

Canadian Armaments.

(From the *London Morning Post*)

TO THE EDITOR OF THE MORNING POST.

SIR,—I have just read your able article on the manufacture of Palliser guns in Canada. It may interest your readers to know that Sir William Palliser has not stipulated for any pecuniary reward from the Canadian Government, nor for any royalty or commission from the manufacturers. They have secured his system of manufacture free, plus the advantage of his training. Canada deserves great credit for making a start in ordnance manufacture, and the money being spent in the country will probably disarm those members of Parliament who might otherwise object to send large sums out of the Dominion for such objects as cannon. Lieutenant-General Sir Edward Selby Smyth, K.C.M.G., commanding the military forces of the Dominion, has given every encouragement to Sir William Palliser, and Lieutenant-Colonel T. Bland Strange, R.A., an officer of the highest scientific attainments, and inspector of artillery to the Dominion, has frequently visited the factory and encouraged the manufacturers with his advice. Let us hope the other great colonies will follow the example of Canada; there can be no more certain way towards completing the armament of the outlying portions of the British Empire. As to the guns, there are no better. It is gradually being conceded that for competitive purposes Sir William Palliser's is the best system known. He puts barrels of coiled wrought ductile iron loose into casings, which may be of cast iron or steel. The casings not being shrunk on, the guns are therefore in the state most fitted to endure heavy firing, and the accidents attending it, such as shell bursting in the bore, chase, or muzzle, and sometimes jamming in the bore. It is to be hoped the new Heavy Gun Committee, when it does make a beginning, will order a thorough competitive trial. The Canadians have had the advantage of watching the great competition in heavy ordnance, extending over three years in the United States, which has ended in the complete victory of Sir William's guns. The United States flagship Trenton is about to visit the Thames; her armament is composed of heavy Palliser guns made by private firms in America. Should there be such a competition in England it will be interesting to note if Sir William Palliser be copied in the use of loose tubes and ductile metal, and if he will thus have to face his own guns in disguise. I do not think he has anything to fear from guns which are made on the shrinkage system with hard steel tubes, and which therefore are already undergoing a bursting strain without any charge at all.

Your obedient servant,
OBSERVER.

United States Sea Coast Fortification.

Deplorable Condition of Our Defences Against Foreign Invasion.—Annual Report of General Wright.—Thousands of Millions of National Wealth at the Mercy of an Enemy.

New York Herald, November 2.

WASHINGTON, Nov 7, 1883.

General H. G. Wright, Chief Engineer of the Army, in his official annual report to the Secretary of War, calls attention afresh to the deplorable condition of the country in the matter of preventing the predations of a foreign power, for on our sea coast, should we suddenly get embroiled in war before our system of sea board fortification is brought to the standard required by the changed condition of modern architecture. The more important portion of his report is as follows:—

"The disasters of a three months' war under the present condition of our defences might cost the nation ten-fold the expenditure that would be needed to thoroughly protect our coast against such an attack. Our great cities—New York, Philadelphia, Boston, San Francisco, New Orleans, Baltimore and Washington—should they be the hands of the enemy, would suffer in damages more than the ports necessary to secure them against such disaster. But the reverses would also be great calamities to the nation, crippling its war power. It was estimated that in the great fire of the city of Boston in 1872, the property destroyed within a few hours of the outbreak of the fire, and did not touch the shipping. It is easy to imagine the loss that would result from the fire that a

victorious enemy could kindle by his shells? Or is it easy to overrate the tribute such a city would pay for exemption from that calamity?

According to Secretary of War Polkott it has been clearly demonstrated that the exposure of employing a sufficient body of troops, either regulars or militia, for a period of even six months, for the purpose of defending the coast against attacks and fleets that might be made by an enemy's fleet, would exceed the cost of erecting all the permanent works deemed necessary for the defence of the coast. One hundred thousand men divided into four columns would not be more than sufficient to guard the vulnerable points of our maritime frontier, if not covered by fortifications. An amount of force against an expedition of 27,000 men, which if composed of regulars, would cost the nation \$30,000,000 per annum, and if militia, about \$10,000,000, and, supposing only one half the force to be required to defend the coast with the aid of forts properly situated and judiciously constructed, the difference of expense for six months would enable the Government to erect all the most necessary works.

