

## GOVERNMENT ORDNANCE EXPERIMENTS.

[OFFICIAL.]

## Practice at Iron-Plate Target No. 38.

FACED WITH WOOD ON THE PLAN OF MR. HEATON.  
PENCOTE BATTERY, May 28, 1863.

This target was made of one  $4\frac{1}{2}$ -inch scrap-iron plate, backed by 20 inches of solid oak and faced with 12 inches of oak on the plan of Mr. Heaton. The plate was joined to the rear timber with four wood screw bolts, and the facing timber was secured to the rear timbers with six square-headed bolts with nuts. The target was placed against a bank of solid clay.

**DIMENSIONS OF TARGET.**—Plate 4 feet long, 4 feet wide,  $4\frac{1}{2}$  inches thick. Rear timber 20 inches thick. Facing timber 12 inches thick.

Gun XI. inches, No. 214, A. F. Charges, cannon powder. Projectiles, solid cast-iron shot,  $\frac{3}{8}$  Clover-

Strong has thrown 500 shells, one every ten minutes, directly in the heart of Charleston, without showing any signs of giving way about the breech or any other part. The orders are to fire until it bursts, and as the gun is sighted for Charleston, every time there is some chance of some one getting hurt over there.

Only Forts Putnam and Chatfield, on Cummings Point, are engaged in the bombardment. Experiments have been made to test the power and endurance of the 300-pounder Parrott guns. From one of these, fired at intervals of five minutes for 67 consecutive hours, up to Jan. 14, at sunset, 562 shots were aimed at Charleston, of which all but about 40 fell within the city limits. The elevation of this gun is 40 degrees, the charge of powder  $3\frac{1}{2}$  pounds. This is the severest trial that a Parrott has been subjected to. At 35 degrees the shells fell into the city. At 40 they must go beyond the burned limits.

pieces of it could be put into the drink that is to be cooled—solid, transparent ice, without any sponginess. As the volatile liquid used is only the aqueous solution of ammonia, the cost of making it is very slight. The machine is sold in London as low as \$20 each, for the smallest machine, and it was estimated that it might be supplied on even lower terms, if manufactured largely. The cost of ice thus produced was far below what we paid, in this city, last year. We only wonder that in this country, where the price of ice has lately gone up so greatly, some ingenious inventor has not discovered a cheap and effective process, for use in all ordinary dwelling-houses, by means of which every family might be self-supplied with ice, at a reasonable rate. If prices keep up, after the large natural supply of ice this winter, we shall probably have the French machine introduced here, of course with improvements. If ice continues dearer than

Fig. 1.

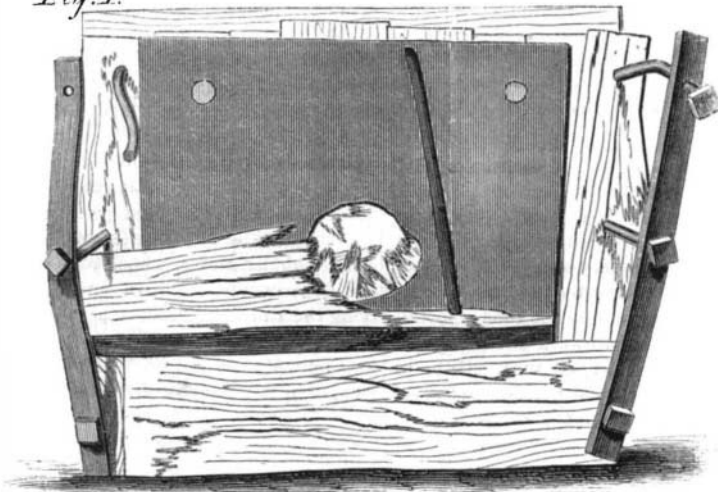
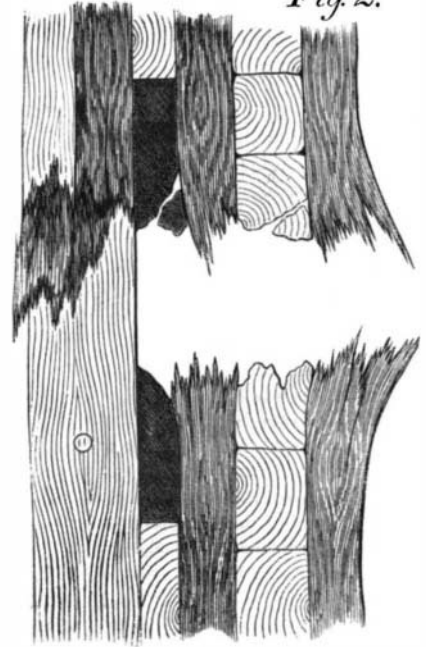


Fig. 2.



dale iron and  $\frac{1}{4}$  Hopkins iron. Officer in charge, Lieut.-Commander Wm. Mitchell. Record by Hughes.

No. from Gun.	No. of day.	Charge.	Weight of Projectile.	Insertion.	Recoil.	Time Fired.	Distance to Target.	REMARKS.
167	1	30 lbs.	168 lbs.	106 in.	Taut Breech.	P.M. 4.8 h.m.	90.2 ft.	

