

**ARMOR PLATES FOR SHIPS OF WAR.**

No more vitally interesting or exciting question than that of rendering ships of war shot-proof exists in the mechanical, naval, and, we may add, ship-building professions. By the courtesy of Commander H. A. Wise, of the Ordnance Department, Washington Navy Yard, we are furnished from time to time with accurate reports of artillery practice, on the several systems of armor-plating experimented upon at the Washington Navy Yard. These are correct reports, not altered or changed in any respect from the copy furnished by the Government, and we call the especial attention of our readers to the results as herewith presented. The subject of the appended

nesses of half-inch plate iron, then comes a tissue of wire ropes 14 inches thick. The target is mounted on timber 9 inches thick, consisting, first, of two 1-inch boards (one horizontal and one vertical), and then of two layers of timber 3½ inches thick, disposed of vertically and horizontally.

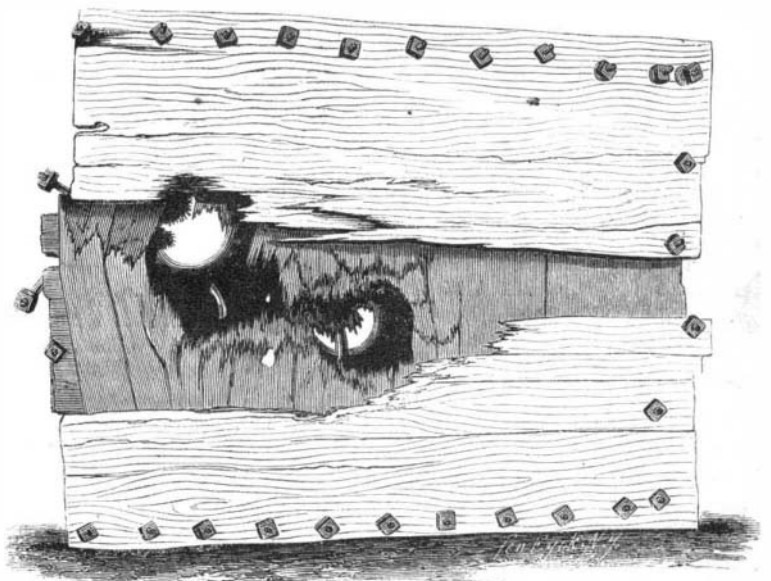
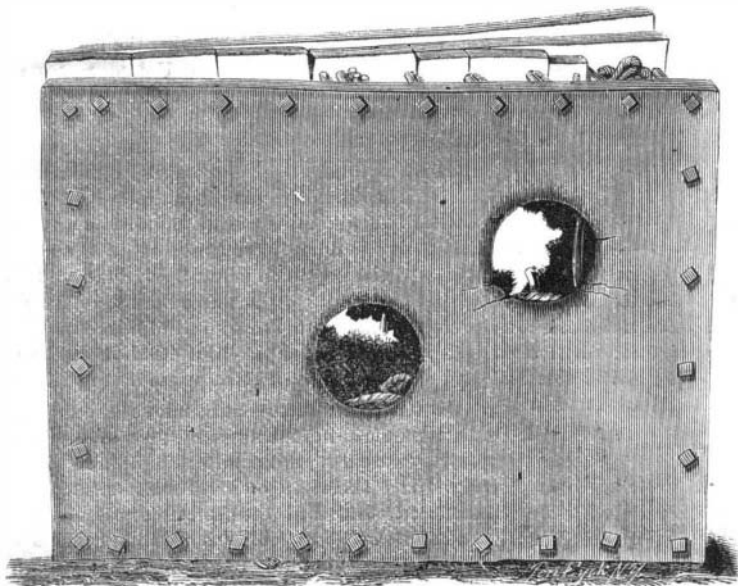
**DIMENSIONS OF TARGET.**—Length, 67½ inches; width, 50½ inches; iron thickness, 15½ inches; timber, 9 inches.

Gun, XI. inches, No. 214, C. A. & Co., mounted on wooden pivot carriage in front of battery; charges, cannon powder, 1862. Projectiles; first, one wrought-iron, and, second, one cast-iron solid shot. Primers friction.

pedoes brought up by the *Mount Washington* from Hampton Roads, as follows:—

These torpedoes are, in material and workmanship, rather inferior; however, would seem to answer the purpose of exploding a certain quantity of gunpowder under water. They are made of tin and are encased in square wooden boxes indicated by the engraving. In the lower end of these boxes hooks are driven, to which pig iron is fastened which keeps the torpedoes in their upright position.

