

THE LIFE - BOAT,

OR

JOURNAL OF THE NATIONAL LIFE-BOAT INSTITUTION.

(ISSUED QUARTERLY.)

VOL. VI.—No. 61.]

JULY 2ND, 1866.

PRICE 3d.
With Illustrations.

LIFE-BOAT OARS.

As a life-boat has, in the majority of cases, to be propelled by oars, and as, in order to rescue a shipwrecked crew, she has generally to be rowed to windward against a heavy sea and strong wind, it follows that too much care cannot be taken to place in the hands of her crew the most efficient instrument for the performance of their laborious as well as hazardous work.

The oars of a life-boat, except in the case of a few large boats that are worked exclusively by sails, have therefore always been considered the chief part of her furniture, and the greatest pains have been bestowed on their construction, and in the selection of the best material from which to make them.

From the first introduction of life-boats, at the end of the last century, fir oars have been used in them, it having been considered that ash oars were too limp and too heavy.

Thus, in a description of the Shields life-boat in the edition of Campbell's "Lives of British Admirals," published in 1817, vol. viii., the following passage occurs:—

"The oars she is equipped with are made of fir of the best quality, it having been found by experience that a rove ash oar which will dress clean and light, is too pliant among the breakers; and when made strong and heavy, from rowing double banked, the purchase being short, it sooner exhausts the rower; and this makes the fir oar, when made stiff, preferable."

In consequence, however, of the frequent breaking of the oars in the life-boats of the

NATIONAL LIFE-BOAT INSTITUTION, the attention of the Committee of Management has been recently directed anew to the subject, and by their direction a number of oars, made of different descriptions of wood, have been tested to ascertain their respective qualities.

Although to obtain very accurate results, it would have been necessary to destroy a much larger number of oars, yet the table appended, showing the result of the trials, so far, may not be without interest. It will be seen that three properties are designated as of value, viz., lightness, stiffness, and strength; and if all three were of equal value, there would be no difficulty in arriving at a decisive conclusion as to the fittest description of wood for a life-boat's oars, after testing a sufficient number of each sort. The question is not, however, quite so simple, and must, after all, remain a matter of opinion to some extent, as the above-named properties have different values, and even all practical rowers may not agree as to the relative value of each. We will remark on the three above-stated properties in succession.

1. *Lightness.*—It is of the utmost importance that a life-boat's oar should be as light as possible, consistent with strength; for, however well-balanced an oar may be, a greater effort must be required to move a heavy than a light one, and in proportion the sooner will a person become fatigued in rowing with the one than with the other; and, as a life-boat man will frequently have to make many hundred, and sometimes several thousand strokes with his oar before his object is attained, three or four pounds extra weight,

like the last pound on the camel's back, may cause him to break down altogether. Since, therefore, an oar being heavy or light may make the difference of a rower retaining his strength of arm or not, and hence of reaching a wrecked vessel or not, too much attention cannot be paid to secure the greatest possible lightness, in conjunction, of course, with adequate strength.

As the only suitable woods for the making of oars are different species of fir and ash, and as all fir woods are lighter than ash, it follows that, in this respect, fir oars are to be preferred for life-boat service.

2. *Stiffness*.—A stiff oar is considered to be more manageable in a rough sea than a pliant one, although in smooth water many men prefer rowing with pliant oars, especially those who have been accustomed to them. It is commonly supposed that there is a loss of power in rowing with a pliant oar, a certain portion of the force applied being expended in bending the oar. Such, however, is only to a slight extent the case, as no force once exerted can be absolutely lost, and the oar itself, in its effort to recover its normal condition of straightness before being withdrawn from the water, will continue the force first imparted to it after it has ceased to be made, in the same manner that a spring-board, in recovering its straight direction, enables a person to jump to a higher altitude or further distance than he otherwise could; the oar, in fact, merely acting as a medium for applying the force in an unequal and more prolonged manner. A slight degree of pliancy in an oar is probably, therefore, not a disadvantage, although much pliancy would be.

3. *Strength*.—It will no doubt be supposed by most persons that an oar cannot be too strong, and that, therefore, great strength is the most important element in a life-boat's oar. Up to a certain amount of strength, such is the case, and every oar in a life-boat should be so strong that the most powerful man could not break it in rowing; but beyond that amount, independently of unnecessary strength involving greater weight, it becomes a question whether additional strength may not be a positive and possibly a serious disadvantage, even to the extent of endangering the safety of a boat.

The most frequent cause of the breaking of oars in a life-boat is her being struck by a broadside surf, when the lee gunwale being forced under water, the men on that side cannot raise the blades of their oars suffi-

ciently high to prevent their becoming immersed: in that case the pressure of the water on the blades, as the boat is being carried, broadside on, at the rate of several miles an hour before the sea, is so great that the oars are forced from the rowers' hands, and retained in a nearly upright position, with the blades several feet below the bottom of the boat. If the boat be in shallow water, they then come in contact with the ground and are instantly broken, whilst, if in deeper water, they generally are so; and if from their great strength they were not to break, the strain on them is then often so great that they would wrench the thowl-pins out of their sockets, and break the gunwale of the boat; or, if the latter were too strong to give way, the risk of the boat upsetting would be much increased, as the pressure of the still water on the blades of the oars beneath the boat, and that of the crest of the sea on her upper side in the opposite direction, would powerfully tend to that effect.

In selecting the most suitable description of oar for a life-boat, we have then to decide on a maximum of *desirable* strength, and on a limited flexibility or pliancy, and to select the lightest description of wood that possesses those properties.

An analysis of Table I. (p. 188) shows that by far the strongest oars are those made of ash, but that they are also the heaviest; whilst if reduced in size to an equal weight with a fir oar, they would then be much more pliant, owing to the greater flexibility of ash wood.

Thus the lightest ash oar tested, of those made of uniform size, was 19 lbs., whilst a weight of $2\frac{3}{4}$ cwt. suspended at 1 foot from the end of the blade, equivalent to three times that amount or $8\frac{1}{2}$ cwt. of force, applied at the handle, caused no less than $5\frac{1}{2}$ feet of deflection without breaking the oar.

But the lightest fir oar, a Norway spar, of only $14\frac{3}{4}$ lbs., broke on the suspended weight amounting to 1 cwt., 3 qrs., and 23 lbs., equivalent to a force of 5 cwt., 3 qrs., and 13 lbs. at the handle, whilst its deflection at $1\frac{1}{2}$ cwt. on the blade, equal to $4\frac{1}{2}$ cwt. at the handle, was 1 ft. 10 in.

Now there can be no hesitation in pronouncing the latter of these oars to be preferable to the former. No rower could have broken it by his own strength, without exerting a force equal to more than $4\frac{1}{2}$ cwt., which is much more than he could do: its pliancy was not great, and with every

motion of his arms, he would have had to move $3\frac{1}{2}$ lbs. less actual weight than with the lightest ash oar.

On the other hand, if, as for the reasons above stated we believe to be the case, there is a limit to desirable strength, the greater strength of this, the lightest ash oar would have been an actual disadvantage.

It might, however, have been reduced in size and weight, but its pliancy would thereby have been much increased.

It will be observed, by Table III., showing the average quantities, that twelve descriptions of oars were tested, two of them being of ash, American (United States) and Quebec, and that ten descriptions were of fir of various sorts. If from the latter we reject American pitch pine and larch, on account of their weight and too great pliancy, Baltic yellow batten for its pliancy, Quebec yellow batten for its weight, and Quebec white spar for its deficient strength, we have remaining, from which to select, Norway and Baltic white spars and battens, and the peculiar wood the Oregon or Vancouver's Island pine. This latter wood has not hitherto been used for oars, but has been solely, we believe, imported for the masts of yachts, for which it seems to be peculiarly suited on account of its strength, cleanness, and freedom from knots, &c. A noble specimen of this wood, by far the longest and finest spar in Europe, will be familiar to those who are acquainted with the Royal Gardens at Kew, where it has been erected as a flagstaff, and towers high above the highest elms and other trees that surround it; its length being 159 feet, and its diameter only 19 inches at the base; the tree from which it was made having been 220 feet high.

Of these five selected descriptions of wood, the Norway and Baltic white spars and battens are so nearly equal in value, that it would be necessary to test a large number of each to distinguish any perceptible difference in the average of those brought into the market, and perhaps either

one of them may be as good as the others, but various lots of each may vary in quality, some being better and some worse. The oars made from spars (entire young trees) have generally been considered the strongest, and of those now tested, the strongest of the spar oars were stronger than those of the same wood made from battens or planks, but they are rather more uncertain, being apt sometimes to break abruptly at the knots. The remaining wood, the Oregon pine, deserves special notice. It appears to be the strongest of all the descriptions of fir, and has the advantage of great uniformity of character, so that every oar may be depended on. It is free from knots, and breaks with a very long fracture. It varies in weight, according to the part of the tree from which it has been cut, the outside part of the tree being also heavier than the inner part. It is, however, much more expensive than any of the other kinds of wood, consequent on being brought from so long a distance.

Fir oars generally are said to deteriorate, as regards strength, from age, becoming, after many years, drier, lighter, and more brittle.

It will be noticed, in Table I., that some of the oars tested were served with spun-yarn round that part of the loom which rests on the gunwale, that being the part where they most frequently break. It was thought that an oar might thereby be strengthened, but the effect appeared to be rather the reverse, and those oars generally broke with a short or abrupt fracture close outside the "serving."

The results of the testing so limited a number of oars, although attended with considerable expense, could only afford an approximate criterion as to their relative value. It is therefore proposed to supply a certain number of life-boats with oars of different descriptions, including ash, to be submitted to the test of experience and hereafter reported on. Some boats have already been supplied with oars made from the Oregon pine, for trial.

TABLE I.—TRIAL OF OARS at LIMEHOUSE, February and March, 1866. Length of each Oar 13½ feet; Diameter at thickest part of Loom 3½ inches; Width of Blade 5½ inches. The Rest, representing the boat's gunwale, 3 feet 8½ inches from end of Handle, and 2 feet 11 inches from end of Loom. The weight suspended 1 foot from end of Blade. The Oars marked thus * were served round with spunyarn in the wake of the gunwale.

No.	Description of Wood.	Weight of Oar.	Deflection.				Breaking Strain.	Length of Fracture.	Position of Fracture from end of Handle.	Remarks, &c.
			At ½ Cwt.	At 1 Cwt.	At 1½ Cwt.	At 2 Cwt.				
		lbs.	inches.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	
1	Oregon Pine, Timber	16	7	1 1½	1 7	2 4½	2 1 16	8 0	8 3	Strain across the grain of the wood. With the grain.
2	Ditto, ditto . . .	17¼	5½	0 11½	1 6	2 1½	2 3 4	10 0	5 9	
3	Ditto, ditto . . .	18	7	1 1½	1 8½	2 4¾	2 1 17	9 0	4 10	Across the grain.
4	Ditto, ditto . . .	20½	6½	1 1	1 8	2 3¾	2 3 21	9 4	6 8	With the grain.
5	Ditto, ditto . . .	19	5	0 10	1 2½	1 8½	2 3 17	4 3	5 0	Ditto.
6	Norway Spar, White	20	6	0 9	1 2	1 10½	2 1 21	1 6	5 4	
7	Ditto, ditto . . .	15½	7½	1 4	..	..	1 1 27	0 6	3 9	
8*	Ditto, ditto . . .	14¾	6½	1 1	1 10	..	1 3 23	Abrupt.	4 3	Broke short at the serving.
9	Ditto, ditto . . .	19½	3½	0 9½	1 4	2 7	2 1 11	6 6	7 0	
10	Norway Batten, White	15½	6	1 0	1 9	..	1 3 26	4 0	4 0	
11	Ditto, ditto . . .	17¼	4½	0 10	1 3	1 11	2 1 0	4 0	3 11	
12	Ditto, ditto . . .	16	5	0 10½	1 4½	..	1 3 22	2 4	4 9	
13	Ditto, ditto . . .	16½	4½	0 10½	..	..	1 1 0	2 0	4 2	Broke at a knot.
14	{ Baltic (Swedish) } Spar, White . . .	18	3¼	0 8	1 1½	1 10	2 1 0	2 0	4 3	
15	Ditto, ditto . . .	17	6½	1 1½	1 7½	..	1 3 24	Abrupt.	3 10	
16	Ditto, Batten, White.	20¼	6	1 0	2 1½	2 6	2 0 20	3 0	3 7	
17	Ditto, Batten, Yellow	20½	6½	1 0½	1 8	..	1 3 14	1 0	4 5	
18	{ Baltic (Petersburg) } Batten, White. }	17½	6	1 0	1 7½	..	2 0 0	0 6	4 4	
19*	Ditto, ditto . . .	16¾	5½	1 0	1 8	..	1 3 14	0 6	3 5	
20	Ditto, ditto . . .	16½	4½	0 9½	1 1½	1 10½	2 1 25	Abrupt.	3 8½	
21	Ditto, Yellow. . .	17¼	8	1 5	2 5	..	1 3 7	2 0	5 4	
22*	Ditto, ditto . . .	17	8	1 3½	2 2½	..	1 3 0	Abrupt.	5 9	
23	Quebec Spar, White .	15½	8	1 10	..	..	1 1 19	0 6	6 3	
24*	Ditto, ditto . . .	15½	6	1 5	..	..	1 1 19	Abrupt.	3 5	
25	{ Quebec Batten, Yel- } low (Red Pine) . }	19¾	4½	0 9½	1 3	1 11	2 2 7	Underpart crushed only.	4 5	
26*	Ditto, ditto . . .	20	4½	0 9½	1 3	1 11	2 2 13		Ditto.	6 2
27	American Pitch Pine	20	9	1 4½	2 2½	..	1 3 7	4 0	5 3	
28	Larch, Batten (Scotch)	20	7	1 5	2 5	4 3½	Unbroken.	..	..	At 2 cwt. 1 qr. 8 lbs. Deflection 5½ ft.
29*	Ditto, ditto . . .	18½	9	1 9	..	..	1 2 0	Abrupt.	4 0	
30	Ditto (English) . .	21½	7	1 2	1 11	3 2	2 0 0	5 0	7 3	
31	Quebec Ash . . .	23½	1½	0 7	1 0½	1 6	Unbroken.	..	..	Deflection at 4 cwt. 5½ feet.
32*	Ditto, ditto . . .	24	5½	0 11½	1 6½	2 3½	3 2 21	0 9	3 1	
33	{ American (States) } Ash, Red . . . }	20	6	0 11½	1 7	2 5	3 0 0	{ Sprung only.	Sprung only.	At 3 cwt. deflection 5½ feet.
34	Ditto, ditto, White .	19	7	1 2½	1 10	2 10	Unbroken.	..	..	At 2½ cwt. deflection 5½ feet.

