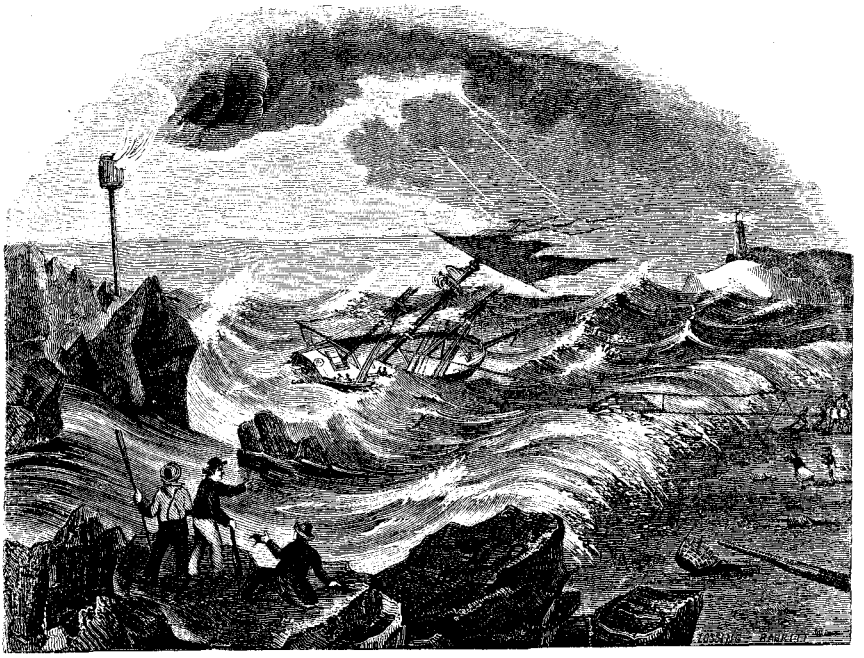


THE LIFE-CAR.

SOME ACCOUNT OF FRANCIS'S LIFE-BOATS AND LIFE-CARS.

BY JACOB ABBOTT.

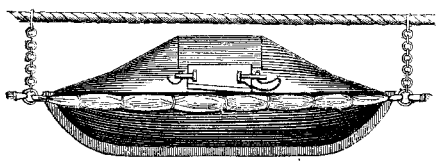
THE engraving at the head of this article represents the operation of transporting the officers and crew of a wrecked vessel to the shore, by means of one of the Life-Cars invented by Mr. Joseph Francis for this purpose. A considerable appropriation was made recently by Congress, to establish stations along the coast of New Jersey and Long Island—as well as on other parts of the Atlantic seaboard—at which all the apparatus necessary for the service of these cars, and of boats, in cases where boats can be used, may be kept. These stations are maintained by the government, with the aid and co-operation of the Humane Society—a benevolent association the object of which is to provide means for rescuing and saving persons in danger of drowning—and also of the New York Board of Underwriters, a body, which, as its name imports, represents the principal Marine Insurance Companies—associations having a strong pecuniary interest in the saving of cargoes of merchandize, and other property, endangered in a shipwreck. These three parties, the Government, the Humane Society, and the Board of Underwriters, combine their efforts to establish and sustain these stations; though we can not here stop to explain the details of the arrangement by which this co-operation is effected, as we must proceed to consider the more immediate subject of this article, which is the apparatus and the machinery itself, by which the lives and property are saved. In respect to the stations, however, we will say that it awakens very strong and very peculiar emotions in the mind, to visit one of them on some lonely and desolate coast, remote from human dwellings, and to observe the arrangements and preparations that have been made in them, all quietly awaiting the dreadful emergency which is to call them into action. The traveler stands for example on the southern shore of the island of Nantucket, and after looking off over the boundless ocean which stretches in that direction without limit or shore for thousands of miles, and upon the surf rolling in incessantly on the beach, whose smooth expanse is dotted here and there with the skeleton remains of ships that were lost in former storms, and are now half buried in the sand, he sees, at length, a hut, standing upon the shore just above the reach of the water—the only human structure to be seen. He enters the hut. The surf boat is there, resting upon its rollers, all ready to be launched, and with its oars and all its furniture and appliances complete, and ready for the sea. The fireplace is there, with the wood laid, and matches ready for the kindling. Supplies of food and clothing are also at hand—and a compass: and on a placard, conspicuously posted, are the words,

SHIPWRECKED MARINERS REACHING THIS HUT, IN FOG OR SNOW, WILL FIND THE TOWN OF NANTUCKET TWO MILES DISTANT, DUE WEST.

It is impossible to contemplate such a spec-

tacle as this, without a feeling of strong emotion—and a new and deeper interest in the superior excellency and nobleness of efforts made by man for saving life, and diminishing suffering, in comparison with the deeds of havoc and destruction which have been so much gloried in, in ages that are past. The Life-Boat rests in its retreat, not like a ferocious beast of prey, crouching in its covert to seize and destroy its hapless victims, but like an angel of mercy, reposing upon her wings, and watching for danger, that she may spring forth, on the first warning, to *rescue* and *save*.

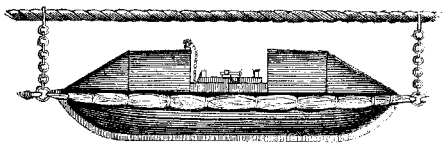
The Life-*Car* is a sort of boat, formed of copper or iron, and closed over, above, by a convex deck with a sort of door or hatchway through it, by which the passengers to be con-



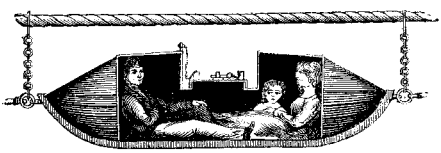
veyed in it to the shore, are admitted. The car will hold from four to five persons. When these passengers are put in, the door, or rather *cover*, is shut down and bolted to its place; and the car is then drawn to the land, suspended by rings from a hawser which has previously been stretched from the ship to the shore.

