather, strangers should not approach from the southward and eastward, inside of 45 fms. of water, with soft or sticky bottom.

The mean rise and fall of tide at Portland is 9 ft. The fall of the lowest tide below mean L.W., $2\frac{3}{4}$ ft.

CAPE ELIZABETH TO CAPE ANN.

From Cape Elizabeth to Wood Id., on the S. side of Saco Bay, the course and distance are about S.W. by S., 8 m.; and thence to Cape Porpoise, S.W. $\frac{1}{2}$ W., $7\frac{1}{2}$ m. The harbours formed by Wood Id. and Cape Porpoise are to be attempted only with a pilot.

Light.—On *Wood Id.*, near Saco Harbour, in lat. $43^{\circ} 27' 23''$ and long. $70^{\circ} 19' 25''$ a white Lt.-ho., 47 ft. in height, and 62 ft. above the sea, exhibiting a *red revolving* Lt. every minute, vis. 13 m. The island is high, woody and even.

In coming from the S.-westward, you should bring this Lt. to bear N.N.W. or N.W., and then you may run on until within a cable's length in safety. You may go into the harbour either to the eastward or westward of the island. There are *several rocks* to the westward of the island, and also a *long bar*, which lies to the S.W., about $\frac{3}{4}$ of a mile distant, together with *two ledges*, one of which bears S.E. by S. from the Lt. $\frac{1}{2}$ a mile, having 10 ft. on it at L.W.; and the other is a *dangerous ledge*, called *Danceberry*, bearing S. by E. from the Lt., about $\frac{2}{3}$ of a mile, and breaks at all times. With a southerly wind you may anchor near Stage Id., on which is a monument, in what is called *Winter Harbour*: enter the eastern way, and you will have room to turn your vessel, which you cannot do if you go in by the western. This anchorage is exposed to the N.E. and E.N.E. winds; but if your anchors and cables are not good, you may run into the pool, and lie safe from all winds.

SACO is about a league to the N.W., having a *bar*, with but 9 or 10 ft. at H.W.; but a considerable trade is carried on there.

Richmond Id. lies about 8 m. E.N.E. of Saco, and is fit only for small coasters; but in sailing by this island you must be careful of a *sunken ledge*, called *Watch Ledge*, which lies off about S.E. from the N.E. end of the island, $\frac{1}{2}$ a mile; keep, therefore, farther off, for it is not visible, unless when the wind blows fresh.

Light.—On *Goat Id.*, N. side, mouth of Cape Porpoise Harbour, in lat. $43^{\circ} 21' 27''$ and long. $70^{\circ} 25' 11''$, a white Lt.-ho., 25 ft. in height and 38 ft. above the sea, showing a *fixed Lt.*, vis. 11 m. Porpoise Harbour is not very safe for large vessels, and should not be attempted unless with a fair wind; a pilot is always necessary.

KENNEBUNK HARBOUR is very shoal, and can only be entered at H.W.; the depth on the bar at L.W. is 2 or 3 ft. Common tides rise and fall 8 and 9 ft.

The course and distance from Cape Porpoise to Cape Neddock are S.W. by W. $\frac{1}{4}$ W., 10 m.; between lies Wells Bay; and close to the northward of Cape Neddock is the Cape Harbour, which is very small.

THE WHITE HILLS are a most prominent and important landmark in approaching these coasts, and may be seen many leagues off at sea, like a bright cloud above the horizon, when no other land is in sight. They lie N.W. from Portland, and N.N.W. from Wood Id. They have been seen, in clear weather, in lat. $43^{\circ} 10'$, 23 m. off Cape Elizabeth, where there are 40 fms., muddy ground. If from this spot you steer W. by N. $\frac{3}{4}$ N., you will make Agamenticus Hills: which, when bearing W. by N., 6 or 7 leagues, appear to be three in number, the smallest being to the eastward. At the same time you will make Wells, or Bonabeg Hills, bearing W.N.W.

BOON ISLAND.—In coming from the eastward for this part of the coast, you should keep a good look-out for Boon Id., upon which stands a Lt.-ho.

Light.—At the western part of Boon Id., off York Harbour, in lat. $43^{\circ} 7' 16''$ and long. $70^{\circ} 28' 16''$, is a Lt.-ho. built of grey granite, 123 ft. in height and 133 ft. above the sea, bearing a *fixed Lt.*, vis. 17 m.

Between Boon Id. and the main there is a passage, $\frac{1}{2}$ a mile within the former, between 4 and 5 m. wide, in from 12 to 20 fms., nearly up with York Ledge. There is a ledge off the N. part of Boon Id. $\frac{1}{4}$ of a mile distant, which dries at L.W.

BOON ISLAND LEDGE is about 200 ft. long, and about the same width. It dries at low tides, and may be seen breaking in a heavy ground swell. This ledge bears from the island E. $\frac{1}{4}$ S., $2\frac{3}{4}$ m. distant. There is a passage between the ledge and the island, but only for those acquainted, as there is a reef extends $\frac{3}{4}$ of a mile from the S.E. point of the island.

Bell-Boat.—An iron bell-boat with red-and-black horizontal stripes is placed near the ledge, which is bare at low tides. The bell-boat bears from Boon Id. Lt. E. $\frac{1}{2}$ S., 3 m.

POLLOCK ROCK, of 17 ft., bears from Boon Id. Lt. W.S.W., $\frac{3}{4}$ of a mile, and Fishing Ledge of $9\frac{1}{2}$ fms. N.N.E. $\frac{1}{4}$ E., 5 m.

From Agamenticus Hill, Boon Id. bears S.E., 12 m., and when you make the hill bearing N.W. by N., you are to the westward of Boon Id. Ledge, but when the hill bears N.W. by W. you are to the eastward of it. From Boon Id. to Cape Elizabeth the course is N.E., about 29 m.

YORK LEDGE.—This rock is bare at $\frac{3}{4}$ ebb, extending E.N.E. and W.S.W., about 400 ft., and is about 300 ft. wide. N.E. of the main rock there is a *shoal* runs off $\frac{1}{4}$ of a mile, having only 2 fms. upon it at L.W. The soundings are gradual, from 5 to 20 fms., $\frac{1}{2}$ a mile from the rock. An **iron beacon** has been erected on this rock, 33 $\frac{1}{2}$ ft. high, and about 25 ft. above the level of the water; upon the pillars rests an iron tabular column, supporting an iron base, of 3 $\frac{1}{2}$ ft. diameter, upon which is inscribed "YORK LEDGE, 1841."

The Triangles which break in a heavy sea bear S.W., 2 m. from this beacon.

Boon Id. Lt. bears from the beacon E. $\frac{3}{4}$ N., $5\frac{1}{2}$ m.; Whale's Back Lt. W. by S. $\frac{1}{4}$ S., 5 m.; White Id. Lt. S. by W. $\frac{3}{4}$ W., $8\frac{1}{4}$ m.; York Nubble N. by E., $4\frac{1}{2}$ m.

TRIANGLES.—Murray's Rk. of $6\frac{1}{2}$ ft. water is on this ledge. From it the monument on York Ledge bears N.E. $\frac{1}{2}$ N., $1\frac{3}{8}$ m. The Lt. on the Whale's Back bears W., 4 m. distant.

YORK HARBOUR is situated $2\frac{1}{2}$ m. S.-easterly from Cape Neddick. It is a small harbour, but once entered is safe; 12 ft. can be carried in at L.W.. Rise of tide 9 ft.

PORTSMOUTH HARBOUR may be known by the Lt.-ho. on the Whale's Back, which stands on the N.E. side of Portsmouth Harbour on a circular stone pier.

Light.—On the Whale's Back, in lat. $43^{\circ} 3' 30''$ and long. $70^{\circ} 41' 28''$, is a white Lt.-ho., 40 ft. in height and 58 ft. above the sea, exhibiting a *fixed* Lt., varied by a *flash* every minute and a half, vis. 12 m. A fog bell four times in a minute.

The following are the bearings and distances from the Lt. :—

Eastern Sister E. by N. $\frac{1}{4}$ N., $1\frac{1}{2}$ m.; Western Sister E., $1\frac{1}{8}$ m.; Philip's Rks. E. $\frac{3}{4}$ S., $\frac{7}{8}$ m.; Kitt's Rks. S.S.E., $\frac{1}{3}$ m.; Odiorne's Pt. S.W., $1\frac{1}{2}$ m.; Gunboat Shoal S. $\frac{1}{4}$ W., $2\frac{1}{4}$ m. Gunboat Shoal breaks in heavy weather, and has least water, 4 fms.

Light.—Portsmouth Lt.-ho. is near the mouth of the harbour, on the W. side, on the N.E. point of Great Id., near Fort Constitution. It is 60 ft. in height and 70 ft. above the sea, coloured *white*, and exhibits a *fixed* Lt., vis. 14 m. From this Lt.-ho. the Kitt's Rks. buoy bears S.S.E. $\frac{1}{4}$ E., $1\frac{1}{4}$ m., and Odiorne's Pt. S. by W. $\frac{1}{4}$ W., $1\frac{1}{2}$ m.

At the entrance of the harbour the tide flows, on F. and C. days, at $\frac{1}{4}$ past 11 o'clock.

Ships bound to this port from the eastward, with a turning wind, must be cautious of York Ledge, on which the beacon is erected. There is also a *sunken ledge*, called the *Triangle*, before mentioned, lying S.W., 2 m. from York Ledge beacon, which is never uncovered, but always breaks at L.W. Some part of York Ledge is uncovered at half-tide.

A *ledge of rocks* lies a mile N. from Boon Id., of which beware. There is also a *dangerous reef*, bearing E. a league from the island, and S.E., 5 or 6 leagues from Agamenticus Hills; these have been noticed before.

ISLES OF SHOALS.—The Isles of Shoals are the southernmost *cluster* or *ledge of rocks* which surround the entrance to Portsmouth Harbour; in clear weather they may be seen to the eastward 15 or 16 m. off; but in thick weather you will first discern the Lt.-ho. on White Id. and the Meeting-house on Star Id. If bound to Newbury or Portsmouth, you should give them a large berth, full 3 m. to the southward of them; for about 2 m. off them lies *Innes's Rk.*, drying before L.W.; this is about 2 m. S.W. by S. from Star Id.

Light.—On *White Id.*, the S.W. island of the Isles of Shoals, is a *white* Lt.-ho., 40 ft. in height and 87 ft. above the sea, showing a *revolving* Lt., *red-and-white* alternately, every half-minute, vis. 15 m. Lat. $42^{\circ} 58'$, long. $70^{\circ} 37' 5''$.

White Id., the S.-westernmost of these islands, is *rocky*, extending $\frac{3}{4}$ of a mile in length from S.E. to N.W., and about $1\frac{1}{2}$ m. distant from the Meeting-ho. of Star Id. A *reef* extends about $\frac{1}{2}$ of a mile from its N.W. end, to which a berth must be given. The S.E. end bears from the Meeting-ho. S.W. $\frac{1}{4}$ S.; the N.W. end S.W. by W. $\frac{3}{4}$ W.

In running in for White Id. Lt. there is nothing in the way when coming from the southward or eastward except Cedar Id. Ledge, Anderson's Rk., and White Id. Ledge.

From White Id. Lt.-ho. the bearings and distances to various spots are as follow:—To Portsmouth Lt.-ho. N.N.W., $7\frac{1}{2}$ m.; Square Rk. lies directly in this range, and is distant from White Id. Lt.-ho. $\frac{5}{8}$ of a mile; to Boon Id. Lt. N.E. by N., distant

12 m.; to Cape Ann S. $\frac{3}{4}$ W., 19 $\frac{1}{2}$ m.; to Rye Meeting-ho. N.W. by W. $\frac{1}{2}$ W., 9 m.; and to Star Meeting-ho. N.E., $\frac{7}{8}$ of a mile. To the N.W. point of Hog Id. N. by E. $\frac{3}{4}$ E.; to Cedar Id. Ledge E. by N. $\frac{1}{4}$ N., 1 m.; to Anderson's Ledge S.E. by E. $\frac{1}{2}$ E., 1 $\frac{1}{2}$ m.; and to White Id. Ledge W.S.W., $\frac{1}{2}$ of a mile.

Loudoner's, or Lounging Id., lies about 1 $\frac{1}{4}$ m. to the northward of White Id., and is about $\frac{2}{3}$ of a mile in length from N. to S., high at each end, but at high tides the middle is sometimes covered; it is surrounded with *rocks*, some being always above water. The S. end bears W. from the Meeting-ho., and the N. end W.N.W. $\frac{1}{2}$ W., about $\frac{1}{2}$ a mile distant. About half way between this island and Star Id. lies a rock, which is bare at L.W.; it bears from the Meeting-ho. N.W. by W. $\frac{1}{2}$ W., $\frac{1}{2}$ of a mile distant.

