THE "MAINE" DISASTER.

As we go to press the mystery which envelops the "Maine" disaster is as great as ever and the country is still anxiously awaiting the verdict of the Court of Inquiry. So faithful have the members of the board, the survivors of the "Maine," and the divers who are at work on the wreck been to the policy of silence which has been enjoined by the administration, that practically nothing of an authoritative or expert character regarding either the cause of the wreck or its present condition has been made public.

Meanwhile, both the administration and Congress have been taking all necessary steps to place the country in a state of full preparedness for such complications as might follow upon the publication of the Court of Inquiry's report, if it should prove that the "Maine" was blown up by design. Directly and opportunely in line with these preparations is the bill for the addition of two sorely needed artillery regiments to the existing force, which is likely to become law at an early date. The Assistant Secretary of the Navy has recommended the addition of 1,500 men to the navy, and the purchase of 100,000 tons of coal and its storage at convenient coaling stations, and great activity prevails in the arsenals and among the various private companies that manufacture war material for the government.

These preparations, however, are in no sense to be regarded as "war measures;" they simply indicate a determination on the part of the government to bring the defenses of the country up to the state of efficiency which should distinguish them, even in times of profound peace. Congress, while lavish in its appropriations for some purposes, has ever been slow to grant money for the defenses of the nation, and it was only just before the "Maine" disaster that the House cut down the Fortifications Bill by more than one-half. The frightful calamity in Havana Harbor and the still more frightful horrors which it may possibly precipitate are stirring up the government to an appreciation of the time-worn truism that in time of peace we should prepare for war.

Every effort should be made to raise the "Maine" and bring what remains of it to a home port. To this end Congress has appropriated $200,000 and a contract has been made with the Merritt and Chapman wrecking companies of this city and the Boston Towboat Company, by which they are to receive $871 per day for the use of their plant and $500 extra for each day's work of the powerful floating derrick "Monarch." The "Monarch" can lift a dead weight of 260 tons, and is credited with being the largest of its kind afloat. It is capable of lifting, unaided, each of the "Maine's" turrets with its two inclosed 10-inch guns. The combined weight of the two guns is about 54 tons and the weight of each turret and guns combined will be over 150 tons. The after turret will probably be recovered intact, and the forward turret, which was immediately above the explosion, on account of its enormous strength, is not likely to be wrecked beyond repair.

The terrific force of the explosion can be realized from a study of the engravings on our first page, which have been prepared from a set of photographs furnished by our correspondent in Havana. From the disposition of the wreckage it is possible to approximately determine the location of the explosion and the direction in which a part of its disruptive force was exerted. By comparing the two illustrations which we published Feb. 26 with these of the wreck the reader can identify the particular parts of the ship shown in each view. Perhaps the most striking are those shown in Figs. 1, 2 and 6, which represent the same mass of wreckage viewed from different standpoints. In the general view of the "Maine" of Feb. 26 he will notice the two large boat cranes which stood up amidships, one on each side of the superstructure deck at about the middle of its length. The long stretch of plating seen in Fig. 6 is that portion of the side bulwarks of the superstructure deck which extends from the boat crane aft on the port side, or the opposite side to that shown in our illustration of Feb. 26. The bead, or moulding, which will be noticed near the water line marks the level of the superstructure deck. It will be seen that just forward (i. e., to the left in Fig. 6) of the boat crane the plating and the deck line break off abruptly, and the forward half of this deck, including the pilot house, the conning tower and the captain's bridge, is missing. To find it we must look above the half of the deck that remains, where it lies bottom up with the pilot house, bridge, etc., buried beneath it. The deck beams, torn from the side framing of the ship but still riveted to the deck, can be plainly seen in the various views. From this it is evident that whatever may have happened in the hold of the ship, the blast was sufficient to tear loose the forward half of this deck and fold it back upon itself.

From the fact that the floor was rolled back toward the starboard side of the ship (see Fig. 2) it is probable that the explosion occurred on the port bow, or at any rate that the rush of gas came chiefly from that quarter. On the other hand, it may be that the dead weight of the forward turret, which was located to starboard, mitigated the force of the blast on that side.