To be shut up in this manner in so dark and

gloomy a receptacle, for the purpose of being drawn, perhaps at midnight, through a surf of such terrific violence that no boat can live in it, can not be a very agreeable alternative; but the emergencies in which the use of the life-car is called for, are such as do not admit of hesitation or delay. There is no light within the car, and there are no openings for the admission of air.* It is subject, too, in its passage to the shore, to the most frightful shocks and concussions from the force of the breakers. The car, as first made, too, was of such a form as required the passengers within it to lie at length, in a recumbent position, which rendered them almost utterly helpless. The form is, however, now changed—the parts toward the ends, where the heads of the passengers would come, when placed in a sitting posture within, being made higher than the middle; and the opening or door is placed in the depressed part, in the centre. This arrangement is found to be much better



than the former one, as it greatly facilitates the putting in of the passengers, who always require a greater or less degree of aid, and are often entirely insensible and helpless from the effects of fear, or of exposure to cold and hunger. Besides, by this arrangement those who have any strength remaining can take much more convenient and safer positions within the car, in

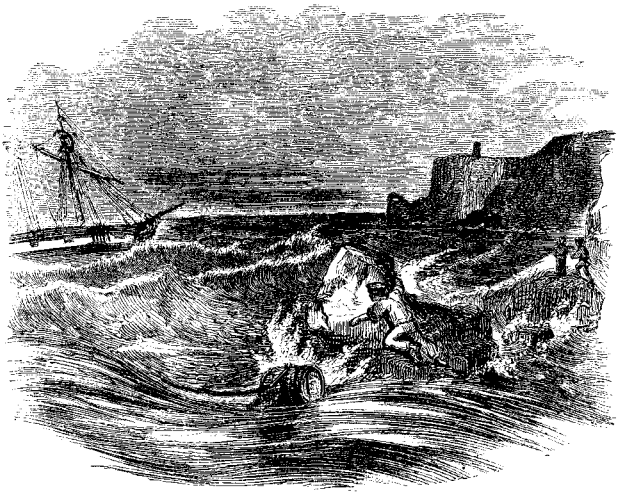


their progress to the shore, than was possible under the old construction.

The car, as will be seen by the foregoing drawings, is suspended from the hawser by means of short chains attached to the ends of it. These chains terminate in rings above, which rings ride upon the hawser, thus allowing the car to traverse to and fro, from the vessel to the shore. The car is drawn along, in making these passages, by means of lines attached to the two ends of it, one of which passes to the ship and the other to the shore. By means of these lines the empty car is first drawn out to the wreck by the passengers and crew, and then, when loaded, it is drawn back to the land by the people assembled there, as represented in the engraving at the head of this article.

Perhaps the most important and difficult part of the operation of saving the passengers and crew in such cases, is the getting the hawser out in the first instance, so as to form a connection between the ship and the land. In fact, whenever a ship is stranded upon a coast, and people are assembled on the beach to assist the sufferers, the first thing to be done, is always to "get a line ashore." On the success of the attempts made to accomplish this, all the hopes of the sufferers depend. Various methods are resorted to, by the people on board the ship, in order to attain this end, where there are no means at hand on the shore, for effecting it. Perhaps the most common mode is to attach a small line to a cask, or to some other light and bulky substance which the surf can easily throw up upon the shore. The cask, or float, whatever it may be, when attached to the line, is thrown into the water, and after being rolled and tossed, hither and thither, by the tumultuous waves, now advancing, now receding, and now sweeping

* None such are in fact required, for the car itself contains air enough for the use of its passengers for a quarter of an hour, and there is rarely occupied more than a period of two or three minutes to pass it through the surf to the shore.



THE CASK.

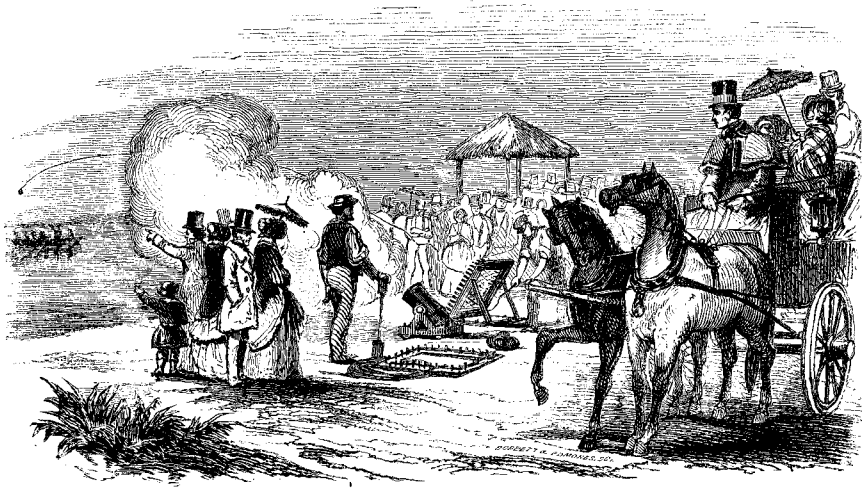
madly around in endless gyrations, it at length reaches a point where some adventurous wrecker on the beach can seize it, and pull it up upon the land. The line is then drawn in, and a hawser being attached to the outer end of it, by the crew of the ship, the end of the hawser itself is then drawn to the shore.

This method, however, of making a communication with the shore from a distressed vessel, simple and sure as it may seem in description, proves generally extremely difficult and uncertain in actual practice. Sometimes, and that, too, not unfrequently when the billows are rolling in with most terrific violence upon the shore, the sea will carry nothing whatever to the land. The surges seem to pass under, and so to get beyond whatever objects lie floating upon the water, so that when a cask is thrown over to them, they play beneath it, leaving it where it was, or even drive it out to sea by not carrying it as far forward on their advance, as they bring it back by their recession. Even the lifeless body of the exhausted mariner, who when his strength was gone and he could cling no longer to the rigging, fell into the sea, is not drawn to the beach, but after surging to and fro for a short period about the vessel, it slowly disappears from view among the foam and the breakers toward the offing. In such cases it is useless to attempt to get a line on shore from the ship by means of any aid from the sea. The cask intrusted with the commission of bearing it, is beaten back against the vessel, or is drifted uselessly along the shore, rolling in and out upon the surges, but never approaching near enough to the beach to enable even the most daring adventurer to reach it.