Shot struck 16 inches from top edge, 17 inches from lower edge, and  $16\frac{1}{2}$  inches from right and left hand edges of target, passing clear through the facing timber, plate, and rear timber, and imbedding itself 6 feet 3 inches in the bank in rear of target. Diameter of hole in iron  $15\frac{1}{2}$  inches.

The top and middle courses of facing timber were completely shattered, and the whole of the top course, and a portion of the middle course carried away; the bottom course was somewhat fractured, two of the timbers were thrown forward and fell 30 feet in front of target. The rear timbers were all completely shattered.

One piece of the iron plate was found 102 feet in front of target.

One bolt on the top left-hand side of target had its head broken off, and the top right-hand bolt had its nut broken off in rear and forced out in front. None of the wood screw bolts were broken nor started from the surface of the plate.

Indentation of plate on top edge of shot hole  $\frac{7}{8}$  inches, on lower edge  $\frac{3}{4}$  inches, on right-hand edge  $\frac{5}{8}$  inches, and on the left hand edge  $\frac{7}{8}$  inches. The shot was considerably fractured and flattened on its forward face, but retained its spherical form until it was taken from the bank.

W. MITCHELL,  
Lieut. Commander U. S. N.

## The Parrott Guns before Charleston.

Some facts relating to this weapon, now, it would seem, the principal reliance of the Government as a rifled cannon, are thus related by a correspondent of the daily press:—

An experiment is being tried with the 300-pounder Parrott guns, to see how many shot they can throw without bursting; so one that is mounted in Fort

Another Parrott gun of 100 pounds caliber has been trained at the same elevation of 40 degrees, and with a charge of 10 pounds of powder three test-shots were sent into Charleston yesterday. It is believed that the gun will stand this severe usage.

The obstructions of the channel are certainly gone—swept away by the tides and currents, aided by the rough seas of the winter season. Visible upon Fort Sumter are six links of the chain that was stretched from the work to Fort Moultrie.

## Ice-Making Machines in demand.

The Philadelphia Press has the following in relation to this subject:—

“If, in the face of the abundance of ice, the prices be kept up—few, we suppose, will have the impudence to think of raising them—Science must be resorted to to produce the article artificially. It can be manufactured now, with the aid of steam power, by evaporating ether or any other similarly volatile liquid *in vacuo*, and again condensing the vapor to liquid, so as to be used afresh. By such a machine, 20 deg. Fah. below zero (52 of cold) can easily be obtained. Now, as water in ordinary cases freezes at the degree of heat marked 32 on Fahrenheit’s thermometer, the machine readily produces ice. By its means ice is made nearly under the equator, in Peru, where previously ice had never been seen, and the British Government employs these machines in India and the Cape of Good Hope, for the use of troops in the hospitals. At Calcutta, the machine-made ice is driving the imported Boston ice out of the market, and seriously threatens the extinction of the large and profitable ice importation from America, established by Mr. I. Tudor, of Boston, over thirty years ago. In large cities, such ice-making machines (producing ten tons a day, with ease,) might be worked by companies, or even by private persons, at a profit, with prices what they have been of late years.

What is needed, however, is an apparatus, at once low-priced, simple, speedy, and effective, which may be used in every house. The French firm of Carre & Co. showed such a machine in the London Exhibition of 1862. It produced ice of such perfect purity that

bread, every house will have its own ice-making apparatus.”

## Advantages of Wedlock..

None but the married man has a home in his old age. None has friends, then, but he; none but he knows and feels the solace of the domestic hearth; none but he lives and freshens in his green old age, amid the affections of his children. There is no tear shed for the old bachelor; there is no ready hand and kind heart to cheer him in his loneliness and bereavement; there is none in whose eyes he can see himself reflected, and from whose lips he can receive the un-failing assurances of care and love. He may be courted for his money; he may eat and drink and revel; and he may sicken and die in an hotel or a garret, with plenty of attendants about him, like so many cormorants waiting for their prey; but he will never know the comforts of the domestic fireside.

The guardians of the Holborn Union lately advertised for candidates to fill the situation of engineer at the workhouse, a single man, a wife not being allowed to reside on the premises. Twenty-one candidates presented themselves, but it was found that, as to testimonials, character, workmanship, and appearance, the best men were all married men. The guardians had therefore to elect a married man.

THE rolling stock of the railways of Great Britain consists of 6,400 locomotives, 15,366 passenger carriages, 5,937 other carriages attached to passenger trains, 187,000 merchandise cattle, and mineral wagons, and about 5,000 carriages of other descriptions. In all it consisted, on the 1st of January last, of 219,522 vehicles—a number which, if they were linked together, would reach from one end of Great Britain to the other.

It costs the New York Third avenue horse railroad  $62\frac{1}{2}$  cents a day to feed its horses, but Boston keeps its city horses for 41 cents. The feed in both cases is about 17 pounds of corn meal and 13 pounds of hay for each horse a day, with 7 pounds of rye straw for bedding.