OARS WITH STOUTER LOOMS.

1	{ Oregon Pine, Timber, } 4 inches diameter . }	13	6	1 0½	1 7½	2 6	2 1 0	5 0	6 0	
2	{ Admiralty Pattern, } 3½ inches diameter. }	21½	3½	0 7½	0 11½	1 3	3 1 0	Abrupt.	3 9	
3	{ Ditto, ditto, Swedish } Spar, White. }	21	2½	0 6	0 9½	1 1	2 2 11	1 6	8 6	
4	{ Norway Spar, White, } 4 inches diameter . }	24	3½	0 6	0 8½	1 0	2 2 0	0 9	3 11	

TABLE II.—RELATIVE QUALITIES of OARS of UNIFORM SIZE, as shown by Table I.

No.	Order of Weight	Lbs.	Order of Deflection, at $\frac{1}{2}$ -cwt. at blade = $1\frac{1}{2}$ cwt. at handle.	Inches.
1	Norway Spar, White	14 $\frac{3}{4}$	Quebec Ash	1 $\frac{1}{2}$
2	Quebec ditto, ditto	15 $\frac{1}{4}$	Baltic Spar, White	3 $\frac{1}{2}$
3	Norway ditto, ditto	15 $\frac{1}{2}$	Norway ditto, ditto.	3 $\frac{3}{4}$
4	Quebec ditto, ditto	15 $\frac{1}{2}$	Norway batten, ditto	4 $\frac{1}{2}$
5	Norway Batten, White.	15 $\frac{1}{2}$	Baltic ditto, ditto	4 $\frac{3}{4}$
6	Oregon Pine Timber	16	Quebec ditto, Yellow	4 $\frac{3}{4}$
7	Norway Batten, White	16	Quebec ditto, ditto	4 $\frac{3}{4}$
8	Ditto, ditto	16 $\frac{1}{2}$	Norway Batten, White	4 $\frac{3}{4}$
9	Baltic Spar, ditto	16 $\frac{1}{2}$	Oregon Pine Timber	5
10	Baltic Batten, ditto.	16 $\frac{3}{4}$	Norway Batten, White.	5
11	Baltic Spar, ditto	17	Oregon Pine	5 $\frac{1}{2}$
12	Baltic Batten, Yellow	17	Baltic Batten, White	5 $\frac{1}{2}$
13	Oregon Pine Timber	17 $\frac{1}{4}$	Quebec Ash	5 $\frac{1}{2}$
14	Norway Batten, White	17 $\frac{1}{4}$	Norway Batten, White.	6
15	Baltic ditto, Yellow	17 $\frac{1}{4}$	Baltic Batten, White	6
16	Baltic ditto, White.	17 $\frac{1}{2}$	Baltic ditto, ditto	6
17	Oregon Pine	18	Quebec Spar, ditto	6
18	Norway Batten, White.	18	Norway ditto, ditto.	6
19	Larch Batten	18 $\frac{1}{2}$	American Ash	6
20	Oregon Pine.	19	Oregon Pine	6 $\frac{1}{2}$
21	American Ash	19	Norway Spar, White	6 $\frac{1}{2}$
22	Norway Spar, White	19 $\frac{1}{4}$	Baltic ditto, ditto	6 $\frac{1}{2}$
23	Quebec Batten, Yellow	19 $\frac{3}{4}$	Baltic Batten, Yellow	6 $\frac{1}{2}$
24	Norway Spar, White	20	Oregon Pine Timber	7
25	Quebec Batten, Yellow	20	Ditto ditto	7
26	American Pitch Pine	20	Larch Batten	7
27	Larch Batten	20	Ditto ditto	7
28	American Ash	20	American Ash	7
29	Baltic Batten, White	20 $\frac{1}{4}$	Norway Spar, White	7 $\frac{1}{2}$
30	Oregon Pine	20 $\frac{1}{2}$	Baltic Batten, Yellow	8
31	Baltic Batten, Yellow	20 $\frac{3}{4}$	Ditto ditto	8
32	Larch Batten	21 $\frac{1}{2}$	Quebec Spar, White	8
33	Quebec Ash	23 $\frac{1}{2}$	American Pitch Pine	9
34	Quebec ditto.	24	Larch, Batten	9

TABLE III.—AVERAGE QUALITIES of each Description of OARS TESTED.

No.	Order of Weight.	Lbs.	Order of Deflection at $\frac{1}{2}$ -cwt.	Inches.
1	Quebec Spar, White	15 $\frac{1}{2}$	Quebec Ash	3 $\frac{1}{2}$
2	Norway Batten, ditto	16 $\frac{1}{4}$	Quebec Batten, Yellow	4 $\frac{1}{2}$
3	Norway Spar, ditto.	17 $\frac{1}{2}$	Baltic Spar White	4 $\frac{3}{4}$
4	Baltic ditto, ditto	17 $\frac{1}{2}$	Norway Batten, ditto	4 $\frac{3}{4}$
5	Baltic Batten, ditto	17 $\frac{3}{4}$	Baltic Batten, ditto	5 $\frac{1}{4}$
6	Oregon Pine Timber	18	Norway Spar, White	5 $\frac{3}{4}$
7	Baltic Batten, Yellow	18 $\frac{1}{4}$	Oregon Pine Timber	6 $\frac{1}{4}$
8	American Ash	19 $\frac{1}{2}$	American Ash	6 $\frac{1}{2}$
9	Quebec Batten, Yellow	19 $\frac{3}{4}$	Quebec Spar, White	7
10	Larch Batten	20	Baltic Batten, Yellow	7 $\frac{1}{4}$
11	American Pitch Pine, Yellow.	20	Larch, Batten	7 $\frac{1}{2}$
12	Quebec Ash	23 $\frac{1}{2}$	American Pitch Pine	9

TABLE II. *continued.*—RELATIVE QUALITIES OF OARS OF UNIFORM SIZE, as shown by Table I.

No.	Order of Strength.	Cwt. qrs. lbs.	Remarks, &c.
1	Quebec Ash	4 0 0	Unbroken at these weights, the great deflection having brought the weights to the ground.
2	American Ash	3 0 0	
3	Larch	2 1 8	
4	Quebec Ash	3 2 21	Strain in direction of the grain of the wood.
5	American Ash	3 0 0	
6	Oregon Pine, Timber	2 3 21	
7	Ditto, ditto	2 3 17	
8	Ditto, ditto	2 3 4	Strain across the grain.
9	Quebec Batten, Yellow	2 2 15	
10	Ditto, ditto	2 2 7	
11	Baltic Spar, White	2 1 25	
12	Norway Spar, Ditto	2 1 21	
13	Oregon Pine, Timber	2 1 17	
14	Ditto, ditto	2 1 16	
15	Norway Spar, White.	2 1 11	
16	Baltic ditto, ditto	2 1 0	
17	Norway Batten, ditto	2 1 0	
18	Baltic ditto, ditto.	2 0 20	
19	Ditto, ditto	2 0 0	
20	Larch Batten	2 0 0	
21	Ditto, ditto	1 3 26	
22	Baltic Spar, White	1 3 24	
23	Norway, ditto	1 3 23	
24	Norway Batten ditto	1 3 22	
25	Baltic ditto, ditto	1 3 14	
26	Baltic ditto, Yellow	1 3 14	
27	Ditto, ditto	1 3 7	
28	American Pitch Pine	1 3 7	
29	Baltic Batten, Yellow	1 3 0	
30	Larch Batten	1 2 0	
31	Norway Spar, White	1 1 27	
32	Quebec Spar, White	1 1 19	
33	Ditto, ditto	1 1 19	
34	Norway Batten	1 1 0	

TABLE III. *continued.*—AVERAGE QUALITIES of each Description of OARS TESTED.

No.	Order of Strength.	Cwt. qrs. lbs.	Remarks, &c.
1	Quebec Ash	3 3 10	
2	American Ash	3 0 0	
3	Oregon Pine	2 2 21	
4	Quebec Batten, Yellow	2 2 11	
5	Baltic ditto, White	2 0 15	
6	Norway Spar, ditto	2 0 6	
7	Baltic ditto, ditto	2 0 3	
8	Norway Batten, ditto	1 3 12	
9	Baltic ditto, Yellow	1 3 10	
10	Larch ditto	1 3 9	
11	American Pitch Pine	1 3 7	
12	Quebec Spar White	1 1 19	

THE WRECKS IN TORBAY DURING THE GALES OF THE 10TH AND 11TH JANUARY, 1866.