In case of these life-cars, therefore, arrangements are made for sending the hawser out from the shore to the ship. The apparatus by which this is accomplished consists, first, of a piece of ordnance called a mortar, made large enough to throw a shot of about six inches in diameter; secondly, the shot itself, which has a small iron staple set in it; thirdly, a long line, one end of which is to be attached to the staple in the shot, when the shot is thrown; and, fourthly, a *rack* of a peculiar construction to serve as a reel for winding the line upon. This rack consists of a small square frame, having rows of pegs inserted along the ends and sides of it. The line is wound upon these pegs in such a manner, that as the shot is projected through the air, drawing the line with it, the pegs deliver the line as fast as it is required by the progress of the shot, and that with the least possible friction. Thus the advance of the shot is unimpeded. The mortar from which the shot is fired, is aimed in such a manner as to throw the missile over and beyond the ship, and thus when it falls into the water, the line attached to it comes down across the deck of the ship, and is seized by the passengers and crew.

Sometimes, in consequence of the darkness of the night, the violence of the wind, and perhaps of the agitations and confusion of the scene, the first and even the second trial may not be successful in throwing the line across the wreck. The object is, however, generally attained on the second or third attempt, and then the end of the hawser is drawn out to the wreck by means of the small line which the shot had carried; and being made fast and "drawn taut," the bridge is complete on which the car is to traverse to and fro.

The visitors at Long Branch, a celebrated watering place on the New Jersey coast, near New York, had an opportunity to witness a trial of this apparatus at the station there, during the last summer: a trial made, not in a case of storm and shipwreck, but on a pleasant summer afternoon, and for the purpose of testing



FIRING THE SHOT.

the apparatus, and for practice in the use of it. A large company assembled on the bank to witness the experiments. A boat was stationed on the calm surface of the sea, half a mile from the shore, to represent the wreck. The ball was thrown, the line fell across the boat, the car was drawn out, and then certain amateur performers, representing wrecked and perishing men, were put into the car and drawn safely through the gentle evening surf to the shore.

A case occurred a little more than a year ago on the Jersey shore not very far from Long Branch, in which this apparatus was used in serious earnest. It was in the middle of January and during a severe snow storm. The ship Ayrshire, with about two hundred passengers, had been driven upon the shore by the storm, and lay there stranded, the sea beating over her, and a surf so heavy rolling in, as made it impossible for any boat to reach her. It happened that one of the stations which we have described was near. The people on the shore assembled and brought out the apparatus. They fired the shot, taking aim so well that the line fell directly across the wreck. It was caught by the crew on board and the hawser was hauled off. The car was then attached, and in a short time, every one of the two hundred passengers, men, women, children, and even infants in their mothers' arms, were brought safely through the foaming surges, and landed at the station. The car which performed this service was considered as thenceforth fully entitled to an honorable discharge from active duty, and it now rests, in retirement and repose, though unconscious of its honors, in the Metallic Life-Boat Factory of Mr. Francis, at the Novelty Iron Works.

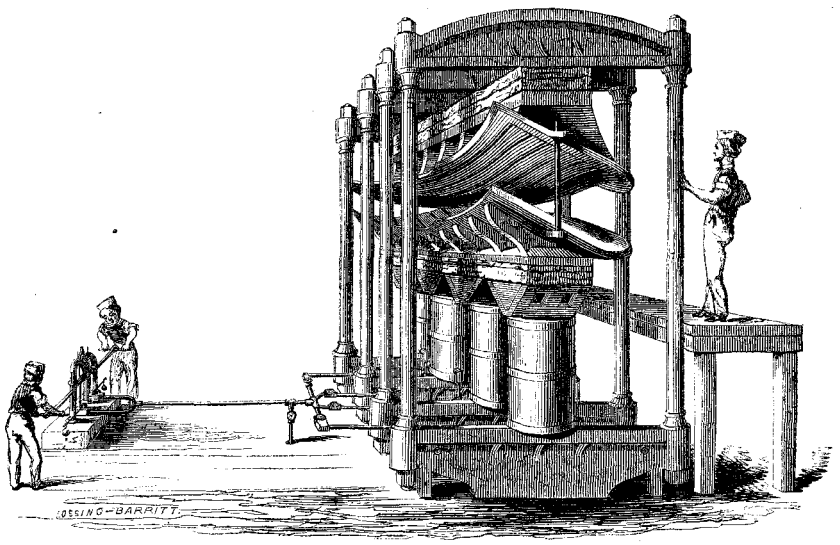
In many cases of distress and disaster befalling ships on the coast, it is not necessary to use the car, the state of the sea being such that it is possible to go out in a boat, to furnish the necessary succor. The boats, however, which are destined to this service must be of a peculiar construction, for no ordinary boat can live a moment in the surf which rolls in, in storms, upon shelving or rocky shores. A great many different modes have been adopted for the construction of surf-boats, each liable to its own peculiar objections. The principle on which Mr. Francis relies in his life and surf boats, is to give them an extreme lightness and buoyancy, so as to keep them always upon the *top* of the sea. Formerly it was expected that a boat in such a service, must necessarily take in great quantities of water, and the object of all the contrivances for securing its safety, was to expel the water after it was admitted. In the plan now adopted the design is to exclude the water altogether, by making the structure so light and forming it on such a model that it shall always rise above the wave, and thus glide safely over it. This result is obtained partly by means of the model of the boat, and partly by the lightness of the material of which it is composed. The reader may perhaps be surprised to hear, after this, that the material is *iron*.