A further evidence of the force of the explosion is shown by Fig. 2, where what appears to be the cylindrical walls and framing which carried the conning tower may be seen still attached to the forward (now the rear) end of the overturned deck. If this is the case, the massive conning tower with its thick steel plating, the captain's bridge and the pilot house must have described a great half circle through the air as they were lifted up and rolled back to their present position. Conspicuous among the mass of wreckage in Fig. 6 is a 6-inch gun with its gun-shield. This gun, which is now lying upside down, must have been blown over with the deck from its original position, abreast the pilot house and 80 feet distant from its present position. The top of the forward smokestack is shown in Fig. 3, and it is seen at full length in Fig. 1. The forward mast was carried away, and the only visible indication of the existence of the forward half of the ship is a few disconnected and twisted plates which show above water above where the bow of the ship should be. The after half of the vessel below water is said to be intact. The views taken at the stern show the mainmast with the United States flag flying in memory of the martyred sailors, many of whose bodies are supposed to be still entombed beneath it. The elevated structure at the extreme after end of the wreck is a searchlight platform. There was a similar platform in the bow, but this has disappeared.

The work of the divers has been impeded by the great amount of wreckage with which the ship is encumbered and by the muddy condition of the water. The latter is so filthy as to render the electric hand lamps with which the divers are provided practically useless, and they have to be guided largely by the sense of touch. The wreck itself is said to be steadily sinking into the soft mud of the harbor bottom, and, taking everything into consideration, it looks as though any critical examination of the ship's bottom, supposing it still exists, would be impossible.

It has been suggested that a cofferdam should be built entirely around the wreck and the water then pumped out, thereby enabling the hull to be patched up sufficiently to float it. It will be time enough to talk of patching the hull when it is clearly ascertained if there is sufficient forward hull left to admit of patching. Even if there is, it is very doubtful if a line of sheet piling could be driven in the surrounding mud, which must be strewn with a vast amount of wrecked bars and plating. If it should prove that the wreck cannot be floated, it is to be hoped that whatever the cost may be, the government will not leave a visible remnant of our ill-fated ship in the waters of Havana Harbor.

The Punishment of Train Robbers.

Mr. J. W. Shrague, of The Express Gazette, has issued an appeal to Congress in behalf of a national law to suppress train robbing and train wrecking. The following record of the last eight years forms the basis of his argument:

RECORD OF TRAIN ROBBERIES IN THE UNITED STATES.

Year.	Number of "hold-ups."
1890	12
1891	16
1892	16
1893	33
1894	34
1895	49
1896	28
1897	30
Total number of trains "held up" in eight years	218
Total number of people killed	78
Total number of people injured (shot)	67

THE RECORD FOR 1897.

Number of railroad "hold ups"	30
Number of robbers killed	4
Number of robbers injured (shot)	3
Number of passengers and trainmen killed	4
Number of passengers and trainmen injured (shot)	8

We are all aware that a terrifying total can be made up by summarizing statistics on almost any subject, and such statistics are dangerous things to play with. Here, however, is a record of seventy-eight persons killed (which we presume to be correct) as a result of a proceeding which is in itself criminal to the last degree. Lives may be lost unavoidably (as in the legitimate operation of railways), and, beyond doing our best to limit the number, we can only deplore them as a necessary incident of a necessary service. But there is no palliating or redeeming feature about the mortality caused by train robbers. There have been various bills introduced in Congress on the subject, of which the Hubbell bill is perhaps the most succinct, comprehensive and satisfactory. It provides, on conviction of any person "who shall be by any means or in any manner concerned or connected in the offense" (already fully defined in the bill), a penalty of "death or imprisonment in the penitentiary at hard labor for a term of not less than ten years." It would be better if it was not necessary to provide the alternative of imprisonment and if there could be but one penalty, and that penalty death. But, either by the passage of the Hubbell bill or of some measure even more stringent, Congress should act and as speedily as possible.—Railway Age.

Miscellaneous Notes and Receipts.

To Remove Ink Spots from Paper. — Shake 20 grammes of lime chloride with 30 grammes of distilled water until dissolved, let stand for some time, pour off the clear liquid into a dark (blue) flask and add 5 grammes of acetic acid to this liquid. In order to remove writing, etc., paint it with the fluid, using a fine hair pencil, press with blotting paper and dry. By this method erasures are avoided on the paper, which is important with documents and other valuable manuscripts.—Das Gewerbe.