TORBAY, on the night of Wednesday the 10th of January last, was visited by one of the most terrific gales ever remembered there, and which strewed the western coasts of England with many wrecks. The loss of life was also very great. The Bay was seldom known to be so full of ships, owing, it was said, to the squally weather, occasioning many small craft to put in there weather-bound. It was, however, so comparatively calm during the afternoon of that day, that many vessels resumed their voyages, but they had not proceeded far before the appearance of the horizon induced them to return. Other vessels that were either going up or down Channel, being similarly warned, followed their example; consequently towards the evening there were upwards of seventy vessels—a great number of them foreign—anchored in the Bay, for the most part a short distance off the Harbour of Brixham. The anchorage of Torbay is landlocked against all but easterly winds, and there is space enough in it for whole navies to ride in safety. The great drawback to the security of the anchorage is the difficulty of getting out of the bay if the wind suddenly chops round to the east, as was the case during the recent gale. Soon after dark on that occasion, the calm quickly changed to a storm, during which the wind veered rapidly about, driving before it a blinding shower of rain and sleet. The sloops in Brixham Roads made all snug for the night, and, under the partial protection of the half-finished breakwater, expected to ride out the coming gale in safety. All that could be seen of the ships outside was the gleaming of their lights here and there, but no particular anxiety was felt on their account, as the wind seemed likely to come from a westerly quarter. But towards midnight it went suddenly round to the east, and at the same time the gale increased to a hurricane, bringing with it into the Bay such a sea as none of the sailors could remember to have seen there before. At that hour but few persons were out of doors, and when they went out to the pierhead, they could see but little through the driving rain and spray, except the lights which marked the position of the trawlers as they tossed to and fro. But presently ship after ship came driving in, making for Brixham Harbour as they

best could, and dashing on their course right through the little fleet of fishing sloops which lay moored outside. Some few got safely in, but the harbour's-mouth is narrow, and on each side of it are rocks on which, if a vessel runs, it soon goes to pieces. On the right-hand side, looking from the shore, are some shipbuilders' yards, and there the Coast-guardmen and a few other sailors assembled with lanterns and ropes, while others went to the pier, which runs out to some distance from the foot of the cliffs to the left hand of the harbour—precipitous rocky masses rising sheer above the water a hundred feet, against whose bases the waves were thundering. Presently the watchers on the pier and the yards could see a black mass looming indistinctly through the sleet, and with a terrible crash one vessel dashed on to the rocks on the right hand side, and then another, missing the harbour mouth, struck against the outside of the pier, and lay there at the mercy of the waves. In quick succession another and another came, all invisible until the last moment—seen for an instant suspended on a wave, and then hurled, with a crash which was heard above the roaring of the storm, against the vessels which were already grinding against the sea-wall of the pier. Gradually the news of the disaster spread through the town, and light after light gleaming in the windows of the houses round the quay, told that the families of the men on board the trawlers were preparing to rush to the pier for intelligence of the fate of husbands, and fathers, and sons. In a short time all the townspeople were on foot, and from the quays and the pier and the streets which run right up the hillside, and the cliffs over which the waves were breaking in spray, and the bleak hill on which it was scarcely possible to maintain a footing, an anxious crowd was striving to penetrate the darkness which covered the face of the waters; not idle spectators, led by curiosity or a sentimental compassion, but men and women and children, to whom all that were dear to them were in terrible danger before their eyes. Ship after ship came thundering in, till at last eight square-rigged vessels, and three of the fishing sloops, were grinding together in one indistinguishable mass, on the outside of the sea-wall, the great waves dashing them together, and breaking right over them, blinding with their spray the men who were striving to render assistance, and drowning their voices. One after another the ships broke up, so that

in a little time nothing was left but a tangled heap of beams and spars bound together by the ruin of the rigging. Had it been the time of spring tides, the sea would almost to a certainty have carried away the parapet of the sea-wall, and flung the wrecks bodily across the pier into the harbour. As it was, the men who thronged the pier were exposed to no small danger, as they mounted the parapet in the face of the sweeping seas, with the spars of the wrecked ships rattling about their heads. Hour after hour they did their work well, frequently contriving by

the feeble light of their lanterns and the fitful blaze of tar-barrels, to get out ropes to the half-frozen mariners on board the battered vessels. Most of the sailors were rescued from the ships which struck along the pier and on the right-hand side of the harbour; but on the left several vessels went ashore under cliffs down which, even in broad daylight, scarcely a path is to be found. All that could be seen from the top was a dark mass appearing at intervals through the broken water and the flying spray, rising at times on the top of a wave, and then



WRECKS IN TORBAY, ON THE 10TH AND 11TH JANUARY, 1866.

flung against the cliff as a man flings a sack to the ground. At length ropes were taken down to some even of these: in one case a fisherman, named CHRISTOPHER BARTLETT, was let down over the cliff with a lantern tied to his waist, thus saving the lives of a whole crew save one. Further on, however, ship after ship went ashore unassisted, for there is not a single house along the cliff for miles, and no one knew of the wrecks till morning; there they broke up where they struck, every man being drowned

in the dark. When at last the long-looked for morning light came, of the 62 vessels which had been in the bay the evening before, 20 had ridden out the gale or escaped into harbour, one had beaten out to sea, the rest had foundered, or were cast ashore. More than 40 wrecks had taken place in that bay alone, and out of their crews 73 men are supposed to have been drowned. Eight of the Brixham trawlers were sunk, but all their crews escaped except 3 men and a boy.

Our engraving* shows the scene at the back of Brixham Pier, where 13 vessels were driven ashore and mostly smashed to pieces. Several dead bodies were found under this mass of wreck. The estimated loss of property in ships and cargoes was from 150,000*l.* to 200,000*l.* At half-past 9 o'clock on the morning of the 11th Jan., a telegram reached Teignmouth from the harbour-master at Torquay, requesting that the life-boat of the NATIONAL LIFE-BOAT INSTITUTION might be sent there immediately. After some little delay in getting the boat manned, she was taken on her transporting carriage to Torquay. Being launched about 2 o'clock, she was afterwards the means of rescuing 7 men belonging to the brig *Cheshire Witch*, of London, and 4 men of the ship *Jessie*, of London. On the following Sunday a number of the rescued men went to the parish church to return thanks, one captain hiring men to go on pumping the water from his ship in order that his own crew might not be prevented from attending. Great praise is due to all who lent their aid on the occasion, from the clergy, several of whom were on the spot and worked heartily at the wrecks, down to the sailors and fishermen. The NATIONAL LIFE-BOAT INSTITUTION has since decided on forming a life-boat establishment at Brixham, and the expense of the same will be defrayed from a life-boat fund collected in the city of Exeter and the county of Devon. As soon as the boat-house is finished, the life-boat will be sent to Brixham; and the Life-boat Station will be in good working order, it is hoped, before the return of the equinoctial gales.

THE LOSS OF THE STEAM-SHIP 'LONDON.'

A CALAMITY like that of the wreck of the steam-ship *London* is one of those grievous and tragic events with which, in these storm-swept islands, the imagination of the public is only too familiar; yet which, out of the depths of misfortune and the very agonies of death, bring to light the noblest qualities of a seafaring race, and leave a sublime example of heroism behind. The new year, born in the wrath of sea and sky, and cradled, so to speak, in tempests, the like of which, in wide-spread havoc and cruelty of persistence,

* We are indebted to the Proprietor of the *Illustrated London News* for the loan of the wood-block of this engraving.

have hardly been equalled in our shipping annals for nearly half a century, had already written upon the wandering tablet of the treacherous waters, and in more ineffaceable characters on the memories of hundreds of destitute homes, a chapter of terrible sorrow. Seldom had the fury of the elements ranged over so many seas, and devastated so many shores at once. Not that it would be inconsistent with what is called "the law of storms," so far as these destructive agencies of nature have been reduced, by wide induction and accumulated experience, to the semblance of a law, that their force should be simultaneously felt over widely distant portions of the earth's surface and vast spaces of the sea. But seldom have we heard of such devastation of shipping along lines of opposite coasts, and of such huge disasters far off in the wastes and solitudes of the ocean. From quarter to quarter, almost from month to month, we seem to read of whole fleets of colliers and coasters putting to sea from their northern harbours, often in the face of warning signals, and presently after cast helpless on the quicksands or the rocks. Lamentable as is the domestic side of these common stories of English life, we are apt to dismiss them with the reflection that no doubt the vessels were ill-found, half-manned, and unseaworthy, and that the fatal recklessness of the masters and crews was much to blame. Occasionally we are somewhat more startled by the news of a passenger emigrant ship stranded on a shoal or burnt at sea, or, perhaps, some first-class outward-bound ship from Liverpool or London driven on a lee shore and split to pieces on the rocks within a week of her departure. Sometimes, as in the memorable case of the *Royal Charter*, it is a great ship lost with all her company on a return voyage within ear-shot of home.

The *London* was probably one of the finest passenger ships out of the port of London, and was only launched at Blackwall in 1864. She was iron built, of 1,752 tons register, 200 nominal horsepower, and nearly 3,000 tons burden, and had already made two successful voyages to Melbourne, one of which was completed in the short space of 59 days. The *London* left Gravesend on the 30th December last for Melbourne, and met with such severe weather in the Channel that she was obliged to seek the shelter of the Isle of Wight on the night of the 1st January. From thence to Plymouth she steamed down Channel

against a whole gale of wind and a heavy rolling sea, and the pilot boat which put off there to take her into the Sound was capsized, and the pilot drowned.

The *London* came to an anchorage inside the breakwater at 1 P.M. on the 4th January, and during the afternoon took on board those of her first and second-class passengers who had arranged to join the ship at Plymouth. At midnight on Friday she proceeded on her voyage, the weather being at that time calm with a light wind ahead. The officers and crew at that time numbered 86, and there were 153 passengers, giving a total of 239 persons on board. She had full steam on during the whole of Saturday, and the voyage promised to progress very satisfactorily until Sunday morning, when the wind increased and a head sea gradually rose. During the day the *London* passed several ships, and nothing occurred to create the smallest uneasiness in the minds of any of the officers of the ship. During Sunday night the wind increased to a gale, and the sea rose considerably. On the morning of Monday, the 8th January, the ship was well clear of the land, and Captain MARTIN having ordered the engines to be stopped, made the ship snug under close reefed topsails, and endeavoured to keep her moving slowly ahead. At noon on this day, the wind having somewhat lulled, the engines were again set in motion and kept steaming slowly ahead through the night. At 8 A.M. on Tuesday, the 9th January, while the captain was still endeavouring to keep the ship in her course by means of the screw, the violence of the gale carried away at one sweep the jibboom, the foretopmast, the topgallant mast, and the royal mast. These large spars were not wholly detached from the ship, but hanging fast by the stays swung to and fro with such violence that the crew were wholly unable to secure them. About two hours later the main royal mast was blown completely out of its socket, and added to the general wreck.

Captain MARTIN, who had not been in bed since the previous Sunday night, was not at all disheartened up to this moment, but as the gale continued to increase during the morning, with a sea already running mountains high, the position of the ship was undoubtedly felt to be one of some peril. Still, as the wind had somewhat veered round, the engines were kept steaming easy ahead; indeed, it is believed that at that time no person on board felt any anxiety for the ulti-

mate safety of the ship. About 3 P.M. on Tuesday, a tremendous sea struck the ship, and carried the port life-boat clean away from the davits. All that evening, and through the succeeding night, the wind blew a very heavy gale, and the sea ran very high, but the screw was still kept steaming easy ahead. At 3 A.M. on Wednesday, the 10th January, Captain MARTIN sent for Mr. GREENHILL, the chief engineer, and informed him of his intention to put the ship about and run for Plymouth, and he desired that full speed should be got up directly. This was immediately done. Up to that time the engines were in good working order, and the skylights were perfect. In half an hour after the ship's course had been altered she was again struck by a tremendous sea which carried away the starboard life-boats, and the same sea stove in the starboard cutter. At noon on this day the ship's position was in lat. 46° 48' N., long. 8° 7' W., viz., in the Bay of Biscay, about 200 miles south-west of the Land's End. A very heavy cross sea was running with the wind now dead astern of the ship, which caused her to roll heavily, and much impeded her progress. But no danger was even now anticipated, and all through the evening of Wednesday and long after night-fall the ship continued to steam slowly ahead, the captain and his officers remaining steadily at their posts, and the passengers appearing to have full reliance upon the skill of Capt. MARTIN to bring them safely to port.

At 10:30 P.M. on Wednesday, the ship still rolling deeply in a heavy cross sea, and the wind blowing a whole gale from the S.W., a mountain of water fell heavily over the waist of the ship, and spent its destructive force upon the main hatchway over the engine-room, completely demolishing this massive structure, measuring 12 feet by 8 feet, and the framework of which was made of teak, and flooding with tons of water this portion of the ship. This hatchway had previously been battened down with tarpaulin and a large sail doubled. Instant endeavours to repair the hatchway were made with a promptitude and vigour commensurate with the imminent crisis. Two ladders and a spar were placed over the hatch as supports, and sails and tarpaulins were used to secure it. Even blankets and mattresses from all parts of the ship were thrown over the aperture, but each succeeding sea shipped by the vessel tore away the frail resources of the moment, and also

washed into the lee scuppers the men who were endeavouring to repair the damage done, and not more than ten minutes after the hatchway had been destroyed, the water had risen above the furnaces and up to the waist of the engineers and firemen employed in this part of the ship. The lower decks were also now flooded with the rush of waters the ship was continually taking in. The chief engineer remained at his post until the water had risen above his waist, when he went on deck and reported that his fires were out and his engines rendered useless. Captain MARTIN, with calm conviction, remarked that he was not surprised; on the contrary, he had expected such a result. This was the night on which such a large number of vessels were wrecked and so many lives were lost in Torbay, as described on page 191.

Finding his ship at length little more than a log on the water, Captain MARTIN immediately ordered his maintopsail to be set, in the hope of keeping her before the wind. This difficult work had scarcely been accomplished when the force of the wind tore the sail into ribands, with the exception of one corner, under which the ship lay to throughout the remainder of the night. The donkey engine, supplied with steam by a boiler upon deck, and all the deck pumps were kept going throughout the night, and the passengers of all classes, now aroused to a sense of their imminent danger, shared with the crew their arduous labours. The passengers and crew all this time behaved exceedingly well, and worked with an orderly energy which showed it was for their lives they strove. Notwithstanding every effort the water still gained upon the pumps, and the gale continuing at its height, cross seas with tremendous force were constantly breaking over the vessel, which at length succumbed to the unequal conflict. From this moment the motion of the ship was low and heavy, and she refused to rise to the action of the waves. At a quarter after four o'clock on Thursday morning she was struck by a stern sea, which carried away four of her stern ports, and admitted a flood of water through the breach, and all the exertions made to close it were wholly unavailing.

