

to Moose Factory on the shores of James's Bay, a line of Railway from our Pacific Railway where it crosses the water-shed between Lake Huron and the Ottawa River would not be over 350 miles in length through a country perfectly practicable; in fact less than 100 miles would reach the Abitibi River at a point where it is navigable to the Arctic sea, and by putting Moose Factory in communication with the outer world enable the fisheries to be carried on with singular advantage.

Our neighbors of the United States have already made some profitable trips to Hudson Bay having taken out of it seal-skins and oil to the amount of \$8,000,000 during the present season; but the people of Canada could prosecute those fisheries with far greater advantage, as, when communications were established, a fishing population would seek the best site in the world for the profitable prosecution of their craft.

In prosecuting the seal fisheries on the Labrador coasts a long voyage has to be encountered, at the Hudson Bay the fishing fleet was on the ground at once.

A great part of the fisheries could be prosecuted in mid winter; this is impossible about Newfoundland, while nearly the whole of the dangers would be easily avoided.

Meantime the horrible disaster which has befallen our fellow countrymen demands our most active sympathy.

The following paragraph from an English exchange puts the question of the *Guns* in a business light, and that is their cost, estimated according to their *mechanical* value; they are not *one tenth* as good as the old cast iron guns, although their price is 400 per cent greater.

One thousand rounds could be fired from the old cast iron smooth bores without destroying the gun—500 rounds have been fired continuously without bad effect; while not one of those costly affairs have yet fired 100 rounds with a full charge without being rendered useless.

It is a positive fact that either the rifling or material is defective, which, is as yet doubtful, and time may be allowed the land service to ascertain the fact; but if an Navy is to be armed at all a return to the smooth bore is a matter of necessity.

It would be very interesting to try the value of a smooth bore 35 ton gun throwing a spherical shot of 250 lbs with a full service charge—such artillery might not *drill* holes in armour, but we have great faith in its smashing powers—at any rate till it gets a fair trial the *battle of the Guns* will not be decided.

"In these days of costly armaments for offensive and defensive warfare, we give our readers the latest prices at which our wrought iron, steel-lined, muzzle loading rifled guns are produced, and charged for to Imperial Government departments, minus their sights and elevating plates, but including the cost of their proof.—12 inch 600 pounder guns,

32 tons weight, £2,627 each; 12-inch 600-pr. guns, 25 tons weight, £1,997 each; 11 inch 500 pounder guns, 25 tons weight, £1,893 each; 10 inch 400 pdr. guns, 18 tons weight, £1,305 each; 9 inch 350-pounder guns, 12 tons weight, £912 each; 8-inch 180 pounder guns, 9 tons weight, £693 each; 7-inch 115 pounder guns, 7 tons weight, £560 each; 7-inch 115 pounder guns, 6½ tons weight, £503 each; 6½ pounder guns, 3½ tons weight, £240 each; 6-pounder guns, 8 20 tons weight £84 each; 9 pounder guns, 6 30 tons weight, £78 each. In round numbers these prices show an increase of 400 per cent. over what cast iron guns cost—that is, taking the old standard for cast iron guns of £20 per ton. Surely, in view of these figures, we are justified in again calling attention to the fact of many of these costly guns having their A, or inside tubes, split in the lines of the rifling after an insignificant number of rounds having been fired, thereby clearly indicating fault in their rifling. There can be no question as to the superiority of the present manufacture of our iron and steel built up guns over that of the system originally adopted, nor as to the very large saving to the country effected thereby; but that is not the present question—namely, have we the best system of rifling? Unhesitatingly we believe not; and there are cogent reasons that the persons responsible to the country in this matter should wake up, and not rest in a "fool's paradise" any longer."

THE LXVI. number of the "*Journal of the Royal United Service Institution*," contains the second part of the valuable paper contributed by Captain P. H. COLUMB, R. N., on "the attack and defence of fleets," in which the whole question of Naval Tactics and Strategy as applied to the British Iron-clad fleet is considered with rare ability as well as skill, when it is known that the gallant Captain was obliged to *invent* his theory, as no facts existed on which his deductions could be based.

It was, however, pretty generally admitted by the Naval Officers present that in its main features it covered the facts which future experience will establish, provided the opportunity is ever afforded the British floating batteries to test their powers as fighting machines.

Captain COLUMB lays down as the basis of his system that the success of a fleet will hereafter depend on four things, namely,— "Material superiority, moral superiority, superior mobility, and superior position." The first consisting in the numbers and invulnerability as compared with its opponents of a fleet—the second of that quality which won the battles of the Nile and Trafalgar, and which has always distinguished the British seaman.

As regards the mobility of a fleet in action a mean of *ten knots* an hour is assumed as the power which would most likely be employed, and in manœuvring, a space equal to a radius of *two and one half times* the ship's length, or for ordinary iron clads about 250 yards, which, at the rate, could be done in *two minutes for turning through eight points* or a quarter circle.

As regards *gun power* ten per cent of shots are all that can be reckoned on to take effect on a vessel's broadside or at a *fixed* distance of 1000 yards; the value of those hits were allowed to be small and only *one* round could be fired in *three* minutes; when end on the effect of hits were considered to be *nil*.

The *ram* is held to be a superior weapon to the *gun* in single ship action, and the *torpedo* is not considered of great value as it is uncertain and could be destroyed by the *mitrailleuse*.

The strategy and tactics of a fleet in action is illustrated by diagrams, and it is pretty conclusively shown that the *ram* is not effective in fleet actions; and the experience gained at *Lissa* amounted to nothing, the Austrian success being due to blunders on the part of the Italians, their fleet being broadside on and without speed.

Naval Tactics in the future are laid down to be:—

First—An extended front with small depth  
Second—A narrow front with great depth.

Third—A mass or square whose depth and front are equalised.

Fourth—A system of groups however disposed—the principle being that the attack or defence is not concentrated, each group marking itself felt as occasion requires.

Those are the conditions which a fleet in action is supposed to fight under at the speed named—barely *three minutes* will elapse between the opposing vessels getting into range and contact—the range altering *eleven* feet in a second.

Under the conditions Captain COLUMB is of opinion that fire should be reserved till within point blank distance in passing, and the old system of engaging *yard arm to yard arm* (if such a term can be applied to vessels only sporting an iron derrick)—resorted to.

On the whole our estimation of the sea batteries has been singularly correct—they are expensive and untried machinery and that is all can be said in their favor.

Commander DAWSON, R. N., took exceptions to the theory propounded by Captain COLUMB, especially with reference to the "Harvey Torpedo," and states the case of Naval armaments as follows:—"The 12 ton guns can be fired once every minute, whilst the 25 ton gun can fire one shot every *two* minutes. Nothing could be more efficient or more secure than the means by which those ponderous guns are manipulated so far as training, running in and out and elevating is concerned. . . . But the loading arrangements are exceedingly slow, clumsy and unsafe."

In addition to this it is stated the accuracy of fire in the heavy rifled guns is very small, and they are badly sighted rendering it impossible to fire accurately under lively rolling motion at sea—"the old 68-pounder in a lively sea can now make better practice than one of our 9 inch rifled guns."

The cause is to be found in the bad sighting of the new guns, the smallest visual er-