

ture of all English guns, and one which, although professedly discredited by most of the great powers in favor of steel or bronze, or some other system, is known to be at the present time extensively taken up by several of the leading European nations. The gun was designed by Mr. R. S. Fraser, the inventor of the system, and Deputy Assistant Superintendent of the Royal Gun Factories, and it is beyond doubt the most powerful piece of ordnance ever produced.

The projectiles with which it will be provided correspond in size, but not in shape, with the shot and shell with which it will be fired on service. They have been cast in the shell foundry of the Royal Laboratory, and are great bolts of solid iron, each weighing 1300 pounds. They are fluted, and are filled with a great number of studs to fit the grooves of the rifling. Specialammers, sponges and other apparatus have been provided for the proof of the gun; a truck has been constructed to carry the shot with a special contrivance for lifting it to the mouth of the gun, and the Government manufacturers of gunpowder have even provided a special powder. The powder in its way, is as remarkable as the gun. Each grain of it is a cube an inch and a half in diameter, and the cartridge, which will be 250 pounds of this powder, will be a large bolster about the size of an ordinary man. It is proposed to increase the powder charge if necessary to 300 pounds, but this, like the calibre of the gun and the weight of the shot, will abide the result of experiments.

Assuming that the gun will stand the proof, which may be almost taken for granted, it will probably attain a range of about 8 miles. It might therefore be relied upon, if required, to send a shot or shell weighing more than half a ton completely over London, from Hampstead-Heath to Clapham Junction, or from Nottinghill to Poplar. The only anxiety remaining is with respect to the strength of the railway by which the gun will be taken to the butts. The total weight of the gun and carriage is 130 tons, and although the bridge over the canal and other lines have been strengthened to meet the strain, it is not impossible that there is some weak point which may give way. Every precaution, however, has been taken to guard against such an unfortunate contingency. The short section of railway upon which heavy guns are now always fired at the butts is thought to be quite equal to the task before it, and the novelty of this method of discharging heavy artillery upon "field" carriages will doubtless be a matter of interest to the visitors expected to be present on Friday. This plan, which is attended with many and great advantages, was invented about a year ago by Major Maitland, Royal Artillery, Assistant Superintendent of the Royal Gun Factories, who has, in conjunction with the late Superintendent, Gen. Campbell, been actively engaged in perfecting the many remarkable productions which have distinguished the Royal Gun Factories for some years past. The proof projectiles have been fitted with crusher gauges to indicate the pressure of each discharge, and the scientific method of measuring the velocity by means of electricity, which has been for some time adopted, will be made use of on an improved scale. All the chiefs of the Army have been invited to witness the trial.

Emperor William has expressed the opinion that peace is more assured now than at any time during the twenty years preceding the consolidation of the Empire.

### The Voyage of the Arctic Steamer. "Pandora."

LONDON, Oct. 17.—The Arctic exploring steamer "Pandora" arrived at Portsmouth yesterday. She left Disco on the 7th of Aug. and Uppernavik on the 13th, crossing Melville Bay without mishap, for the usual fields of pack ice were not visible, and almost a clear sheet of water was found. At Corey Islands no signs of the government exploring expedition were visible. Captain Young decided to steer for Lancaster sound, where he encountered the first ice flows. With great difficulty the "Pandora" forced her way, despite the ice. She succeeded in traversing the entire length of Barrow Strait, reaching Beechy Island, August 25. She there found the yacht "Mary," which had been drawn up on the beach in 1850 by Captain Ross. The yacht was still standing with her masts upright. The storehouse built for the benefit of the sailors or castaways of ice-bound vessels was found in a state of terrible confusion. The destruction of the stores was accomplished by polar bears, as tracks of these animals were visible in every direction. The head boards over the graves of Sir John Franklin's men buried there were still in a good state of preservation. On the 26th the "Pandora" steamed for Peel Strait where she encountered vast fields of pack ice, which made the passage a most difficult and dangerous one. The "Pandora" steadily worked her way onward, and soon passed the farthest point reached by the "Fox" when McClintock was in search of Franklin relics. Soon after reaching that point the "Pandora" neared King William's Land, thus navigating a sea which no ship ever traversed before, except, perhaps, those of Franklin. The "Pandora" steamed down the coast of Prince of Wales Land, and encountered most delicious weather. The atmosphere was soft and refreshing, and the bitter cold of the Arctic zone replaced by warm air currents and an expanse of water. Intense excitement prevailed among the officers and men of the expedition, as it was expected important results were at hand. On reaching Ronquette Island they saw the edge of a solid pack of ice, which extended across the strait from side to side in one unbroken expanse. This pack blocked the entrance to Bellot's Strait. The Pandora staid at this port until the 7th of September, when, finding no further progress possible it was decided useless to go into winter quarter, and far better to return next year. The return journey was full of difficulties, as the ice was rapidly forming, and the passage of the Pandora was a constant series of exciting scenes and narrow escapes from moving ice flows. Finally escaping through Peel Strait, the ice still rapidly forming and accumulating, the steamer at length reached Corey Islands in safety. From Melville Bay the homeward voyage was almost uneventful. Captain Young reports that from the prevalence of north winds there is abundant promise that Captain Nares will prove successful. The Pandora only lost two topgallant yards and two jibbooms during the entire voyage.—(Special despatch to the New York Herald.)