Explosions Caused by Paint mixed with petroleum ether are said to have occurred frequently of late in England. The admixture of petroleum ether is made to hasten the drying of the paint. Aside from the recent accidents with such paints in the interior of vessels, attention is called to the fire in former years on the man-of-war "Doterel," where 151 persons lost their lives. Hence great caution is recommended in employing such paints; in closed rooms their use should be entirely prohibited.—Centralbl. d. Bauverwaltg.

The Heating Capacity of Wood.—Heretofore it was generally believed that the heating capacity of hard wood was greater than that of soft wood, but this is not so. The greatest heating power is possessed by one of the softest woods, viz., the linden. Taking its heating capacity for the unit, the second best heater is also a soft wood—fir with 0·99 heating power; next follow the elm and the pine with 0·98; willow, chestnut, larch, with 0·97; maple and spruce fir with 0·96; black poplar with 0·95; alder and white birch with 0·94 only; then comes the hard oak with 0·92; the locust and the white beech with 0·91, and the red beech with 0·90. Hence hard wood heats the least.—Staats Zeitung.

Priming Coat for Large Oil Paintings which are to be Rolled Up.—Take common canvas and prime with a mass consisting of 4 parts chalk, 2 parts glue and 1½ parts alum. The last two substances are dissolved hot, and first the glue is stirred in the chalk steeped in water, then the alum. After this priming, coat once with best white lead, caoutchouc oil, a little turpentine and litharge, and, when dry, paint on this. The ground will neither crack nor peel off if carefully treated. A priming coat for oil paintings on paper is produced by coating the paper first with glue water, and, when dry, once with this and a little white lead. No oil painting should be rolled up until it is thoroughly dry. If this has to be done, however, and the painting is still a little tacky, moisten clean white paper with water and lay it on the painting. But oil paintings can never remain entirely clean if rolled up before thoroughly dry.

By the addition of alum the glue is transformed into a tough jelly, upon which the basic coat is built. This priming would also be suitable for jute decoration.

Another Process.—The canvas is saturated with strong glue water after having been firmly stretched upon the wall or the floor. Before this is dry the first priming coat is put on, using a rather thick oil paint. Naturally the canvas, whose pores are saturated with glue water, will not absorb the oil. The glue water dries toward the back, and can thus not act injuriously upon the oil paint coat. Owing to the immediate application of the oil paint upon the fresh glue, a combination is created which, in its turn, prevents the canvas from hardening on account of the glue.—Maler Zeitung.

Coloring Photographs.—The method described below enables even persons who have received no technical education in drawing or painting to produce nicely decorated photographs. The photograph to be colored must not be mounted on cardboard. It is held against the window pane, so that the albumen layer touches the glass. This transparent photograph is then hatched on the back with a lead pencil, sketching the plainly visible outlines of the different parts which are to be painted with different colors. Then lay the albumen side of the photograph upon a blotter and simply apply the desired colors on the back of the picture into the sketched contours, which will hardly require much skill. After that, prepare a mixture of 10 parts benzine and 1 part vaseline, which pour over the photograph, rubbing it thoroughly into the paper with the finger. After first the back and then the face of the picture have been treated in this manner, it has become transparent and may be dried with a cloth after one to two hours and mounted on cardboard. The colors appear distinctly and are well visible.—Technische Mittheilungen für Malerei.

