LIFE-BOATS, PROJECTILES AND OTHER MEANS FOR SAVING LIFE

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Life-Boats, Projectiles and Other Means for Saving Life by R. B. Forbes

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Col. J. T. S Sandley
with the respects of
the Author
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BY

R. B. FORBES.

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INTRODUCTION.

It will be seen on reading the following pages, that there is very little if any original matter contained therein.

It is to be hoped however that the renewal of many old suggestions made by the writer, and others, may be productive of good, and be the means of calling the attention of those who manufacture laws, to the growing necessity for increased care in protecting the lives of those who go to sea.

Whatever may be the award of the public in regard to this little work as a literary composition, the writer will rest content with having tried to mitigate the dangers of the sea, and will consider his time and money well spent, if through these means a single life shall be saved.

LIFE-BOATS.

In discussing the qualities considered necessary in a life-boat, the Committee appointed to award the premium of one hundred guineas offered by the Duke of Northumberland, in 1851, rank the qualities necessary for a good life-boat as hereunder:

Qualities for Rowing in all weathers,	20
Sailing in all weathers,	18
As a sea boat, as to stability, safety, buoyancy at bow for launching,	10
Small internal capacity for water up to the level of the thwarts,	9
Means of freeing easily of water,	8
Extra buoyancy; its nature, amount, distribution, and mode of application,	7
Power of self-righting,	6
Suitableness for beaching,	4
Room for passengers,	3
Protection from injury to bottom,	3
Ballast; iron, 1, water, 2, cork, 3,	6
Access to stem or stern,	3
Timber heads for warps,	2
Fenders, life-lines, etc.,	1
	100

This is, no doubt, a very fair estimate of the qualities considered necessary for boats for the coasts of Great Britain, where many of them are located in harbors of refuge, under pier heads or breakwaters, where they can have the aid of steam tugs to get them to the scene of disaster, and also the aid of the men of the coast guard assisted by a dense population.

Of thirty boats offered for competition described in the report alluded to and selected as coming near to the standard of excellence out of two hundred and eighty, the one to which the

award was given was built by James Beeching, of Great Yarmouth; length, 36 feet over all, 31 feet keel, beam, 9½ feet, depth, 3½ feet amidships, with 3 feet sheer; amount of extra buoyancy in air, 300 cubic feet, or 8½ tons: internal capacity for water up to the thwarts, 5 tons; area of delivering tubes, 276 square inches; proportion of delivery area to capacity, 1 to 64; weight, 7,504 lbs.; ballast, 2 tons water, ½-ton iron keel; draught of water with 30 men on board, 2 feet 2 inches; oars, 12 double banked; rig, 2 lugs; cost, £250; outside a cork fender 6 inches wide by 8 inches deep, 7 inches below gunwale. The extra buoyancy is in air cases in the bottom and on part of the sides and in the ends for a length of 8½ feet to the height of the gunwale. The water ballast there is a tank with compartments in the bottom amidships, 14 feet long by 5 wide, and 15 inches high, containing 77 cubic feet, equal to 2 tons, and an iron keel of 10 cwt. The delivery valves are 8, of 6 inches diameter, 4, of 4 inches; weight, 50 cwt., and gear 17 cwt., total, 3 tons 7 cwt. Can carry 70 persons; keel, 8 inches.

The Committee awarding to this boat a premium of one hundred guineas, remark as to her qualities:

"The form is good for pulling and sailing in all weathers; in places like Yarmouth, where there are plenty of hands to launch her, the weight would cause no difficulty. By means of the large raised air-cases in the ends; the absence of air-cases for a length of 10 feet amidships; the introduction of 2 tons of water into her bottom, and the iron keel of half a ton, she would right herself when capsized, although, from her form, it would be difficult to capsize her. A passage or gap should be left in the large end of the tanks to admit of men approaching the ends. The deep keel, though favorable for sailing and for assisting to right her, will be objectionable in landing on a beach, and would render her more difficult to turn in the event of desiring to put her end on to a heavy roller. The area of delivery valves is large enough to free her rapidly, so that with her crew on board only a few inches of water would remain on the floor. The air-cases being built into the boat, and a part of the shell, renders them liable to accidents; if this were remedied, and her internal capacity reduced, a 30 or 32 foot

boat on similar model, with internal fittings slightly modified, would make an efficient life-boat, adapted for many parts of our coast."