Iron—or copper, which in this respect possesses the same properties as iron—though *absolutely* heavier than wood, is, in fact, much lighter as a material for the construction of receptacles of all kinds, on account of its great strength and tenacity, which allows of its being used in plates so thin that the quantity of the material employed is diminished much more than the specific gravity is increased by using the metal. There has been, however, hitherto a great practical difficulty in the way of using iron for such a purpose, namely that of giving to these metal plates a sufficient stiffness. A sheet of tin, for example, though stronger than a board, that is, requiring a greater force to break or rupture it, is still very *flexible*, while the board is stiff. In other words, in the case of a thin plate of metal, the parts yield readily

to any *slight* force, so far as to bend under the pressure, but it requires a very great force to separate them entirely; whereas in the case of wood, the slight force is at first resisted, but on a moderate increase of it, the structure breaks down altogether. The great thing to be desired therefore in a material for the construction of boats is to secure the stiffness of wood in conjunction with the thinness and tenacity of iron. This object is attained in the manufacture of Mr. Francis's boats by *plaiting* or *corrugating* the sheets of metal of which the sides of the boat are to be made. A familiar illustration of the principle on which this stiffening is effected is furnished by the common table waiter, which is made, usually, of a thin plate of tinned iron, stiffened by being turned up at the edges all around—the upturned part serving also at the same time the purpose of forming a margin.

The plaitings or corrugations of the metal in these iron boats pass along the sheets, in lines, instead of being, as in the case of the waiter, confined to the margin. The lines which they form can be seen in the drawing of the surf-boat, given on a subsequent page. The idea of thus corrugating or plaiting the metal was a very simple one; the main difficulty in the invention came, after getting the idea, in devising the ways and means by which such a corrugation could be made. It is a curious circumstance in the history of modern inventions that it often requires much more ingenuity and effort to contrive a way to *make* the article when invented, than it did to invent the article itself. It was, for instance, much easier, doubtless, to invent pins, than to invent the machinery for *making* pins.

The machine for making the corrugations in the sides of these metallic boats consists of a hydraulic press and a set of enormous dies. These dies are grooved to fit each other, and shut together; and the plate of iron which is to be corrugated being placed between them, is pressed into the requisite form, with all the force of the hydraulic piston—the greatest force, altogether, that is ever employed in the service of man.



THE HYDRAULIC PRESS.

The machinery referred to will be easily understood by the above engraving. On the left are the pumps, worked, as represented in the engraving, by two men, though four or more are often required. By alternately raising and depressing the break or handle, they work two small but very solid pistons which play within cylinders of corresponding bore, in the manner of any common forcing pump.

By means of these pistons the water is driven, in small quantities but with prodigious force, along through the horizontal tube seen passing across, in the middle of the picture, from the forcing-pump to the great cylinders on the right hand. Here the water presses upward upon the under surfaces of pistons working within the great cylinders, with a force proportioned to the ratio of the area of those pistons compared with that of one of the pistons in the pump. Now the piston in the force-pump is about one inch in diameter. Those in the great cylinders are about twelve inches in diameter, and as there are four of the great cylinders the ratio is as 1 to 576.* This is a great multiplication, and it is found that the force which the men can exert upon the piston within the small cylinder, by the aid of the long lever with which they work it, is so great, that when multiplied by 576, as it is by being expanded over the

* Areas being as the squares of homologous lines, the ratio would be, mathematically expressed, $1^2 : 4 \times 12^2 = 1 : 4 \times 144 = 1 : 576$.

surface of the large pistons, an upward pressure results of about eight hundred tons. This is a force ten times as great in *intensity* as that exerted by steam in the most powerful sea-going engines. It would be sufficient to lift a block of granite five or six feet square at the base, and as high as the Bunker Hill Monument.

Superior, however, as this force is, in one point of view, to that of steam, it is very inferior to it in other respects. It is great, so to speak, in *intensity*, but it is very small in *extent* and *amount*. It is capable indeed of lifting a very great weight, but it can raise it only an exceedingly little way. Were the force of such an engine to be brought into action beneath such a block of granite as we have described, the enormous burden would rise, but it would rise by a motion almost inconceivably slow, and after going up perhaps as high as the thickness of a sheet of paper, the force would be spent, and no further effect would be produced without a new exertion of the motive power. In other words, the whole amount of the force of a hydraulic engine, vastly concentrated as it is, and irresistible, within the narrow limits within which it works, is but the force of four or five men after all; while the power of the engines of a Collins' steamer is equal to that of four or five thousand men. The steam-engine can do an *abundance* of *great* work; while, on the other hand, what the hydraulic press can do is very little in *amount*, and only great in view of its extremely concentrated intensity.

Hydraulic presses are consequently very often used, in such cases and for such purposes as require a great force within very narrow limits. The indentations made by the type in printing the pages of this magazine, are taken out, and the sheet rendered smooth again, by hydraulic presses exerting a force of *twelve* hundred tons. This would make it necessary for us to carry up our imaginary block of granite *a hundred feet higher* than the Bunker Hill Monument to get a load for them.*

In Mr. Francis's presses, the dies between which the sheets of iron or copper are pressed, are directly above the four cylinders which we have described, as will be seen by referring once more to the drawing. The upper die is fixed—being firmly attached to the top of the frame, and held securely down by the rows of iron pillars on the two sides, and by the massive iron caps, called platens, which may be seen passing across at the top, from pillar to pillar. These caps are held by large iron nuts which are screwed down over the ends of the pillars above. The lower die is movable. It is attached by massive iron work to the ends of the piston-rods, and of course it rises when the pistons are driven upward by the pressure of the water. The plate of metal, when the dies approach each other, is bent and drawn into the intended shape by the force of the pressure, receiving not only the corrugations which are designed to stiffen it, but also the general shaping necessary, in respect to swell and curvature, to give it the proper form for the side, or the portion of a side, of a boat.

It is obviously necessary that these dies should fit each other in a very accurate manner, so as to compress the iron equally in every part. To make them fit thus exactly, massive as they are in magnitude, and irregular in form, is a work of immense labor. They are first cast as nearly as possible to the form intended, but as such castings always warp more or less in cooling, there is a great deal of fitting afterward required, to make them come rightly together. This could easily be done by machinery if the surfaces were square, or cylindrical, or of any other mathematical form to which the working of machinery could be adapted. But the curved and winding surfaces which form the hull of a boat or vessel, smooth and flowing as they are, and controlled, too, by established and well-known laws, bid defiance to all the attempts of mere mechanical motion to follow them. The superfluous iron, therefore, of these dies, must all be cut away by chisels driven by a hammer held in the hand; and so great is the labor required to fit and smooth and polish them, that a pair of them costs several thousand dollars before they are completed and ready to fulfill their function.