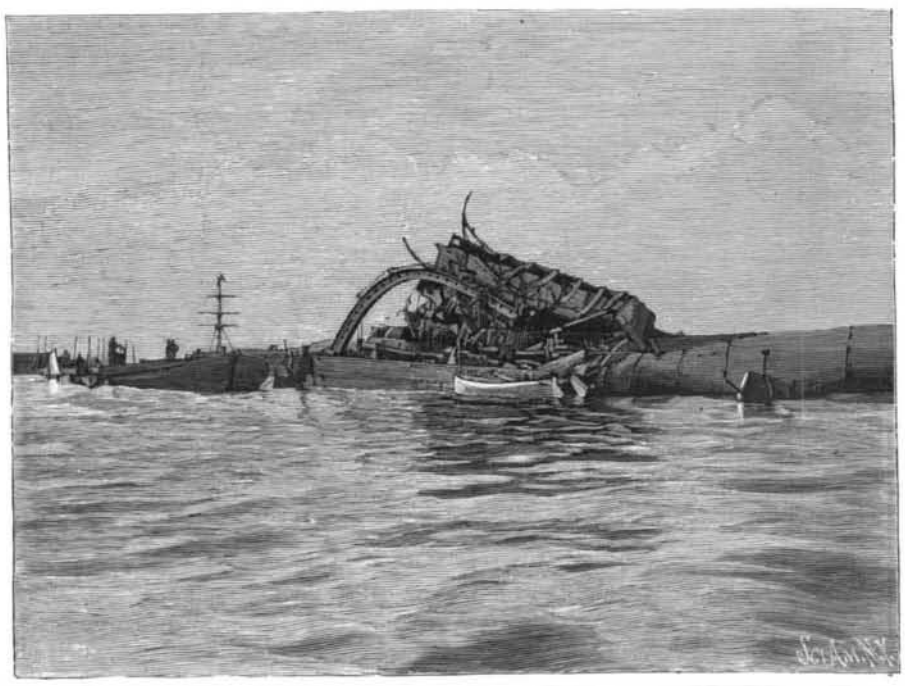
Long Life of Wood Under Water.—A valuable find was brought to light by the dredging engine which is at work for deepening the bed of the river Maine, near Karlburg. It consisted of six oak trunks, of which the largest measured twelve, the others nine, six, etc., cubic meters. They were lifted and taken to Langengrozetten, where they were dragged ashore in the presence of a large crowd of lookers-on. The wood of the trunks is black, like ebony, and, according to the opinion of a woods and forests assessor, they may have been lying in the water from 1,000 to 1,500 years. The find represents a considerable value, and will furnish excellent wood for inlaying purposes.

SCIENTIFIC AMERICAN

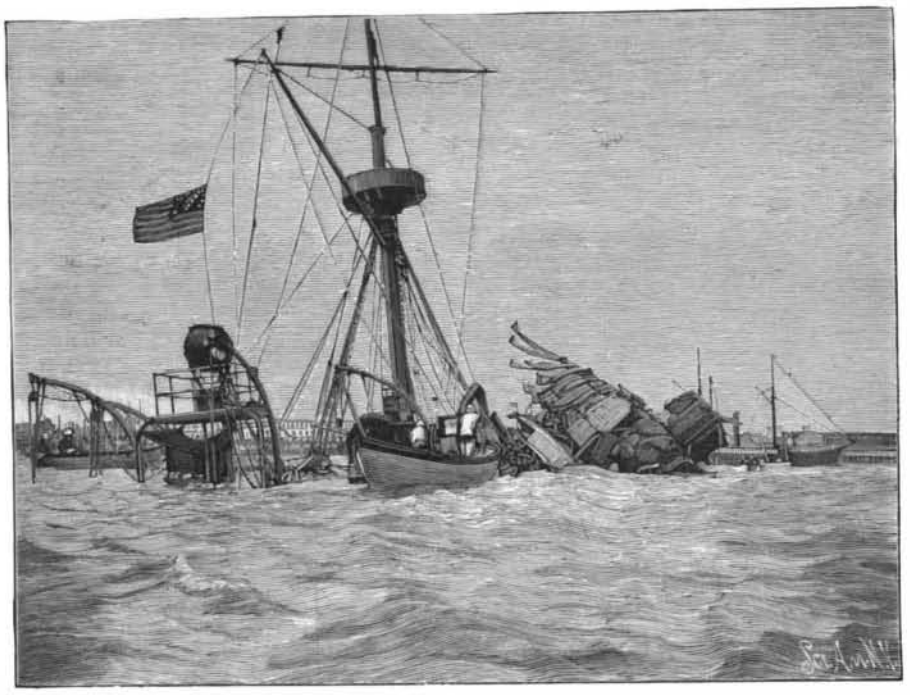
[Entered at the Post Office of New York, N. Y., as Second Class Matter. Copyright, 1898, by Munn & Co.]