The cylinder, A, holds about 25 lbs. of gunpowder, which is lighted by quick-match leading up through the tube, B, to slow-match, with which the smaller tube, C, is filled. The tube, C, is of two thicknesses



engravings is Mr. Hodge's target, composed of wire rope or cables, placed behind a wooden facing of a certain thickness. The first engraving represents the target as it stood when fired at, the second a side view of the same target, and the third a rear view of the same target. The official report is herewith submitted. It is proper that we should add

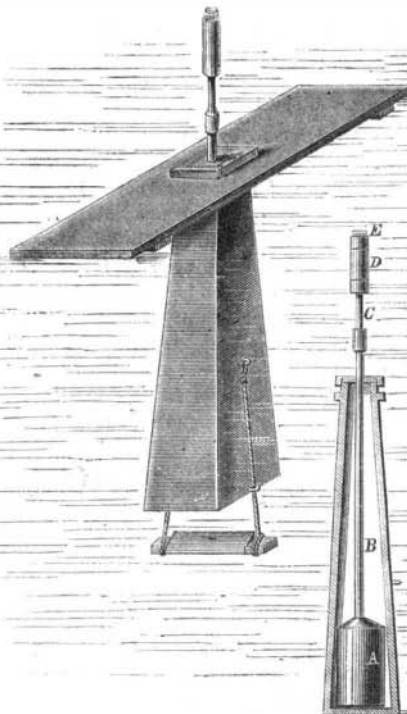
No. from Gun.	No. to day.	Charge.	Weight of Piece.	Insert'n.	Recoil.	Time Fir. ed.	Distance to target.	REMARKS.
		lbs.	lbs.	in.	ft.	P. M. h. m.	ft.	
101	1	25	156	106	7	11 28	83	
102	2	15	165	108	6	11 39		

First shot hit direct, passing clear through the target into the bank. Penetration not determined. Second shot hit direct, passing clear through the plate and penetrated the bank a distance of 9 feet 6 inches.

**A NEW REBEL TORPEDO.**

NAVY ORDNANCE YARD,  
Washington City, Nov. 21, 1863.

COMMANDER H. A. WISE, Chief of Bureau of Ordnance,  
Navy Department:—



SIR:—Conforming to direction contained in telegram of Nov. 19th, I beg to report about the tor-

pedoes brought up by the *Mount Washington* from Hampton Roads, as follows:—

The cylindrical tube, D, is nothing but a common night-lantern of tinner's make: it protects the burning match from being extinguished by the waves, conceals the light and supplies oxygen to the combustion by means of the small smoke-stack, E.

Most likely they were set adrift intended to be carried to the ship's sides by the action of the tide; a plank five feet long, floating on the water, giving the direction to the torpedo.

Respectfully submitted,  
(Signed) Wm. N. JEFFERS,  
Inspector of Ordnance.

**REPORT OF THE CHIEF OF THE BUREAU OF ORDNANCE.**

BUREAU OF ORDNANCE,  
Navy Department, October 20, 1863.

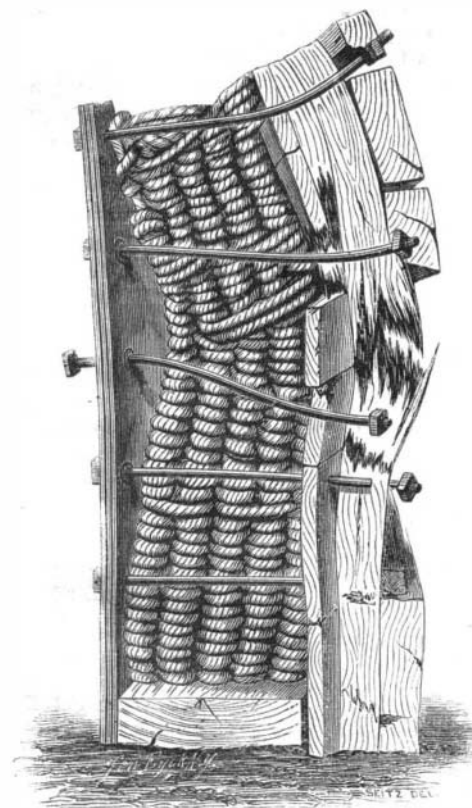
SIR:—In your last annual report, under the head of "bureaus," you were pleased to make the following remarks:

"Like every other branch of the public service that of ordnance was wholly unprepared for the great crisis that befel the country in 1861; and one of the most embarrassing difficulties at the commencement of our national troubles was that of procuring ordnance as rapidly as was required for our increasing navy. To remedy the deficiencies and wants when our vessels were multiplying, we were compelled for a time to revert to old artillery which had been discarded, and to avail ourselves of extraordinary means to meet the then existing necessities. These difficulties have been, in a measure, overcome, and our ordnance is greatly improved and improving."

In the report which I now have the honor to present, I shall endeavor to show briefly, yet as clearly as possible, how much this branch of the public service was unprepared for the great crisis of 1861, and in what manner and to what extent the existing difficulties have been overcome, and our ordnance of the navy increased in numbers and improved in character.

Not a single ship or squadron has ever been delayed in its movements for the want of ordnance or ordnance supplies.

From the record it appears that the ordnance of the navy, at the commencement of 1861, consisted



that these illustrations will be continued in future numbers of the SCIENTIFIC AMERICAN, showing the effect of shot upon targets of all descriptions, faced with rubber, backed with rubber, wood, &c. &c.

**PRACTICE AT Mr. HODGE'S WIRE TARGET No. 1.**  
[OFFICIAL.]

PENCOZE BATTERY, May 7, 1862.

The front of the target consists of three thick-