

OUR COAST DEFENSES.

The Artillery Train at Fortress Mifflin. To the Editor of the New York Times.—The importance of the subject involved seems to require some notice of the editorial which appeared in your issue of the 20th and 25th, concerning our "coastwise forts," and the recent experiments at Fortress Mifflin, Rhode Island.

Let me first say that no one connected with these experiments is accountable for the expressions which you quote from newspaper accounts. Had you yourself been present, or a reporter delegated by you, not only would you have had access to all the facts, but you would have had the character of the targets and the object in constructing them, and in the beginning, explained to all who choose to be present and listen. It is therefore, you have not such detailed accounts as are given by the London Times of the experiments, it is not the fault of those who directed these experiments at Fortress Mifflin.

At these recent trials it was sought by the "engineers" to bring together some of the most prominent representatives of iron manufacture, of civil engineering, of science, and of naval and military construction. There was no other limit to the number of persons that could be admitted by the limited accommodations to be found at Fortress Mifflin.

And now a word as to the targets themselves and the objects in view. There were three targets. First a target of granite, second a target of iron plates, and in 1862 and 1863, interesting and, for the date, very successful experiments were made upon iron shields designed by Captain John B. R. B., an officer whose name is well known to the military and naval engineering world. It is a very valuable summary of the result of long-continued and varied English trials.

The Effort to Procure the Pardon of Hester Vaughan. To the Editor of the Evening Telegraph. Sir.—From the New York papers of today it is ascertained that a meeting was held last night at Cooper Institute, to devise means for securing the pardon of Hester Vaughan, who has been sentenced to death for infanticide in Philadelphia. Subscriptions were taken up in large amounts, and the Women's Rights women had a fine opportunity to air their radical views on the subject and their kindred questions.

you have seen the trials of the most elaborate constructions of this kind that human art, aided by prota-dye and experimental research, has yet been able to make. With recent experiments upon the "success or failure" of any one of these structures, I will only ask you to conceive an American 20-inch gun of just double the power of any of those actually used in the experiments.

Such is the "ultima ratio" of the "engineers" which they are warranted their "exchange." Until, however, something is established with regard to future construction, we must try to make the best use of such means as we have, and include among them are "earth obstructions, torpedoes, floating batteries," etc., and, though last, perhaps not least, the newly devised carriage which I should call the "Monocler." It was not that the model by an American "engineer" offered on precisely the same principle, has been in existence for many years, and that other plans to accomplish the same purpose have been under study and even trial with us during the last year or two.

I am, very respectfully, etc., B. BARNARD, Col. of Engineers, Brev. Major-General, U. S. A. P. S.—In writing the above I find I have been in error (trusting to my memory alone) concerning English experiments. Beside those referred to, others had been made prior to 1865, for protecting granite or brick masonry by means of iron plates, and in 1862 and 1863, interesting and, for the date, very successful experiments were made upon iron shields designed by Captain John B. R. B., an officer whose name is well known to the military and naval engineering world. It is a very valuable summary of the result of long-continued and varied English trials.

This, however, is supposed to be a work of supererogation on the part of these New York ladies, as no one in this city has ever for a moment supposed that the sentence of death against Hester Vaughan would be executed. Governor Geary is a humane man, and would be unlikely to sign the death-warrant of this unfortunate young woman. It is probable that he has referred the case to a pardon board, the safest place for a woman of her proclivities, and in this view he will be joined by thousands of kind-hearted people, male and female, in this city, who, while they would deprecate her execution, are not willing to see her let loose again upon society.

About the large collection said to have been taken up in New York, to what purpose is it to be applied? To these New York people their Governor, General Geary, a Christian man and a brave soldier, is as good as a pardon board. The Governors of New York have been, and as ready to pardon murderers for a consideration? Certainly, beyond the expense of having the evidence in the case copied, and the publication of the intention to apply for a pardon made through the columns of a newspaper, there should be no occasion for money. The writer has obtained pardons for more than one criminal, and never knew the cost of application to exceed \$20, at the most.

As to the guns used, you need no information concerning the 15-inch. The 12-inch rifle, with seventy pounds of powder and an expanding projectile, is fully equal in effect to the English 12-inch gun with seventy-six pounds of powder. The two projectiles from the rifle were a 685 pound steel and a 658 pound chilled-iron shot. From the 15-inch gun three 450 pound steel and one 450 pound cast-iron shot were fired. Three of the six shells from the iron of this target were the most powerful that have been produced by modern artillery, and two others only inferior to these.

But the target was erected and the experiments made with the objects in view, this particular battery. Your own remarks November 20 on "our coastwise forts" certainly make prominent enough the necessity for experimental firing; indeed, your very first paragraph suggests reasons to be satisfied with a target of this nature. It is not, however, as you say, that they are not invulnerable, which are not invulnerable by your subsequent statement that "solid masonry crumbles before the fire of 15-inch and 20-inch guns brought to bear at that short range which, if not more, establish that they will in impunity. Suppose we grant the fact, and then submit that such shall be substituted. In that case we have expended out of existence millions of dollars expended on granite walls in times gone by.

We no longer have expended the money out of existence, but not the works themselves. There they are, and, perhaps, may yet have certain important uses, though, as you rightly state, "they are founded on antiquated systems. At any rate, the day of the "experiment" to test that point, and I feel confident that every engineer would most gladly substitute "earth" for crumbling granite; far more gladly, indeed, than to resort to a material so costly as iron and steel. Earth is the most abundant, the cheapest of all materials and the best possible medium to resist cannon shot. Let any one, however, look at a 15-inch or a 20-inch gun mounted behind an earth parapet, and he will recognize that those who used and directed these ponderous weapons are as severely protected, and all, and this defect is not remedied by forming an earthen embrasure. Unless, therefore, the battery be very high, earth alone is entirely inadequate as a protection for guns of gunners. Again, if the earth occurs in the "experiment" but most important sites are to be occupied, such as the artificial sites at Spitheld, England, and many on our own coast, which afford unobstructed space for the requisite number of guns in order to form batteries, and which are so low that such batteries are quite inadvisable.

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