The superiority of metallic boats, whether of copper or iron, made in the manner above described, over those of any other construction, is growing every year more and more apparent. They are more light and more easily managed, they require far less repair from year to year, and are very much longer lived. When iron is used for this purpose, a preparation is employed that is called *galvanized* iron. This manufacture consists of plates of iron of the requisite thickness, coated on each side, first with tin, and then with zinc; the tin being used simply as a solder, to unite the other metals. The plate presents, therefore, to the water, only a surface of *zinc*, which resists all action, so that the boats thus made are subject to no species of decay. They can be injured or destroyed only by violence, and even violence acts at a very great disadvantage in attacking them. The stroke of a shot, or a concussion of any kind, that would split or shiver a wooden boat so as to damage it past repair, would only indent, or at most perforate, an iron one. And a perforation even, when made, is very easily repaired, even by the navigators themselves, under circumstances however unfavorable. With a smooth and heavy stone placed upon the outside for an anvil, and another used on the inside as a hammer, the protrusion is easily beaten down, the opening is closed, the continuity of

* There are nine of these presses in the printing-rooms of Harper and Brothers, all constantly employed in smoothing sheets of paper after the printing. The sheets of paper to be pressed are placed between sheets of very smooth and thin, but *hard* pasteboard, until a pile is made several feet high, and containing sometimes two thousand sheets of paper, and then the hydraulic pressure is applied. These presses cost, each, from twelve to fifteen hundred dollars.

surface is restored, and the damaged boat becomes, excepting, perhaps, in the imagination of the navigator, as good once more as ever.

Metallic boats of this character were employed by the party under Lieut. Lynch, in making, some years ago, their celebrated voyage down the river Jordan to the Dead Sea. The navigation of this stream was difficult and perilous in the highest degree. The boats were subject to the severest possible tests and trials. They were impelled against rocks, they were dragged over shoals, they were swept down cataracts and cascades. There was one *wooden* boat in the little squadron; but this was soon so strained and battered that it could no longer be kept afloat, and it was abandoned. The metallic boats, however, lived through the whole, and finally floated in peace on the heavy waters of the Dead Sea, in nearly as good a condition as when they first came from Mr. Francis's dies.

The seams of a metallic boat will never open by exposure to the sun and rain, when lying long upon the deck of a ship, or hauled up upon a shore. Nor will such boats burn. If a ship takes fire at sea, the boats, if of iron, can never be injured by the conflagration. Nor can they be sunk. For they are provided with air chambers in various parts, each separate from the others, so that if the boat were bruised and jammed by violent concussions, up to her utmost capacity of receiving injury, the shapeless mass would still float upon the sea, and hold up with unconquerable buoyancy as many as could cling to her.*

A curious instance occurred during the late war with Mexico which illustrates the almost indestructible character of these metallic boats.

The reader is probably aware that the city of Vera Cruz is situated upon a low and sandy coast, and that the only port which exists there is formed by a small island which lies at a little distance from the shore, and a mole or pier built out from it into the water. The island is almost wholly covered by the celebrated fortress of St. Juan de Ulloa. Ships obtain something like shelter under the lee of this island and mole, riding sometimes at anchor behind the mole, and sometimes moored to iron rings set in the castle walls. At one time while the American forces were in possession of the city, an officer of the army had occasion to use a boat for some purpose of transportation from the island to the shore. He applied to the naval authorities in order to procure one. He was informed that there was no boat on the station that could be spared for such a purpose. In this dilemma the officer accidentally learned that there was an old copper life-boat, lying in the water near the castle landing, dismantled, sunk, and useless. The officer resolved, as a last resort, to examine this wreck, in hopes to find that it might possibly be raised and repaired.

He found that the boat was lying in the water and half filled with rocks, sand, and masses of old iron, which had been thrown into her to sink and destroy her. Among the masses of iron there was a heavy bar which had been used apparently in the attempt to punch holes in the boat by those who had undertaken to sink her. These attempts had been generally fruitless, the blows having only made indentations in the copper, on account of the yielding nature of the metal. In one place, however, in the bottom of the boat, the work had been done effectually; for five large holes were discovered there, at a place where the bottom of the boat rested upon the rocks so as to furnish such points of resistance below as prevented the copper from yielding to the blows.

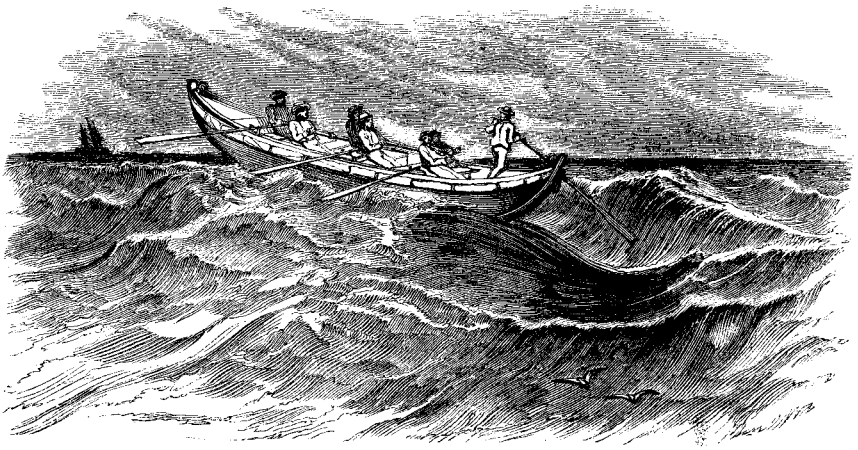
The officer set his men at work to attempt to repair this damage. They first took out the sand and stones and iron with which the boat was encumbered, and then raising her, they dragged her up out of the water to the landing. Here the men lifted her up upon her side, and began to beat back the indentations which had been made in the metal, by holding a heavy sledge hammer on the inside, to serve as an anvil, and then striking with a hand-hammer upon the protuberances on the outside. In the same manner they beat back the burrs or protrusions formed where the holes had been punched through the bottom of the boat, and they found, much to their satisfaction, that when the metal was thus brought back into its place the holes were closed again, and the boat became whole and tight as before.

