

five a little bulged. The plate was not pierced, the backing was not reached, the skin was intact. No entrance had been found for a single drop of water. No man would have been hurt unless he were leaning against the side of the ship when the shot struck. The projectile had done all that it could, and showed by the large mass which remained unsplintered that its failure to penetrate was due to no weakness in itself. A better cast-iron shot could hardly be seen.

For the next round a spherical shot of No. 6 Pontypool iron, cast in sand, and weighing 452.5 lbs., was painfully lifted to the muzzle of the gun and rolled down upon a charge of American powder, similar to the first. This time more work was done upon the shot, less upon the target. The indent could not be measured, because part of the projectile remained in the hole, the rest being dashed to pieces, leaving the broken surface flush with the face of the plate. There was a horizontal buckle of 1.6 inch over five feet. No harm was done to the back of the target. The third round was fired shortly afterwards, an excellent shot of Frith's steel being employed. Everything had been done to obtain a good projectile, even to hardening it in oil, and it well sustained the character of the firm. But it could not get nearly through the target. As if loth to leave its work unaccomplished, it hung protruding from the face of the plate, and when shaken out afterwards by the blow of another shot near it disclosed an indent of 8.2 inches deep. There was a buckle of 1.4 in., diminishing gradually over a distance of 40 inches. Again no serious damage was done to backing or skin; the side of the ship would have been firm still and the men safe at their quarters.

It was no part of the programme on Wednesday to fire a 9-inch shell directly at the target, as this had been done frequently before, and the results accurately taken; but one round was fired, and is worth nothing, chiefly from the curious circumstance which has been previously observed, that the effects of some of these projectiles has been greater at 200 yards than at 70 yards. Whether the metal was not quite so good, or whether, as is possible, the shot is steadier at the longer range than at the shorter, certain it is that the penetration was only 19½ inches, and the hole made was greater in diameter, than was due to the size of the shell. A 9 inch shell made a hole 11 inches in diameter, but did not disturb the skin.—This is a problem worth investigation. We give below the details of the four rounds fired.

AMERICAN 5 INCH GUN; WEIGHT OF GUN, 19½ TONS; RANGE, 70 YARDS.

First round—American cast-iron round shot; weight of shot 453 lbs; diameter, 14.35 in.; charge, 60 lbs; American powder; velocity 1,170 ft. per second; work, 5,290 foot tons; work per inch of circumference, 90.7 foot tons; indent, 4 in.

Second round—Pontypool No. 6 cast iron shot; weight of shot 452.5 lbs; diameter, 14.89 in.; charge, 60 lbs American powder; velocity, 1,134 feet per second; work, 4,440 foot tons; work per inch of circumference, 94.6 foot tons; indent, 8.2 in.

Third round—Firth's steel round shot—weight, 468 lbs; diameter 14.945 in.; charge 80 lbs. American powder; velocity, 134 ft. per second; work, 4,440 foot tons; work per inch of circumference, 94.6 foot tons; indent, 8.2 in.

ENGLISH 9-INCH GUN—WEIGHT, 12 TONS.  
Chilled iron shell.—Weight 250 lbs; charge 43 lbs English I. G. rifle powder;

velocity, 1,337 feet per second; work, 2,100 foot tons; work per inch of circumference, 110.9 foot; depth of indent, 19½ in; diameter of hole, 11 in.