A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

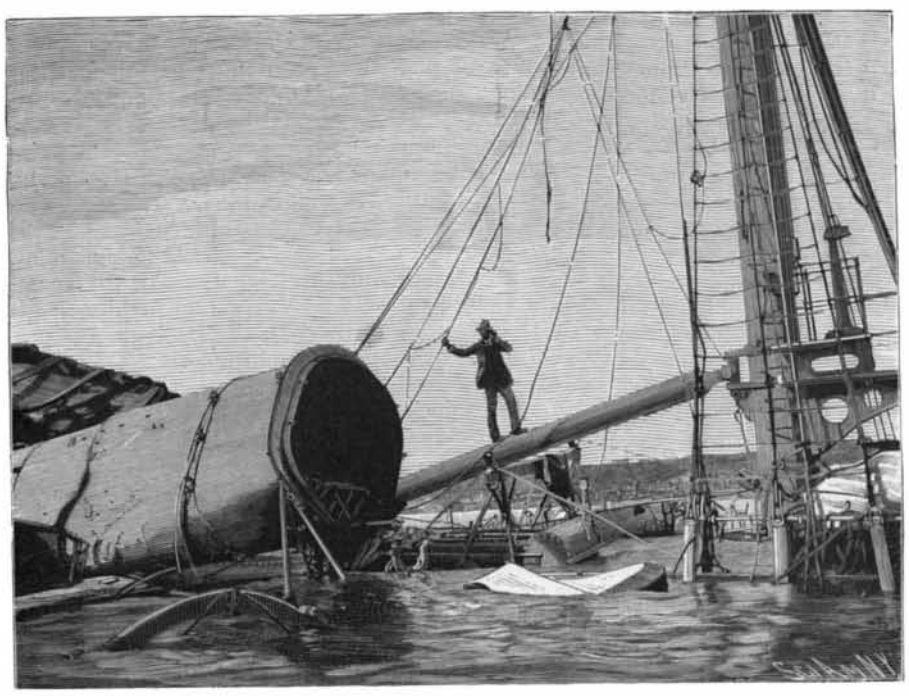
Vol. LXXVIII.—No. 11. ESTABLISHED 1845.] NEW YORK, MARCH 12, 1898. [$3.00 A YEAR. WEEKLY.



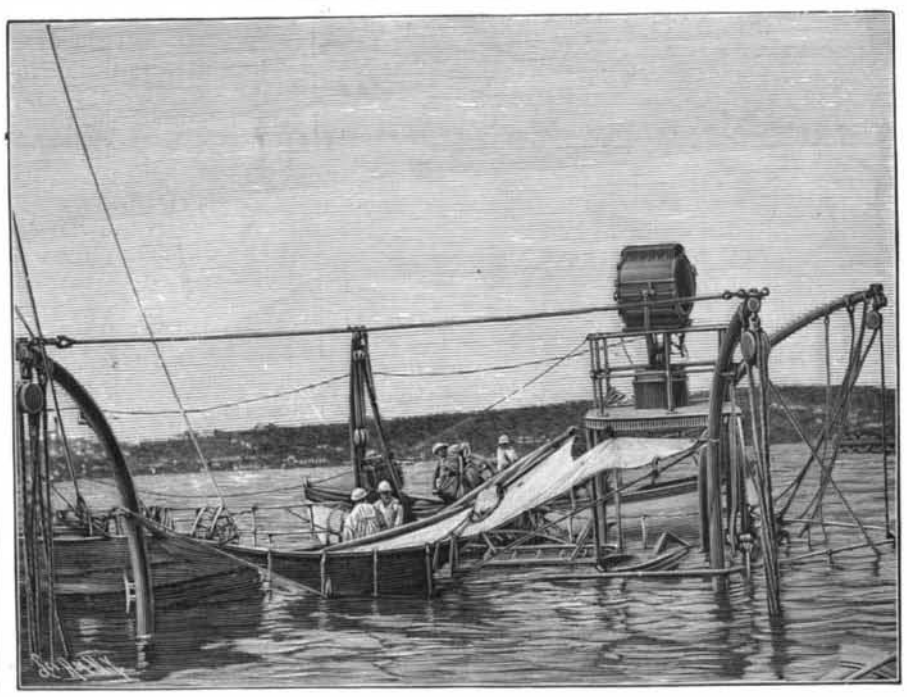
1.—PORT SIDE OF WRECK, SHOWING SUPERSTRUCTURE, DECK RUINS AND OVERTURNED SMOKESTACK.



