DOINGS AT WOOLWICH.

A correspondent writing from London says:—Yesterday morning I was present at the Royal Gun Factory at Woolwich, and witnessed the welding together of the two largest sections—viz., the fourth and fifth—the breech piece coil and the trunnion hoop of the thirty-five ton gun—an operation which I was pleased to see successfully performed. Among those present I recognized, many faces well known to officers and civilians in scientific circles. The welding of these two sections was something marvellous, and I need scarcely say that it will be the most powerful gun ever made, as it is capable of throwing a 700 pound shot through a fourteen and three-quarter inch plate, of wrought iron, or armor plate, and fifteen inches is the maximum of plating that it is considered can be affixed to a ship's side to allow of her being at all efficient you will readily apprehend the interest manifested among the armor-plated ship builders, royal navy artillery and engineer officers as well as many other scientific men.

The gun is to be a muzzle-loader, constructed upon the Fraser principle. The iron bars forming the breech piece, I am informed, were six inches in diameter and 400 feet long. It will be rifled with nine grooves, each one and one half inches wide and two-tenths of an inch deep, with a rifle twist increasing from zero at the breech to one turn in forty calibres at the muzzle. The charges which will be used are to be 120 pounds, and the length of the solid shot is to be two feet six inches, and common shell three feet four inches.

The gun is formed of five concentric bands, in which the best skill and work have been placed to secure efficiency. The first band, or ring, is the inner tubing of the gun, made of toughened steel; then the second—another chase of coiled iron placed over the first to strengthen the breech part of the gun; then another coil and the breech piece, and on the outside of all these layers comes the trunnion hoop. These layers are successively massed upon the breech, where the greatest elasticity is required.

Some fifty or sixty men, under one of the chief officers of the factory department were employed yesterday in the operation of welding the most important of the two sections I have named, and I must confess that the work was carried on by these men to the admiration of all present.

The men, shortly before noon, dragged out of the furnace, with the aid of a huge pair of tongs, some thirty feet in length and about fifteen tons in weight, the gigantic iron bar, which was carried with the aid of machinery under the ten ton "Naysmith." The forging of the two sections were completed with wonderful facility, only taking one hour, and as they were only shrunk together before being placed in the furnace I think you will agree with me that the blending operation was very smart. After the bars had been incorporated in and the red mass of "heat" was left to cool, which will not be complete until to-morrow, when it will be trimmed to its shape by the lathe. When the gun is finished the complete calibre will be about eleven and one-half inches, and the length about sixteen feet.

The compositors' cases in the mission printing houses in China have each over 6,000 compartments for the reception of the numerous letters of the Chinese alphabet. The cases are built in the form of an amphitheatre and the compositor stands in the middle. Every letter he sets he selects from the six thousand.

HOW LONG CAN PARIS HOLD OUT.

The *Revué des Deux Mondes*, of Paris, September 6th, publishes an article from Xavier Raymond on the probable conditions of a siege of Paris, from which the following is taken:—