Star Island, distinguished by the conspicuous Meeting-ho. before mentioned, is about $\frac{3}{4}$ of a mile in length from S.E. to N.W., and about $\frac{1}{2}$ a mile in breadth; its N. end is covered with buildings. The Meeting-ho. stands on an eminence, a little to the northward of the middle of the island, fronting the W.; the roof of this building is only 12 ft. high; but thence to the top of the steeple, which stands on the middle of it, 30 ft. more; and the whole height, from the surface of the water, is about 65 ft.: being painted white, it may be seen from a distance of 8 or 9 leagues. It bears from Thatcher's Id. Lts., Cape Ann (hereafter noticed), N. $\frac{1}{2}$ E., distant 6 $\frac{1}{2}$ leagues; from Newbury Port Lt.-ho. N.E. $\frac{1}{2}$ E., distant 6 leagues; from Portsmouth Lt.-ho. S.S.E. $\frac{1}{2}$ E., 3 leagues; from the western Agamenticus Hill S. $\frac{1}{2}$ E.; from Boon Id. Lt.-ho. S.W. $\frac{1}{2}$ S., 4 $\frac{1}{2}$ leagues; and from Boon Id. Ledge, which lies a league E. from Boon Id., S.W. by W., 4 $\frac{3}{4}$ leagues. Off the S. end of this island, at about $\frac{3}{4}$ of a mile from shore, lies a *rock*, called *Anderson's Rk.*, which is uncovered at half-tide, and should, therefore, have a good berth in passing. From the Meeting-ho. it bears S.S.E.

Cedar Island is small, and about $\frac{1}{2}$ of a mile in length from E. to W., situated between Star and Smutty Nose Ids. The E. end bears from the Meeting-ho. E. $\frac{1}{2}$ N., and the W. end E.N.E. $\frac{1}{2}$ E., $\frac{2}{3}$ of a mile distant. At $\frac{1}{2}$ a mile from the S.E. end of this island is a *rock*, uncovered at half-tide, which bears E. by S. from the Meeting-ho.

Smutty Nose Id. is nearly a mile in length from E. to W., and about $\frac{1}{2}$ a mile in breadth. At the W. end is a harbour, called Haley's Cove, where 15 or 20 small vessels may lie safely in all winds. There are several buildings near this place. Between this island and Hog Id., which lies to the northward, there is a fine channel, with sufficient depth of water for any vessel, by keeping nearly in mid-channel.

The E. end of Smutty Nose Id. bears from the Meeting-ho. E.N.E., about $\frac{2}{3}$ of a mile, and the W. end N. by E. $\frac{1}{2}$ E.

Hog Id. is a high island, about a mile in length from E. to W., and $\frac{2}{3}$ of a mile from N. to S. The W. end lies from the Meeting-ho. N. by W. $\frac{1}{4}$ W.; and the E. end of ditto N.N.E., $\frac{7}{8}$ of a mile distant.

Duck Id. is the northernmost of the Isles of Shoals. It is low and rocky. Some parts are covered at H.W., with *rocks* projecting in every direction, especially at the N.W. end, where a *ledge* runs off to the distance of $\frac{1}{2}$ a mile: it is the most dangerous of the Isles of Shoals, and must be cautiously avoided. It is about $\frac{1}{2}$ of a mile in length from N.W. to S.E. Its E. end bears from the Meeting-ho. nearly N.N.E. $\frac{3}{4}$ E.; the W. end N. by W. $\frac{3}{4}$ W., about 3 $\frac{1}{2}$ m. distant.

HAMPTON BAR is S.W. $\frac{1}{2}$ W., 10 $\frac{1}{4}$ m. from the Whales Back Lt. From Hampton Bar to Newbury Port Lt. is S. $\frac{2}{3}$ W., 6 m.

NEWBURY PORT.—The entrance of Newbury Port is distinguished by two Lt.-hos., on the northern part of Plum Id. and the S. side of the entrance to the Merrimac River; it lies nearly 7 $\frac{1}{2}$ leagues S.W. $\frac{3}{4}$ S. from Cape Nubble. If coming round Cape Ann, and about 3 m. to the northward of the Dry Salvage Rk., bring it to bear S.E., and steer N.W., 3 $\frac{1}{2}$ leagues, which will bring you to Newbury Port Bar.

Lights.—The Lts. of Newbury Port are placed, one in an octagonal white tower, 38 ft. in height and 54 ft. above the sea, and shows a *fixed Lt.*, vis. 13 m.; the other is a beacon Lt. 15 ft. in height, and 20 ft. above the sea, vis. only 5 m. This latter Lt., which is also *fixed*, will be moved as the channel alters. When in line they show the best water on the bar, which at present is 5 ft. at L.W.

Buoys.—A nun-buoy, painted *black* and *white* in perpendicular stripes, is placed in 5 fms. at L.W. of the bar, the high Lt. bearing W. by S. distant $1\frac{1}{4}$ m. This buoy in range with the Lt. carries 5 ft. at L.W.

When over the bar, and half-way to the shore, there will be found a spar-buoy, painted *black*, to be left to the port hand.

Having left the above buoy on the port hand, steer N.W. $\frac{3}{4}$ W. past a buoy coloured *black* and *white* in perpendicular stripes, which lies in mid-channel, to the *red* buoy on the *Black Rks.*, when the course is W. $\frac{3}{4}$ S., passing a buoy off Joppa Flats, painted *black*, to the left on the port hand, and a *red* buoy on Joe Noye's Pt. to be left on the starboard hand, to the upper mid-channel buoy, painted *black* and *white* in perpendicular stripes; thence between the two piers up to the anchorage.

IPSWICH Lights.—At Ipswich is a white Lt.-ho., 34 ft. in height, and 40 ft. above the sea, in lat. $42^{\circ} 41' 6''$ and long. $70^{\circ} 45' 39''$, which exhibits a *fixed Lt.*, varied by a flash every $1\frac{1}{2}$ minute, vis. 12 m.

In addition to the above Lt., there is a *fixed Lt.* exhibited from a Fresnel lantern, hoisted to the top of a stake 20 ft. above the sea, placed near the beach. The stake is painted black.

Buoys.—On the N. breaker is a *red* spar buoy, No. 2, with Ipswich high Lt. bearing W.S.W. $\frac{1}{2}$ W.; Annis Squam Lt. S.E. $\frac{1}{4}$ S.

On the S. Breaker is a *black* spar buoy, No. 1, Ipswich high Lt., W.S.W. $\frac{3}{4}$ W.; Annis Squam Lt. S.E. $\frac{1}{4}$ S.

Inner Spit is a *red* spar buoy, No. 4, N. Breaker buoy, N.E.; S. Breaker buoy N.E. by E. $\frac{1}{4}$ E.

Directions.—In making for the harbour, you must bring the Beacon Staff Lt. in line with the harbour high Lt., and run in with this mark over the bar, in not less than $7\frac{1}{2}$ ft. at L.W., and by the inner spit buoy, in 12 ft. at L.W. After passing this buoy, the course up the harbour is N.N.W. The bar being of a shifting nature, strangers should not rely too implicitly on the line of the two Lts.

ANNIS SQUAM HARBOUR, is in the S. part of Ipswich Bay.

Light.—The Lt.-ho. of Annis Squam stands on Wigwam Pt., the eastern side of the entrance; it is a wooden building of an octagonal form, about 35 ft. high, and about 50 ft. above the level of the sea. It is painted white, and exhibits a *fixed Lt.*, vis. 12 m.

Beacon.—On the Lobster Rks. is a monument, 17 ft. high, 12 ft. in diameter at its base, and is 7 ft. out at H.W. The Lt.-ho. on Wigwam Pt. bears from the monument N.E. by N. $\frac{1}{2}$ N., $\frac{1}{3}$ of a mile. The *red buoy* placed outside the bar bears N. $\frac{1}{4}$ E., $1\frac{1}{4}$ m. from the monument, and a *black buoy* near the Harraden's Rks. bears N. by E. $\frac{1}{2}$ E., $1\frac{1}{4}$ m. from the same. Leaving the black buoy on the port hand, you may steer direct for the monument, a S. by W. $\frac{1}{2}$ W. course. The channel abreast of the monument is 45 fms. wide, and the monument is to be left on the port hand, and can be approached to the distance of 3 fms., where there is about 2 fms. water. The *red* buoy just without the harbour lies in 15 ft. at L.W., and bears from the Lt.-ho. N. $\frac{1}{4}$ W., and is to be left on the starboard hand: the *black* buoy lies in 15 ft. water, off the N.W. side of Harraden's Rks., bearing from the Lt.-ho. N. by E. $\frac{1}{2}$ E., 1 m., which is to be left on the port hand. A *red buoy* is placed off the Plum Rk. Ledges, in 3 fms. water, and bears from Squam Lt. N.N.E., $1\frac{1}{2}$ m.

Directions.—The bar of this harbour bears from Halibut Pt. (the N.E. point of Cape Ann), about S.W. by W., $3\frac{1}{2}$ m. In running from Halibut Pt., be cautious of *Plum Cove Ledge*, which shows itself until nearly H.W., and on which there is a *black*

spar buoy, bearing from Squam Lt. N.N.E., $1\frac{1}{2}$ m. Passing this ledge, you leave Hodgkin's Cove, which is deep, and a long point of land, called Davis's Neck, on your port hand. When up with this neck, haul S.W. or S.W. by W. for Squam Bar.

Having made Halibut Pt. or Folly Cove Pt., bring either of them to bear S., $\frac{1}{4}$ or $\frac{1}{2}$ a mile distant, then run W.S.W. until you bring the Lt. to bear S. If at this time you reckon there is sufficient water on the bar you may run for the Lt.-ho., and pass between two *buoys*. One is a *black* buoy, placed on the Harraden's Rks., which you will leave on the port hand; the other is a *red* buoy on the N. spit of the bar, which you will leave on your starboard hand; but you may pass close to either of the buoys. When you have passed the *red* buoy about 80 fms., you may run S. by W. $\frac{1}{2}$ W., and on this course you will pass close by the monument on the Lobster Rks., which you leave on the port hand, and continue until abreast of Babson's Pt.; then S.S.E. will bring you into the harbour.

The bar has 6 ft. water on it at L.W. If you judge there is not sufficient water to take you over the bar, you must come to outside, and hoist the usual signal for a pilot. If it is too boisterous for a pilot to come off, a flag will be hoisted near the Lt.-ho., when there is water enough for the vessel to run in in safety.

Squam affords a safe harbour to those who know the bar, and is of great importance to those who get into Ipswich Bay during an easterly gale. On the bar are 16 or 17 ft. at H.W., and 6 ft. at L.W. H.W., E. and C., at 11 hours.

The Salvages bear from Halibut Pt. E.S.E., distant $2\frac{1}{2}$ m.; and from Cape Ann Lt.-hos., which stand on Thatcher's Id., N.N.E., distant 3 m. Between them and Cape Ann is a channel, which is narrow, and chiefly frequented by small vessels only, it being shoal, and encumbered with large stones.

Light.—At Straitsmouth Harbour, on an island, N. side of Cape Ann, is a white octagonal Lt.-ho., 24 ft. in height, and 33 ft above the sea; exhibiting a *fixed* Lt., vis. 11 m. This is a local Lt. for Rockport, and the channel inside the Salvages.

SANDY BAY PIER.—If from the southward, in passing outside Straitsmouth Id., be careful of *Avery's Rks.*, which bear N. from the eastern part of Straitsmouth Id., about $\frac{1}{4}$ of a mile; run W. by N., until you bring the Meeting-ho. to bear S.W. by S., then run in for the pier; in approaching which keep away a little, and run in until you can see into the pier pool; then luff, and round in. Those constantly in the habit of entering the said pool, when the wind is easterly, clew up the head sails, and keep up the mainsail, which enables them to have command of the vessel, and avoid falling off against the wharf, built out from the beach. If from the northward, after having passed Andrew's Pt., bring the Meeting-ho. to bear S.S.W., and run for it. This course will carry you clear of *Dodges Ledge*, which you will leave on your starboard hand.

The passage through Straitsmouth Gap is not safe, except at nearly H.W., as there are but 3 ft. at L.W., and rocky bottom.

CAPE ANN TO CAPE COD.

CAPE ANN, Lights.—Upon Thatcher's Id. are two Lt.-hos. $112\frac{1}{2}$ ft. from the base to centre of lanterns, and $165\frac{1}{2}$ ft. above the sea; each Lt.-ho. is built of grey stone, while the lanterns and railings are painted *red*: they both exhibit *fixed* Lts., vis. 20 m. all round the horizon. The northern tower is in lat. $42^{\circ} 38' 19''$ and long. $70^{\circ} 34' 10''$, the southern one bearing S. by W. $\frac{3}{4}$ W., distant 298 yards. A fog whistle station. From the N. Lt.-ho. the Londoner Rk. bears S.E. by E., $\frac{1}{2}$ a mile. Thatcher's Id. affords no harbour, nor is there any safe anchorage near it; there is, indeed, a passage between it and the main, through which small vessels may pass even

at low tide, but the water is shoal, and the bottom filled with large stones. As soon as the Lts. are discovered, you will be certain of your situation; for being two separate Lts., they cannot be mistaken for the single Lt. of Boston or that of Cape Cod, or for the Plymouth Lts., which are double, and within a short distance from each other; whereas, the distance between the Lts. on Thatcher's Id. is about $\frac{1}{4}$ of a mile. The latter can be brought to range in one only in a S. by W. $\frac{3}{4}$ W. and N. by E. $\frac{3}{4}$ E. direction; while those of Plum Id. (Newburyport) when in a line, bear somewhere about W. by S. and E. by N., but are shifted with the bar. The Plymouth Lts. cannot appear so arranged from the N. until you are on the shore, and from the S. only when nearly in with the land. The Lts. of Cape Ann are therefore of great utility to all vessels in their passage in or out, as they at once serve to point out the situation of the Salvages and Londoner, and for a point of departure to vessels bound outward. Cape Ann is of moderate height, with trees upon it, and farther remarkable by Pigeon Hill appearing like a boat with the keel upwards. You will always go clear of the Londoner Rk. by keeping a league off; and in thick weather, or at night, signals from vessels will be answered by a whistle from the Lt.-ho.