From this time all efforts were useless, and at daybreak Captain MARTIN, whose cool intrepidity had never for a moment forsaken him, entered the saloon where all classes of the passengers had now taken

refuge, and, responding to an universal appeal, calmly announced the cessation of all human hope. It is a remarkable fact that this solemn admission was as solemnly received—a resigned silence prevailing throughout the assembly, broken only at brief intervals by the well-timed and appropriate exhortations of the Rev. Mr. DRAPER, whose spiritual services had been incessant during the previous twenty-four hours. At this time there were only four boats left, viz., the port cutter, two pinnaces, and a jolly-boat, the two life-boats and the starboard cutter having been previously washed away. At ten o'clock, the ship still rolling deeply, an attempt was made to launch the iron pinnacle, but a sea struck her just as she reached the water, and she sank, leaving a crew of five men struggling for their lives. As the ship was lying to, three of them managed to scramble up the sides of the ship, and the other two were rescued by ropes being thrown to them. After this the exhausted crew appeared indifferent to their fate, and no further effort at launching the remaining boats was made until one o'clock, when the water having reached the main chains, and the ship evidently settling down, the port cutter was got over the ship's side. The captain before this had the foresail loosened and the mainyards braced round, so that the port side of the ship could be brought to the lee side, and the ship brought to on the starboard tack. Even at this moment the sea was so heavy, that those of the passengers who were within reach of the boat appeared to prefer the frail shelter of the sinking vessel to the obvious dangers of a small boat in a raging sea. At this crisis Captain MARTIN, always at hand, addressing Mr. GREENHILL, his chief engineer, under whose command this particular boat was rated, said, "There is not much chance in the boat. There is none for the ship. Your duty is done. Mine is to remain here. Get in and take the command of the few it will hold." Thus prompted, Mr. GREENHILL, with his fellow engineers and some few others, numbering only 19 souls, among whom were only 3 passengers, quitted the ship—with only a bag of ship biscuits and some turnips and carrots in the shape of provisions, and a small breaker of water, which was spoilt by being mixed with salt water. They had also four bottles of wine and brandy, which were, however, purposely concealed by Mr. EDWARDS, a midshipman, who was the only officer saved from the *London*. These 19

men shouted to the captain to come with them, but with that courage which was characteristic of him, he declined to go with them, saying, "No; I will go down with the passengers; but I wish you God-speed and safe to land." He had told the men that their course for the nearest land was E.N.E. for Brest, and that they were distant from that place about 190 miles. An ineffectual attempt was made by those left on board to get the other boats out, but it was too late. The cutter had scarcely cleared the wake of the vessel, upon the poop of which upwards of fifty of the passengers were seen grouped, when a tremendous sea was seen to break over the doomed circle, who, when the ship rose slowly again, were discovered to have been swept into the surging waters. Another moment, and the vessel herself, settling down stern foremost, threw up her bows into the air, and sank beneath the waves with her crowd of human beings, from whom one confused cry of helpless terror arose, and all was silent. Two hundred and twenty poor creatures were thus lost in this unfortunate vessel.

The cutter, having no sails on board, could only keep afloat before the wind, and was repeatedly in danger of swamping. The men had not been afloat two hours before they saw a full-rigged ship sail past them, but at too great a distance for hail. At 3 A.M. on Friday they sighted the sails of a brig, the crew of which overheard their shouts and bore down towards them, but failing to get into the track of the boat, after making several fruitless tacks, she bore away. At daybreak a full-rigged ship was observed, at some distance, and hoisting a shirt upon an oar, they endeavoured, but in vain, to attract attention. Shortly afterwards the Italian barque *Adrianople*, Captain CAVASSA, bound with a cargo of wheat from Constantinople to Cork, hove in sight, and the captain, having observed the cutter, immediately shortened sail and lay to, preparing to take them on board. On reaching the ship, notwithstanding the stress of weather and straitened means for the support of so large an increase to his crew, Captain CAVASSA received the Englishmen with unbounded kindness and hospitality, supplying them with all that was needful in their destitute condition. The exigencies of the gale had obliged Captain CAVASSA to sacrifice more than half his cargo, and during the four days' run into Falmouth, the weather carried away his rudder, and brought into

useful requisition the services of his English passengers.

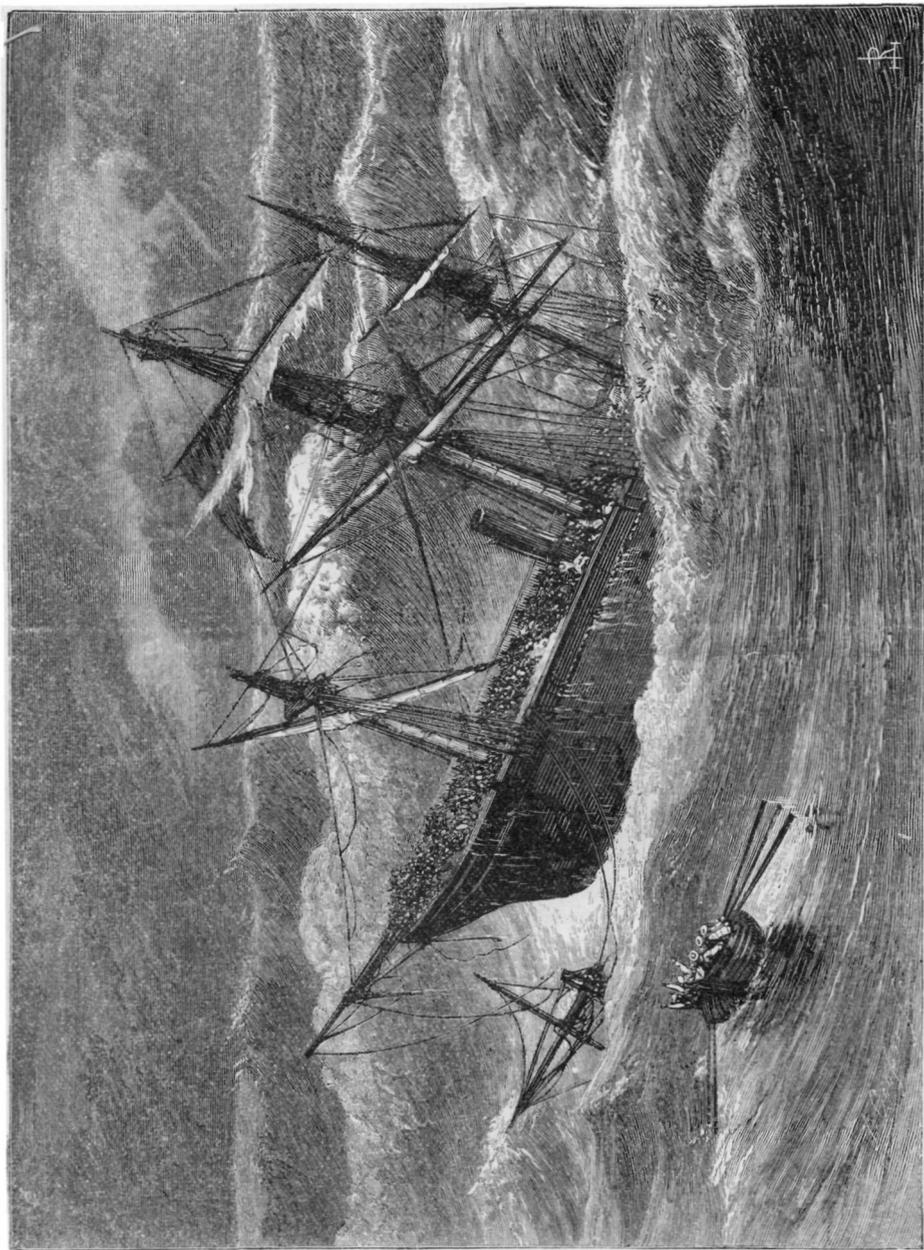
And thus were providentially saved 19 souls of the unfortunate *London*, to relate the disaster by which upwards of 220 left on board with Captain MARTIN sunk with the ship.*

Amongst the passengers on board the *London* was Mr. G. V. BROOKE, the celebrated actor, and he was among the number lost. He was a tall man, of powerful build, and he is stated by the rescued passengers to have exerted his strength to the utmost in helping to keep the ship afloat, and in encouraging the others to do so likewise. He assisted at the pumps until working at them was found to be useless; and when last seen, about four hours before the steamer went down, he was leaning with grave composure upon one of the half-doors of the companion, calmly watching the disastrous scene. To the steward he said, "If you succeed in saving yourself, give my farewell to the people of Melbourne." We may add that, as a mark of respect to the memory of Mr. BROOKE, a committee was formed in London amongst actors, and a fund raised for the purpose of providing a life-boat, to be named the *G. V. Brooke*. The amount collected has been handed to the NATIONAL LIFE-BOAT INSTITUTION, by whom the boat is to be placed at Poolbeg, near Dublin—that city being the native place of the deceased gentleman.

SERVICES OF THE LIFE-BOATS OF THE NATIONAL LIFE-BOAT INSTITUTION.

TYRELLA, DUNDRUM BAY, IRELAND.—During a whole gale of wind from S.S.E., on the 6th December, 1865, a schooner was seen endeavouring to beat out of Dundrum Bay. Owing to the heavy gale and the tremendous sea running, she failed in doing so, and went ashore at Rathmullen. The Tyrella life-boat was at once conveyed to the spot, and launched, in the eye of the wind. After encountering a very heavy sea through which the boat was gallantly rowed, she succeeded in reaching the wreck, and in taking off the crew of 5 men, afterwards landing them in safety. The vessel proved

* The proprietors of the *Quiver* magazine have kindly placed the wood block of this illustration at our disposal.



Foundering of the Australian Screw Steamer, "London," in the Bay of Biscay, on the 11th of January, 1866.

to be the schooner *Daniel O'Connell*, of Arklow, laden with Indian corn.

WEXFORD.—On the 6th December intelligence was received at Wexford that a large vessel was stranded on the Blackwater Bank. The weather was very thick at the time, with a strong wind and heavy sea. The Wexford large life-boat at once went off in tow of the steam-tug *Ruby*, and proceeded along the inside of the Bank in search of the vessel. The wind had then freshened to a gale, and the sea was so high that it broke over the tug, and nearly put the fires out. After a search of fully four hours under very trying circumstances, no trace of the vessel could be found, and the life-boat returned to the shore.

On the following morning, the weather being clearer, the life-boat again put off in tow of the steam-tug, and on approaching the north end of the Blackwater Bank, a vessel's mast was seen above water, with 4 men clinging to it. The sea was now literally breaking mountains high, and the greatest danger existed in nearing the wreck, portions of which were every few minutes exposed in the vicinity of the mast. Five times did the life-boat near the poor fellows—sometimes so close as to enable the crew to cheer them up—but not near enough to effect their rescue. The life-boat's crew were becoming quite exhausted with their hard labour, but a final effort was determined upon, as the mast was to all appearance about to fall. The boat's anchor was let go outside of the wreck, and the boat pulled up close to the mast, which was grappled, and the 4 men were then got on board. They had been exposed in their perilous position for nearly twenty-eight hours, with nothing to eat but a small portion of uncooked meat. The vessel proved to be the steamship *Barbadian*, of Liverpool, bound from that port to Barbadoes with a general cargo. Out of the crew and passengers of the steamer (37 in number), 12, including the captain and chief mate, unhappily perished, 21 having succeeded in reaching the shore in one of the ship's boats.

On the 20th February last, the Wexford small life-boat put off in reply to signals of

distress from the smack *Lily*, of Wexford, which had struck on the Dogger Bank. It was blowing strong from N.N.E. at the time, with a heavy sea on. On arriving alongside, the vessel was found to have sprung a leak, and with some difficulty the crew, consisting of 6 men, were taken on board the life-boat. This was hardly done before the smack heeled over and disappeared beneath the waves.

On the 9th April the same life-boat again put off to the smack *Shamrock*, of Wexford, which was totally wrecked during a very strong easterly wind on the north end of the Dogger Bank. The life-boat was placed as near as possible, and the crew, jumping from the wreck, were caught in the arms of the life-boat men. The smack soon afterwards disappeared.