### Military Telegraphs.

The most complete and extensive telegraphic organization is, according to the *Augsburg Gazette*, possessed by Prussia:—Since the changes effected in 1873 seven parks have been established, each compris-

ing three divisions—the first destined to establish, in time of war, telegraphic communication on the most advanced line; the second to unite the headquarters with all the necessary points; the third to repair the conductors. The material of the first two divisions enables them to put up the wires for a length of between ten and twelve miles, to which the reserve brigade can add others ten miles long. It is only since 1856 that measures were taken in Prussia to organize a system of portable telegraphs. This material was utilized in 1864 during the war with Denmark, and in 1866 in the war with Austria. During the first campaign it was composed of two divisions; in the second, of four. It was during the war of 1866 that it was shown what invaluable services a military telegraph could render. The lesson then learned was immediately utilized, and when the war of 1870 broke out the field telegraph was composed of twelve divisions, commanded by a superior officer. The service, as at present constituted, has no organization for times of peace; and the battalion of Pioneers of the Guard and the 4th Battalion of Pioneers in garrison at Berlin or at Metz supply the elements. The first furnishes seven divisions, the second five, each division consisting of a detachment of Pioneers of about ninety men, with three officers of Engineers, seven telegraph employees, one officer and fifty soldiers of the military train, and each park having thirteen wagons. Each wagon carries the material for laying 4½ miles of wire, besides 1,000 feet of cable, together with Morse's apparatus, with temple batteries, for the establishment of stations. In Italy the military telegraph was first utilized on a grand scale during the operations against Ancona in 1861. From Ancona communication was established in two days between the army and the fleet, and between the headquarters and the various isolated corps, as well as between one and the other of those corps—and the whole united to the Italian telegraphic system. But it was during the American War of Secession that the military telegraph, perhaps, played the most conspicuous part. During the space of three years the army laid upwards of 8,000 kilometres of wire on land and 160 kilometres of cable in the sea. It was during this war that it was shown how useful the military telegraph might be made to carry out daring projects, to effect surprises, reconnaissances, requisitions, etc. The troops of partisans that were constantly operating upon the flanks of the armies were always accompanied by an experienced telegraphic operator, and important intelligence was thus frequently received by the leader of the band. On one occasion the Mayor of Cincinnati having telegraphed to a Federal general, encamped sixty miles distant, that General Morgan intended to attempt to take the city by a *coup de main* asked for his assistance. The despatch was however, intercepted, and Morgan himself replied, in the name of the Federal general, that he was about to proceed to Cincinnati, but that fresh horses would be required for his artillery, and these he would expect to find at a certain place which he designated. The horses were despatched, and Morgan took possession of them and put them to his own cannon. At the end of the war, in the month of February, 1871 the Germans in France had, according to the *Augsburg Gazette*, 1,557 miles of telegraph, and ninety-one stations in working order. Their telegraphic system at the end of February, 1871—besides the principal lines centred near Paris, and the circular lines round the capital—embraced St. Quentin, Amiens, Rouen,