Londoner Ledge.—This ledge bears from the body of the island from E.S.E., extending about 2 m. from the island; it breaks at all times of tide, and is quite dry at L.W. A long shoal runs off N.E., $\frac{1}{2}$ a mile. Between the Londoner and Thatcher's Id. there are 3 fms. at L.W. From the Salvages to Halibut Pt. and Sandy Bay there is a large spot of flat ground which is likely to pick up a vessel at L.W. Outside the Salvages the water deepens suddenly. The Salvages bear from St. Ann's Lts. N.N.E., 3 m., and from Halibut Pt., E.S.E., $2\frac{1}{2}$ m. After getting the W. Lt. to bear N. $\frac{1}{2}$ W., you are to the westward of the ledge; then haul up to the N.W., to bring the Lts. to bear N.E. by E., and steer S.W. by W. for the Eastern Pt., distant $5\frac{1}{2}$ m. from Thatcher's Id.; then your course is W. $\frac{3}{4}$ S., $5\frac{1}{2}$ m., for the Lts. on Baker's Id.

Beacon.—On the *Londoner Ledge* is a wrought iron shaft, 40 ft. high, surmounted by an octagonal lattice, or open work of cast iron, 7 ft. high, and 5 ft. in diameter, painted *bluch*. The following are the bearings from the beacon:—Dry Salvages, N. $\frac{3}{4}$ E.; Straitsmouth Id. Lt.-ho. N.N.W.; Northern Lt.-ho., Thatcher's Id., N.W. $\frac{1}{4}$ N.; Southern ditto, N.W. by W. $\frac{3}{4}$ W.; Eastern Point Lt.-ho. S.W. by W. $\frac{1}{2}$ W.

CAPE ANN HARBOUR.—In sailing from off Cape Ann Lts. to Cape Ann Harbour, you will open Braces Cove before coming up with the harbour; which will when open bear N.N.W. This you must not mistake for Cape Ann Harbour, for the latter lies one mile further to the westward, and when open bears N.N.E.

Lights.—On *Gloucester Pt.*, on the E. side of Gloucester or Cape Ann Harbour, in lat. $42^{\circ} 34' 47''$ and long. $70^{\circ} 39' 33''$, is a white brick tower, 33 ft. in height, and 60 ft. above the sea, exhibiting a *fixed Lt.*, vis. 13 m. Fog bell station.

On *Ten Pound Id.*, within the harbour, in lat. $42^{\circ} 36' 5''$ and long. $70^{\circ} 39' 36''$, is a Lt.-ho., built of white stone, 24 ft. in height and 49 ft. above the sea, exhibiting a *fixed Lt.*, vis. 12 m.

When you come from the eastward and make Cape Ann Lts. in the night, bring them to bear S.W., and run direct for them, which course will carry you within the Londoner: and when you pass the said rocks, bring the two Lts. in one, bearing N. by E. $\frac{3}{4}$ E., and steer S.S.W. $\frac{1}{2}$ W.; keeping this course about a mile, will carry you clear of Milk Id., which is very low, and cannot be seen on a dark night. When you judge yourself to the westward of this island, haul to the westward until you bring the Lts. to bear E.N.E., when you must steer W.S.W., about 5 m., which course will carry you to the Eastern Pt.: when you pass this point, keep on W.S.W., until you bring Norman's Woe, which is the highest land on the N. side of the harbour, to bear N.N.W., and run in N.N.W., until you shut the Lts. in; then N.N.E. will carry you safely in.

If you want to go inside the Salvages, keep close aboard Halibut Pt., which has a tree on the eastern part of it, and steer S.S.E. for Straitsmouth Id.; but be careful to avoid *Avery's Rk.*, by keeping the Lts. on the dry point of Straitsmouth Id., till
P
 [CANSO TO C. COD.]

you get close aboard: then haul round the point, and S.S.E. will carry you to the Lts. To avoid the Londoner, keep the Lts. close aboard the body of the island on which they stand.

The outer harbour of Cape Ann has good safe anchorage against a northerly or E. wind, where you may anchor in $7\frac{1}{2}$ to $6\frac{1}{2}$ fms., low tides, muddy bottom, the Lt.-ho. bearing S.E. by E., about 1 or $1\frac{1}{4}$ m. In the S.E. harbour there is also good safe anchorage with N., E., and S.E. winds: anchor with the Lt. bearing from N. by E. to N.N.W., in 6 or 7 fms., muddy bottom, distant from the Lt. $\frac{1}{4}$ to $\frac{1}{2}$ a mile.

There are several *shoals* within and about the entrance of the harbour, so that it requires the aid of the large scale charts to take the harbour, or the assistance of a pilot is necessary.

Vessels bound to Cape Ann Harbour, and falling in to the eastward of its E. point, on which the Lt. is exhibited, must give that point a berth of about a mile; and when the Lt. on Ten Pounds Id. bears N.N.E., you will be to the westward of a *ledge* extending from the point, on which is a spar-buoy, in 10 ft. water, bearing E. $\frac{1}{2}$ S. from Ten Pounds Rk., and may steer direct for the Lt. This ledge bears from the Lt. on Ten Pounds Id. S. by W. $\frac{1}{2}$ W., and about $\frac{1}{2}$ or $\frac{3}{4}$ of a mile from the shore. Running in on a N.N.E. course, will lead clear between Ten Pounds Id. and Ten Pounds Ledge; the latter bears from the Lt. S.W. $\frac{1}{2}$ W., $\frac{2}{3}$ of a mile, and has only 6 ft. water over it at L.W., spring-tides, being about 10 fms. in diameter; in passing between the island and ledge, you will have 13, 14, and 15 ft. at L.W. springs. On the E. side of Ten Pounds Id. the ground is foul, and the passage unsafe; but the S., W., and N. sides are bold, and may be approached to within 60 and 40 fms. Give the W. end of the island a berth of from 50 to 70 fms., and steer N.E. for the inner harbour. You may anchor at any distance from 100 fms. to $\frac{2}{3}$ of a mile from the island; the Lt. will then bear from S. to S.W. The anchorage is from 6 to 3 fms., muddy bottom; this place is protected from all winds.

The bearings of the several ledges above Ten Pounds Id.—The ledge extending from the E. point bears from Ten Pounds Id. Lt. S. by W. $\frac{1}{2}$ W., distant about 2 m., and has from 6 to 10 ft. over it at L.W.

A single *rock* lies about midway between the E. point and Norman's Woe Land, called the *Round Rk.*; it has 12 ft. over it at low ebbs, and bears from the Lt. S.W. $\frac{1}{2}$ S., distant $1\frac{1}{2}$ m.

A large high *rock*, of 20 to 30 fms. in diameter, stands about 30 fms. off Norman's Woe Pt.; and in a southerly direction, about 100 fms. from this rock, is a *ledge*, of only 7 and 8 ft. water at low ebbs.

A *ledge* of only 3 ft. water at low springs, lies about $\frac{1}{4}$ of a mile from Freshwater Cove, and bears from the Lt. W. $\frac{1}{2}$ N., distant nearly 2 m.

SALEM HARBOUR.—**Lights.**—The entrance to Salem Harbour is distinguished by two Lt.-hos.; they are erected upon Baker's Id., which lies on the S. side of the principal entrance of Salem Harbour; this island is about $\frac{1}{2}$ of a mile in length from N. to S., bearing E. from Fort Pickering, distant about 5 m. from the town of Salem. These Lt.-hos. are situated S.E. and N.W. of each other, distant 13 yards; coloured white, with black lanterns, the S.E. tower being circular; the N.W. octagonal. They both exhibit *fi. red* Lts., vis. 15 and 13 m. One Lt. is 64 ft. and the other 87 ft. high; the southern Lt. is the highest. The water near the island is deep, and there is no convenient landing-place. Its N. and E. sides are high and rocky.

MISERY ISLAND lies about a mile from Baker's Id., and is joined by a *bar* to Little Misery, which makes the N. side of the channel opposite to Baker's Id. Misery Ledge, on which is a *red spar buoy*, has 8 ft. least water, and bears from the Lt.-hos. N.W. by W. $\frac{1}{2}$ W., $1\frac{1}{4}$ m. The S. part of Little Misery Id. bears N.W. $\frac{1}{2}$ N. from the Lts., $\frac{3}{4}$ of a mile.

HALF-WAY ROCK.—**Beacon.**—This rock is 180 ft. in diameter, 40 ft. high, and bold-to, lying to the eastward of Marblehead, about $2\frac{1}{2}$ m. from the nearest land; it is half-way between the Lt.-hos. of Boston and Thatcher's Id., and is distinguished by

a square granite beacon, painted black, the stonework of which is 15 ft. high, with a base of 10 ft., and above the stonework a spindle 15 ft. high, on which is a copper ball, 2 ft. in diameter. Should a vessel, bound for Cape Ann Harbour, fall so far to the S.-westward as the Half-way Rk., care must be taken not to bring the Lt. on Ten Pounds Id. to bear to the eastward of N.E. by N., until you are 1 or $1\frac{1}{2}$ m. to the eastward of the Halfway Rk., in order to avoid the S.E. Breakers, which run out from Baker's Id., and which bear from the Lts. on that island S.E. $\frac{1}{2}$ S. to S.E. $\frac{1}{2}$ E., and about $2\frac{1}{2}$ m. distant. On the S.E. part of these breakers is a spar-buoy, painted black, which bears from the Half-way Rk. N.E. by E., distant a mile. Having passed to the eastward of these breakers, you may bring the Lt. on Ten Pounds Id. to bear N.E. and run for it. On this course Ten Pounds Ledge will be left on the starboard, and the ledges off Norman's Woe Rk. and Freshwater Cove on the port side; thus, when you are as far up as Ten Pounds Id., you may anchor, as before directed.

The Half-way Rk. bears from the Lt. on Ten Pounds Id. S.W. $\frac{1}{2}$ W., distant 8 m.

SATAN'S or BLACK ROCK is above water, steep-to, and bears S.W. by S. from Baker's Id., distant $1\frac{3}{4}$ m., and from Halfway Rk. N.W. by W. $\frac{1}{4}$ W., $1\frac{1}{2}$ m. On this rock is a red spar-buoy, No. 10.

CAT ISLAND is about S.W. by W. from Baker's Id., 2 m. distant, and about a mile from Marblehead Neck, and ranges nearly between the two. On the N.W. end is a high beach, directly opposite the point of Marblehead, called Peach's Pt. The shore is irregular and rocky. Beyond, and in a line with the island, are two other heads, of nearly the same projection; and on the southern side are three high rocks, two of which are connected with the island by bars of sand, uncovered at L.W.: the other stands boldly up within these two, but more southerly. The Marine Society has erected a spar on Cat Id., 40 ft. high, to the top of which is annexed a cask, of about 130 gallons, which is a good sea mark, being seen at sea 20 to 30 ft. above the land. A black spar-buoy lies off the S.E. end, bearing from the lights S.E. $\frac{1}{2}$ S. to S.S.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ m. from the Lts.

BOWDITCH'S LEDGE.—Beacon.—On the E. end of this ledge is a triangular monument of granite, 32 ft. high, placed in $2\frac{1}{2}$ fms.; it bears from Baker's Id. Lt.-hos. W.N.W., $1\frac{1}{4}$ m.; the rock is seen at low spring-tides. Off the E. side, in 15 ft. water, is a black spar-buoy.

EAGLE ISLAND is about $1\frac{3}{4}$ m. from Peach's Pt., and bears from the Lt.-hos. W. by S. $\frac{1}{2}$ S., $1\frac{1}{2}$ m. A bar runs off from the western point of the island, in a N.W. direction, $\frac{3}{4}$ a mile, and has a red spar-buoy on the E. end of it. It may be avoided by keeping Gray's Rks. to the southward of Marblehead Fort.

Directions.—If bound to Salem, observe when you get abreast of Cape Ann, and bring the Cape Lts. to bear N.N.W., about 2 m. distant, to steer W.S.W. about 5 m., then W. about $5\frac{1}{2}$ m., which will carry you up with the Lts. on Baker's Id.

If you fall in to the southward in proceeding for the Lts. on Baker's Id., you should, so soon as you have made them, bring and keep the northern or lower Lt. open to the eastward of the southern, and run for them, which will carry you to the eastward, and clear of the South Breaker off Baker's Id., which bears from the Lts. S.E. by S., $2\frac{1}{4}$ m. distant, and is very dangerous.

Having made these Lts., and the wind being westerly, when you get within $2\frac{1}{2}$ m. of them, be careful not to stand to the southward and westward so far as to shut the northern Lt. within the southern one, on account of the S. Breakers; nor to the northward farther than to bring the Lts. to bear W. by S. $\frac{1}{2}$ S., on account of Gale's Ledge, which bears from the Lts. N.E. by E. $\frac{3}{4}$ E., distant $1\frac{1}{2}$ m. Drawing near to the Lts., you must take care of a ledge called the *Whale's Back*, on the E. end of which is a red spar-buoy, No. 6, and on the W. end is a red spar-buoy, No. 8, which bears from the Lts. N. by E., distant $\frac{1}{2}$ m., and dries at $\frac{1}{4}$ ebb.