CAISTER, NORFOLK.—On the 11th December, the brig *Lucy*, of Sunderland, was stranded on the shoal part of the Barber Sand. The beachmen put off in one of their yawls, and endeavoured to get the vessel off. In this, however, they failed; and, the crew refusing to quit their vessel till she was full of water, the beachmen returned to the shore. Soon afterwards, however, signals of distress were seen flying from the vessel's rigging, and the Caister life-boat was immediately launched, and brought ashore the crew of 6 men. The wind was blowing strong at the time from N.E. by N., with a heavy swell on.

Early on the morning of the 16th February last, the same life-boat put off in reply to signals of distress from the S. S. *Lady Beatrix*, of Sunderland, bound from that port to London with coals, which vessel had struck on the Middle Cross Sand. The wind at the time was S.W. by S., blowing strong. Some of the life-boat's crew boarded the vessel, and eventually succeeded in getting her off the Sand, and in bringing her safely into Yarmouth.

About four o'clock on the morning of the 7th April, the steamer *Corbon*, of Newcastle, was observed in an unmanageable state, and drifting about with the tide, in the direction of the Cockle Sand. The weather was hazy and the wind fresh from

E.N.E. The Caister life-boat put off, and, with the assistance of the Scratby life-boat, the vessel was brought safely into Yarmouth Roads.

RAMSGATE.—During a heavy gale of wind from the N.N.E. on the 15th December last, the Dutch brig *Zeeploeg*, of Hoogez, was wrecked on the Goodwin Sands. The vessel's crew took to the rigging, and were taken off the jibboom by the Ramsgate life-boat. The vessel soon afterwards became a total wreck.

At midnight on the 30th December the same life-boat put off again, in tow of the steam-tug *Aid*, in reply to signals of distress from the light-vessel on the Goodwin Sands. While proceeding to the southward at the back of the Sands, a large vessel was seen on shore. The life-boat was grounded on the Sand about 40 fathoms from the ship, which was boarded by the life-boat's crew; and a lugger and another steam-tug having come out to the rescue, all were employed, and great exertions were made to save the vessel from destruction. The wind and sea, however, increased as the tide rose, and both the steamers' towing-hawsers were obliged to be slipped and drawn on board. The *Aid* then returned to the life-boat and towed her to windward of the wreck, and after two attempts the life-boat succeeded in taking off the vessel's crew of 16 men. The sea at this time was very heavy, rendering it extremely perilous in getting the shipwrecked crew out, the life-boat occasionally striking heavily against the vessel's side, slightly damaging her. The shipwrecked men were afterwards placed on board the tug, and brought safely into harbour. The vessel proved to be the barque *Norma*, of Bremen.

Again, on the 11th January last, the Ramsgate life-boat went out in tow of the steam-tug *Vulcan* to the rescue of the crew of the schooner *Zephyr*, of Banff, which was totally wrecked on the north part of the Goodwin Sands. The wind was strong from S.S.W. at the time the boat started, and afterwards shifted to a heavy gale from N.E. The vessel was found on her beam ends, with her crew standing on her broadside. A boat belonging to the lugger *Champion*, of Ramsgate, was alongside, taking the men off one by one. When all were on board, the boat was pulled to the southward, the tug and life-boat proceeding in the same direction to meet them. Finding there was too much sea for the lugger's

boat, the crew made signals for the life-boat to come to them. The life-boat then made sail, and crossed the Sand through a very confused and heavy sea in the Bight of the North Sand Head. At this moment it blew a terrific gale, with hard squalls. After much difficulty the life-boat was placed alongside the small boat, and the crew of 6 men were taken on board, and afterwards brought safely into Ramsgate Harbour.

PETERHEAD, N.B.—On the 24th December, the schooner *Wilhelmina*, of Veendam, went on shore, during stormy weather, at Scolston Head, off Peterhead. The *People's Journal*, No. 1, life-boat at the latter place, went off and rescued one of the crew.

On the 13th January, the same life-boat again went off, and rescued the crew of 3 men from the schooner *Black Agnes*, of South Shields, which, while making for the harbour during a heavy gale of wind from the S.S.W., went ashore on the rocks near the entrance. The life-boat was reported to have behaved admirably on the occasion. During the service she was exposed to some very heavy seas, which severely tried her good qualities.

Again, on the 24th March, the same life-boat went off to the rescue of the crew of the brig *Providentia*, of Svelvig, near Drammen. In running for the harbour, during a gale of wind from the S.E., the vessel had struck on the rocks near the entrance, and had become a total wreck. The life-boat was pulled under her lee-side, and the crew of 8 men were taken off, and brought in safety to the shore.

The cost of this fine life-boat, which had only recently been placed on this station, had been generously defrayed by the subscribers to the Dundee *People's Journal*.

ARKLOW, IRELAND.—On the 26th December the ship *Tenassarian*, of Liverpool, was totally wrecked, during a gale of wind from the N., on Arklow Bank. As soon as possible the Arklow life-boat was launched, and found the vessel on the bank about three miles to the N.E. of the light-ship. The hull was totally under water, the mainmast carried away, and 34 of the crew were lashed to the fore-rigging. All were taken off by lines from the life-boat, and afterwards brought safely ashore. Two of the crew had unhappily perished before the arrival of the life-boat.

The Wicklow life-boat also put off with the view of rescuing the crew of the same vessel.

HAUXLEY, NORTHUMBERLAND.—On the 28th December the schooner *Tom Cringle*, of Thurso, N.B., went on shore on the Bondicar rocks, near Hauxley. The wind was blowing strong from the S., and a high sea running. Signals of distress having been seen from the shore, the Hauxley life-boat was soon launched, and succeeded in taking off the vessel's crew of 4 men.

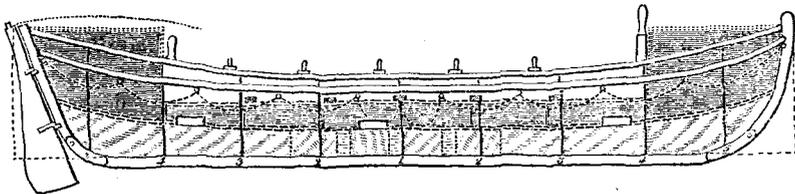
NEWBIGGIN-BY-THE SEA, MORPETH.—Early on the morning of the 28th December, information was received at this station, that a ship was on shore at Spittal Point, about a mile S.W. of Newbiggin. There was a strong wind blowing from the S. at the time, and it was very dark. The Newbiggin life-boat was promptly launched, and brought ashore the crew of 9 men. The vessel proved to be the brigantine *Neptune*, of Delaware, U.S., bound from New York to Grangemouth, N.B., with a cargo of petroleum.

PADSTOW, CORNWALL.—On the 29th December, intelligence was received here that a vessel was anchored at the entrance of the harbour, near Hell Bay, with an ensign flying half-mast high. The wind was

W.S.W., blowing a very strong gale. The Padstow life-boat was quickly launched, and found the vessel rolling heavily. The life-boat was anchored within half a cable's length of her, and, after much difficulty and danger, the vessel's crew of 17 men, were taken off. The wind was blowing so heavily out of the harbour that it was with great difficulty the crew of the life-boat, assisted by the vessel's crew, were enabled to regain the shore, and at one time it was doubtful whether the life-boat would not have to proceed out to sea, and make for Port Isaac. Some hours afterwards the sea was seen to be making a clean breach over the ill-fated ship, which, having dragged her anchors, drifted into Hell Bay, and became a total wreck. She proved to be the barque *Juliet*, of Greenock, bound from Demerara to London with a cargo of rum and sugar. The master of the vessel said, "Had the life-boat not come to our assistance, all hands must certainly have perished; and I cannot speak in terms too strong to express my sense of the conduct of the boat's crew in risking their lives in such a gale."

[We are compelled by want of space to postpone giving an account of additional noble services performed this year by different life-boats.]

ADDITIONAL STATIONS AND NEW LIFE-BOATS.



WHITBURN, DURHAM.—The NATIONAL LIFE-BOAT INSTITUTION forwarded to this important station, in September last, a new 32-foot 10-oared life-boat and transporting-carriage, in the place of the boat and carriage previously there, the old boat having been found to be affected by decay. This life-boat is named the *Thomas Wilson*, after the first Chairman of the Institution, who had assisted in its formation, and whose native county was Durham. The Great Northern

and North Eastern Railway Companies readily gave a free conveyance over their lines to the life-boat and carriage. The new boat has already rendered good service by rescuing several shipwrecked crews.

HAUXLEY, NORTHUMBERLAND.—The Institution has just forwarded to this station a fine new life-boat, 34 feet long, and rowing 10 oars double-banked, and provided with a transporting-carriage, in the place of a

smaller boat. The Society is indebted to the munificence of ELEANOR Duchess of NORTHUMBERLAND, for 450*l.*, to defray the cost of the life-boat and its equipment, in memory of her late husband, the Duke of NORTHUMBERLAND, K.G., and at her Grace's desire the boat is named the *Algernon and Eleanor*. The new boat was kindly carried free to its station by the Great Northern and North Eastern Railway Companies; and on arriving there it was publicly launched, and tried in a heavy surf, where its behaviour gave great satisfaction to the crew.

NEWBIGGIN, NORTHUMBERLAND. — The Institution has, at the request of the fishermen, removed the old life-boat from this place, and sent there in its stead a new and more powerful boat, 34 feet long. Its cost (400*l.*) was presented to the Society by Miss HOPKINSON, through W. ANDERSON OGG, Esq., in memory of her brother, after whom the boat is named the *William Hopkinson* (of Brighouse). The life-boat and carriage were readily conveyed to their station, free of charge, by the Great Northern and North Eastern Railway Companies.

SELSEY, SUSSEX. — The life-boat on this station has been exchanged for another boat, as it was found that the old boat required various alterations and improvements to render it thoroughly efficient. The expense of this life-boat was originally defrayed by members of the Society of Friends, and the boat is named the *Friend*. The new life-boat was granted a free conveyance to Chichester by the London, Brighton, and South Coast Railway Company.

COURTOWN, IRELAND. — The NATIONAL LIFE-BOAT INSTITUTION has just formed a life-boat station at Courtown, on the coast of Wexford. Although wrecks have not been frequent in the immediate locality of that place, yet it was considered by the residents that a life-boat stationed there might be of service in rescuing the crews of vessels getting on the Arklow and Blackwater sand-banks, there being plenty of boatmen to man such a boat. Accordingly, a fine

life-boat, 36 feet long, and 8 feet 4 inches wide, has been placed there, suitable for service on the outlying banks. The expense of the boat has been met from the life-boat fund raised by the Manchester Branch, through the benevolent exertions of ROBERT WHITWORTH, Esq., Rev. E. HEWLETT, and others, this being also their fifth boat, which is named the *Alfred and Ernest*, after Mr. HEWLETT's two sons. The life-boat was sent to its station in December last, *vid* Holyhead and Kingstown,—the boat's transporting-carriage being forwarded by steamer from London to Dublin, thence by railway to Courtown, free of charge. A new and commodious life-boat house has been erected for the boat.

ARBROATH, N.B. — The Institution has taken this life-boat establishment into connection with it, and has completely renovated the station, having placed there a new 32-foot 10-oared life-boat, thoroughly equipped, and provided with a transporting-carriage, which have been placed in a substantial boat-house, constructed for them by the town authorities. The cost of the life-boat has been defrayed, jointly with that at Peterhead, from the life-boat fund collected from the readers of the *People's Journal*, Dundee. It has been named the *People's Journal*, No. 2. A free conveyance was kindly granted to the boat and carriage over the lines of the Caledonian, Scottish Central, and Scottish North Eastern Railway Companies. A public exhibition of the life-boat took place in Dundee, and the boat was afterwards forwarded to its station at Arbroath, and received a hearty and general demonstration on the part of the townspeople there. The life-boat was named by Mrs. LUMGAIR, the wife of the Provost, and was tried in a stiff breeze and some surf, affording much satisfaction to the crew.

KINGSDOWNE, KENT. — The Society has just formed a life-boat establishment at Kingsdowne, near Deal, and has placed there a fine 33-foot life-boat, rowing 10 oars, and provided with a transporting carriage. A commodious boat-house has also been built by the Institution for its reception. It was thought that

a life-boat placed at Kingsdowne, where it could always be ably manned, would be very useful to go to the aid of crews of vessels stranded on the Main, or on the south end of the Goodwin Sands, as she could reach there more quickly than the life-boats on the contiguous stations. This part of the coast can hardly be over protected with life-boat stations, on account of the enormous shipping traffic constantly passing in the neighbourhood of these fatal sands. The cost of this life-boat, the *Sabrina*, amounting to 300*l.*, was presented to the Institution by WILLIAM FERGUSON, Esq., of the Stock Exchange. The South Eastern Railway Company readily granted a free conveyance over their line to the life-boat and carriage.

