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**ARTICLE 16.—*Plan of the construction of a Raft to rescue passengers from sinking Ships.* BY *E. D. ASHE, Lieut. R. N., F. R. A. S., &c., &c.***

[Read before the Society, Nov., 1854.]

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“ Then rose from sea to sky the wild farewell,  
 Then shrieked the timid, and stood still the brave,  
 Then some leaped overboard with dreadful yell,  
 As eager to anticipate their grave;  
 And the sea yawned around her like a hell,  
 And down she sucked with her the whirling wave,  
 Like one who grapples with his enemy,  
 And strives to strangle him before he dies.”

BYRON.

I AM desirous of obtaining the valuable co-operation of the Society in a cause which I conceive to possess claims of the very highest order upon our common feelings of humanity, and I hesitate not to express my conviction that the Society could not direct its talent into a more benevolent or more useful channel than that of devising means whereby helpless women and children, deserted, possibly in their hour of need, by those on whose practised skill and courage they had naturally depended, may be rescued from the perils of a sinking ship.

Such a scene of horror, as that described by the survivors of the “Arctic,” is, alas! too common. It needs not the stormy wind and tempest to do the work of death among

those that "go down to the sea in ships, and occupy their business in great waters." There may not possibly be "a breath of air to break the wave." In many instances, the surface of the Ocean may be unruffled, save by the expanding circles, forming in quick succession around the hapless crews

"Of ships that have gone down at sea  
When heaven was all tranquillity!"

Oh! could we hear the shrieks of the mother, calling on others, helpless as herself, to save her darling child; or could we behold the sinner, with a look of sullen anguish and despair, about to close for ever a life of frivolity and of licentiousness, and to appear before the God who made him; could we listen to those sounds, and could we behold those scenes, surely we should feel ourselves constrained to use our utmost efforts to prevent, or at least to render of less common occurrence, catastrophes of such a fearful nature—catastrophes that have been of late so frequently and so sadly brought before our notice.

I feel confident, therefore, that, actuated by principles, and influenced by sentiments, similar to my own, I shall have the sympathy and encouragement of this meeting, in bringing forward a simple and expeditious mode of constructing a raft applicable alike to ships of every class, whether screw, paddle, or sailing vessel.

I therefore have invented a "raft," which I shall call the "Bolsa\* Raft," of such a construction that, should the crew run off with the boats, as recently has occurred, the passengers will have no difficulty in putting the raft

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\* I have called it the "Bolsa" raft, because it is constructed upon the same principles as the raft so called, commonly used on the coast of Peru, and other parts of the South American Continent.

together, a work which they can readily accomplish in a few minutes.

It consists of a number of wooden tubes 10 feet long, and  $1\frac{1}{2}$  feet in diameter, covered with painted canvass, and each having a ring or grummet at either end; these grummets are made to pass readily over two spars, and are secured by the main pieces of the raft.

These tubes are so arranged that they form seats round the deck, which will insure their always being at hand, and in which form they will not take up more deck room than is generally occupied for such a purpose.

The leading feature of the invention is, that nothing can be put in the wrong place.

Before explaining the drawings, I will offer a few suggestions :

That there should be a few plain directions printed, and hung up in all ships, explaining "where the passengers are to assemble, and what they are to do in time of danger"—and, by shewing that there is ample room for all, they would tend to prevent a rush being made for the first boat that is lowered, and which by being overloaded, is generally the first to consign some twenty to a watery grave.

A number of water proof bags, some filled with biscuit, and others with flour mixed with sugar (which, when diluted with a little water, affords great nourishment,) should be ready to hand up on deck at a moment's warning.

Food, however, is not of the first importance, for a few biscuits will sustain life for many days, and may be carried in the pocket: but anxiety, and exposure to a hot sun, bring on intense thirst, which, if not alleviated, soon produces delirium, and the poor sufferer, after protracted misery, and drinking salt water, and even his own blood, dies by a death of all kinds the most horrible.

Although Food is very portable, a small portion will appease the cravings of nature ; on the other hand, fresh Water is heavy, takes up much room, and is required in considerable quantity. To overcome this difficulty, every fifth tube is filled with fresh water, and, in order that it may be immediately distinguished, painted *white*. Of these white tubes, a certain number is distributed in different parts of the ship, so that in the construction of each raft there will be a good supply ; and, as fresh water is lighter than salt, these tubes, instead of adding to the weight of the raft, will assist in giving it buoyancy.

In addition to food and water, there should be put into the bags of flour ;—in one, flint and steel, in another a small telescope, in a third two or three goblets, and various other articles that were most required by Robinson Crusoe. Also, attached to some part of the raft should be a gong, that, when sounded, could be heard by passing ships at an immense distance. Passengers should be directed to come on deck with their blankets, as either in hot or cold climates woollen clothing is of the utmost importance.