In going into Salem by the common or ship channel, between Baker's Id. and Misery Id., which is about a mile wide, you may, so soon as you are up with Baker's Id., pass within 100 fms. of it, and steer W. by N. for the *Haste* (which is a broken

rock above water), lying near the middle of the channel, bearing from Baker's Id. Lt.-ho. W. $\frac{1}{2}$ N., distant $2\frac{1}{2}$ m., and $1\frac{1}{4}$ m. from the Salem Neck. This course will carry you clear of *Hardy's Rocks*, which are covered at H.W., leaving them to the southward, and *Bowditch's Ledge* to the northward. If you are in the mid-passage between Baker's Id. and the Misery Isles, steer W.N.W. till you have passed *Bowditch's Ledge*, or till Cat Id. (upon which a spar is erected, 40 ft. high, with a large cask at the top), comes open to the westward of Eagle Id.; then haul up W. for the Haste: you may there anchor in safety, in 5 fms., good ground; but if you proceed into Salem Harbour, pass the Haste at about $\frac{1}{2}$ a mile distant on your port hand, and steer S.W. by W., which will carry you into the harbour; observe, there is a *ledge of rocks* runs off the N.E. end of Winter Id., and that Abbot's Rk. lies abreast of it; to avoid which, you must keep above $\frac{1}{4}$ of a mile from the shore.

Beacon.—*Abbot's Rock* has 7 ft. water on it on a common ebb, and lies with Castle Hill and houses into the cove N. of Fort Pickering, and Beverley Meeting-ho. well in with Juniper Pt. (or S.E. point of Salem Neck). Be careful, in keeping off shore, to avoid Abbot's Rk., that you go not too far, and get on the *Aqua Vita*, which are *sunken rocks*, lying E.S.E. from Fort Pickering, distant nearly $\frac{1}{2}$ a mile. On Abbot's Rk. is a square granite monument, with a *black top*.

When coming from the southward, if you are near Cat Id., you may pass to the eastward or westward of it. If you are to the eastward, give a berth of $\frac{1}{4}$ of a mile, and steer N. by W. $\frac{1}{2}$ W., or N.N.W., leaving the *Brimbles* and Eagle Id. on the starboard, and Coney Id. Ledge, on which there is a *black spar-buoy* on the port: that course will carry you clear of Eagle Id. Bar. Continue on the same course till you have passed the Haste, and get into the common ship channel; or you may continue the same course until you get under the N. shore, where there is good anchorage. If you are to the westward of Cat Id., you may pass in the middle channel between that island and Marblehead Rk., and steer over N. for the ship channel, leaving Gray's Rk. and Coney Id. to the westward. When past the Haste, and entering the ship channel, proceed as before.

If in coming from the southward and eastward you should find yourself near Halfway Rk., you may bring it to bear S.E., and steer N.W. for the Haste, passing near to Satan's or Black Rk., leaving it on the port hand, and the *Brimbles* and Eagle Id. on the starboard. The *Brimbles* are *sunken rocks*, which appear out of water at half-ebb, and are bare at L.W.; near them is a *spar-buoy*, painted *black*. By continuing the above course you will leave the Haste on the port hand, and enter the common ship channel, as before directed. The tides here usually rise about 12 ft.

There are several other channels for entering Salem, but they ought, as is the case with the other harbours on this coast, never to be attempted without a pilot. Indeed coasting is dangerous to those not acquainted with the navigation of the locality.

BEVERLEY and MANCHESTER.—To enter the harbour of Beverley, follow the directions for Salem Harbour, till you bring the Haste to bear E.S.E. and run W.N.W., about 2 m., and reach Beverley Bar; this is a *spot of sand* running out from the southern or Salem side of the entrance, and has a *black spar-buoy* upon it. The bar has very shoal water on the eastern or outward side near it, but good anchorage within. There is good water at the head of the bar. Having passed the bar there is a sandy point from Beverley, or northern side of the entrance; and beyond this point are the *Lobster Rks.*, on which is a square granite **beacon**, with a fish-shaped vane on the top, painted black, and which bears from the head of the bar W., a little S., less than $\frac{1}{2}$ a mile distant, being above water at half-tide. To avoid this point, after having well cleared the bar, you will steer towards *Ramhorn Rk.*, which has a square granite **beacon**, with red sugarloaf-shaped top, and is to be seen at half-tide, bearing S.W. by S. from the head of the bar, $\frac{1}{2}$ of a mile distant. There are several fms. of water within a vessel's length of Ramhorn Rk. Giving this a good berth, you will clear the sandy point, and steer for the *Lobster Rk. beacon*, bearing from Ramhorn beacon N.W. by W., distant about $\frac{1}{2}$ of a mile. Passing this at sufficient distance, you will be opposite to the wharves, and may anchor in deep water, in a very safe and excellent harbour.

To enter Manchester Harbour you must bring the southern Lt. on Baker's Id. to bear S. $\frac{1}{2}$ E., and run N., a mile distant, where you may anchor on good bottom.

Eastern Pt. bears from Baker's Id. Lts. E. by N. $\frac{1}{2}$ N., $7\frac{1}{2}$ m. distant; Half-way Rk. bears from the Lts. S. $\frac{1}{4}$ E., 2 m. distant. Hardy's Rks. bear from the Lts. W. $\frac{3}{4}$ N. distant $\frac{3}{4}$ of a mile; on them is a *black spar-buoy*.

In thick weather a gun will be fired from the Lt.-ho., in answer to any signal which then may be made.

MARBLEHEAD ROCK bears S.W., $\frac{3}{4}$ of a mile from the western part of Cat Id. It is above water, and may be approached to a short distance without danger.

MARBLEHEAD HARBOUR.—Vessels bound to Marblehead must observe the directions for Salem Harbour, until up with the Lts. on Baker's Id.

In going into Marblehead, and being up with the Lts., give the N. point of Baker's Id. a berth of $\frac{1}{4}$ of a mile. Having the Lts. in a line, you will be up with the point. When the S. Lt. is open of the N. Lt., you have passed the point, leaving Misery Id. on your starboard hand, which bears from the Lts. N.W. $\frac{1}{2}$ N., $\frac{3}{4}$ of a mile; your course will then be S.W. by S. or S.S.W., until you bring the S. Lt. to bear N.E. by E. $\frac{1}{2}$ E., when steer S.W. by W. $\frac{1}{2}$ W., about 3 m. for Marblehead Harbour. Thus you will leave Hardy's Rks., Eagle Id., and Gray's Rk., on the starboard hand; *Pope's Hd.* (which is a *large high rock*, bearing S.W. by W. from the Lts., $\frac{2}{3}$ of a mile, on which is a *black spar-buoy*); the Brimbles, and the N. point of Cat Id., on the port hand. The Brimbles bear from Eagle Id. S.S.E. $\frac{1}{2}$ E., distant $\frac{1}{2}$ a mile; and Gray's Rk. from the N. point of Cat Id., N.W. by W., $\frac{1}{2}$ of a mile.

Falling in with the S. point of Baker's Id., and it blowing hard from the eastward, if you cannot avoid it, you may pass the point by keeping it well on board, say at the distance of from 20 to 50 fms. from the shore, where you will have from 4 to 5 fms. When up with the S.W. point steer W.S.W., which will carry you between the N. Gooseberry (which bears S.W. $\frac{1}{2}$ S. from the Lts., distant $\frac{2}{3}$ of a mile) and Pope's Id., leaving the former on your port hand, and Pope's Hd. on your starboard hand, between which you will have from $3\frac{1}{2}$ to 5 fms. As soon as you have passed Pope's Hd., haul to the northward, until the S. Lt. bears N.E. by E. $\frac{1}{2}$ E., then steer S.W. by W. $\frac{1}{2}$ W. for Marblehead Harbour.

Marblehead Harbour Light.—Entrance to the harbour, S.E. side, in lat. $42^{\circ} 30' 18''$, and long. $70^{\circ} 49' 42''$ is a *fixed* Lt., elevated 43 ft., and vis. 12 m.; bearing white.

The S. entrance of the harbour of Marblehead is bold, and may be approached with safety with the Lt. on the point of the neck, on the S.E. side of the harbour, bearing from N.N.W. to W. by N., until you are within $\frac{1}{2}$ a mile of it; then bring the Lt. to bear W. by S., and run for it till within 2 cables' length; then steer N.W. by W. until the Lt.-ho. bears S.S.W., then S.W., and anchor with the Lt. bearing from E. by S. to N.E. by E., from $\frac{1}{4}$ to $\frac{1}{2}$ a mile distant, in 6 fms., good holding-ground and clear bottom, secure from all but easterly gales.

The following are the bearings of places from the Lt.-ho.

	<i>Miles.</i>
Marble Hd. Rk.	S.E. by E. $\frac{1}{2}$ E. $\frac{1}{4}$
Half-way Rk.	E. by S. $2\frac{1}{2}$
Cat Id. Rk.	E. $\frac{1}{4}$ N. $\frac{3}{8}$
Baker's Id. Lts.	N.E. by E. 3
Hardy's Rks.	N.E. $2\frac{1}{2}$
Eagle Id.	N.E. $\frac{1}{4}$ N.
Gray's Rks.	N.E. by E. $\frac{1}{2}$ E. 1
Peach's Pt.	N. by W. $\frac{1}{2}$ W. 1
Fort Hd.	N. $\frac{1}{2}$

Vessels coming from the eastward, and running for Half-way Rk., must not bring the rock to bear to the southward of W.S.W., to avoid the S. Breaker, which bears

from Half-way Rk. N.E. $\frac{1}{2}$ E., distant a mile. Being up with Half-way Rk., and bound to Marblehead, bring the rock to bear E. by S. $\frac{1}{2}$ S., and steer W. by N. $\frac{1}{2}$ N. for Fort Hd., distant 3 m., leaving Cat Id. on the starboard hand, which bears from Half-way Rk. W.N.W., distant $1\frac{1}{4}$ m.; and Marblehead Rk. on the port hand, which bears from Half-way Rk. W. $\frac{3}{4}$ N., distant 2 m. Black Rk. bears from Half-way Rk. N.W. by W., distant $1\frac{1}{2}$ m. Cat Id. Rk. and Pt. Neck, on which is a *red spar-buoy* in 9 ft. water, and a black iron spindle on the dry rock, bear E. and W. of each other, distant about a mile.

Vessels being well up in Boston Bay, and clear of the Graves Rks., may, by bringing the Boston Lt. to bear S.S.W. $\frac{1}{2}$ W., run N.N.E. $\frac{1}{2}$ E. for Marblehead Rk.; they are distant from each other about 12 m. S. Breaker and Boston Lt. bear from each other S.W. $\frac{1}{2}$ S., and N.E. $\frac{1}{2}$ E., distant 12 m.

Hardy's Rks. are covered at H.W., and may be seen at a quarter-ebb. The Whale's Back is covered at H.W., and may also be seen at a quarter-ebb. Gale's Rks. have but 4 ft. water at low tide, and bear N.E. by E. $\frac{1}{8}$ E. from the Lts., distant $1\frac{1}{4}$ m. The S. Breakers off Baker's Id. are always covered. The Brimbles are covered at H.W., and are seen at half-tide. Black Rk. is always out of water, but low. Cat Id. Rk., Half-way Rk., Marblehead Rk., Gray's Rk., and Pope's Hd., are large, and high above water. Half-way Rk. is very bold all round it. Eagle Id. is bold only on the S. and E.; from the N.E. part of it, quite to Hardy's Rks., is very shoal water, and no passage for ships.

The *Outer Breakers*, generally called the Outer, Middle (on which latter is a *black spar-buoy*), and Inner Breakers, is a very *extensive and dangerous shoal*, extending from Searle's Rks. in a S.E. direction, about 2 m., and in a westerly direction about $\frac{3}{4}$ of a mile, bearing from the Lts. from S.E. $\frac{1}{2}$ S. to S.S.E. $\frac{1}{2}$ E., $2\frac{1}{4}$ m. To pass to the eastward of this dangerous shoal, have the northern or low Lt. a little open to the eastward of the high Lt.

A small part of Searle's Rks. (on which is a *black spar-buoy*), shows at low spring-tides, and bears from the S. Lt. S.E., $\frac{2}{3}$ of a mile distant, and from the S.E. point of Baker's Id. S.E., distant about a $\frac{1}{4}$ of a mile. There is a good channel between the island and Searle's Rks., by keeping the island best on board, say at a distance of 30 or 40 fms. In this channel are 3 to 5 fms. water at low common tides.

EGG ROCK, OFF NAHANT.—**Light.**—On this rock, in lat. $42^{\circ} 25' 58''$, and long. $70^{\circ} 53' 32''$, is a square white building with tower on top, erected on the keeper's dwelling, 87 ft. above the level of the sea, which exhibits a *red fixed* Lt., vis. 8 m. It bears N.N.E. from Nahant Hd.