CULLERCOATS, NORTHUMBERLAND.—The life-boat on this station, having been found to be seriously affected with decay, has been withdrawn, and a fine 33-feet 10-oared life-boat sent there in its place, the cost of which has been given to the Institution by PETER REID, Esq., of the Stock Exchange, at whose desire the boat has been called the *Palmerston*. The old boat had done good service in her time to shipwrecked crews; and on many occasions the crew have, by her help, safely piloted their fellow-fishermen's cobsles to land, when they have been suddenly overtaken by gales of wind while returning from their fishing-ground. With their usual kindness, the Great Northern and North-Eastern Railway Companies readily passed these life-boats free over their lines.

RAMSGATE.—The Institution has stationed at this important life-boat station, under the management of the Board of Trade, one of its finest self-righting life-boats. The boat is 40 feet long and 10 feet wide, rows 12 oars double-banked, and has been constructed with the especial view of being taken out from the harbour in tow of a steam-tug, to the Goodwin and other dangerous sand-banks in the vicinity of that place. The boat also possesses fine sailing qualities, and will, no doubt, like the previous life-boat on this station, the *Northumberland*, be of the greatest service in saving

the lives of shipwrecked crews. The old boat had become worn out and unfit for further service, having been in active use during stormy weather for the past thirteen years. In that period she had been instrumental in saving, in conjunction with the harbour steam-tugs, 18 vessels from destruction, and had rescued altogether about 400 lives from various wrecks. We believe that such noble services, performed by one life-boat, are unparalleled in the history of the dangerous life-boat work. It is a gratifying fact that in all this time not a soul was ever lost from the boat. The cost, amounting to 450*l.*, of the new life-boat was contributed to the Institution by inhabitants of the town of Bradford, through the ex-Mayor CHARLES SEMON, Esq. The *Bradford* boat will always be kept afloat in the harbour in readiness to go out at any moment, in tow of the harbour steam-tugs, to the rescue of shipwrecked crews. The steamer *Aid* came to London in February last for the boat, and towed her thence to her station.

BRAUNTON, NORTH DEVON.—The Institution has just replaced the small life-boat stationed on Braunton Sands by a larger boat, 32 feet long, 7 feet wide, and rowing 10 oars double-banked. The boat is provided with a transporting-carriage, and the boat and carriage are kept in a commodious wooden boat-house built on the Sands, and which also has a room attached, with every comfort for the relief of any shipwrecked crews that may be rescued by the life-boat—as, in the absence of such accommodation, the rescued men might perish from cold and exhaustion after being brought ashore, there being no houses in the immediate neighbourhood to which they could be taken. The cost of the new life-boat and carriage has been generously defrayed by GEORGE JEREMY, Esq., and Mrs. JEREMY, of Lea Coombe House, Axminster, the boat being named the *George and Catherine*. The London and South-Western Railway Company readily gave a free conveyance to the new and old boats over their line in April last. The boat was publicly launched at Barnstaple on the 26th April, and the ceremony was a most imposing and interesting one. The life-boat,

mounted on its transporting-carriage, was drawn in procession through the town, escorted by the 6th Devon Rifle Volunteers, and taken to the banks of the river, where it was named with the usual ceremony by Lady Fortescue, and launched; then various evolutions took place with the boat, including capsizing, to display its self-righting qualities. Prior to the launch, Earl FORTESCUE, in the course of some remarks, expressed the gratitude of himself and the local residents generally for the munificent gift of the new life-boat and carriage, and his satisfaction in assisting at the launch of a vessel which he hoped might for years be blessed with rich fruit on its errand of mercy. He added, that the benevolent donors of this boat would have the satisfaction of knowing, not only that their own gift was sure to be employed in a work of mercy, but that it would afford for years to come an opportunity to other benevolent persons to show their self-denial and their charity, and to call out in others a feeling of humanity and of heroism.

HAYLE, CORNWALL. — The NATIONAL LIFE-BOAT INSTITUTION has just formed a life-boat establishment at Hayle, on the Cornish coast. Several casualties had recently occurred on Hayle Bar, and in particular the S.S. *Bessie*, of Hayle, was totally wrecked there in January last, and a French schooner in October. Fortunately, however, the St. Ives and Penzance life-boats were the means on the above occasions of saving 15 poor fellows from an inevitable death. These disasters called the attention of the inhabitants to the necessity of placing a life-boat at Hayle, which is a port of increasing importance. Accordingly the Institution has forwarded there a new 32-feet 10-oared life-boat, provided with a transporting-carriage, and they have been placed in a substantial building provided for them. The expense of the life-boat station was defrayed from a fund collected in the University of Oxford, chiefly through the exertions of the Rev. G. S. WARD, M.A., of Magdalen Hall. The boat before being placed on its station was taken to Oxford,

in compliance with the wish of the donors; and on the 24th April, after being drawn on its carriage through some of the principal streets of that city, was taken to the towing-path on the Berkshire side of the River Isis, and manned by the "University Eight," who were recently successful in the contest with the sister University on the Thames: also two other members of the University joined that crew. The Vice-Chancellor then congratulated the University upon the successful termination of its labours in regard to this life-boat fund. The members had thus shown that in the midst of their amusements they had not forgotten their fellow-creatures, who, as merchantmen, or in their country's defence, had to encounter the perils of the sea. Mrs. LIGHTFOOT, the wife of the Vice-Chancellor, afterwards, amidst great cheering from the large multitude present, ascended the transporting-carriage, and named the boat in the usual manner the *Isis*. The life-boat was then launched from its carriage, and rowed up and down the river, and subsequently taken to the Folly Bridge Wharf, and capsized, to show the self-righting property. When the boat arrived at Hayle, it was joyfully welcomed by the inhabitants, and launched with the usual ceremonies. On this occasion WILLIAM HUSBAND, Esq., on behalf of the Local Committee, conveyed their best thanks to the Institution and the University of Oxford for the very handsome gift of the life-boat. The crew had undertaken to risk their lives on all occasions to rescue men exposed to shipwreck, and he felt perfectly satisfied that the boat would not be disgraced in their hands. The Great Western Railway Company liberally gave a free conveyance to the life-boat and carriage to Oxford, and back to Didcot, and then, in conjunction with the Bristol and Exeter, South Devon and Cornwall, and West Cornwall Railway Companies, forwarded it free to its destination.

[We hope to give in our next Number the particulars of the additional new life-boats forwarded to the coast.]

SUMMARY OF THE
MEETINGS OF THE COMMITTEE.

Thursday, 4th January, 1866. THOMAS CHAPMAN, Esq., F.R.S., V.P., in the Chair.

Read and approved the Minutes of the previous Meeting, and those of the Finance and Correspondence, and Wreck and Reward Sub-Committees.

Read letter from General KNOLLYS, of the 1st January, expressing the satisfaction of H. R. H. THE PRINCE OF WALES, on learning that the *Albert Eduard* life-boat, stationed at Padstow, had been the means of saving 17 persons from the barque *Juliet*, of Greenock, on the 29th Dec. last.

Reported that the Lords Commissioners of the Admiralty had decided that the Quarterly Journal of the NATIONAL LIFE-BOAT INSTITUTION was to be issued with the newspapers to each of H. M. ships of the line, and that Mr. BALLANTYNE'S work on the life-boat should be added to the ships' libraries.

Read and approved the Report of Capt. WARD, R.N., Inspector of Life-boats to the Institution, on his visits to Pontefract, Goole, Manchester, Holyhead, Liverpool, and Courtown.

Reported the receipt of a contribution of 582l. from Miss M. WASEY, to defray the expense of the life-boat station established by the Institution at Worthing, Sussex. She wished the boat to be named the *Jane*.—*To be thanked.*

Reported also the receipt of 23l. 2s., being an additional collection for the Society by W. N. RUDGE, Esq., of the Stock Exchange. Also 45l., the amount of a legacy to the Society by the late Mrs. BETTY COLES, of Tunbridge Wells. Also 303l. 14s. 4d. from the Glasgow Branch, per Capt. SMALL. Also 11l. 6s., a collection after two special services at Ince Church, per Rev. R. C. SHARPE.—*To be severally thanked.*

Read letter from J. MACGREGOR, Esq., of the Temple, of the 7th. Jan., stating that he had written and published an account of a canoe voyage he had made,* and adding that he intended to appropriate the author's profits to the NATIONAL LIFE-BOAT INSTITUTION and the Shipwrecked Fishermen and Mariners' Royal Benevolent Society.—*To be thanked.*

[Every one must read this little book with extreme interest. It possesses the rare merit of displaying familiar districts of Europe from an entirely new point of view: it is written in a lively, unaffected style, so that one thoroughly sympathizes with the hero of the tale, and it is profusely illustrated with a number of spirited and occasionally very humorous woodcuts, displaying the skipper and his craft in all sorts of places and positions. Sometimes the *Rob Roy* is in a cart, drawn by a sleepy milch-cow; sometimes she is being borne by hand through a town, attended by a noisy, good-humoured Swiss crowd; sometimes she is penetrating a weir, under the gaze of a score of critical Frenchmen; sometimes a wagger-load of festival-bound Swabian peasants are shouting their congratulations as she darts under a bridge; sometimes she is perched perilously on top of a rapid; sometimes a mighty wave conceals everything from view except her prow and stern and her worthy skipper's straw hat.

* *A Thousand Miles in the Rob Roy Canoe on Rivers and Lakes of Europe.* By J. Macgregor, M.A. London, Sampson Low, Son, and Marston.

We need hardly commend the book to boating men; most of them, probably, have already studied its contents, and hung fondly over the exciting passages which tell how rapids were shot and other hindrances overcome. In an appendix, Mr. MACGREGOR supplies a compendious collection of facts for the intending canoeist, pointing out with much candour (for he confesses himself in love with her pretty brown face), the minutiae in which his darling craft fell short of absolute perfection. We cannot refrain from saying, in conclusion, that we hope all future tourists who may determine to paddle their own canoe, will imitate Mr. MACGREGOR'S courteous and good-humoured bearing. Such conduct is sure to be richly repaid. Once only, during his thousand miles of cruising, did he meet with the slightest discourtesy; and although he often claimed hospitality under circumstances which in England might appear unceremonious, he never met with a rebuff.]

Reported that musical entertainments had been given in Edinburgh and Exeter, in aid of the funds of the Institution, organized by the Hon. Secretaries of the Branches of the Society at those places.—*To be thanked.*

Rear-Admiral W. H. HALL, C.B., reported to the Committee that the Peninsular and Oriental Steam Navigation Company had ordered of the maker 35 chests of seamen's life-belts, each chest containing 12 belts, and 16 chests containing 6 belts each, for use on board their steamers.

[The life-belt in question is the one introduced by the NATIONAL LIFE-BOAT INSTITUTION, for use on board merchant-ships, and was fully described and illustrated in the Number of the *Life-boat Journal* for July, 1865, page 709.]

Reported the transmission of the Arbroath and Tynemouth, No. 2, life-boats to their stations, the several Railway Companies giving them a free conveyance over their lines.—*To be thanked.*

The Arbroath life-boat was publicly exhibited at Dundee, on the way to her station, and a grand demonstration also took place at Arbroath, on the occasion of the first launch of the boat.

The Tynemouth, No. 2, life-boat, was likewise exhibited at Pontefract and Goole, and a public inauguration of the boat took place on her arrival at her destination.

Reported also that satisfactory trials had taken place in rough weather with the life-boats of the Institution, stationed at Aberdovey, Shoreham, and North Berwick.

Read letters from the Rev. P. VYVYAN ROBINSON, Hon. Secretary of the Lizard Branch, detailing a most lamentable accident that had occurred to the Lizard six-oared life-boat, on the occasion of her quarterly exercise during a hurricane on the previous day. Unhappily, three out of ten of her noble crew, viz., PETER MITCHELL, the coxswain, RICHARD HARRIS, and NICHOLAS STEVENS, perished on the occasion. The boat was washed amongst the rocks and gradually knocked to pieces. The Hon. Secretary was in the boat when she capsized.