The advantages of the “Bolsa Raft” are these, viz: that it can float on the lightest spray, cannot be capsized or swamped, will hold a large number without crowding, and can land the crew in safety through the greatest surf, which is no small advantage, as it may frequently happen that, after a boat has lived in the roughest sea, she is capsized in the heavy breakers on the shore, and the unfortunate crew perish in sight of their homes.

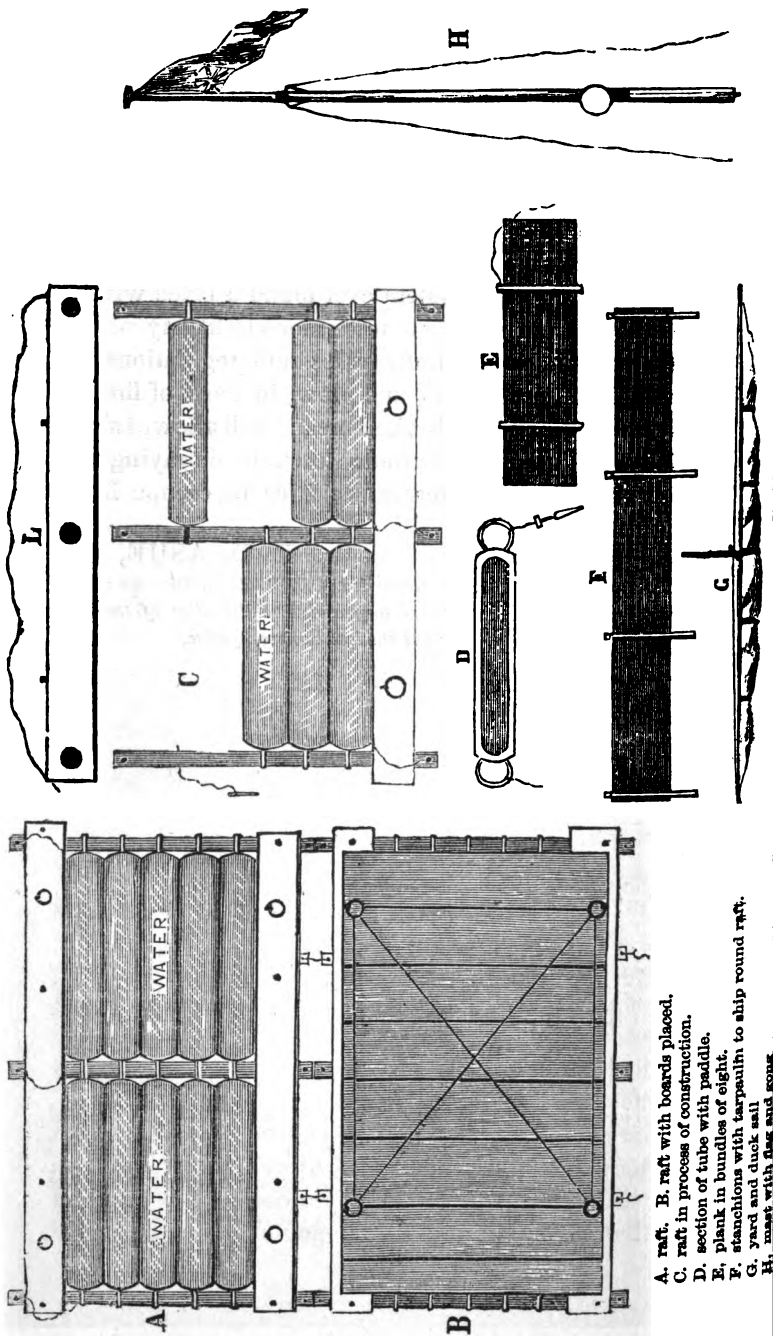
I will not enter into further detail, but will venture to remark, that as persons are appointed by Government to see that emigrant ships have proper stores on board, and that they are not too crowded, so also should the public be protected by having proper persons appointed to see

that all passenger ships are provided with sufficient means of escape in time of danger.

In conclusion, you will permit me to say that no love of gain has induced me to bring forward the plan which has now been submitted for your consideration, nor has the idea of taking out a patent ever found a place within my thoughts. I am willing and anxious to fit any vessel with such a raft, and to frame rules and regulations for the conduct of passengers and crew, in case of fire or wreck ; nay, as far as my limited means will allow, I shall cheerfully and gladly contribute towards defraying the expenses of affording greater facilities of escape from sinking vessels.

E. D. ASHE,

*Lieut. Royal Navy, F. R. A. S., Director of the  
Observatory, and Vice President of the Lit.  
and Historical Society, Quebec,*



A. raft. B. raft with boards placed.  
 C. raft in process of construction.  
 D. section of tube with paddle.  
 E. plank in bundles of eight.  
 F. stanchions with tarpaulin to ship round raft.  
 G. yard and duck sail  
 H. mast with flax and scum