BOSTON is the capital of Massachusetts State and Suffolk County; it is seated on a peninsula, and defended by a strong castle; the peninsula is formed by the harbour. The city extends in the form of a crescent about the harbour, and has a fine appearance. There is only one principal and safe channel into the harbour, which in some parts is very narrow; but within the harbour 500 ships may anchor, and at the Long Pier (2000 ft. in length) ships of the greatest burthen may come close. Most of the public buildings are handsome; and here is the monument of Dr. Franklin (who was born here); near to which are buildings of superior excellence. The streets are good; the bridges over Charles River and the W. Boston Bridge are of great length; the latter, which leads to Cambridge, is 3483 ft. in length. The foreign and coasting trade is considerable. Fifteen of the islands off the harbour are well cultivated, and afford agreeable places of resort in the summer to parties of pleasure. It is H.W., F. and C., at Boston Harbour at 11 h. 15 m. Spring-tides rise 13 ft., neaps 10 ft.; variation $9\frac{1}{2}^{\circ}$ W. The population of Boston is about 100,000; and three distinct railways have their termini here.

Lights in Boston Bay:—

1.—The principal Lt.-ho. of Boston Harbour is situated on *Little Brewster Id.*, in lat. $42^{\circ} 19' 39''$, and long. $70^{\circ} 53' 5''$. The building is circular, coloured white, with the lantern straw colour. It is 98 ft. above the level of the sea, showing a *revolving* Lt. every half minute, vis. 16 m. A fog bell station.

2.—On the W. end of the *spit*, which makes out from *Great Brewster Id.* abreast of the Narrows. This is an iron screw pile Lt.-ho. of hexagonal form and dark brown colour. It is 35 ft. above the sea, and exhibits a *fixed red Lt.*, vis 7 m. This Lt. in one with Long Id. Hd. Lt. leads clear of Harding's Ledge.

3.—On *Long Id.* (N.E. end), an iron Lt.-ho., painted white, with black lantern, 80 ft. above the level of the sea, exhibiting a *fixed Lt.*, vis. 15 m.

4.—*Minot Ledge*.—On the outer Cohasset Rk., 7 m. S.E. $\frac{1}{2}$ E. of Boston Lt.-ho., in lat. $42^{\circ} 16' 9''$, and long. $70^{\circ} 45' 14''$, is a Lt.-ho., built of dark grey granite, 92 ft. above the sea, which exhibits a *fixed Lt.*, vis. 15 m.

STELLWAGEN BANK.—This extensive bank lies off Boston Harbour to the S.E., at the distance of 21 m. from the Lt.-ho., and to the N. of Cape Cod. It is 17 m. in length from N. to S., and 5 m. at its greatest breadth, and $2\frac{1}{2}$ at the least. The least water on this bank is $10\frac{1}{2}$ fms., which spot will be about $6\frac{1}{2}$ m. N., $30\frac{1}{2}^{\circ}$ W. (true) from Race Pt. Lt., Cape Cod. It lies generally outside of a line from Thatcher's Id. to Cape Cod, with the exception of the spot of $10\frac{1}{2}$ fms. already noticed.

The direction of this bank is nearly N. by W. and S. by E.; the N. end is in the latitude of Nahant, nearly, and the S. end about 5 m. S. of the latitude of Scituate Harbour, so that it lies directly in the approach to Boston Harbour from the southward, and affords a convenient depth for sounding while crossing it, there being no danger. It will thus prove serviceable to vessels in foggy or stormy weather, in enabling them to determine their position; and it should be observed, that from the $10\frac{1}{2}$ fms. N. of Cape Race Lt. the bank deepens on the average but very slowly, reaching 13 fms. at 9 and 11 m.; 14 fms. at $13\frac{1}{2}$ and 14 m.; and $14\frac{1}{2}$ fms. at 20 m. It then deepens more rapidly to 20 fms., and then quite rapidly from this to 30 and 35 fms. The outer side of the bank slopes off gradually, and the inner quite abruptly, as a general rule.

By paying strict attention to the crossing of this bank, you may readily estimate your distance to the eastward of the coast, and the lead will give a good idea of the latitude, thus:—3 or 4 m. to the westward of the northern half of the shoal, the water deepens generally to 50 fms., while at the same distance inside of the southern half, the greatest depth of soundings diminishes gradually from 45 fms., in lat. $42^{\circ} 15'$ to 35 fms. all the way across to the mainland.

Buoys.—On this bank the following buoys were laid down in 1858 to mark the approaches to Boston Harbour, viz.:—

1. A first class *can-buoy*, painted *red*, in about 11 fms. water, N.W. by N. $\frac{1}{2}$ N. (*true*), 6 m. from Race Pt. Lt.-ho.; and E.S.E. (*true*), $28\frac{1}{4}$ m. from Boston Lt.-ho.

2. A second class *nun-buoy*, painted with *white-and-black* perpendicular stripes, in about 15 fms. water, E. $\frac{1}{2}$ S. (*true*), $26\frac{1}{2}$ m. from Boston Lt.-ho.

3. A first class *can-buoy*, painted *black*, in about 15 fms. water, E. by N. (*true*), $21\frac{3}{4}$ m. from Boston Lt.-ho.

The above is from the official notice of the U.S. Lighthouse Board, but we are not certain if the buoys remain, as no notice is taken of them in the last edition of the American Coast Pilot (1864.)

DANGERS IN APPROACHING BOSTON HARBOUR.—

The Graves are a parcel of dry rocks, which appear white, lying to the northward and eastward of Boston Lt. On the N.E. ledge is an **iron bell-boat**, in 10 fms. water, Long Id. Lt. bearing W.S.W. $\frac{1}{2}$ W., $4\frac{1}{2}$ m. distant, and Boston Lt. S.W. $\frac{1}{2}$ S., $2\frac{3}{4}$ m. distant.

Thieves Ledge, of $4\frac{1}{2}$ fms., lies E. $\frac{1}{2}$ S. of Boston Lt., distant 3 m.

Harding's Ledge, on which there is an **iron bell-boat**, painted black, is dry at L.W. From the bell-boat, Boston Lt. bears N.W., $2\frac{1}{2}$ m. distant, and Long Id. Lt. N.W. by W. $\frac{1}{2}$ W., 5 m. distant.

Martin's Ledge lies nearly midway between Thieves Ledge and the Graves, and has on it 13 ft. at L.W. Outside the ledge in 6 fms., there is a *red nun-buoy*, No. 2, the Graves bell-boat bearing N. $\frac{1}{4}$ E., 1 $\frac{1}{2}$ m.; Harding's bell-boat S. $\frac{1}{4}$ W., nearly 2 $\frac{1}{2}$ m., and Long Id. Lt. W. $\frac{1}{4}$ S., 4 $\frac{1}{2}$ m., distant. Between the Outer Brewster and Martin's Ledge, on the last mentioned range, lies Tewesbury Rk., with 9 ft. on it at L.W.

N.W. nearly, from Martin's Ledge, between Green Id. and the Graves, is a ledge of sunken rocks, called the Roaring Bull, S.W. of which is a shoal spot of 10 ft., and N.E. is a spot of 18 ft. water.

Barrel Rock lies N.W. by W. from the N. part of Green Id., and has 4 ft. on it at L.W. Near it, in 21 ft. water is a *can-buoy*, with *red-and-white* horizontal stripes; Long Id. Lt. bearing S.W. by W. $\frac{1}{4}$ W., 2 $\frac{1}{2}$ m., and Deer Id. Pt. beacon W.S.W. $\frac{1}{4}$ W., 2 m. distant.

Devil's Back.—W. of Green Id., $\frac{1}{2}$ a mile distant, is a ledge of rocks, called the Devil's Back, on the northern part of which is a *black buoy*, No. 1, in 18 ft. water, the Barrel Rk. buoy bearing N.W., $\frac{1}{2}$ a mile, and Long Id. Lt. W.S.W., 2 $\frac{1}{2}$ m. distant.

Half-tide Rocks.—E.N.E., $\frac{1}{2}$ of a mile from the Devil's Back buoy, lies Maffit's Ledge, on which are 12 ft. water; and S.S.E. $\frac{1}{4}$ E. of the same buoy, are the Half-tide Rks., in Hypocrite Channel, near which is a *red spar-buoy*, No. 2.

Egg Rocks or Shag Rocks lie E. of the N. point of Little Brewster Id. The ledge is about $\frac{1}{2}$ of a mile long, and runs N.E. and S.W., nearly. N.E. of the ledge about $\frac{1}{2}$ a mile distant, is a shoal spot with 18 ft. water, and about midway between the eastern points of Middle and Little Brewster Ids. is another spot of the same depth.

Nash Rock, with 12 ft. water upon it, lies on the northern side of the main ship channel $\frac{1}{2}$ of a mile S.W. of the western part of Little Brewster.

Kelly's Rock, with 15 ft. water on it, lies to the westward of Nash's Rk. about midway between it and George's Id., and is also in the main-ship-channel.

Tower Rock lies off the S.W. extremity of Brewster Bar, in mid-channel. It has on it 17 ft. water.

Black Rock is on Brewster Bar, in the N. eastern part of Black Rk. Channel.

Ram Head.—A ledge of rocks, called Ram Id., makes off the northern part of Lovel's Id., on the northern part of which is a *black can-buoy*, No. 5. Long Id. Lt. bearing W.S.W. $\frac{1}{4}$ W., 1 $\frac{1}{2}$ m. distant.

Nix's Mate lies between Long Id. and Lovel's Id., about $\frac{1}{2}$ a mile from Long Id. Lt. On it there is a square granite **beacon** with octagonal pyramid on top, painted black.

A *black nun-buoy*, No. 9, has been placed on the N. end of Nix's Mate, in 15 ft. at L.W.

Hospital Shoal.—Between Rainsford and George's Id. is Hospital Shoal, on the northern part of which is placed a *black nun-buoy*, N. 1, in 18 ft. at L.W. Long Id. Lt. bearing N.N.W. nearly 1 $\frac{1}{4}$ m.

The Toddy Rocks lie E.S.E. $\frac{1}{2}$ E. from the buoy on the Hospital shoals; near them is placed a *black nun-buoy*.

Quarantine and Hangsman Rocks.—S. of Rainsford Id. are the Quarantine Rks., and S. of the rocks lies Hangsman's Ledge, on which is a granite open-work **beacon**, with a small square cage on top. The rocks are dry at L.W.

There is a rock with 12 ft. water on it, bearing S. 45 $\frac{1}{2}$ ° W. from Boston Lt., distant 700 yards. The new beacon on the spit open to the N. with the hotel on Long Id. leads clear to the S. of it.

Another rock, with 15 ft. on it, bears S. 75 $\frac{1}{2}$ ° W. from Boston Lt., 770 yards distant, and from the new beacon on the spit S. and E., distant 240 yards.

The hotel on Long Id. shut in entirely with the N. part of George's Id., leads clear to the S. of it.

Another rock, with 17 ft., bears S. $85\frac{3}{4}^{\circ}$ W. from Boston Lt. 2343 yards distant, and from the old beacon on the spit, S. and S.W., 117 yards.

Nix's Mate, on the northern edge, or at the farthest the centre of Bunker Hill monument, leads clear to the S. of it.

If Bunker Hill monument is not visible, keep Deer Id. beacon on the N. end of Apple Id., while passing the range of the old beacon spit on the little head of the Great Brewster.

Another rock bears E.N.E. from the Outer Brewster, distant $\frac{1}{4}$ of a mile, with 9 ft. on it.

The outer ledge of 17 ft. bears E.N.E. from Boston Lt., 2 m. distant.

There is a *red nun-buoy*, No. 10, on Seventy-four Bar, in 15 ft. water, about 20 fms. W. of the old wreck, which has but 9 ft. on it at low tide.

The following bearings are given:—

Nix's Mate beacon, W. $\frac{3}{4}$ N.; Nix's Mate buoy, N.W. by W. $\frac{3}{4}$ W.; and Deer Id. Point beacon, N.W.

Directions.—Coming from the vicinity of Cape Cod, you should keep to the northward of the direct course, if the wind is N.E.; and to the westward, if it is S.W., making allowance for the tide. With a leading wind a direct course may be made good on the flood; but the ebb sets toward Minot's Ledge Lt.

If from the vicinity of Cape Ann, no particular precautions are necessary.

Should you fall in with the Scituate land, in a depth of 10 or 12 fms., without having seen the Lt. on the Cohasset Rks. during the night, or thick weather, run N. into 17 or 18 fms., and steer W.N.W. for Boston Lt. From the Lt.-ho. on the Cohasset Rks., Boston Lt.-ho. bears N.W. $\frac{1}{2}$ W., distant 7 m. Davis's Ledge lies E. by S. $\frac{1}{4}$ S. from Cohasset Lt.-ho., and has a *buoy* placed to the N.E. of it to mark the danger.

When near the land and approaching Minot's Ledge, bring the point of Scituate to bear S., and steer N., which will clear Davis's Ledge, $\frac{2}{3}$ of a mile to the eastward; and when you get the Lt.-ho. on the Cohasset Rks. to bear W., steer N.W. by W. for Boston Lt.-ho., which will lead to the N.E. of the Bell Boat on Harding's Ledge; but in thick weather it is more prudent to steer N.W. until up with the Bell Boat, bearing W., then W.N.W., allowing for wind and tide. From off Nahant Hd., and bound for the main ship-channel, bring the Lt. on the Egg Rk. to bear N.N.W., and steer S.S.E., to pass the Graves, at $\frac{1}{2}$ a mile to the eastward of the Bell Boat, riding on them, and when it bears N.W. by W. $\frac{1}{2}$ W., steer S.S.W. until up with the bearing for entering the channel. Vessels may pass inside the Graves, keeping one cable's length from the S.W. point.