The Committee expressed their deep regret at this sad accident, and voted 130l. towards the local fund being raised in aid of the families of the deceased life-boat men, and also undertook to defray the funeral expenses of the drowned men. They also granted a reward of 1l. each to the life-boat crew, being a four-fold exercise payment, and ordered another life-boat to be sent forthwith to the Lizard to replace the damaged boat.

Ordered the following circular, on the subject of spare oars being carried in life-boats, to be distributed amongst the Branches of the Institution:—

"ROYAL NATIONAL LIFE-BOAT INSTITUTION.

"John Street, Adelphi,
London, W.C., 6th January, 1866.

"DEAR SIR,

"In consequence of the frequent breaking of oars in the life-boats, the Committee wish to direct the attention of the coxswains of all the boats belonging to this Institution, to the importance of a sufficient number of spare oars being always carried in their boats, whenever afloat, either on Service or for the Quarterly Exercise.

"Not less than four spare oars should be carried in the double-banked boats, nor less than three in the single-banked ones; and they should be lashed to the thwarts or central batten, so that they cannot be washed overboard, or be lost in the event of a boat being upset.

"I am, &c.,

"RICHARD LEWIS,
Secretary.

"To the Honorary Secretary."

Decided that the Thanks of the Institution, inscribed on Vellum, accompanied by a model life-boat, be presented to Capt. ANDREW SMALL, of the Examiner's Office, Custom House, Glasgow, in acknowledgment of his long and valuable co-operation with the Society in Glasgow. He had collected last year alone 293*l.* 11*s.* in annual subscriptions, and 43*l.* 12*s.* 3*d.* in donations for the Institution; and altogether he had collected upwards of 1500*l.* for it, in conjunction with A. A. RANKEN, Esq. and other friends in Glasgow.

It was moved, seconded, and carried unanimously, that the best thanks of the Committee be given to THOMAS CHAPMAN, Esq., F.R.S., V.P., for his able conduct in the Chair during the past year, and for the continued important assistance he rendered to the Society.

Also to Sir EDWARD FERROTT, Bart., V.P., for his zealous and valuable co-operation, as the Chairman of the Sub-Committees of the Institution in the same period.

Paid 2113*l.* 6*s.* 3*d.* for sundry charges on various life-boat establishments.

Voted 134*l.* 10*s.* to pay the expenses of the under-mentioned life-boats of the Institution, for going off during heavy gales of wind, and saving the crews, consisting of 87 persons, from the following wrecked vessels:—

Schooner *Daniel O'Connell*, of Arklow: 5 men saved by the Tyrella (Dundrum Bay) life-boat.

Steam-ship *Barbadian*, of Liverpool: 4 men saved by the Wexford life-boat.

Brig *Lucy*, of Sunderland: 6 men saved by the Caister life-boat.

Schooner *Wilhelmina*, of Veedsdam: 1 man rescued by the Peterhead life-boat.

Ship *Tenessarian*, of Liverpool: 34 men saved by the Arklow life-boat.

Brigantine *Neptune*, of Delaware, U.S.: 9 men saved by the Newbiggin life-boat.

Schooner *Tom Cringle*, of Thurso, N.B.: 4 men rescued by the Hauxley life-boat.

Barque *Juliet*, of Greenock, 17 men saved by the Padstow life-boat.

Smack *Dieu Protège Alexandrie et Leon*, of Dieppe, 7 men saved by the Dungeness life-boat.

It was also reported that the Ramsgate life-boat had been the means of rescuing the crews of 7 men of the Dutch brig *Zeeploeg*, of Hoogez, and 16 men from the barque *Norma*, of Bremen.

The particulars of these various life-boat services will be found detailed in the Annual Report of the Institution, published in April last.

Voted also 90*l.* 3*s.* 4*d.* to pay the expenses of various life-boats of the Institution in going off

in reply to signals of distress from vessels which did not, however, ultimately require the assistance of the boats.

Voted the Silver Medal of the Institution and a copy of its Vote on Parchment to PETER KAVANNAGH, coxswain of the Arklow life-boat, in admiration of his general gallant services in that life-boat, and particularly of his meritorious conduct in assisting to rescue 34 men belonging to the ship *Tenessarian*, of Liverpool, which was wrecked on the Blackwater Bank, during a heavy gale of wind, on the 25th Dec. last.

Also the Silver Medal of the Institution to Mr. WM. HILL, coxswain of the Padstow life-boat, in admiration of his general gallant services in that boat, and particularly of his highly meritorious conduct in aiding to save the crew of 17 men from the barque *Juliet*, of Greenock, which was wrecked off Padstow during a strong gale of wind from W.S.W., on the 29th Dec. last.

Also the Third Service Clasp of the Institution to Mr. DANIEL SHEA, Chief Officer of the Coast-guard, in admiration of his gallant conduct in the Padstow life-boat, on the above-mentioned occasion.

Also a reward of 10*l.* to the crew of the Kes-singland life-boat, for going off and saving 5 out of 7 of the crew of the schooner *Centaur*, of Exeter, which was wrecked on the Newcome Sands, off Lowestoft, during a strong wind from the S.W., on the 26th Oct. last.

Also 4*l.* to 4 men for going off in a shore-boat and saving at considerable risk of life, the crew of 3 men from the cutter *Primrose*, of Aberyst-with, which was wrecked on Pendine Sands, South Wales, during a strong gale of wind from S.W. on the 29th Oct. last.

Also 2*l.* to the crew of a shore-boat for putting off and rescuing 7 men from the fishing-lugger *Neptune*, of Arklow, which was wrecked off that place during squally weather, on the 26th Nov. last.

Also 6*l.* to the master and crew of the steam-tug *Napoleon*, of Plymouth, for assisting, in conjunction with the life-boat at that place, in saving the crew of 11 men from the brig *Commerziweathin Haupt*, of Mecklenburg, which was wrecked in Plymouth Sound during a heavy gale of wind, on the 2nd Dec. last.

Also 3*l.* 10*s.* to a boat's crew of 7 men for rescuing 3 others from a fishing-smack, which was swamped in Castlemaine Bay, Co. Kerry, during squally weather, on the 10th Oct. last.

Also the thanks of the Institution inscribed on vellum, and 1*l.* to Mr. W. SIMPSON, Chief Boatman of the Coast-guard, and 1*l.* each to 4 other men, for putting off in a Coast-guard boat with the view of saving the crew of the schooner *Pet*, of Bristol, which was in distress during stormy weather off Carnbeak, near Bude Haven, on the 23rd Nov. last.

Thursday, 1st Feb. THOMAS CHAPMAN, Esq., F.R.S., V.P., in the Chair.

Read and approved the Minutes of the previous Meeting, and those of the Finance and Correspondence, and Wreck and Reward Sub-Committees.

Read and approved the Report of the Inspector of Life-boats of the 29th Jan., on his visit to the following places:—Bridlington, Whitby, Uppang, Runswick, Staithes, Tynemouth, Cullercoats, Teignmouth, Brixham, Torquay, and Worthing.

Also the Report of Capt. D. ROBERTSON, R.N., Assistant-Inspector of Life-boats, of the 17th Jan., on his visits to the life-boat stations of the Institution at Arbroath, Dundee, Girvan, Whitby, Hauxley, and Newbiggin.

Read letter from BLOOMFIELD DOUGLAS, Esq.,

President of the Marine Board at Port Adelaide, South Australia, of the 27th Nov., 1865, reporting on the condition of their life-boat and rocket stations, and making inquiries as to small rockets for use in their boats. They had built a life-boat on the plan of the Institution, but with some additions, and offered to furnish a drawing of the boat.—*To be acknowledged, and the drawing accepted with thanks.*

Also from the Secretary of the Bombay Harbour and Pilotage Board, of the 23rd Dec., thanking the Committee for undertaking to superintend the construction of a life-boat for Bombay.

Also from the Misses MEYNELL INGRAM, of the 22nd Jan., forwarding a contribution of 500*l.* for the cost of the life-boat station at Ballywalter, Co. Down. The boat was to be named the *Henry*.—*To be thanked.*

Reported also the receipt of 100*l.*, being the amount of a legacy to the Institution by the late Capt. JOHN SYKES, R.N.—Messrs. SPILWELL, the *Executors, to be thanked.*

Also 27*l.* 1*s.* 6*d.*, being half of a collection made after a sermon by the Rev. W. HUNT, in Holy Trinity Church, Weston-super-Mare; 26*l.* 16*s.* 10*d.*, collected by Rev. Canon HOPKINS, of Wisbeach, including proceeds of collection after sermon by him; 11*l.* 5*s.*, collection after sermon by Rev. J. S. RUDDACH, Trinity Church, Woolwich; 5*l.* 16*s.*, moiety of collection after sermon by Rev. BRYMER BELCHER, St. Gabriel's, Pimlico; 8*l.*, collection after sermon by Rev. E. MILLER, in Brook Street Chapel, Tavistock, on the loss of steam ship *London*; 5*l.*, collection after sermon by Rev. W. F. BICKMORE, in Kenilworth Church; 26*l.* 5*s.* from the Worshipful Company of Merchant Taylors; and 10*s.*, collected by "Little Jamie."—*To be severally thanked.*

Read letter from Major O'BRIEN of the 54th Regiment, of the 22nd Jan., transmitting a plan of a life-boat designed by him to be propelled by pulling a rope.—*To be acknowledged.*

Decided that the Thanks of the Institution, inscribed on Vellum, be presented to FRANCIS GEARY GARDNER, Esq., in acknowledgment of his kind and valuable co-operation, under the instructions of the Commissioners of Her Majesty's Customs, in forwarding the objects of the Institution.

Ordered life-boat houses to be built at Hayle and Ballywalter.

Paid 3,461*l.* 7*s.* for sundry charges on various life-boat establishments.

Voted the Silver Medal of the Institution and a copy of its Vote on Parchment to THOMAS CARBIS, coxswain of the Penzance life-boat, and 32*l.* 6*s.* to pay the expenses of that boat and the St. Ives life-boat, in putting off and saving the crew of 9 men from the steam-ship *Bessie*, of Hayle, which was wrecked during a heavy gale of wind from the N.E. on the bar of that place, on the 11th January. This was a very meritorious service. The long struggle of both life-boats' crews to reach the wreck, and their coolness and judgment in the actual rescue were beyond all praise. It is believed that every soul on board the ill-fated ship must have perished in the absence of the life-boats.

Also 20*l.* 19*s.* 1*d.* to pay the expenses of the Teignmouth life-boat, in putting off and rescuing 11 men from the barque *Jessie*, of London, which was wrecked during a strong gale of wind from the N.E. at Torbay, on the 11th January.

Also 12*l.* to pay the expenses of the Whitburn life-boat, in going off and rescuing one of the crew of the barque *Victorine*, of Ostend, which was stranded off Souter Point, near Whitburn, during a strong wind and heavy sea, on the 13th January.

Also 11*l.* to pay the expenses of the Yarmouth small-surf life-boat, in putting off and saving the crew of 8 men from the brig *Thoughtful*, of Sunderland, which was wrecked on Yarmouth Beach, during a heavy gale of wind, on the 11th January.

Also 45*l.* to pay the expenses of the Yarmouth and Caister life-boats, in going off to the schooner *George*, of Goole, which had struck on the Scroby Sands, during stormy weather, on the 20th January. The Yarmouth large life-boat first reached the vessel and took off the crew of 6 men and brought them safely ashore. The life-boat then proceeded off again, and found the vessel being towed into harbour by a steam-tug and the Caister life-boat.

Also 25*l.* to pay the expenses of the Caister life-boat, in going off and bringing safely into port the brig *Tartar*, of Sunderland, and her crew of 8 men. The vessel had grounded on the Cockle Sand, on the Norfolk coast, during stormy weather, on the 19th January.

Also 38*l.* 10*s.* to pay the expenses of the Lowes toft life-boat and steam-tug, in going off twice and rescuing the crew of 7 men from the brig *Osep*, of Fiume, which was wrecked on the Holm Sand, on the Suffolk coast, during a very heavy gale of wind, on the 13th January.

Also 11*l.* 15*s.* to pay the expenses of the Palling life-boat, in going off during a strong wind and rescuing the crew of 3 men from the schooner *Laurel*, of Goole, which was stranded on Palling Beach, on the 11th January.

Also 8*l.* 0*s.* 6*d.* to pay the expenses of the Kingsgate life-boat, in putting off and saving the crew of 7 men from the brigantine *Fremad*, of Bergen, which had gone on shore in Kingsgate Bay, during a strong gale of wind, on the 11th January.

Also 6*l.* 14*s.* to pay the expenses of the Dundee *People's Journal Life-boat*, No. 1, stationed at Peterhead, in putting off and rescuing the crew of 3 men from the schooner *Black Agnes*, of South Shields, which was wrecked on the rocks off Peterhead, on the 13th January.

