

cidental kicks from chargers which a horse-dog would describe as "only just a little playful." Hard work at drill, "from early morn till dowy eve" apparently does men good, if we might judge from the stalwart forms and bronzed open faces of the constables.

The detachment now in Toronto will, it is arranged, leave to-morrow for Detroit, and proceed *via* St. Paul to the frontier. The men will dress in civilian's attire, and all the uniforms, arms accoutrements, harness, etc., will be forwarded in bond. On reaching British territory, the force will be re-organised and proceed to Dufferin, a place some miles west of Pembina, appointed for the rendezvous of the two detachments. On the whole, force of three hundred being assembled, arrangements will be completed as soon as possible for an early start, and the route will be along the frontier direct to the scene of action. With Col. French's strategic plan before, of course, unacquainted, but the public may rest assured that no precaution that would ensure the success of the expedition will be neglected. The services of Hudson Bay officers and half-breed scouts have, we may presume, been already secured, and it is quite possible the loyalty of the Indians may also be made contributory to the objects of the undertaking. A scarlet uniform has been adopted for the Police, in order that no misconception may exist in the minds of either Yankee ruffians or Indian warriors as to the nationality of the force, and is, indeed, a glorious livery to fight in, if fighting has to be done. It may be remembered that the Russians admitted after Inkerman that the fight would not have lasted so many hours had the Guards—whom, in the fog, they mistook for Turks—not been wearing their great coats. It is to be hoped that "havelocks" or light Indian helmets have been provided for wear during the hot weather, but we imagine very little has been overlooked that may add in any way to the comfort of the men. The expedition has to travel about eight hundred miles, and considering the amount of *impedimenta* that must accompany it we may safely calculate it will not reach the scene of action under a month. When its objects have been accomplished, regarding which we entertain no misgiving, even though the odds against the Police are five to three, it is expected that the force will return dropping detachments along the frontier, who will at once set to work erecting forts and establishing the nucleus of agricultural settlements, wherein they will henceforward grow grain for their horses and "grub" for themselves. It is understood that the United States Government will send a military force along the southern side of the frontier to co-operate with the Dominion expedition, and between the two it is to be hoped the outlaws will be either shot, captured, or dispersed. It is not to be concealed that the Mounted Police are going upon a dangerous duty. In which there is little glory to be won. The natural pluck of individuals, under strict discipline and able command, will no doubt crown their efforts with success, though possibly a scalp or two may be lost in the encounter. In such case we can only say:

"Sharp to the blade and, sure the blow,  
And short the pang to undergo!"

It is presumed that no man has joined the force without first counting the cost. The inducements, however, to men of the right stamp, are not only seductive but substantial. Those who would eventually settle in the North West will be afforded an opportunity of viewing "the promised land" without any personal expense, and under highly

favourable auspices, while to sportsmen who long to "run" a buffalo or for a crack at a grizzly there will be afforded a fine chance. In conclusion we can only wish the gallant fellows God speed. Were they soldiers, it would be no compliment to hope they would have no fighting. As the matter now stands the public will be happy to learn that they have vindicated the law without resort to arms.