Vessels working to windward in Boston Bay up to the harbour may, in the day-time, stretch safely anywhere between Minot's Ledge and Nahant Hd. until up with Graves on one side, and the Harding's Ledge on the other. Do not come nearer the N.E. part of the Graves than $\frac{1}{2}$ a mile, but the Hardings may be approached pretty near to the Bell Boat. Inside of the line from the Graves to the Hardings you may stand to the southward to within $\frac{1}{2}$ a mile of the shore, and to the northward to within $\frac{2}{3}$ of a mile of the E. end of the Outer Brewster, or the E. end of the Shag or Egg Rks.

When up with the Egg Rks. you must stand no further to the northward than to bring Boston and Long Id. Lt. in range, and in passing Pt. Allerton be careful not to go inside the buoy. A vessel not having a pilot, even if a stranger, may beat up to the anchorage inside the Lt.-ho., in the day-time, by making short boards, and keeping 2 cables' length from Lt.-ho. Id., but should wait there for a commissioned pilot. If you are working up for Boston Harbour in the night, you will avoid the Cohasset and Harding's Ledge by not standing further to the southward than to bring Boston Lt. to bear W.N.W. When within 2 m. of the Lt., go no nearer than to bring it to

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bear W., and when near Egg Rks. you must not pass to the N. of Boston and Long Id. Lts. in range.

Main Ship Channel.—When abreast of the Lt.-ho., bearing N., and in mid-channel, a W. $\frac{1}{2}$ N. course, made good, leads to the pile Lt.-ho. on the spit; but if the tide is ebb, or you are on the N. side of the channel, steer W. or W. southerly, so as to avoid getting on the False Spit. Leave the Lt.-ho. on the starboard hand, and steer N.W. $\frac{1}{2}$ W., past George's Id. In this course you will have Nix's Mate beacon and the middle of Bunker Hill Monument in range until up with the eastern end of Gallop Id. From this point the course through the Narrows is N.W. by N., keeping in mid-channel and steering for the high land on Deer Id. until up with Nix's Mate, which leave on the port hand.

When you are passing Nix's Mate you should have Deer Id. beacon on the N.E. end of Apple Id. for a light ship, and off the S. part of Apple Id. for a vessel of heavy draught. By observing either of these marks you will avoid the shoal ground about Nix's Mate. A W. $\frac{1}{2}$ N. course leads from Nix's Mate through President Roads, until the new beacon on the high part of Long Id. is just clear of the N.E. bank of Spectacle Id., when the course is N.W., keeping the marks astern in range until abreast of the beacon on the S.E. part of Bird Id.

In steering this latter range, it will lead safely past the Lower Middle, Castle Id. Rks., Governor's Id. Point, the Upper Middle, and in the best water over the shoal ground above the Upper Middle. When up with the beacon on Bird Id., steer N.W. by W. $\frac{1}{2}$ W. towards the State House, until abreast of the buoy on the Slate Ledge, and then N.W. by N. for the anchorage.

Hypocrite Channel is between the Outer Brewster on the S., and the Sunken Rks. to the northward, thence between the Green and Little Calf Ids. to Ram Hd., where it joins the Broad Sound Channel. This channel is intricate, and only fit for those acquainted with it, and therefore not to be attempted without a pilot.

Black Rock Channel leads from the main ship channel at the pile Lt.-ho. into the Hypocrite Channel, and is never used by large vessels except in the winter time to avoid the ice in the Narrows. This channel too, is narrow and dangerous, and not fit for strangers to attempt.

Broad Sound Channels.—*The South:*—Vessels intending to enter by the *South Channel*, may stand in anywhere between Nahant Id. and the Graves, and steering to the south of W., until they bring Nix's Mate beacon to bear S.W. by W. $\frac{1}{4}$ W., may run for it.

The mark for this channel is Nix's Mate in the middle of the northern and highest of the Blue Hills. This channel is short and straight; its range is perfect, and is safe at $\frac{1}{2}$ or $\frac{3}{4}$ flood for the largest ships; especially for vessels outward bound. Vessels going out this way will leave Ram Hd., Aldridge's Ledge, and Devil's Back buoys on the starboard hand, and the Little Faun, Great Faun beacon, and Barrel Rk. buoys on the port hand; and in running out of Broad Sound will keep Egg Rk. open with Nahant Hd.

The North Channel passes nearer Deer Id., and is separated from the South Channel by a middle ground. The buoys are passed in the same way as in the latter, except the Barrel Rk. buoy, which in going out is to be left on the starboard hand. The range for this channel is the N. head of Long Id. (on which the Lt.-ho. stands), in line with the second bluff on the W. side. This channel cannot be recommended, and should not be attempted in bad weather, even by small vessels.

There is another channel out, used by vessels in light winds on the ebb, to prevent being set into the Sound at Nix's Mate, or the E. end of Lovell's Id. This is to the southward of President Roads, Spectacle Id., and Long Id., and through Nantasket Roads to the main ship channel S. of Boston Lt., and is termed the **BACK**, or **WESTERN WAY**.

NANTASKET ROADS.—To take Nantasket Roads from outside, when Boston Lt. bears N. $\frac{3}{4}$ of a mile distant, steer W. $\frac{1}{2}$ S. to the buoys on the Centurion; leave

these on the starboard hand close to; and steer W.S.W. until Long Id. Lt. opens clear of the S.W. part of George's Id., then haul up for the Lt., and run in for the anchorage.

Anchorage.—*President's Roads*, S. of a line from Nix's Mate to Castle Id., in sticky bottom.

Nantasket Road.—Nix's Mate just on with Gallop Id., and Boston Lt. shut well on to George's Id., give the best ship anchorage. Heavy vessels of war anchor farther south.

There is a convenient refuge for coasters in N.E. winds under Spectacle Id.

Vessels caught in bad weather near Nahant without a pilot, may anchor to the W. of Nahant, in from 5 to 6 fms., by opening Lynn Harbour, and bringing the Hotel to bear E.N.E.

Vessels waiting for a pilot, may anchor in the main ship-channel anywhere between the Lt.-ho. and Nantasket Beach.

Dangers.—The principal dangers in and about Boston Harbour, are the rocks and ledges near the shore, under the surface, and surrounded by deep water. Persons ignorant of the ground, are cautioned not to approach them without a pilot. The following are particularly to be avoided:—Davis's Ledge, near the Minot's; Martin's Ledge and Tewksbury Rk., near the Outer Brewster, and Maffit's Ledge, N. of the Devil's Back, which are dangerous to vessels beating in Boston Bay and Broad Sound.

To vessels outward bound from Boston Lt.-ho. who would wish to fall in with Cape Cod, the course is S.E. by E. $\frac{1}{2}$ E., distant 11 leagues, thence 3 leagues to the Lt.-ho.; and when it bears S.W., 2 leagues distant, you may then steer S.S.E., which will carry you out of the S. Channel.

Vessels in Boston Bay, which bear away for Cape Cod Harbour, must endeavour to fall in with Race Pt. Lt.-ho., which shows a flashing Lt., and run for it till within $\frac{1}{2}$ a mile; when it bears E.N.E., haul up E.S.E., or as near as the wind will permit, and anchor in from 10 to 4 fms., in Herring Cove, where there is good shelter with the wind from N.N.E. to S.E. by E. Should the wind shift to the N.W., Provincetown Harbour is under the lee, to which we refer: should you first make Cape Cod Lt., bring it to bear E. by N., and run for it till you have soundings in 14 or 15 fms.; then steer N.E. until the Lt. bears E. by S.; then run in N.W. for the harbour.

Between Cape Ann and Cape Cod there are from 50 to 17 fms.; the latter $4\frac{1}{2}$ m. N. by E. from the Race Lt., with 55 fms. inside. S.E. by E. $\frac{1}{4}$ E. from Boston Lt. to the Race Lt. there is a ridge of rocks and sand of 7 to 23 fms. water, with a small gully of 37 fms., 20 m. from Boston Lt. To the N. of this ridge the bottom is generally muddy, and the depth from 40 to 50 fms.

It is H.W., F. and C., off Race Pt., at 10 h. 45 m. Vessels leaving Cape Cod, bound to Boston, should calculate the tide, as the flood sets strongly to the S.W. off Cape Cod, from the Race to Chatham; flood sets to the S., ebb to the N.; southern tide 9 hours, northern tide 3 hours.

SCITUATE.—About half-way between the harbours of Boston and Plymouth is the township of Scituate, having a small harbour. Cedar Pt. makes the N. chop of the harbour, the first cliff so called being the S. chop; there are four of these cliffs extending towards the N., the southernmost being the highest.

From the northerly part of Cedar Pt., a ledge called *Long Ledge*, extends N.N.W., nearly a mile; so that vessels falling in little more than a mile to the northward, and making good their course N., will clear the outer ledges of Cohasset Rks. Ledges extend from all the four cliffs, but there are none between them; and by keeping at the distance of $\frac{1}{2}$ a mile from shore, all but the largest vessels will go clear of everything.

There is a passage within the Cohasset Rks., but it is used only by coasters.

At about 2 m. W. by N. from the point is a Meeting-ho.; and near the N.W. side of the harbour is a farm-house, with two large barns a little to the northward. To enter the harbour, the mouth of which is nearly $\frac{1}{2}$ of a mile wide, bring the Meeting or the farm-house to bear about W. by N. from the middle of the entrance, and run in on that direction for the farm-house, until you have passed the bar, which is a hard bed of stones and gravel, that does not shift; and after you have got over the bar and come upon sandy ground, haul up, and anchor near the beach, on the S. side of the harbour.

BRANT POINT.—*Howland's Ledge*, of 7 ft., has a *black buoy*, No. 3 on it. From it, Gurnet Lts. bear S. $\frac{1}{4}$ W., $4\frac{1}{2}$ m. Philip's Ledge is $\frac{3}{4}$ of a mile inshore of it, bearing W.N.W.

HIGH PINE LEDGE.—A *black spar-buoy*, No. 1, has been placed off High Pine Ledge, in 15 ft. water. The rock is dry at L.W. Gurnet Rks., S. $\frac{1}{4}$ W.; Captain's Hill, W. $\frac{3}{4}$ S.; Brant Pt., N. by W.

PLYMOUTH HARBOUR is to the southward of Boston light, 8 leagues, and bears from Cape Cod W. $\frac{1}{4}$ S., distant 6 leagues; it may be known by its two Lt.-hos. standing on a round hummock, called the Gurnet, on the northern side of the entrance, and on the southern side by a high double land, called the Manomet; this side is encumbered with many *shoals*, but the northern side is fair and safe with all but easterly winds; and should these blow hard, you may run into the harbour, and anchor within Brown's Id.

The harbour of Plymouth is capacious, but shallow, and formed by a long and narrow neck of land, called Salthouse Beach, extending southerly from Marshfield, and terminating at the Gurnet Id., and by a smaller beach within, running in an opposite direction, and connected with the main land near Eel River, about 3 m. from the town.

Lights.—On Gurnet Pt. are two Lt.-hos., in lat. $42^{\circ} 0' 10''$ and long. $70^{\circ} 35' 43''$, situated N.W. and S.E., 10 yards apart. The buildings are of wood, painted white, each 33 ft. in height, and 93 ft. above the sea, exhibiting *fixed Lts.*, vis. 15 m.

These Lts. should not be brought in one when to the northward of them: but to the southward you may bring them in one, which is a good mark to clear Brown's Shoal.

GURNET ROCK, on which there are but 4 ft., lies S.E. by E. $\frac{1}{2}$ E., full a $\frac{1}{2}$ of a mile from the Lts. On it is moored a *red buoy*, No. 2. The S. side of the entrance to the channel is marked by a *black buoy*, No. 1, which bears from Gurnet Lts., S. by E. $\frac{3}{4}$ E., $\frac{3}{4}$ of a mile distant.

Approaching from the southward and bound to Plymouth, bring Gurnet Lts. in range, and run for them when within $\frac{1}{2}$ a mile, with the tree on Saguish Id., bearing W.; steer W. by S. till the tree bears N. $\frac{1}{4}$ E., and Duxberry pier W.N.W. $\frac{1}{2}$ W.; then W. $\frac{1}{4}$ N. till Duxberry pier bears N.N.E. $\frac{1}{2}$ E., and the pier head on Long Beach bears W.S.W. $\frac{1}{2}$ W.

If bound into Plymouth steer S.W. $\frac{1}{2}$ S., passing the pier head about 80 yards distant, and anchor when Gurnet Lts. are shut in behind Long Beach.

If bound into the Cow Yard from the last bearing, steer N. for $\frac{1}{2}$ a mile, passing to the port of Duxberry pier, giving it a berth of 100 yards, and anchor in $4\frac{1}{2}$ fms.

In beating into Plymouth Harbour, do not stand into less than 3 fms. on the northerly tack; on the southerly, the best guide is the rip, marking the edge of Brown's Shoal, which can be distinctly seen except in very calm weather.

MARY ANN ROCKS lie off Manomet Pt., which bears N.W. by W. $\frac{1}{2}$ W., distant $\frac{3}{4}$ of a mile.