When this work was done the men put the boat back again in her proper position, replaced and fastened the seats, and then launched her into the water. They found her stanch and tight, and seemingly as good as new. The whole work of repairing her did not occupy more than one hour—much less time, the officer thought, than had been spent in the attempt to destroy her.

The boat thus restored was immediately put to service and she performed the work required of her, admirably well. She was often out on the open sea in very rough weather, but always rode over the billows in safety, and in the end proved to be the strongest, swiftest, and safest boat in the gulf squadron.

The *surf*-boats, made in this way, will ride safely in any sea—and though sometimes after protracted storms, the surges roll in upon shelving or rocky shores with such terrific violence that it is impossible to get the boats off from the land, yet once off, they are safe, however wild the commotion. In fact there is a certain charm in the graceful and life-like buoyancy

* The principle on which these life-boats are made is found equally advantageous in its application to boats intended for other purposes. For a gentleman's pleasure-grounds, for example, how great the convenience of having a boat which is always stanch and tight—which no exposure to the sun can make leaky, which no wet can rot, and no neglect impair. And so in all other cases where boats are required for situations or used where they will be exposed to hard usage of any kind, whether from natural causes or the neglect or inattention of those in charge of them, this material seems far superior to any other.



THE SURF-BOAT.

with which they ride over the billows, and in the confidence and sense of security which they inspire in the hearts of those whom they bear, as they go bounding over the crests of the waves, that it awakens in minds of a certain class, a high exhilaration and pleasure, to go out in them upon stormy and tempestuous seas. To illustrate the nature of the scenes through which such adventurers sometimes pass, we will close this article with a narrative of a particular excursion made not long since by one of these boats—a narrative now for the first time reduced to writing.

One dark and stormy night Mr. Richard C. Holmes, the collector at the port of Cape May, a port situated on an exposed and dangerous part of the coast, near the entrance to the Chesapeake, was awakened from his sleep by the violence of the storm, and listening, he thought that he could hear at intervals the distant booming of a gun, which he supposed to be a signal of distress. He arose and hastened to the shore. The night was dark, and nothing could be seen but the report of the gun was distinctly to be heard, at brief intervals, coming apparently from a great distance in the offing.

He aroused from the neighboring houses a sufficient number of other persons to man his surf-boat, embarked on board, taking a compass for a guide, and put to sea.

It was very dark and the weather was very thick, so that nothing could be seen; but the crew of the boat pulled steadily on, guided only by the compass, and by the low and distant booming of the gun. They rowed in the direction of the sound, listening as they pulled; but the noise made by the winds and the waves, and by the dashing of the water upon the boat and upon the oars, was so loud and incessant, and the progress which they made against the heavy "send" of the surges was so slow, that it was for a long time doubtful whether they were advancing or not. After an hour or two, however, the sound of the gun seemed to come nearer, and at length they could see, faintly, the flash beaming out for an instant just before the report, in the midst of the driving rain and flying spray which filled the dark air before them.

Encouraged by this, the oarsmen pulled at their oars with new energy, and soon came in sight of the hull of the distressed vessel, which began now to rise before them, a black and misshapen mass, scarcely distinguishable from the surrounding darkness and gloom. As they came nearer, they found that the vessel was a ship—that she had been beaten down upon her side by the sea, and was almost overwhelmed with the surges which were breaking over her. Every place upon the deck which afforded any possibility of shelter was crowded with men and women, all clinging to such supports as were within their reach, and vainly endeavoring to screen themselves from the dashing of the spray. The boat was to the leeward of the vessel, but so great was the commotion of the sea, that it was not safe to approach even near enough to communicate with the people on board. After coming up among the heaving and tumbling surges as near as they dared to venture, the crew of the surf boat found that all attempts to make their voices heard were unavailing, as their loudest shouts were wholly overpowered by the roaring of the sea, and the howling of the winds in the rigging.

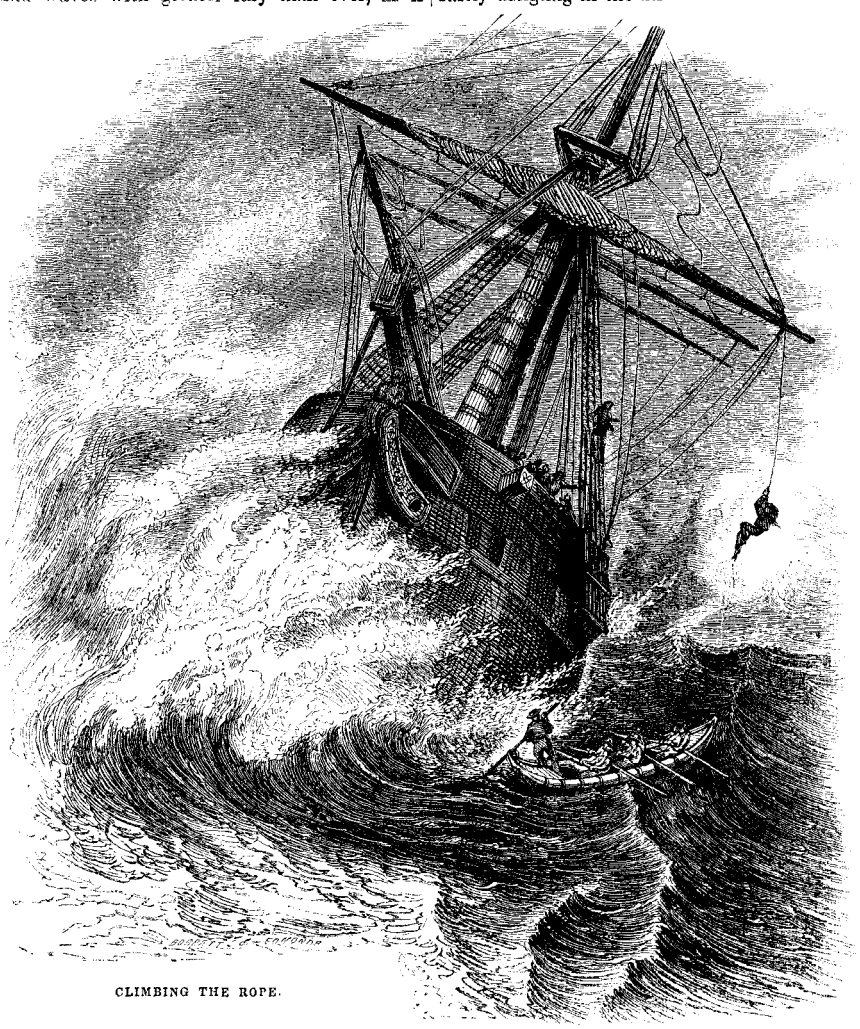
Mr. Holmes accordingly gave up the attempt, and fell back again, intending to go round to the windward side of the ship, in hopes to be able to communicate with the crew from that quarter. He could hear *them* while he was to leeward of them, but they could not hear him; and his object in wishing to communicate with them was to give them directions in respect to what they were to do, in order to enable him to get on board.