Thus, then, we have gauged the power of the strongest American gun likely to be brought against us on any occasion, for excellent information from the United States leaves no doubt of the fact that there are but ten 21 inch guns made, and that only eleven rounds altogether have been fired from them. We find that the penetrative effect of the 15-inch gun is inferior to that of the English 9-inch rifled gun under circumstances the most favorable to the former. The American gun weighs as much as an English 9-inch and a 7-inch together, its life with battering charges is stated by the American military authorities to be very low, and if we compare it with the English gun nearest its own weight the latter, though 1½ tons lighter, would be driving every shell through the sides of an iron-clad against which the smooth-bore could but rap beseecingly and without effect! Can any one doubt the issue of a combat between the two systems of artillery? the smooth-bores look very big and threatening, and can doubtless make a great noise when their shot strike the outside of a vessel; but the life of a ship is in its interior. Should we ever require heavy smooth bore guns, the experience obtained in our long course of experiments and manufacture would enable us to begin where they left off, and there is no reason to limit our idea of possible wrought-iron smooth bore ordnance under a calibre of 30 inches. If we desire to throw a heavy shot with a slow velocity we can do so now by simply increasing the length of the projectile and decreasing the charge. So the English guns can "rack" if they wish, while the American guns cannot penetrate targets that may be easily pierced by rifle shot at high velocities. But, though the 15-inch shot did not get through the 8-inch plate and backing, it would have penetrated most of our ships, though not as easily as our guns would have penetrated theirs. It is an easy matter of calculation from data obtained on Wednesday, that the 15-inch American cast iron shot would have been stopped by the Lord Warden, Bellerophon, Lord Clyde, and ships of that class, but the steel shot would have penetrated all except the Hercules and Monarch, which are not yet afloat. This supposes a range of seventy yards, and a direct blow. At 500 yards or at a slight angle it would penetrate the Warrior, but not ships of the classes named above. It is for the Navy to say what protection they desire to have. The question of gunpowder may be considered as settled; only it must not be forgotten that the target fired at on Wednesday had been struck on previous occasions by more than 11,000 lbs. of iron, propelled by above 1,900 lbs of gunpowder, the work done upon it being over 130,000 foot tons.

It is worthy of note, as indicative of the reliability of American newspapers, that the *N. Y. World*, and other journals, give the above extract from the *Times*, with the caption, "A Victory for the American Gun!" and yet the result is to prove incontrovertibly that the English 300-pounder is superior to the 450-pounder Rodman.

CURIOUS NEW ENGLAND CUSTOM.—The Boston correspondent of the *Times* writes:—In the early days of the colony a company of artillery was formed, and existed without much change down to the War of Independence. After that it assumed the title of the Honorable and Ancient Artillery Company; but it

ceased to be an effective corps, and persons were elected to it as an honor, without being expected to perform any duties. Every year the governor of the States goes upon Boston Common, and there, in presence of the regiment, receives the commission of the retiring officers, and hands new ones to their successors. By the courtesy of the present governor (Mr Bullock) I witnessed this ceremony. Thousands of spectators had gathered together to see officers appointed to a corps which exists only in name, and to show their respect for a usage which has nothing but its age to recommend it. It was the 229th anniversary of the society, and because it is old, and for no other reason it still lives. Only on one day in the year does the company meet. Then the members dress in the uniform of any corps of militia to which they may happen to belong. "It would be impossible," said a gentleman to me, whose name is well known throughout Europe, "to let this company of artillery die out. I do not suppose that one among them knows how to fire a gun. What you see to day is in itself an absurd ceremony, but it proves that a young republic, as we are called, sets a high value upon every institution that has the seal of age upon it. In England you think we despise such matters; on the contrary we prize them more dearly than you do. We like to have things about us which seem to give a gray and worn look to our Democratic fabric."

COST OF THE NAVAL REVIEW.—Says the *Army and Navy Gazette*: The *Owl* or some other "well informed" paper has announced that the cost of the naval review will amount to £50,000. How this calculation has been arrived at exceeds our knowledge of arithmetic. The chief heads of the disbursement are as follows: the conveyance of the Naval Review men to and from Portsmouth, the hire of five steamers from the Peninsula and Oriental Company at £350 each, and the feeding of the men at about 12s 6d a head. The sum of £3,000 would cover all these charges, and it has been thought by persons well able to judge that the Admiralty will not have to pay more than £5,000 as their share of the expense; but even let us suppose that their Lordships will have to pay £10,000, we have still to account for the large margin of £40,000! It should be recollected that very little coal, a most expensive item, was burnt. A good deal of powder was exploded; but this is a very cheap article, and £100 worth would go far in making a terrific noise. Doubtless, first and last, at least, the sum of £50,000 has been expended in preparing for the carrying out the review, but this will not be extracted from the Exchequer. The India Council will make our Mohammedan fellow-subjects pay for the respect which Sir Stafford Northcote, his colleagues, and a large party embarked on the Malabar paid to the Commander of the Faithful. The cost of entertainments; some on a large scale, given by the noblemen and Commoners to their friends will be paid for by themselves, and so on. We adhere to our belief that from £10,000 to £12,000 will be all that the nation will be called upon to pay, and little enough, for so magnificent an affair.

NEW YORK 14.—A hard fought battle between Indians and whites occurred at Fort Phil Kearney, on the 2nd inst. The battle continued for three hours. The total loss of savages is reported at sixty killed and a large number wounded.