STELLWAGEN'S ROCK lies S.S.E., distant $1\frac{3}{4}$ m. from Manomet Pt., and has but 6 ft. on it.

In coming in from the northward for Plymouth at night, do not bring the Lts. more southerly than S. by W., to avoid High Pine, and keep that course until you

have them to bear N.W. or N.W. by W., when you will be clear of the ledge, and may steer up W. by S. until you have the Lts. to bear E.N.E., where you had best anchor for the night.

Should you make the Gurnet Lts. in the night, during hard northerly or N.W. winds, and cannot get into the harbour of Plymouth, you may run for that of Cape Cod, bringing the Lts. to bear W. by N., and steering for Race Pt. Lt., following the directions given for entering Province Town Harbour by the *fixed* Lt. on Long Pt., and come to anchor. If it should blow so hard that you cannot turn up the harbour, you may anchor off the point, on a clear bottom. It is bold-to; and, unless it be very dark, the sandy hills may be seen before you can get on shore.

CAPE COD is the northern part of the peninsula of Barnstable. On the hook of the cape is Province Town, distinguished by its very useful harbour, which has depth of water for any ships.

Light.—On the extremity of the peninsula, called Pt. Race, is a white Lt.-ho. exhibiting a *flashing* Lt., 35 ft. above the mean level of the sea, vis. 11 m.; but it cannot be seen inward-bound until it bears S.S.W. $\frac{1}{4}$ W. A fog bell station.

Cape Cod, Highlands Light.—A Lt.-ho. is erected at the Clay Ponds, on Cape Cod, in lat. $42^{\circ} 2' 21''$, and long. $70^{\circ} 3' 18''$. The house is erected on land elevated about 150 ft., which, with the elevation of the lantern, makes the whole height 195 ft. above H.W. mark. The Lt. is *fixed*, and vis. 20 m. The building is white, and lantern black.

If inward-bound to Boston, and you want to fall in with the back of Cape Cod, bring the light to bear S.W., 2 leagues distant; then steer N.W. by W. $\frac{1}{3}$ W. for Boston Lt.-ho.

The Lt.-ho. on the Race Pt. of Cape Cod stands in lat. $42^{\circ} 3' 42''$, and long. $70^{\circ} 14' 16''$. It is, as already noticed, a *flashing* Lt., and is therefore readily known from the Lt. on the high lands, called Cape Cod Highlands Lt.

Cape Cod is low sandy land; but Race Pt. is very bold, and may be known by a number of fish-houses on it. From 1 to 3 m. to the southward of Race Pt. is what is called Herring Cove, where you have good anchorage $\frac{1}{2}$ a mile from the shore, the wind being from E. to N.N.E., in 4 or even in 3 fms.

Light.—On the shoal off Long Pt., at the S.W. entrance of Province Town Harbour, is a Lt.-ho., containing a *fixed* Lt. 28 ft. above the mean level of the sea., vis. 11 m. Building black, on keeper's dwelling.

CAPE COD HARBOUR (Province Town) is one of the best harbours on this coast. If bound to this harbour from the northward, you may run within $\frac{1}{4}$ a mile of the Lt.-ho. on Race Pt.; after passing it, and it bears E., steer S.S.E., about $2\frac{1}{2}$ m., when the Lt.-ho. on the high lands will bear E. by N.; then run for it $1\frac{1}{2}$ m., which will bring you in the fairway of the harbour; then haul up N.N.W., westerly, a good mile, when you may anchor in 5 to 7 fms., with the Lt. on Long Pt. bearing S.W. by S. Large ships should bring the Lt. on Race Pt. to bear N. by W., and steer S. by E., to pass Wood End Bar in 10 fms. So soon as the Lt. on Long Pt. bears N.E. by N., steer N.E., until in 8 fms. water; then anchor, the Lt. on the high lands of Cape Cod bearing from E. $\frac{1}{2}$ N. to E. $\frac{1}{2}$ S.

In running from Race Pt. to Wood End, after passing the black land, or hummocks, you will come up with a low sandy beach, forming the harbour, extending between 2 and 3 m. to Wood End, which is difficult to be distinguished in the night; it is, however, very bold, and there are 25 fms. within $\frac{1}{4}$ a mile of the shore.

In beating into Cape Cod Harbour, keep the eastern shore on board, until you get into 5 fms., standing no farther to the westward than to bring the Lt. to bear E. by S., as a *long spit of sand* runs from the western shore, where, being very bold, you will have 11 fms. within a stone's throw of the shore. In case it blows so hard that you cannot beat into the harbour, there is good anchorage without, in from 10 to 15 fms.

The Lt.-hos. of Cape Ann and the high Lt. of Cape Cod bear from each other S.S.E. $\frac{1}{4}$ S. and N.N.W. $\frac{1}{4}$ N., distant 14 leagues.

BILLINGSGATE ISLAND.—This island is small, and situated so far up Barnstable Bay, that it cannot be mistaken; it lies 5 leagues S.S.E. $\frac{1}{4}$ S. from Race Pt. Lt. The island is 13 ft. above the level of H.W. mark.

Light.—On *Billingsgate Id.*, at N. side of entrance to Wellfleet, is a red square Lt.-ho., with lantern painted black, 40 ft. above H.W., which exhibits a *fixed* Lt., vis. 12 m.

Billingsgate Shoal affords good shelter for vessels in northerly gales. The S. western extremity of this shoal bears from Billingsgate Lt.-ho. W.S.W., $5\frac{1}{2}$ m. distant.

In making the anchorage give this shoal a berth, and bring the Lt.-ho. on Billingsgate Id. to bear N.E. by E. $\frac{1}{2}$ E., when you may stand up the channel E. by N. $\frac{3}{4}$ N., anchoring in 4 or 5 fms., sandy bottom, with the Lt. bearing N.E. $\frac{3}{4}$ E., distant $2\frac{1}{2}$ m.

In case of beating up this channel care must be taken not to approach too near the shoal, as the soundings decrease suddenly. Good inner anchorage may be found in from 3 to 4 fms., soft bottom, about $1\frac{2}{3}$ m. S. $\frac{1}{4}$ W. of the Lt.-ho.; but the approach to it should not be attempted by large vessels without a pilot. After rounding Cape Cod, with Race Pt. Lt. bearing S.E. $\frac{3}{4}$ E., 2 m. distant, steer S. $\frac{1}{2}$ E., $17\frac{1}{2}$ m., when Billingsgate Lt. will bear N.E. by E., about $6\frac{1}{2}$ m. distant. You may steer between this bearing and E. by N. $\frac{1}{4}$ N., and anchor in 4 fms.

BARNSTABLE BAY.—From Centre Hill Pt. to Sauset Inlet the distance is about 4 m., and the course S. $\frac{1}{2}$ E.; the shore is clean and bold, having from $3\frac{1}{2}$ to 4 fms., sandy bottom. A *bar of sand* lies parallel with the shore, near Centre Hill Pt., which extends to the southward, and terminates about $\frac{2}{3}$ of a mile to the northward of Sauset. From the shore over this bar to 3 fms. water, the distance is 240 to 250 fms., and the bar is from 100 to 140 fms. wide, having over it 9, 10, and 11 ft.; while between that and the shore are 3 and $3\frac{1}{2}$ fms. From the S. end of the bar, along shore, to the entrance of Sandwich, are 3 fms., and the distances from 70 to 90 fms., sandy bottom, and regular soundings in approaching, the land.

On the S. side of Sauset Inlet is a low rocky point, of 90 fms. At $\frac{3}{4}$ of a mile off shore are 3 fms., and at the distance of $1\frac{1}{3}$ or 2 m., 9 to 10 fms. muddy ground. Passing from Sandwich to Barnstable, the *flats* run off shore 100 and 180 fms.

Barnstable Light is erected on Sandy Neck, at the W. side of the entrance to Barnstable, and is a *white* building 28 ft. in height and 33 above the sea, exhibiting a fixed Lt., vis. 11 m.

BARNSTABLE HARBOUR.—To enter this harbour when coming from the northward, you must not approach nearer to the bar than 5 fms. water, until the Lt.-ho. on Sandy Neck bears S.W. $\frac{1}{2}$ W., which will bring you up with the *red spar buoy* on the bar; haul round close to it, leaving it on your starboard hand, run 2 cables' length S.S.W., then steer S.W. by W. $\frac{1}{4}$ W., $1\frac{1}{2}$ m., which will bring you up with the tongue of Yarmouth Flats, or until the Lt. bears S.W. by S., then steer for the Lt., for a long *bar* stretches out from the point. Always be careful to make the above courses good, for the flood-tide generally sets strongly over the flats, and the ebb runs equally strong to the northward of the bar. Continue your course for the Lt., until within a cable's length of the beach, and follow the shore round the point. There is a safe anchorage inside, abreast of the Lt., with all winds; and the Lt. bearing from S.W. to N.E., you will have from 5 to $2\frac{1}{2}$ fms.

Vessels drawing 8 ft. water may, at H.W., bring the Lt. to bear S.W. $\frac{1}{2}$ W., and run directly for it. H.W., F. and C., at 11 h. The tide rises 10 ft.; and there are 7 ft. on the bar at L.W.

TIDES IN MASSACHUSETTS BAY.—Provincetown at 11 h. 22 min.; springs rise 10 ft. 8 in., neaps 7 ft. 7 in.; Billingsgate at 11 h. 5 min.; springs rise 13 ft. 3 in., neaps 9 ft. 4 in.; Plymouth at 10 h. 9 min.; springs rise 10 ft. 19 in., neaps 11 ft. 4 in.

CAPE COD TO NANTUCKET.

From Cape Cod Lt.-ho. the general tendency of the shore is S. by E., about 30 m., to Cape Malabar, or the sandy point of Chatham.

CAPE COD TO CHATHAM.—From the highlands Lt. to Nauset Lts. the course is S. by E., 12 m., and thence to Chatham Lts., S. $\frac{3}{4}$ W., 11 $\frac{1}{2}$ m.; in all this extent the shore is sandy.

Nauset Beach Lights.—On Nauset Beach, three Lt.-hos. have been erected, 50 yards apart, N. and S.; the buildings are coloured white, with black lanterns, 18 ft. in height, and 93 ft. above the sea; each exhibits a single *fixed* Lt., vis. 10 m.

CHATHAM HARBOUR is situated on the exterior extreme of Cape Cod peninsula, bounded E. by the ocean, S. by Vineyard Sound, W. by Harwich, and N. by Pleasant Bay. Its harbour is convenient for the fishery, in which they have usually 40 vessels employed, and contains 20 ft. at L.W.

Chatham Lights are two *fixed* Lts. on James' Hd., 70 ft. above the sea, situated N. and S. of each other, 23 yards apart, and exhibit *fixed* Lts., vis. 14 m.; they are only used for running over the shoals, as the beach has made out 2 or 3 m. to the S. since they were erected.

While passing Chatham in thick weather, approach no nearer than 5 fms., to cross the Pollock Rip; edge off and on from 5 to 7 fms., which will carry you over the Rip in 3 fms.

DESCRIPTION OF THE BANKS SITUATE BETWEEN CAPE SABLE
AND THE PENINSULA OF CAPE COD.

Before we conclude this section, it may be useful and proper to notice and describe, as well as our information will admit, the sand-banks and soundings which the mariner, navigating this part of the coast of America, situate between Cape Sable and Cape Cod, will, in all probability, fall in with in his passage. These are *Cashes Ledge*, *Jeffrey's Bank*, *Jeffrey's Ledge*, and *St. George's Bank*.

CASHES LEDGE.—“Report from LIEUT. COM. CHARLES H. DAVIS, U.S.N., dated 12th June, 1849,” giving the particulars of his recent determination of the position of *Cashes Ledge*, off the coast of New England.

The determinations of Lieut. Com. Davis places *Ammen's Rock of Cashes Ledge* in lat. 42° 56', and long. 68° 51' 30". As this differs nearly 12 m. of lat., and 12 m. in long. from the last previous determinations, this official report is of the greatest importance to navigators.

The U.S. steamer *Bib*, employed on this survey, remained at anchor on the *rock* 24 hours, during which time the boats were employed in repeated examinations of the surface of the *rock*. The sea was smooth, the wind W., the weather perfectly clear, and the southern and western horizon well defined. The latitude was observed—1st, by the meridian altitude of the moon by three observers, agreeing within $\frac{1}{2}$ a minute; 2nd, by a meridian observation of the sun, with four sextants, agreeing within a mile. The longitude was determined by three chronometers from Messrs. William Bond and Son, which were proved to have gone correctly.

The least water on this rock is 26 ft., although a less depth has been reported by the fishermen. The extent of the rock, having 10 or less fms. upon it, is about $\frac{1}{2}$ a mile in a N.W. by W. and S.E. by E. direction, and very narrow; it is surrounded by deep water at a short distance, particularly on the S.E. side, where the depth suddenly increases to 60 fms.

This rock has been named *Ammen's Rk.*, in compliment to the officer who discovered it.

S. of the flat rock there is a gully, 90 fms. water, which runs in upon the bank in a S-westerly direction. Upon the S. side of the gully, 3 m. S. of the flat rock, there is a shoal of 7 fms. whence the soundings run suddenly to 15 and 30 fms., on all sides except the E., where it deepens suddenly to 80 fms.