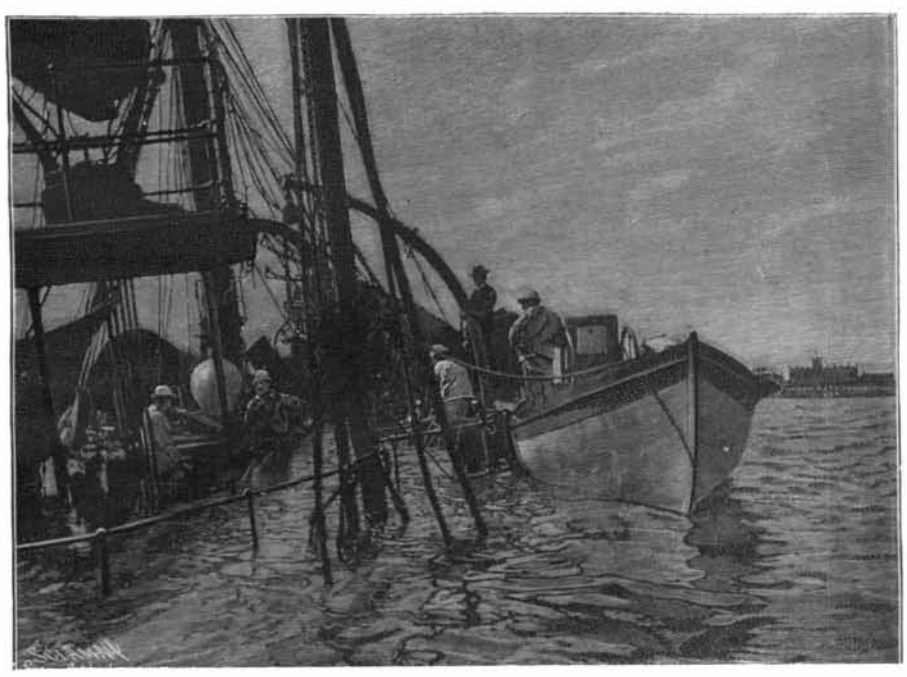
2.—VIEW FROM STARBOARD QUARTER, LOOKING FORWARD—SHOWS DECK, CONNING TOWER AND BRIDGE THROWN TO STARBOARD.



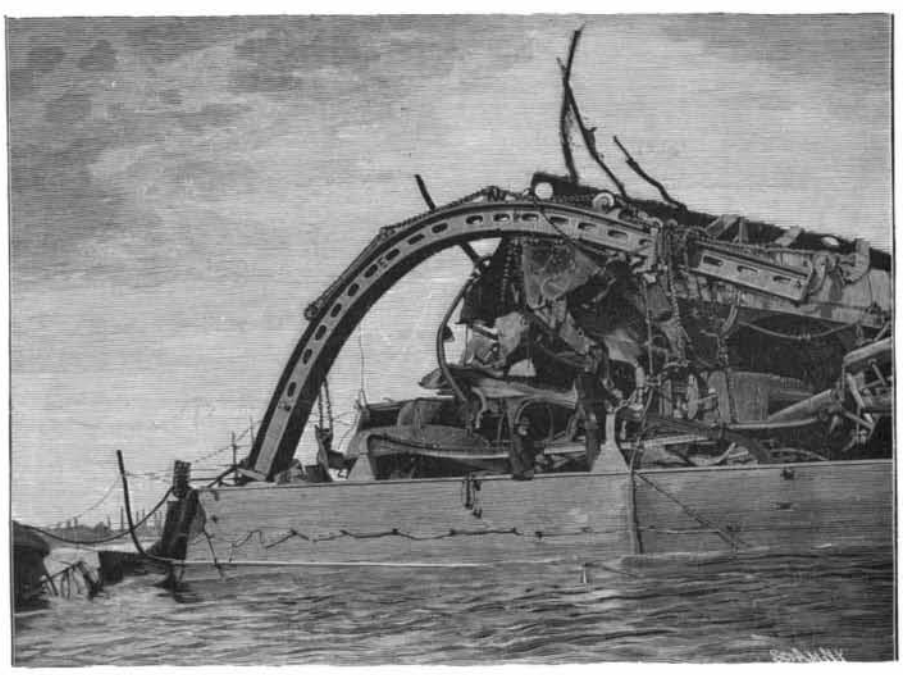
3.—VIEW OF MAINMAST AND TOP OF AFTER SMOKESTACK.



4.—THE AFTER SEARCH LIGHT—DIVERS AT WORK ABOVE QUARTER-DECK.



5.—STERN VIEW—RAIL OF SUBMERGED QUARTER-DECK IN FOREGROUND.



6.—THE FORWARD HALF OF SUPERSTRUCTURE DECK BLOWN OVER AND BACK UPON REAR HALF.

THE "MAINE" DISASTER.—[See page 167.]