

expressing their wonder and astonishment.—Well they may, if the following is true:

"The gun, or machine, discharges without report, and sends the ball three times the distance of the ordinary rifle or cannon, as the case may be. The British Government has offered the inventor £200,000 sterling, if he can enlarge his machine to discharge a sixt-four pound shot. This he is now doing, and informs his agent here he shall accomplish it. The Russian Minister, at London, is anxious for the patent, and has offered him his price; but he says to his friends, 'I mean no other nation shall have it, but England and my own country.'"

Previous to his going to Europe, he offered the right to the Government of the U. S. at Washington. Experiments were made with one ounce and seven pound cartridges, before our naval and other officers, by order of the Secretary of State, which proves all I have related above, and to the entire satisfaction of those present. One of these "infernal machines," placed upon the deck of a vessel, one of the Commodores remarked, "would sink a frigate in three minutes." Such a constant discharge of balls, just as fast as they can be handled and rolled in, with the accuracy with which they can be directed, must inevitably destroy all before it.

**INTERESTING SCIENTIFIC EXPEDITION.**—The *Gorgon* steam-frigate, lately arrived here from England, on her way to the Levant, has, we understand, been expressly sent out by the Admiralty on a scientific expedition to the Island of Cos. It would appear that the British Vice-Consul of that Island has discovered the remains of what is considered to be an ancient Greek city; and that he applied to the Home Government for the means of prosecuting researches, which promise to be very interesting. The *Gorgon* has on board implements for excavating, and scientific instruments to facilitate the work. A good camera-obscura and photographic chemicals have also been supplied, so that any inscription or statuary which may be brought to light will be photographed on the spot. The work, we are informed, will be carried on under the superintendence of the Vice-Consul. The expedition, if it realises the expectations formed concerning it, will probably throw some light on some portion of the history of ancient Greece. Cos is one of the islands of the Archipelago, situated at no great distance from the coast of Asia Minor. The *Gorgon* left on the 13th for Smyrna.—*Malla Times*, November 18.

With a view of obtaining more positive confirmation of the resistance afforded by the plates of iron which form the outer casing of our newly-constructed floating batteries, a bulwark, fourteen feet by twelve, has been erected in Woolwich Arsenal marshes, for the purpose of carrying out some experiments connected therewith. The bulwark was composed of solid timber, similar to those of a ship's hull, heavily bolted together, so as to consolidate a depth of one foot eight inches, and faced with four sheets of rolled and hammered iron, full four inches thick. The butt thus constructed was well secured by a number of strong spars, and fixed at an angle of eight degrees in the most appropriate locality, selected for the purpose, in the practising range in the vicinity of the Arsenal. Lord Panmure expressed his intention of being present, as well as Sir H. Hawes and Mr. Peel. They were not, however, in attendance. Independently of the members of the Select Committee of the Arsenal who were present, were Rear-Adm. Sir George Sartorius, Capt. Crawford Cuffin, C.B., Director-Gen. of Naval Artillery, and newly-appointed Director-Gen. of Stores; Mr. Watts, R.N., Assistant Surveyor of the Navy; Col. Letroy, R.A.; Gen. Gator, R.A.; Capt. Younghusband, R.A.; Capt. Campbell, R.A.; Col. Anderson, I.I.A.; Prof. Wheatstone, F.R.S.; &c. From the importance attached to the experiment, a thorough test was ordered to be applied. Twenty-four rounds were successively fired from one of the heaviest guns, a 68-pounder, weighing 95 cwt., and charged with 16lb of powder and an 5 inch shot. The experiment at the commencement

was treated over a range of 600 yards, which was subsequently reduced to 400 yards. Fifteen shots were of cast and malleable iron. The effect by the lance on the iron coating was scarcely perceptible, except when it struck the rolled sheets, and then no further than slightly skimming the surface in the immediate spot struck. The nine wrought-iron shots were each flattened by the force of the contact, and fell to the surface of the target. The cast iron shots, being broken into fragments, also fell unhesitatingly to the ground; the last, however, penetrated the iron coating, and remained partially embedded in the woodwork. The result consequently rests thus:—Out of the twenty-four experimental discharges twenty-one effected no damage, two fell wide of the mark, and one pierced the target.

THE ZOUAVES who used to entertain their comrades before Sebastopol with their theatrical representations, having served out their time and received their discharge, are now performing before the public generally. They have been lately acting at Nice, in the Amphitheatre Segurama, with much applause.

By means of a machine invented by a French artisan, lines are engraved so minute as to be undistinguishable, and almost imperceptible to the naked eye. It is destined for the production of private marks in bank-notes, and it is capable of producing two hundred thousand different combinations of minute kaleidoscopic fine figures, only to be seen by the aid of a powerful microscope, yet perfectly regular and distinct, and insusceptible of being imitated. At every turn of the tiny wheels which work it, the machine produces four entirely new designs, exceedingly complicated, and quite different from one another.