N. by W., 9 m., from the flat rock, there is a shoal of 14 fms.; between them there are from 10 to 35 fms. rocky bottom; on the rocky bottom there is kelp of 45 ft. in length, but on the flat rock there is none.

THE FIPPENIES.—The Fippenies are some shoaler soundings than in the gully between them and Cashes Ledge: they consist of a bottom of 36, 38, and 40 fms., to a depth of 55 fms., and are situated 18 m. to the W. by S. of the Ammen's Rk. of the Cashes Ledge. The extent of the shoal ground is about 8 m. N. and S., and 3 m. across E. and W. Thirty-six fathoms is the depth about the middle, which is in lat. $42^{\circ} 49'$ and long. $69^{\circ} 13'$. In the gully between the Fippenies and Cashes Ledge are from 60 to 90 fms.

JEFFREY'S BANK.—Surveyed by *Lieut. Phelps, U.S.N.*:—Shoalest soundings found, 46 fms. Matinicus Lt. bearing N. by W. $\frac{1}{2}$ W., 25 m. distant. Another shoal spot, with 48 fms. upon it, 11 m. S.S.W. $\frac{1}{2}$ W. from the former soundings, with deep water between them.

JEFFREY'S LEDGE.—Surveyed by *Lieut. A. Maury, U.S.N.*, in 1858-59.

21 fms. Thatcher's Id. bearing S.W. by W. $\frac{1}{2}$ W., distant 3 m.
20 " " " W.S.W. $\frac{1}{4}$ W. " $6\frac{3}{4}$ "
24 " " " W. by S. $\frac{1}{4}$ S. " 20 "
25 " " " S.W. by W. $\frac{1}{2}$ W. " 21 "
18 " " " S.W. " $15\frac{3}{4}$ "
and White Id. Lt. " N.W. " $14\frac{1}{2}$ "

Lieut. J. Wilkinson's survey, 1860.

30 fms., Thatcher's Id. bearing W. $\frac{3}{4}$ S., ... distant 13 m.
30 " " " S.W. by W. " 34 "
And Boon Id. Lt. " W.N.W. " $19\frac{1}{2}$ "

Shoalest soundings, 18 fms., is near the western edge of the ledge, and about midway between the northern and southern limits of it. One detached ridge is separated from the northern end by deep water, showing soundings varying between 80 and 90 fms.

ST. GEORGE'S BANK.—This bank was very little known until it was regularly surveyed in 1821, by the United States schooner *Science*, and the sloop *Orbit*, under the orders of Captain Isaac Hall. The following description is a copy of his report.

"There are properly *four shoals* on *St. George's Bank*; the whole of them are included between the lat. of $41^{\circ} 34'$, and $41^{\circ} 53' 30''$, and long. $67^{\circ} 18'$, and $67^{\circ} 59'$. Between them are from 15 to 35 fms. of water.

"The largest, and on which is the greatest danger, is the most southerly and westerly. It is somewhat triangular, with a long and narrow spit, making out from the S.E. angle. The S.E. point is in lat. $41^{\circ} 34'$, and long. $67^{\circ} 40'$. The W. point is in lat. $41^{\circ} 42'$, and long. $67^{\circ} 59'$. The N.E. point is in lat. $41^{\circ} 48'$, and long. $67^{\circ} 47'$. The eastern side of this shoal, although somewhat irregular, runs nearly S.S.E. and N.N.W., having on it from 3 ft. to 9 fms. at common L.W. It is composed of a great number of sand pits, very narrow, so that the width of a narrow vessel will make several fms. difference in the depth of water. The general range of the spits is from S.E. to N.W. As there are no rocks, they are consequently liable to change, in some measure, their position and ranges. On the eastern edge, even in calm weather, unless it be either high or low water, the tides run with great rapidity, and form considerable breakers, when setting to the westward, and a large waterfall when setting to the eastward. This is accounted for by a knowledge of the fact, that

directly on the edge of this shoal there are from 12 to 16 fms. water, so that the edge forms a sort of dam, stopping the force of the flood-tide, and over which the ebb falls.

"When there was any considerable wind, we observed, that the breakers were higher within the edge to the westward, than on the edge; and I have no doubt (says Captain Isaac Hall) that the water there was still shoaler, and that we should have seen the sand had it not been for the heavy sea. The breakers were such, unless it was entirely calm, that it was impossible to go among them with boats; nor was it considered safe to attempt it with the vessels. For besides the danger of striking on the hard sand-spits, the vessels would have been liable to have been filled by the breakers. Even on the eastern edge, and at nearly slack water, the vessels were, at times, nearly covered with them; and it was therefore not thought necessary to attempt it, as the object of the survey, to ascertain if there was danger on the shoals, and the situation and extent of this danger, could be accomplished without the risk. Had not the sea been very smooth, and at H.W., we should not have been able to have gotten on where we found only 3 ft., reducing it to L.W. The prevailing wind was to the eastward; and I have no doubt that this place would have been bare, with any continuance of an off-shore wind.* I think there are no rocks about the shoals. We had one cast on the S.W. side, which indicated rocky bottom, in 15 fms.; but I believe it to have been some sharp stone that the lead struck upon.

"The centre of the northern shoal is in lat. $41^{\circ} 53' 30''$, and long. $67^{\circ} 43'$. It extends E. and W., about 4 m.; the shoalest part, having 6 fms., is very narrow, and composed of hard sand; but there are not more than 12 fms. of water for 3 m. to the southward of the above latitude. On the N. side, at 2 cables' length from the shoal, the sloop dropped into 33 fms. The breakers on this shoal are very heavy; and when there should be a sufficient sea to endanger a vessel, they might be seen some miles, and heard at a considerable distance; and as the shoalest part is not more than a cable's length inside, and no danger near it, a vessel might avoid it.

"To the eastward of the the last-mentioned shoal, in lat. $41^{\circ} 51'$, and long. $67^{\circ} 26'$, is another *small shoal*, with 8 fms. water, having however considerable breakers. There are but 17 fms. for 3 m. to the northward of it; but very near to the eastward are 31 fms., and from 20 to 30 fms. to the S. and W.

"The centre of the E. shoal is in lat. $41^{\circ} 47'$, and long. $67^{\circ} 19'$. It is about 2 m. long. from E. to W., and has 7 fms. water. To the southward there are but 17 fms. for 2 m.; but in other directions there are from 20 to 30 fms.

"The above shoals, I am confident, are all which are on St. George's Bank; their positions and sizes may be relied on, as well as the soundings which I have laid down; they were ascertained by a vast number of celestial observations, taken with good and well-adjusted instruments, on board the two vessels, and very carefully and faithfully calculated. The rates of the chronometers were found by a transit instrument previously to sailing from Boston, and after our return; and all our observations recalculated for the small variation that appeared.

"At anchor, in different places, and on different days, we determined the set and strength of the tides, and, as nearly as possible, their rise and fall. The rise of them is from 1 to $1\frac{1}{2}$ fm. They set round the compass every tide, setting S.E. every full moon, and running from 1 to 4 knots per hour, at a mile's distance from the breakers. The mean rate is, however, materially varied by the winds. They set strongest at W.S.W. and E.N.E., and which is, undoubtedly, the strength of the flood and ebb. From these causes and variety in the tides, arises a principal danger in approaching the shoals. When under-way about the shoals, in a few hours' time we found ourselves drifted far out of our reckonings; and to ascertain our situations, when both vessels were under-way, we took continued observations for the longitude by the chronometers, and, at the same time, double altitudes for the latitudes; which latter were calculated by Brosius's new and certain method. By allowing for the set of

* This tends to confirm the assertion made by the Cape Cod fishermen, that part of the shoal has been seen quite dry, with sea-gulls sitting upon it.

[CANSO TO C. COD.]

tides, as ascertained at anchor, the observations and reckonings agreed very nearly; so that the latitudes and longitudes of every place may be considered as certain. Should, therefore, any vessel fall in with these shoals, a knowledge of the course and strength of the tides will prove of the greatest importance; and they can, by the preceding facts, be calculated for any day and hour.

“In proceeding from Cape Cod to the shoals, at 5 leagues from the Lt., there are 86 fms., muddy bottom. The water gradually deepens to 133 fms., and then decreases towards the shoals. In lat. $41^{\circ} 51'$ and long. $68^{\circ} 11'$, there are 90 fms.; in lat. $41^{\circ} 50'$, and long. $68^{\circ} 3'$, there are 49 fms., sand and gravel, on the western edge of the bank; the water then shoals fast; to the northward of the shoal, in lat. $41^{\circ} 59'$, and long. $67^{\circ} 52'$, on the S. side of the N. channel, there are 60 fms., soft mud; in lat. $42^{\circ} 12'$, and long. $67^{\circ} 51'$, there are 102 fms.; in lat. $42^{\circ} 10'$, and long. $67^{\circ} 18'$ there is no ground at 175 fms. To the eastward we did not ascertain the extent of the bank. At 2 m. southward of the S.E. point of the shoals, there are from 20 to 26 fms., which soundings continue 20 m. to the southward and westward.

“The bottom on the bank, so far as we examined it, is of such a narrow character, that it is difficult for a vessel to ascertain her situation by it; we often found a great variety of soundings in a very short distance, such as sand of various colours, and differently mixed, coarse and fine gravel, pebbles of various colours, stone, sponge, and shells. Notwithstanding this variety, some general character of the soundings may be useful. The mariner, therefore, will find, to the westward of the shoals, and at some distance from them, the bottom to be coarse sand and gravel of all colours; to the N.W., a mixture of white, black, and yellow sand; to the N., black and white sand; to the N.E., chiefly gravel and pebbles; to the E., fine white and yellow sand; and in lat. $41^{\circ} 57'$, and long. $66^{\circ} 40'$, some white moss; to the S.E., fine white and yellow sand; and to the S., generally white sand.

“As the shoals are approached, in whatever direction, the soundings become coarse, and are frequently mixed with shells of different kinds. Near the shoal much of the bottom is pebbles; and to the E. of the largest and most dangerous shoal, there are stones the size of hen's eggs, with moss and sponge on some of them.

“Near the S.E. point are from 15 to 20 fms.; a prevailing character of the soundings is green shells, chiefly of the species called sea-eggs. If a vessel be far enough S. to avoid danger, she will have no shells.

“The reports that rocks have been discovered on these shoals are undoubtedly incorrect; at the western part of the bank we saw, in strong tide rips, large quantities of kelp and sea-weeds, which, at a distance, had the appearance of rocks, but on sounding we found good water and a regular and clear bottom.

“It will be seen, by the bottom, that the holding-ground is not good; but the vessels employed in the survey, by having a long scope of cable, frequently rode out a considerable gale of wind for 22 hours, on the E. side of the main shoal, and also to the windward of it; the sea breaking very high at the time, we being in 10 fms. water.

“It may be worthy of remark, that at one cast of the lead, on examining the arming, I found one-third black sand, one-third white sand, and one-third green shells, in as distinct dimensions as they could be drawn.”

Since this survey, in 1821, the shoal has been surveyed by Captain Charles Wilkes and others, in the U.S. brig *Porpoise*, in the year 1837, and from this report the following is taken.

“The shoalest water found on any part of the bank was $2\frac{1}{2}$ fms., or 15 ft., reduced to L.W.; and this is only to be found in two small places, viz.: in lat. $41^{\circ} 40' 13''$, long. $67^{\circ} 44' 10''$, and lat. $41^{\circ} 40' 33''$, long. $67^{\circ} 44' 30''$. The whole of the shoal is composed of hard sand spits; fine sand on the shoalest places, and coarser as the water deepens, until it becomes large pebbles without sand.

“The rise and fall of tide is 7 ft., extremely regular, the first part of the flood setting N.N.W., the latter part N. by E. and ebb S.S.E. and S. by W. The flood

runs $4\frac{1}{2}$ hours, the ebb $5\frac{1}{2}$ hours; the greatest velocity $2\frac{1}{2}$ of a mile; and $\frac{1}{2}$ an hour to 2 hours in changing, going round with the sun N. by way of E. The wind has but little effect on the velocity. H.W., F. and C., at 10 h. 30 m.

"CLARK'S AND LITTLE GEORGE'S BANKS are proved by later examinations not to be accurately defined, and are but parts of the shoal ground of George's Bank.

"STELLWAGEN'S SHOAL GROUND.—Commander H. S. Stellwagen, U.S.N., by his soundings has shown the existence of this bank of over two thousand square miles, extending from George's Shoal to the westward, 25 m.; to the S.W., 50 m.; to the southward, 30 m.; its eastern limit being not yet defined; having on it as little as 9 fms. water, in some places rocky bottom.

"NOTE.—In coming from the southward for George's Bank, you will get soundings in lat. $40^{\circ} 4'$, if on the S.S.W. part of the bank. Should you not get soundings in lat. $40^{\circ} 30'$, you may be certain you are to the eastward of the shoal, when you must direct your course accordingly to clear it, when your first soundings will be in 75 to 60 fms. When steering to the northward, you will shoal your water gradually to 20 fms., when you will be in lat. $41^{\circ} 20'$, which depth of water you will have 10 or 12 leagues distant, either E. or W.

"Soundings from George's Bank continue W. by S., until you are nearly abreast of the E. of Long Id., then southward to Cape Hatteras."—*American Coast Pilot*.

FINIS.

CATALOGUE.

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