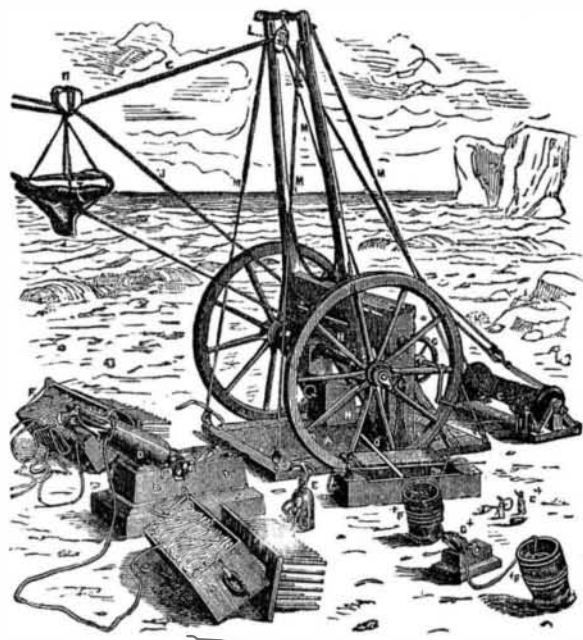


LIFE-SAVING APPARATUS.

The life-saving apparatus and exhibits of the *Société de Sauvetage des Naufragés*, and of the British Board of Trade, at the International Maritime Exhibition at Paris—representing the official appliances for saving life from wrecks—may be regarded conjointly, and also in comparison with other means directed to the same good end.



ROGERS' LIFE-SAVING APPARATUS.—Fig. 1.

In relation to the lifeboat service, the French system is virtually identical with the English; and the same remark may be held to apply to the apparatus for effecting rope communication, which practically differ from each other only in the means employed to launch the projectile on its way. On this point the reasons assigned by the French Society for setting aside the Manby mortar and Boxer rocket are, namely, the former on account of the heavy powder charge, causing frequent rupture of the line, the latter for the uncertainty of its flight.

There appears to be a radical objection, common to both systems, namely, that, however successful they may be in casting a light line on the wreck, in mere contact, their success may perhaps be entirely neutralized by the fact that the persons endangered may be unable—from lack of knowledge, presence of mind, energy, or actual power, and from mere exhaustion—to render that essential aid without which all that has preceded must be so much waste labor and frustrated hope.

The subjoined statement appears in the catalogue of the British section, in the description given by the Board of Trade of their collective exhibits;

“III. LIFE-SAVING APPARATUS—7. *Enamelled Plates*.—In one case five men tied themselves on to the rocket line, and all were drowned except one.” And it is exactly because this class of appliance is dependent, for its utility and success, so much on the mere chance that reliance can be placed on the possession by the shipwrecked mariners of the ability to avail themselves properly of the means placed within their reach—it is for this reason that system is to be regarded as far from being perfect or unsurpassed.

Of course, the actual circumstances render it impossible to reduce to a certainty the saving of all lives endangered by wreck; but in the only complete apparatus of the kind which can be put in comparison with the two foregoing, namely, Rogers' system of rove-rope communication with wrecks, the right principle has been adopted primarily, by throwing a block and double line which can be worked from the shore, so as to effect as much as possible by the life-saving party on land, and make as little demand as possible on the aid and efforts of the poor sinking wretches struggling for bare life amid the horrors of shipwreck. Practically, this renders it possible to save life with the minimum of assistance from the mariners on board, limited to making fast the cone block. Conversely, when employed from on board ship, it is the most reliable method of getting a rove rope thrown at once on shore for direct communication. And finally, it may be remarked that it constitutes a valuable adjunct to a lifeboat, to facilitate the launching, and getting an offing, against storm and surf, without incurring the risks ordinarily attendant on that service, or wasting the strength of the lifeboat men, as frequently occurs.

Mr. Rogers' apparatus has undergone little modification and improvement in detail, since its introduction in 1868.

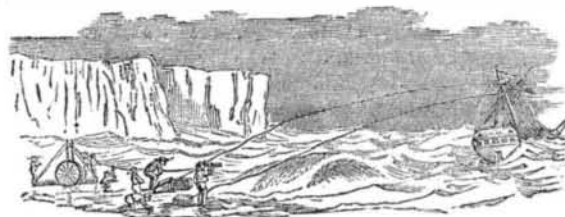
The whole, as here exhibited, is exceedingly well devised, compact, and easy to transport, set up, and operate.