In the wildest and most inaccessible part of the Mass of Mull, Argyllshire, a rocky cavern may be observed, and "thereby hangs a tale." In this refuge for the destitute Allan Cameron, of Erracht, afterwards celebrated as General Sir A. Cameron, Colonel of the 79th Highlanders, once on a time found a shelter from the twined sword of Justice. The circumstances were as follows:—In those "good old times" dwelling was the rule, not the exception. Cameron having quarreled with a friend and neighbor, reversed the old practice, to wit, "a word and a blow." A rencounter took place, and his opponent died, "without benefit of clergy." Common report at the time affirmed that he took a "shabby advantage of his enemy." After the affray the country became too hot to hold him, and he fled to the then secluded retreat above-mentioned. Here he remained "in hiding" until the great Peninsular war grew "hot and furious," when, to propitiate Government, and to "cover his sin," he offered to raise a Highland Regt out of his own Clan. This was accepted; and hence the 79th Cameronian Highlanders, or, as they were at first also styled, "Cameronian Volunteers"—a Regt. second to none in deeds of valor throughout the great contest, during the early years of the present century. At the battle of Fuentes his gallant son, Colonel Philip Cameron, fell in the arms of victory. At the head of his brave Highlanders another son, Col. Nathaniel Cameron, survived the war, and leaving the Service settled in America. Sir Allan received a very advanced age. By his "last will and testament" he bequeathed his beloved Regt. to his son!

The British Government have placed the *Retribution*, steam frigate of 28 guns, at the disposal of the United States officers who went home with the *Resolute*, to convey them back to New York. They are expected to arrive in the latter city in a few days, and the intention of the citizens of New York is to receive the officers of the *Retribution* with all possible distinction, in acknowledgement of the honor shown to the American officers of the *Resolute* in England. Such interchanges of civility, we trust, will have the effect of promoting sincere kindly feelings between the two countries.

THE RIFLES' BALL.—The Rifle Corps organized here about a year ago, under the command of Captain Kingsmill, entertained the citizens of Glasgow at a ball, on New Year's Eve, under the patronage of Mrs. Webster, the Lady of the "Colonial Commanding," in the District. It was held at Mr. Day's large building, recently occupied as "Horwood's Hotel," but now unoccupied. The spacious Dining Room was devoted to the dancing, its walls were tastefully decorated with evergreens, interspersed with groups of arms, arranged as trophies, in each window. At the farthest end, immediately over the orchestra, a gracefully entwined V. R. Signette, bore witness to the loyalty of these "gallant sons of Mars."

BETTER ADULTERATED WITH FLINT-STONES.—Astounding as is the announcement at the heading of this paragraph, it is nevertheless true.—Butter is adulterated with flint-stones. This heartless and wicked fraud is especially practised in the low kinds of butter usually sold in large manufacturing towns to the poorer and industrious population. The flint-stones are ground and then chemically manipulated, until they are reduced into a soluble substance, which is known by the denomination of "soluble silicic." When this latter preparation is dissolved in water it becomes a soft gelatinous body, somewhat resembling strong jelly. This jelly is mixed to a considerable extent with butter of low quality, to which fresh salt and coloring matter are added. The product of this villainous adulteration is a compound which resembles a very good-looking dairy-made butter. But it has not the richness or bright appearance of genuine butter, and is devoid of the richness and wholesome qualities of the latter. We have seen this gross adulteration at the laboratories of the Northern Analytical College, Sheffield, and we are credibly informed that Professor Calvert, of Manchester, has detected this fraud recently and frequently. Surely some legislative interference might be brought to bear upon the subject, if it were only to compel the vendors to placard on their goods the real quality. We should then be edified by show-cards announcing the tempting truths, as "Flint Butter," "Turmeric Mustard," "Vitreous Vinegar," "Carrot Coffee," and "Chalk Sugar-plums."

PLUGHING BY STEAM.—At the recent Annual Exhibition of the Royal Agricultural Society in England, a field locomotive (Mr. Boydell's) dragged seven ploughs, connected together in one frame, with considerable ease and speed over undulating ground. The boiler, engine, wheels, &c., in short, the whole locomotive, including an endless railway, on which it runs to give it a broad firm bearing on the earth, weighs nine tons; and with steam at sixty pounds (about the usual pressure by the way, on English locomotives, instead of 110, as with us,) works up to 12 horse power. The fuel used was coal. Two other exhibitors also rivaled each other in drawing ploughs by stationary engines, employing 2-inch wire ropes for the purpose.—Anchors have to be placed on the opposite side of the field from the engine, and the ploughs were drawn back light by means of pulleys.—One used for anchors simply heavily loaded waggon, with short-rimmed wheels which cut into the ground, so as to offer great resistance to being dragged sidewise, while they were easily moved lengthwise along the side of the field as the ploughing progressed.

A Washington correspondent of the New York "Commercial Advertiser," alluding to a paragraph in a letter from Toronto, stating as a rumour, that the reciprocity treaty was to be abrogated by Government says:—"Far from this, every effort is to be made in our negotiations with foreign Governments for the extension of the principles of that treaty. It is proposed to extend it to the trade with the British West India Islands, if that be practicable, and to obtain from the Spanish Government some relaxation of the restrictive policy in regard to trade with Cuba and Porto Rico, and, if possible, an entire new system of commercial reciprocity."