Remarks on the Beeching Boat:

Without undertaking to insist upon the acceptance of my views as entirely orthodox, and yet believing that the experience I have gained by long study and practice entitles them to consideration, I shall review the descriptions given and give my opinion for what it is worth.

In the Journal of the Royal Institution for April, 1872, there is a plan of the boat now most approved, which is 33 feet long, 8 feet beam, wherein the water-ballast seems to have given place to cork in separate compartments. This boat is said to combine the following qualities: great stability, speed, facility for launching and landing, immediate self-freeing of water, self-righting, strength, and stowage for a large number of extra persons. The principal objections to this premium boat for use on our coast are the weight and cost, and the steering by a rudder; also, the deep keel would be very objectionable for landing and quick turning to meet a roller. The air-cases should be detachable.

The recommendation of the Committee as to reduced size and some change in the internal fittings, seems to have been carried out in the boat above alluded to, as adopted by the Royal Institution.

Another boat, by Geo. Palmer, which may be considered as near the extreme on the side of lightness, is thus described:

Length, 26 feet; beam, 6½; depth, 2½; sheer, 20 inches; keel, 3; extra buoyancy; air, 82 cubic feet, equal to 2¼ tons; internal capacity up to the level of thwarts, 1¾ tons; area of delivery valves, none; weight, 15 cwt.; ballast, none; draught with 22 men in her, 15 inches; 5 oars, single bank; no sails; cost £75. Form general like a whaleboat; has a cork fender, 4 inches diameter, along the sides near the gunwale. The extra buoyancy is obtained by detached air-cases of wood, 18 inches square, along the sides up to the level of the thwarts, and in the bow and stern sheets up to the gunwale, divided into 12 compartments, and by the fenders; no means of freeing of water except by bailing; weight of the shell, 10 cwt., and of gear, 5 cwt.

Remarks of the Committee:

"This boat would pull well, be light for transportation, easily manned, has small internal capacity for holding water, all good points in her favor; but she would not be self-righting, the air-cases in the ends would prevent a near approach to the ends, she is narrow for her length, and her rising floor would be unfavorable for landing. This model has generally been adopted by the Royal National Institution, and is said to have saved many lives."

The principal objections to the form and fittings of this boat are the rise of floor, as noted by the Committee, would make her unfit for landing on a beach. The steering by a rudder, as represented in the plan, is very objectionable. She would not be self-righting: on the other hand, she would in the event of capsizing, be easily righted, and it would not be difficult speedily to bail her out; she could not be swamped; is light to carry along shore; and not costly; with a steering oar, and less dead rise amidships, she would be much better for our coast than the heavy Beeching boat.

Another by Lord John Hay, is described thus:

Length 32⅞; beam, 7½; depth, including keel, 3.10; sheer, 26; extra buoyancy, air 200 cubic feet, equal to 6 tons; internal capacity up to thwarts, 4 tons; area of valves, 240 square inches; proportion, 1 to 6; weight, 32 cwt.; ballast, none; draught, with 30 men, 18 inches; oars, 14; cost, £70.

Remarks by Committee:

"Form like a whaleboat, long flat floor, built of narrow strakes pinned together through the edges, (supposed double planked,) without timbers, of mahogany, and copper-fastened; 7 thwarts 25 inches apart, 9 below the gunwale, 11 above the floor; pulls 14 oars, double-banked. The extra buoyancy is obtained by an air-case under the floor, 20 inches deep; air-cases in the ends for 6½ feet, up to gunwale. These cases divided into compartments and detached from the shell, so as to be removable at will; no ballast. The means for freeing her of water consists in five scuppers on each side, 5 by 4 inches, on a level with the flooring, the area of which is 240 square inches. The water is led to the scuppers by a shoot or water-course under the thwarts, raised 4 inches above the floor