THE REMEDY.

Our fortifications and torpedo-boats, then, must close all of our important harbours against an enemy, and secure them to our military and commercial marine; second, must deprive an enemy of all strong positions where, protected by naval superiority, he might fix permanent quarters in our territory, maintain himself during the war, and keep the whole frontier in perpetual alarm; third, must cover the great cities from attack; fourth, must prevent, as far as practicable, the great avenues of interior navigation from being blockaded at their entrances into the ocean; fifth, must cover the coastwise and interior navigation; and sixth, must protect the great naval establishments.

Fortifications must command from the shores exterior to our harbours all the waters from which the enemy can reach our cities and navy yards with his shot and shell. The harbour mouths and all the narrow passages within them must also be occupied, and if nature has not afforded all the positions deemed requisite, others must, if practicable, be formed artificially. Fortifications should succeed each other along the channels of approach and in our harbours, so that the enemy may nowhere find shelter from our fire while lying within our harbours, should he succeed in passing the outer line of works. The harbour mouths and channels must be obstructed by lines of electric torpedoes for holding the enemy's vessels under fire of the fortifications, previously constructed and stored in the latter, and laid, in the event of war, in systems, the plans of which have been carefully elaborated in time of peace by studies of the local charts and tidal currents, each harbor having its own system recorded in this department. The wires for conducting the electric apparatus on shore must at the same time be laid securely in subterranean galleries carried out to deep water, and the electric machines themselves—the hearts of the torpedo system—must be placed in chambers within the fortifications, hidden from the enemy and secured beyond all peradventure from his direct and curved fire.

Heavy mortars must be placed in large numbers to command all those positions where an enemy is likely to anchor within their range either for the purpose of tampering with or destroying our torpedo lines or shelling our cities and public depots of military and naval supplies. The efficiency of mortar batteries against shipping is acknowledged by all military engineers; it is fully appreciated by the navies of all nations, and they are comparatively inexpensive. Our guns and mortars must be capable of piercing the sides of his ironclads and of breaking in his decks, and they must be mounted in numbers sufficient to make it impossible for any of his fast-running war steamers to get past our works. The method of defence by fortifications and torpedo-boats—torpedoes for holding the enemy's vessels exposed in front of the fortifications, and fortifications for (among their other duties) protecting their torpedo lines, is the most efficient and the least expensive one that can be devised. The cost of such vessels as the British ship "Inflexible," four guns, as we learn from a recent Government publication, is not less \$300,000 per gun, while the cost of permanent fortification need not extend one-tenth of that amount.

[The above report is instructive to us Canadians, if we cared to profit by it. Our coasts are in a worse condition as regards artillery armament than those of the United States. Fortunately for us, our inland waters do not require monster guns for their defence, our lake harbours could easily be secured by torpedoes protected by comparatively light guns such as are now being converted at Montreal on the Palliser principle. Torpedoes can only be searched for by light craft working in shore to dredge up the communicating wires, or counter exploded by torpedo boats. Such craft could not work under the fire of our 81 pr. converted guns, if the latter were protected by simple earthworks revetted with iron band gabions. Such guns would cost \$30 each, and such earthwork, as have persistently been recommended in the annual reports of the senior Inspector of Artillery, would cost but a comparatively trifling sum. They could be thrown up by the militia themselves, and would last half a century. They would, moreover, be capable of coping with such improvised war vessels as could appear on our inland waters—the trestles between Great Britain and the United States forbidding the construction of war vessels on the Lakes before the declaration of war. British gun boats up the St. Lawrence should be the first to appear on Lake Ontario. These conditions are fortunate for us, as a few such guns as are in vogue in Europe would absorb the whole militia vote.—Ed. C.M.R.]

Kinglake on the Crimean War.*

Mr. Kinglake's sixth volume has just been placed in the hands of the public, containing the historians' elaborate commentary relating to all the circumstances of the winter troubles, of his terse comparison between the French and English systems of war administration; of his reasons for assuming certain causes which prevented England from having any real war department at all; of his retrospective inquiry into our military regime at the time of the great conflict with France; of his exposition of the way in which France and England ministered to their armies in the last of the state of the allied armies before the hurricane of the war of the Crimea throughout the winter, of the degradation of the