### THE GREAT STEAM HAMMER.

A work of national importance has been consummated in the completion of the stupendous steam hammer, erected in the Royal Gun Factories, Royal Arsenal, Woolwich, for the manufacture of the great artillery of the future. The apparatus, which was ordered to be in readiness, if possible, by the 1st of May, in anticipation of the visit about to be paid to England by the Emperor of Russia, has been, by dint of industry, finished a week within the date, and yesterday morning, in the presence of Colonel Campbell, C.B., R.A., superintendent of the department and other officers, the steam pipes were charged for the first time and the hammer was worked. At the first trial it moved with the greatest possible ease, and the big steam cranes on either side, each of which will lift from eighty to one hundred tons, swung round with perfect freedom. One of the cranes lifted into its place a huge steam cylinder, which is to be employed to lift one of the furnace doors. The enormous power of the new hammer can only be fully realised by seeing it in operation; to say it is the largest and most powerful in the world conveys but a faint idea of its magnitude and capabilities. Although it has been described as a 30-ton hammer, the weight of the falling portion is really within a few pounds of 40 tons, and the force of falling weight is accelerated many times by the use of steam to drive it down from the top. It is estimated that the use of "top steam" is equal to allowing the hammer to fall of its own weight from a height eighty ft. It has been allowed a striking fall of 15 ft. 3 in., and it has not yet been determined what is the actual force of the blow it will strike. The hammer is forty five feet in height, and covers with its supports a base of about 120 feet square. Above the ground it weighs five hundred tons, and the iron used in the foundation below weighs 665 tons. It has cost altogether about £50,000, the greater part of which has been paid to Messrs. Nasmyth, Wilson, and Co., the patentees and manufacturers. On Thursday one of the furnaces from which the hammer is to be fed was also set to work. It is large enough to make a comfortable dwelling-house, and an omnibus might be driven in at the doorway. The door of the furnace weighs seven tons, and is, as usual, an iron frame filled in with fire bricks of which it required 1500. The Emperor of Russia will, it is expected, visit the Royal Arsenal about the 3rd week in May, when the heaviest portion of a 80 ton gun will be welded by this hammer in his presence.

Some progress has already been made in the Royal Gun Factories at Woolwich Arsenal, in the manufacture of the experimental 80-ton gun, which is intended to furnish data for the construction of the guns of the *Inflexible*. The length of the gun over all will be 27 ft., the bore being 24 ft. long. The calibre will be 14 inch, 15 inch, and 16 inch successively, the gun being bored up after each series of experiments. The 14 inch calibre

will take a projectile of 1100 lb., firing a maximum charge of about 190 lb. of specially manufactured powder; the 15 inch will take a 1400 lb. shot and about 245 lb. of powder; the 16-inch will throw a 1650 lb. shot with about 300 lb. of powder. The heaviest gun now in the Service, the 12-35 tons (Woolwich Infant) can pierce 15 inches of iron at the muzzle. The ranges at which the projectiles for the 80-ton gun will perform the same feat will be—for the 14-inch shot, 3300 yards; for the 15 inch shot, 5200 yards; and for the 16-inch shot, 6500 yards, nearly four miles. At a fighting range of 500 yards the Woolwich Infant will penetrate 14 inches of iron; but the 80-ton gun, with a 14-inch calibre, will pierce about 17 inches; with 15 inch calibre, about 18½ inches; and with the 16-inch calibre, about 20 inches. The maximum ranges at which shells could be thrown into a fortress will be—for the 12-inch, about 9000 yards; 14-inch, 10,000 yards; 15-inch, 10,200; 16-inch, 10,300 yards, or close upon six miles.—*Brut Arrow* May 9th.

### CORRESPONDENCE.

*The Editor does not hold himself responsible for individual expressions of opinion in communications addressed to the VOLUNTEER REVIEW*

#### "A" BATTERY CANADIAN ARTILLERY.

Last Tuesday morning the Premier, accompanied by Lieutenant Colonel Fletcher, Scots' Fusilier Guards, made a thorough inspection of the Forts about Kingston, with a view to establishing the new Military College there. The large stone building known as the "Stone Frigate," situated on Point Frederick, seemed to possess all the necessary requirements. The Premier expressed himself as much impressed with its adaptability. After the inspection they returned to the Tête de Pont Barracks, inspecting en route a field gun detachment and the horses of "A" Battery at drill on Barrie field Common, where a number of the Premier's friends paid their respects to him, the Band of the Battery playing in the square. The officers entertained Colonel Fletcher at lunch, the Premier having a previous engagement. They returned to Ottawa by the afternoon train.

Tête de Pont Barracks, June 13, 1874.

Da Faur Intendés, when the bill of Periero comes up for debate, to distinctly warn the Right that 336 deputies are prepared to demand the dissolution of the Assembly, if organization of the Republic is prevented.

Goulard is very sick.

The King of Siam has had a dinner service of silver made in London at a cost of £10,000.

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday the 20th inst.

Almonte, Ont.—Major Jas. D. Gemmill, to [April, 1874. £20]

Glanford, Ont.—Capt. A. Bethune, to Feb. '75. £20  
Stirling, Ont.—Capt. R. P. Fildar, to Sept. '74. £20