The annexed engravings, Figs. 1 and 2, show the general appearance and arrangement of the same as now submitted for the first time to the consideration of the seafaring interests: first, as packed at the station, ready for transport; and, secondly, as disposed for actual use *in situ*. A is the platform on which all gear is stowed, and which can be weighted, when in use, to gain stability; B, wheels and shafts, acting, when erected, as a derrick, thus giving elevation to keep the line, etc., as much as possible clear of rocks and surf; C, winch or windlass, for hauling in and out the rove rope, etc. D D are the large and small mortars, which can be used with or without the bed or carriage, as position will allow, for their respective services; E E*, the large and small cone block shot, for service with corresponding gun; E E, large anchor for launching service and use on board ship; F F*, pin boxes and tubs for coiled lines, J; G, the hawser, as used for setting up to run breeches block and buoy to and fro; G*, the reel and stand for carrying hawser on, which can be detached from the cart when in use, the bottom being formed sledge-shaped; H, the breeches block, used to suspend the buoy, I, from the hawser; K, the block and tackle for veering and hauling on, to take up slack and meet the motion of the line, so avoiding rupture of line by excessive strain; L, the snatch block, suspended to the shaft end to carry the hawser free and above obstacles; M, the guys to the derrick, serving also as drag ropes and suspending ropes in store or transit. N is the powder magazine; O, the medicine chest and means for resuscitation; P, the box of tools.

Briefly described, a small mortar, with a light powder charge, sends a cone block shot, carrying a sheave in its base through which a rope is rove, of which the two ends are coiled in pin boxes or tubs, so as to be carried out free from turns and ready for use, as we have actually seen and recorded; the projectile being also fitted with a tail, whereby it can be readily attached and made fast; which, being effected, the men on shore can, by means of the rove rope, haul out a hawser, and subsequently even a man or boat, if other means fail of getting the necessary attachments completed on board; the object being to establish the *va et-vient*, or to and-fro travel or safety buoy along the hawser, by means of the

or more, the inventor justly thinks the service is rather on for the lifeboat, than suitable for this particular class or appliance. The hawser and whip used by the *Société de Sauvetage des Naufragés*, and by the English Board of Trade, do not exceed a working length of 240 yards; and as regards ex-

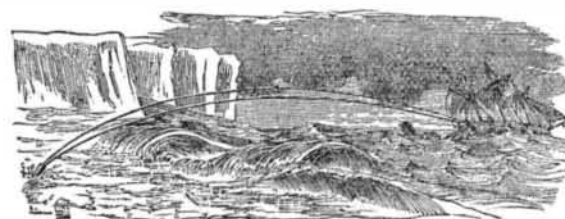
Fig. 5.



perience, we learn that, during nine years' use on the French coast, the maximum distance at which their apparatus has been employed is 165 yards.

To throw the line, have the whip and hawser hauled out, send the traveling buoy on board, and bring a man ashore

Fig. 6.



from a suppositious wreck in four minutes, at a distance of 600 yards, necessarily implies the work of rope-hauling (four journeys) at the rate of 20½ miles per hour; and at 300 yards in one minute, the velocity requisite would be fifty-two miles per hour. Whereas it is clear that in the one case two, and in the other three, sets of whiplines and hawsers would have to be joined up and used; and moreover, to set up a taut hawser 600 yards in length is obviously preposterous, under such circumstances and for such a purpose.

As exhibited in Paris by Messrs. Rogers and Anderson, the apparatus contains two separate services, namely, for launching lifeboats, and for saving life from wreck by rope communication; either of which separately would be lighter than the conjoint system.

The two pairs of views, Figs. 3, 4, 5, 6, show the *modus operandi* of the systems which we have described; the first two of what may be called the contact system, and the last two of the rove-rope system. Under the former the whip line has to be hauled out by those on board the wreck; but not so under the latter.