In the mean time daylight began to appear The position of the ship could be seen more distinctly. She lay upon a shoal, held partly by her anchor, which the crew had let go before she struck. Thus confined she had been knocked down by the seas, and now lay thumping vio-

lently at every rising and falling of the surge, and in danger every moment of going to pieces. She was covered with human beings, who were seen clinging to her in every part—each separate group forming a separate and frightful spectacle of distress and terror.

Mr. Holmes succeeded in bringing the surf-boat so near to the ship on the windward side as to hail the crew, and he directed them to let down a line from the end of the main yard, to leeward. The main yard is a spar which lies horizontally at the head of the main mast, and as the vessel was careened over to leeward, the end of the yard on that side would of course be depressed, and a line from it would hang down over the water, entirely clear of the vessel. The crew heard this order and let down the line. Mr. Holmes then ordered the surf-boat to be pulled away from the ship again, intending to drop to leeward once more, and there to get on board of it by means of the line. In doing this, however, the boat was assailed by the winds and waves with greater fury than ever, as if they now first began to understand that it had come to rescue their victims from their power. The boat was swept so far away by this onset, that it was an hour before the oarsmen could get her back so as to approach the line. It seemed then extremely dangerous to approach it, as the end of it was flying hither and thither, whipping the surges which boiled beneath it, or whirling and curling in the air, as it was swung to and fro by the impulse of the wind, or by the swaying of the yard-arm from which it was suspended.

The boat however approached the line. Mr. Holmes, when he saw it within reach, sprang forward to the bows, and after a moment's contest between an instinctive shrinking from the gigantic lash which was brandished so furiously over his head, and his efforts to reach it, he at length succeeded in seizing it. He grasped it by both hands with all his force, and the next instant the boat was swept away from beneath him by the retreating billows, and he was left safely dangling in the air.



CLIMBING THE ROPE.

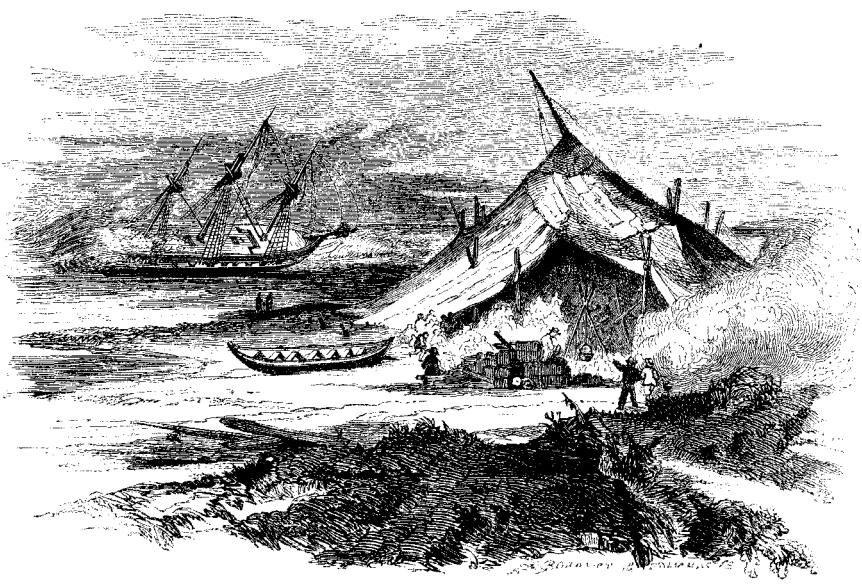
We say *safely*, for, whenever any one of these indomitable sea-kings, no matter in what circumstances of difficulty or danger, gets a rope that is well secured at its point of suspension, fairly within his iron gripe, we may at once dismiss all concern about his personal safety. In this case the intrepid adventurer, when he found that the boat had surged away from beneath him, and left him suspended in the air over the raging and foaming billows, felt that all danger was over. To mount the rope, hand over hand, till he gained the yard-arm, to clamber up the yard to the mast, and then to descend to the deck by the shrouds, required only an *ordinary* exercise of nautical strength and courage. All this was done in a moment, and Mr. Holmes stood upon the deck, speechless, and entirely overcome by the appalling spectacle of terror and distress that met his view.

The crew gathered around the stranger, whom they looked upon at once as their deliverer, and listened to hear what he had to say. He informed them that the ship was grounded on a narrow reef or bar running parallel with the coast, and that there was deeper water between them and the shore. He counseled them to cut loose from the anchor, in which case he presumed that the shocks of the seas would drive the ship over the bar, and that then she would drift rapidly in upon the shore; where, when she should strike upon the beach, they could probably find means to get the passengers to the land.