"The possible duration of resistance increases in proportion to the size of the place. Sebastopol was defended for eleven months against an army of 300,000 men, and an artillery which, at the end of the operations, amounted to more than 800 pieces. Why that long defence? Because the fortress was not blockaded; because it could constantly renew the troops and its ammunitions. The French capital would be still more difficult to block up; its continuous encient is about 35 kilometres (five-eights of a mile each) in circumference, and the line of forts more than 100 kilometres. To invest it would require a vastly superior army than the one the Prussians can bring before the walls. The great extent of the fortifications, moreover, presents a considerable advantage. What inflicts most injury on besieged places is the convergence of the enemy's fire. The town being ordinarily of no great extent, the concentric lines with which the besieger surrounds it causes the missils to cross, and, ably directed on a few selected points, they could do the greatest mischief: during that time the forts reply by fires necessarily divergent, so that, for an equal expenditure of ammunition, its guns can only have a very inferior effect. At Paris the case is very different; the considerable extent of the works sensibly diminishes the curve of the lines and the convergence of the enemy's fire; the attack and defence must, therefore, be considered parallel, and consequently if the artillery of the besieged is better served than that of its assailants it may have the advantage. On the other hand, owing to the long range of the cannon, the forts protect each other; and at least three of them would have to be taken before an enemy could arrive at the fortifications. As to these latter, they are so constructed that each advanced bastion is protected by four others to the right and as many to the left. However, the Prussians have shown at Strasbourg that they count less on the evil they can do to the ramparts and the garrison than on the disasters they can inflict on the unfortunate population. In the capital that odious calculation would be foiled. The German batteries if established outside the forts, could not reach the city: if they were brought to the walls they could hardly send their projectiles beyond the old octroi barrier. A large space—all the old Paris of Louis Phillippe—would therefore be a shelter for the population. But we have supposed the siege regularly commenced: could that be so easily accomplished? M. Raymond calculates that at Sebastopol the allies had the sea and the war ships to bring their heavy guns. At the attack on Antwerp the French had before the citadel 90 pieces, which required 10.000 horses to draw the carriages. Thus, then, more than 50,000 would be necessary to bring to the capital the artillery which assailed the Russian fortress. These animals are not to be thought of, but Prussia doubtless counts on replacing them by road locomotives."

The Pall Mall *Gazette*, after speculating upon the possible troubles at the close of the present war, between England other countries, not forgetting Russia and the United States, puts forth these practical and sensible opinions:—

"First of all we ought to put aside the imposing attitude which imposes upon no body but ourselves; secondly, we ought, while preaching a general disarmament, to provide ourselves immediately with breech-loaders and reorganize our army; thirdly, we ought, while professing our readiness to embrace all mankind, make it clearly understood that we are in a position to stand no nonsense, and prepared not only to defend our own rights, but also, if need be, to advance our own interests. Inactivity is apt to become provoking, and England can only afford to be inactive so long as there is no force existing greater than her own whose provocation she dare not despise. If the lesson taught by the last two months does not shake us out of our lethargy, we shall fully deserve the rude awakening we are sooner or later certain to receive."

EMIGRATION TO CANADA.—A recent number of the Belfast *News Letter* says: "The following notice has been sent to the several agents for Messrs. Allan Brothers' line of Steamers from Liverpool and Derry to Quebec—'As the cabin births in our steamers are nearly all taken for the next month please do not book cabin passengers without writing or telegraphing to know if there is room. A large number of steerage pasengers, who were booked for the steamer Austrian, which sailed on the 19th, had to wait in Derry until the 26th for the Prussian, as the Austrian had every birth filled. Canada is becoming in the North of Ireland a favorite with emigrants. This is no doubt due partly to the love of Northerns for British connection, and partly to the information supplied through the emigration agent in lectures and by pamphlets. Until this last year the Canadian Government made no effort to secure the tide of emigration of the industrious, hardy sons of the North. The North of Ireland can send the class of emigrants for a young agricultural country—good farmers. While we regret the necessity and our loss, we are glad that they are giving the old Union Jack a preference to the Stars and Stripes, and congratulate our colony on their gain.

A despatch from London says:—"A deputation of British workingmen called upon and had an interview with Mr. Gladstone. The spokesman of the party explained to him the sympathies of the working classes of England, with the cause of Liberty in France, their neighbour, and hoped the Home Government would soon accept that recognition which all the powers had already given to the new Republic, and which England was the only power to withhold. Mr. Gladstone assured them that it was only from motives of policy that it was not done. He promised the deputation that immediately upon the formal selection by France of a form of government, England would promptly recognize it. The present government in France would undoubtedly give way to a new order of things, and when that would occur he assured the party that England's approval would follow. The deputation withdrew with cordial thanks to the Premier.

The new iron-clad turret ship *Hotspur* has just concluded her trial trip to Davenport. Great interest has been felt in her success, and this had sensibly grown since the loss of the *Captain*. The result is pronounced on all hands entirely satisfactory. The *Hotspur* carries a 25 ton gun. Some fears were apprehended that this immense weapon could not be successfully landed, but they have been happily dissappointed.