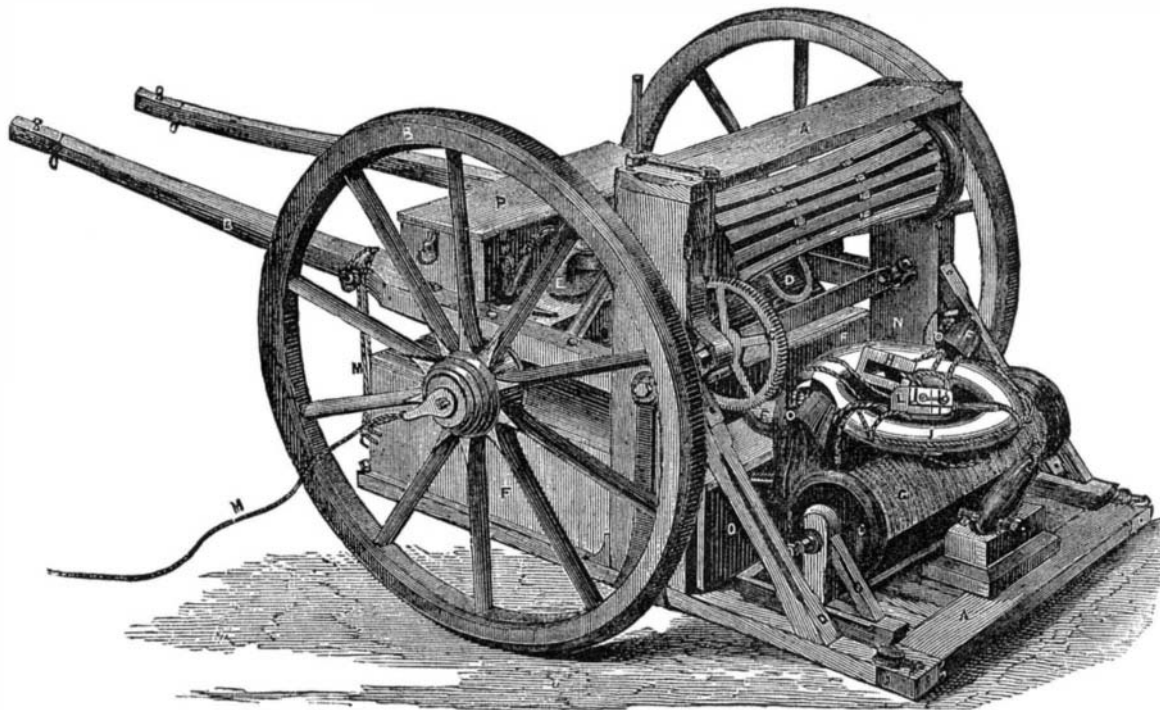
It will be seen, therefore, that, both with regard to what it does for the shipwrecked mariners, and what it relieves them from the necessity of doing, Messrs. Rogers and Anderson's apparatus is calculated to be more

effective than the French or English systems previously used

Machine Builders at the Centennial.

According to the latest reports, applications for space in the machinery department of the Centennial are coming in fairly from all branches of mechanical industries, except from the mining tool, chemical apparatus, leather-dressing, embroidery, and jewelry-making machine manufacturers, and, strange to add, the boiler men. More boilers are wanted to supply the 500 horse power. The fact is remarkable, as there is no lack of excellent though different forms of boilers, and certainly no lack of competition between their makers. The iron and wood working people are sending in twice as many applications as any other class. Pumps and printing presses are likewise at the front. The locomotive interests are well looked after, but still are behind expectation. The latter is the case with the silk, cotton, woolen, rubber, and paper machines, only forty applications in these great classes of mechanism having been received. The shipbuilders are tardy; but there are indications of a good show of pleasure boats. Clock manufacturers are plentifully heard from. A Connecticut company is to supply a big electric clock with twenty-five dials. The Western Union Company, and President Orton especially, are taking great interest in the telegraphic display, so that in that department a fine exhibit may be looked for. From 20 to 25 per cent of the total space, it is estimated, will be occupied by foreign machinery.

TO PRESERVE ice water, make a hat-shaped cover of two thicknesses of paper, with cotton batting, half an inch thick, between. Place over the entire pitcher.



ROGERS' LIFE-SAVING APPARATUS.—Fig. 2.

breeches block and whip line. The wheels and shafts are set up in lieu of the unstable triangle, and stayed to the platform by the guys, forming a derrick. In the inverse case of

Fig. 3.



effecting communication to the shore from the ship (as also for getting the lifeboat off shore) a heavier trifluted anchor shot or grapnel is employed. The entire apparatus is for use

Fig. 4.



when the wreck is lying within about a furlong of the shore. A greater distance, of 400 or 500 yards, a quarter of a mile