This plan was decided upon. The cable was cut away by means of such instruments as came to hand. The ship was beaten over the bar, awakening, as she was dashed along, new shrieks from the terrified passengers, at the violence of the concussions. Once in deep water she moved on more smoothly, but was still driven at a fearful rate directly toward the land. The surf-boat accompanied her, hovering as near to her all the way as was consistent with safety. During their progress the boat was watched by the passengers on board the ship, with anxious eyes, as in her were centred all their hopes of escape from destruction.

The conformation of this part of the coast, as in many other places along the shores of the United States, presents a range of low, sandy islands, lying at a little distance from the land, and separated from it by a channel of sheltered water. These islands are long and narrow, and separated from each other by inlets or openings here and there, formed apparently by the breaking through of the sea. The crew of our ship would have been glad to have seen some possibility of their entering through one of these inlets. The ship could not, however, be guided, but must go wherever the winds and waves chose to impel her. This was to the outer shore of one of the long, narrow islands, where at length she struck again, and was again overwhelmed with breakers and spray.

After much difficulty the seamen succeeded, with the help of the surf-boat, in getting a line from the ship to the shore, by means of which one party on the land and another on board the vessel could draw the surf-boat to and fro. In this way the passengers and crew were all safely landed. When the lives were thus all safe, sails and spars were brought on shore, and then, under Mr. Holmes's directions, a great tent was constructed on the sand, which, though rude in form, was sufficient in size to shelter all the company. When all were assembled the num-



THE TENT.

ber of passengers saved was found to be *one hundred and twenty-one.* They were German emigrants of the better class, and they gathered around their intrepid deliverer, when all was over, with such overwhelming manifestations of their admiration and gratitude, as wholly unmanned him. They had saved money, and jewels, and such other valuables as could be carried about the person, to a large amount; and they brought every thing to him, pressing him most earnestly, and with many tears, to take it all, for having saved them from such imminent and certain destruction. He was deeply moved by these expressions of gratitude, but he would receive no reward.

When the tent was completed and the whole company were comfortably established under the shelter of it, the boat was passed to and fro again through the surf, to bring provisions on shore. A party of seamen remained on board for this purpose—loading the boat at the ship, and drawing it out again when unloaded on the shore. The company that were assembled under the tent dried their clothes by fires built for the purpose there, and then made a rude breakfast from the provisions brought for them from the ship: and when thus in some degree rested and refreshed, they were all conveyed safely in boats to the main land.

MAURICE TIERNAY, THE SOLDIER OF FORTUNE.*

CHAPTER XXXII.

"THE ATHOL TENDER."

AS I cast my eyes over these pages, and see how small a portion of my life they embrace, I feel like one who, having a long journey before him, perceives that some more speedy means of travel must be adopted, if he ever hope to reach his destination. With the instinctive prosiness of age, I have lingered over the scenes of boyhood, a period which, strange to say, is fresher in my memory than many of the events of few years back; and were I to continue my narrative as I have begun it, it would take more time on my part, and more patience on that of my readers, than are likely to be conceded to either of us. Were I to apologize to my readers for any abruptness in my transitions, or any want of continuity in my story, I should, perhaps, inadvertently seem to imply a degree of interest in my fate which they have never felt; and, on the other hand, I would not for a moment be thought to treat slightingly the very smallest degree of favor they may feel disposed to show me. With these difficulties on either hand, I see nothing for it but to limit myself for the future to such incidents and passages of my career as most impressed themselves on myself, and to confine my record to the events in which I personally took a share.

Santron and I sailed from New York on the 9th of February, and arrived in Liverpool on the 14th of March. We landed in as humble a guise as need be. One small box contained all our effects, and a little leathern purse, with something less than three dollars, all our available wealth. The immense movement and stir of the busy town, the crash and bustle of trade, the roll of wagons, the cranking clatter of cranes and windlasses, the incessant flux and reflux of population, all eager and intent on business, were strange spectacles to our eyes as we loitered, houseless and friendless, through the streets, staring in wonderment at the wealth and prosperity of that land we were taught to believe was tottering to bankruptcy.

Santron affected to be pleased with all, talked of the "beau pillage" it would afford one day or other; but in reality this appearance of riches and prosperity seemed to depress and discourage him. Both French and American writers had agreed in depicting the pauperism and discontent of England, and yet where were the signs of it? Not a house was untenanted, every street was thronged, every market filled; the equipages of the wealthy vied with the loaded wagons in number; and if there were not the external evidences of happiness and enjoyment the gayer population of other countries display, there was an air of well-being and comfort such as no other land could exhibit.

Another very singular trait made a deep impression on us. Here were these islanders with a narrow strait only separating them from a land bristling with bayonets. The very roar of the artillery at exercise might be almost heard across the gulf, and yet not a soldier was to be seen about! There were neither forts nor bastions. The harbor, so replete with wealth, lay open and unprotected, not even a gun-boat or a guard-ship to defend it! There was an insolence in this security that Santron could not get over, and he muttered a prayer that the day might not be distant that should make them repent it.

He was piqued with every thing. While on board ship we had agreed together to pass ourselves for Canadians, to avoid all inquiries of the authorities! Heaven help us! The authorities never thought of us. We were free to go or stay as we pleased. Neither police nor passport officers questioned us. We might have been Hoche and Massena for aught they either knew or cared. Not a "mouchard" tracked us; none even looked after us as we went. To me this was all very agreeable and reassuring; to my companion it was contumely and insult. All the ingenious fiction he had devised of our birth, parentage, and pursuits, was a fine romance inedited, and he was left to sneer at the self-sufficiency that would not take alarm at the advent of two ragged youths on the quay of Liverpool.

"If they but knew who we were, Maurice," he kept continually muttering as we went along. "If these fellows only knew whom they had in their town, what a rumpus it would create! How the shops would close! What barricading of doors and windows we should see! What bursts of terror and patriotism! Par St. Denis, I have a mind to throw up my cap in the air

* Continued from the June Number.