Also 197*l.* 7*s.* 9*d.* to pay the expenses of the life-boats of the Institution at Palling, Penarth, Sunderland, New Quay (Cardigan), Rhoscolyn, Margate, Pakefield, Winchelsea, Bacton, Walmer, Rhyl, North Deal, Pembrey, Southwold, Peterhead, Cromer, and Skerries, in putting off, during the recent heavy gales, in reply to signals of distress from various vessels which, fortunately, however, succeeded in getting out of their dangerous positions, and did not require the services of the boats.

Decided that the Thanks of the Institution, inscribed on Vellum, be presented to Mr. R. F. ALDRICH, Chief Officer of Her Majesty's Coast-guard at Margate, in acknowledgment of his valuable services in the Margate life-boat on the 7th Jan., and of his general zealous co-operation in the management of that life-boat station.

Reported the services of the Ramsgate life-boat in going off in tow of the steam-tug *Aid*, and rescuing the crew, consisting of 6 men, from the schooner *Zephyr*, of Banff, which was wrecked on the north side of the Goodwin Sands, during a heavy gale of wind, on the 11th January.

Voted the Silver Medal of the Institution, a copy of its Vote on Parchment, and 2*l.*, to EVAN HUGHES, and also 2*l.* each to 5 other men, in acknowledgment of their gallant services in putting off in a boat and rescuing, at considerable risk of life, the crew of 24 men from the ship *Palinurus*, of Liverpool, which was stranded off Cymyran, on the Anglesey coast, during a strong wind, on the 4th January.

Also 3*l.* 10*s.* to the crew of the smack *Leander*, of Deal, for putting off and rescuing the crew of 6 men from the brig *Hope*, of Sunderland, which was

wrecked near Deal Castle during a gale of wind, on the 11th January.

Also 21. to the crew of a fishing-boat, of Southport, for saving 4 men from the sloop *Tower*, and the schooner *Ben Vale*, which were wrecked on Taylor's Bank, off Liverpool, during a gale of wind on the 13th January.

Also 51. to the crew of a fishing-yawl, for going off and rescuing the crew of 7 men from the brig *West Kent*, of Rochester, which was wrecked on the Cross Sand, off North Yarmouth, during a gale of wind, on the 14th January.

BALLASTING BOATS.

It will be remembered that some months ago there occurred a lamentable boat accident in the River Thames, when no less than ten promising youths, cadets on board a training-ship, were drowned. The boat was under sail at the time, and was said to be a "good and safe boat," but she had no ballast.

We do not revert to this melancholy accident with a desire to impute blame to any person in charge of the cadets on board the boat in question, or to awaken any sad recollections; but because it may be considered from the evidence then given at the coroner's inquest, that, whilst the palpable cause of this accident was the want of ballast in the boat, most mistaken notions, even amongst practical seamen, exist on the subject; and that from such mistaken views future accidents may be expected to occur.

At the inquest no less than three witnesses stated that they did not approve of carrying ballast in boats. One of these witnesses was the captain of the ship, another was her boatswain, and the third was a Greenwich waterman. They were all, therefore, practical men. The captain, indeed, went so far as to say that "many lives had been lost by placing ballast in boats." As, on the other hand, we are persuaded that many more lives have been lost by the upsetting of boats under sail, owing to their having no ballast to counteract the pressure of the wind on their sails, or to their being insufficiently ballasted, it may be useful to devote some consideration to the subject.

The phenomena of upsetting may be thus plainly described. Boats, in common with other floating bodies, have a central axis, or centre of motion, round which they have a tendency to revolve; which centre will be higher or lower with reference to the general mass of the body or structure,

according to its shape and to the distribution of weight within the same; whilst the stability or resistance to upsetting will be great or little according to the relative positions of this centre of motion, and the centre of weight called the centre of gravity. Thus the lower the centre of gravity is below the centre of motion, the greater is the stability. When the two exactly correspond, there is no stability, but a tendency to revolve round the common centre; and when the centre of gravity is carried above the centre of motion, what is called in mechanics an unstable equilibrium is produced, or, in plain English, the body is top-heavy, and must upset. The first of these axioms may be illustrated by the common use of metal keels, or of ballast stowed in the lowest part within a vessel or a boat. The second, by an empty cask which has no stability, but a tendency to revolve round the common centre; whilst the third has been too often fatally illustrated by persons climbing the masts of small boats, and thus upsetting them.

It follows, therefore, that the addition of any weight placed low in a boat or other vessel, as ballast, must add to her stability, and thereby make her less likely to upset. But, no doubt, all this would be admitted by the three witnesses above referred to, and their disapproval of ballast in boats must have arisen solely from the fact of its causing a boat to sink after upsetting, instead of still floating, although entirely immersed; and their choice therefore must have been, of what they thought a lesser danger in preference to a greater. If, however, we can make it clear that, by the selection of a suitable material for ballast, both dangers may be avoided, we shall render a service—and this can be readily done.

Now it so happens that a most mistaken notion regarding ballast very commonly exists, many persons supposing it to be necessary that it should be composed of lead, iron, stone, or some other substance heavier than water. There could not, however, be a greater mistake, since equal weights of any substance afford similar ballast; the only difference being that the heavier the substance the more concentrated it will be, and *vice versa*; so that in cargo vessels, in which the whole of the interior space is of much value, the heavier description of ballast is more suitable, because the required amount will occupy less space. Indeed, as any ordinary decked cargo-vessel

would sink if filled with water, whether ballasted with metal or not, it would be of no advantage in such vessels to use a lighter description of ballast. The case as regards boats and small pleasure-vessels is, however, quite different; and for a long period it has been the custom in the ships of the Royal Navy to ballast their boats with small casks, or barrels of water, which would float of themselves if immersed, and would therefore have no tendency to sink a swamped boat. But if a boat is ballasted with any substance lighter than water, should she get swamped or upset, the whole of the surplus buoyancy of the material would, if it were properly secured, be transferred to the boat herself, and therefore help to float her. Accordingly, in the life-boats of the NATIONAL LIFE-BOAT INSTITUTION, nearly half the ballast is composed of cork in water-tight boxes stowed under the deck, which is also water-tight. As long, therefore, as the boat is tight and sound these boxes of cork act solely as ballast, but should she get stove in below the deck, the surplus buoyancy of the cork would then prevent her sinking too deep to be manageable in a high sea.

As, however, this would be too expensive a description of ballast for ordinary boats, and from its great lightness would take up too much room, a more suitable material would be wood, and a light or heavy description of wood could be adopted as might in each case be most convenient. Thus fir wood has about half the specific gravity of water, weighing about half as much, bulk for bulk, and therefore every cwt. of fir ballast in a boat would impart about 56 lbs. of surplus buoyancy to her. In those cases, however, where a sufficient quantity of fir ballast would occupy so much space in a boat as to be inconvenient, a heavier description of wood might be employed. The most convenient shape in which to employ it would perhaps be in two balks, or logs, placed side by side, fore and aft, above the keelson, and lashed securely to the bottom of the boat; but the same rule might not apply to all boats, as the position which would be convenient in one might be inconvenient in another.

We strongly recommend to all owners of sailing-boats, and especially of open pleasure-boats, the serious consideration of the subject, believing, as we do, that the general adoption of wooden ballast would be the means of preventing many accidents, and of saving many human lives.

A NEW ROYAL DECORATION FOR SAVING LIFE FROM SHIPWRECK.

A NOTIFICATION appeared in the *Gazette* of the 13th March last, stating that the Queen had been pleased, by warrant under the royal sign-manual, to institute a new decoration, to be styled the Albert Medal, to be awarded in cases where it shall be considered fit, to such persons as shall, *after the date of the warrant*, endanger their own lives in saving, or in endeavouring to save, the lives of others from shipwreck or other peril of the sea. It is further ordained, that the names of those upon whom Her Majesty may be pleased to confer the decoration shall be published in the *London Gazette*, and a registry thereof kept in the office of the Board of Trade. Any one who, after having received the medal, again performs an act which, if he had not received such medal, would have entitled him to it, such act shall be recorded by a bar attached to the riband by which the medal is suspended. It is also stated that the medal shall be awarded only on a recommendation made to Her Majesty by the President of the Board of Trade. It is, lastly, ordained that, "in order to make such additional provision as shall effectually preserve pure this most honourable distinction, that if any person on whom such distinction is conferred be guilty of any crime or disgraceful conduct which disqualifies him for the said decoration, his name shall forthwith be erased from the registry of individuals upon whom the said decoration shall have been conferred, and his medal shall be forfeited; and every person to whom the said medal is given shall, before receiving the same, enter into an engagement to return the same if his name shall be so erased as aforesaid under this regulation."

Her Most Gracious Majesty, whose partiality for the sea and regard for the sailors of her empire are proverbial, has thus given a further evidence of her kindness of heart, of her sympathy with human suffering, and of her appreciation of deeds of heroism. It only remains for us to express the hope, as regards the medal itself, that, like its sister decoration, the "Victoria Cross," it will be reserved for very distinguished services alone, and that it may only be bestowed after very full and careful inquiry in every case—on which its permanent value will much depend.

Royal National Life-Boat Institution.

Supported by Voluntary Contributions.

Patroness—HER MOST GRACIOUS MAJESTY THE QUEEN.

President—THE RIGHT HONOURABLE THE EARL PERCY, P.C.

Chairman—THOMAS BARING, ESQ., M.P., F.R.S., V.P.

Deputy-Chairman—THOMAS CHAPMAN, ESQ., F.R.S., V.P.

Secretary—RICHARD LEWIS, ESQ., of the Inner Temple, Barrister-at-Law.

Life-boat Inspector—Capt. J. R. WARD, R.N.

Assistant Life-boat Inspector—Capt. D. ROBERTSON, R.N.



APPEAL.

THE COMMITTEE OF MANAGEMENT have to state that, during the past year (1865), the ROYAL NATIONAL LIFE-BEAT INSTITUTION has expended £23,248 on various Life-boat Establishments on the Coasts of England, Scotland, and Ireland, in addition to having contributed to the saving of 714 persons from various shipwrecks on our coasts. Every winter that comes and goes has its black records of wrecks, and its terrible list of lost lives. How many would have been ready to give all the wealth they possessed last winter to behold a Life-boat putting off to their stranded vessel? Perhaps it was the first time that some of them had ever seriously thought of a Life-boat, and it was too late.

GENERAL SUMMARY OF THE WORK OF THE INSTITUTION DURING THE PAST YEAR.

		£.	s.	d.
Number of Lives rescued by Life-boats, in addition to 20 vessels saved by them	532	..	..	..
Amount of Rewards to Life-boat Crews . . . . .	..	1,670	1	11
Number of Lives saved by Shore-boats, &c.	182	..	..	..
Amount of Rewards to the Crews of Shore-boats . . . . .	..	120	10	0
Honorary Rewards :— Silver Medals	9	..	..	..
Votes of Thanks on Vellum and Parchment	27	..	..	..
Total	36	714	1,790	11 11

The Committee desire to acknowledge with gratitude the liberal support which they have received from the British Public during the past few years, a support which has enabled them to establish their present great fleet of 168 Life-boats on the shores of the United Kingdom. Deeply sensible, however, of the great responsibility that rests on them to maintain their fleet in a thoroughly efficient state, and its crews practised in the management of their boats, which can only be effected by a large and permanent annual income, they earnestly appeal to all classes of their countrymen to continue to aid them in upholding and perpetuating so great and truly national a work.

The number of lives saved either by the Life-boats of the Society, or by special exertions, for which it has granted rewards, since its formation, is 15,480; for which services 82 Gold Medals, 762 Silver Medals, and £22,460 in cash have been paid in rewards. The Institution has also expended £143,181 on its One hundred and Sixty-eight Life-boat Establishments.

The expense of a Life-boat, its equipment, transporting-carriage, and boat-house, averages £620, in addition to £50 a-year needed to keep the station in a state of efficiency.

Donations and Annual Subscriptions are earnestly solicited, and will be thankfully received by the Bankers of the Institution, Messrs. WILLIS, PERCIVAL, and Co., 76 Lombard Street; Messrs. COURTIS and Co., 59 Strand; Messrs. HERRIES, FARQUHAR, and Co., 16 St. James's Street, London; by all the other Bankers in the United Kingdom; and by the Secretary, RICHARD LEWIS, Esq., at the Office of the Institution, 14 JOHN STREET, ADELPHI, London, W.C.