on the bottom, 120 feet on top; capacity, 700 tons; then through Lake St. Louis, 15¼ miles, falling 1½ feet, to the head of Lachine canal, 8½ miles long, falling 44½ feet, 5 locks, three of them 200x45x9, and two of 200x45x16; canal 80 feet on the bottom, 120 feet top width; capacity, 700 tons.

This brings us to the City of Montreal; the river then falls 11 feet, until it strikes tide water at Three Rivers, 86 miles below Montreal, showing a total fall, since leaving Duluth, of 600 feet, with a distance of 1,492 miles, comprised of lake navigation, 1,096 miles; river, 325 miles; and canal, 72 miles. Quebec is 74 miles below Three Rivers; and from that city to the open ocean, at the Straits of Belle-Isle, it is 826 miles.

In this connection, we may state that the locks of the Erie canal (enlarged in 1862) are 110x18x7. Total lockage, 655 feet. Those of the Champlain canal are 97x14x4.

It is proposed to increase the sizes of the locks between St. Mary canal and tide water to a uniform size of 270x45x9, capacity, 1,300 tons.

THE 35-TON GUN

(From the London Engineering.)

Through the courtesy of the War Department we are enabled this week to place before our readers a perspective view of the 35-ton gun, the engraving having been prepared from a photograph placed at our disposal by General Adye, director of artillery. The gun is constructed on the Fraser principle, and is of the same type as the 9-inch gun which has already fired 1,107 rounds, and to all appearance remains as sound as when it was first made. The great gun consists of six distinct parts, first the inner or A tube, which is of Firth's steel, and is 13 ft. 6½ in. in length internal measurement. The thickness of the tube is 3½ in. at the breech end tapering down to 2½ in. at the muzzle. Next there is the muzzle, or B tube, which is of wrought iron and is shrunk on to the steel tube. The third piece is that which it will be seen from our engraving forms the first stepped joint about 6 ft from the muzzle, and is known as the intermediate coil; it holds the front end of the coiled breech piece which forms the fourth part. The fifth part is the outer or C coil with its trunnion band which is shrunk on to the breech portion of the gun binding the rear end of the intermediate piece. The sixth and last piece is the cascable, which it will be seen is made button-shaped, instead of the ordinary form. This shortened form was given to it in order to obtain the greatest possible length of bore in the gun within a restricted dimension, the Admiralty having limited the length over all to 16 ft. 3 in. As the gun is intended to be worked in a turret, the vent—which is about 15 in. from the end of the bore—is placed on one side of the breech-piece in order to render it easily accessible for firing, which it would not be if the vent were on the top of the gun, owing to the lowness of the turrets. For the same reason the external diameter over the breech had to be kept down to 4 ft. 8 in.; the diameter of the muzzle being 4 ft. 5 in.

The gun is at present rifled to a calibre of 11.6 in., but circumstances may arise in the further trials which it has to undergo for range, velocity, and penetration, which may lead to the calibre being enlarged to 12 in. The length of bore is 13 ft. 6½ in.; the rifling nine grooves, and in twist uniformly gaining from zero at the breech to 1 turn in 35 calibres at the muzzle. The grooves of the rifling are of the ordinary Woolwich pattern and .2 of an inch in depth. The outer or C coil of the gun weighed at the forge 11 tons, being formed of 18 ordinary bars of iron 7 in. by 5 in. square, joined together at the ends and giving a total length of 230 ft. The inner coil is composed of bars which when joined together gave a total length of 170 ft., and weighed about 9 tons. These two when welded up form one coil weighing about 20 tons. The weight of the projectile which this gun is intended to carry is 700 lb., the length of the solid shot being 30 in., and that of the common shell 40 in.; the shell carries a bursting charge of 35 lb. With regard to the powder charge, nothing has as yet been determined either with regard to the weight or character of the powder to be used. The gun went splendidly through its proof, the final charge being 130 lb. of pebble powder with a 700 lb. projectile. Various aberrations, both with regard to internal pressure and initial velocity, were observed, which have obliged the Committee on Explosives to reopen the question of gunpowder for this class of guns. They are now experimenting in various ways, and it is to be hoped that their labours will find a solution to the question, for as it present stands the big gun is practically useless.

The gun at present lies at the proof butts, Woolwich Arsenal, mounted as seen in our engraving, on a temporary timber carriage. Although the carriage is a very substantial one the timbers on one side were started when the 35-ton gun was lowered on to it, which was done a little too briskly. The carriage, however, was patched with iron-plating and is still serviceable for its temporary purpose. It is not at present known when the next trials will take place with the gun; they will not, however, be resumed until the Committee on Explosives have arrived at an approximately definite conclusion as to the kind of powder they deem most appropriate for it.

THE NEW CUSTOM HOUSE

In this issue we present an illustration of the new Custom House in this city, bought by Government from the Royal Insurance Company at a cost of $200,000. It is a magnificent building, and considered to have been very cheap at the money. The Royal is at present established at the corner of St. Paul and St. Francis Xavier Streets.

The *Era* has discovered in a Spanish newspaper, the *Porvenar di Seville*, a very original account of the Oxford and Cambridge boat-race, which, the Spaniards are told, "commences at Westminster, by the Houses of Parliament, and takes its course up the grand river to the parks of Greenwich and Richmond." The regattas of London are, "with the races of Epsom and Derby," the great feasts of the year. This year the river, on the occasion of the Oxford and Cambridge boat-race, is said to have been "crowded with two thousand steamers," at the head of which sailed the Prince of Wales in a small boat "with thirty distinguished persons." While the race was going on bands of music parade the streets, "some with black faces." "A cannon from the Tower announced the victor ..... After the regatta, 100,000 restaurants were opened to the public, who crowded into them to drink their beer. In the villas in the vicinity of the race dinners were given to all Cambridge people to the number of several thousands, the young people afterwards enjoying the ball."

THE DORCHESTER STREET CEMETERY.

To the Editor of the "CANADIAN ILLUSTRATED NEWS."

SIR,—While thanking you very heartily for the important aid you are rendering to the cause of anti-desecration, allow me to request your correction, in the forthcoming number, of an error in the first article. It is true that the press has latterly "become silent on the subject," in order to reserve its energies for a probably impending struggle. But so far from the Corporation stultifying its vote of 17 to 4, in favour of purchasing the land for a public park, all the preliminary stages have been proceeding uninterruptedly, and probably within a few days the legal notices will have been published.

If the expropriaters put a reasonably low value on the land, and distribute the cost over as large an area as the law allows, there can scarcely be a doubt that the proprietors will gladly pay, what will be to each a very small sum, for the boon of a Square in an unrivalled situation.

Yours faithfully,
P. P. CARPENTER, Ph. D.
(Secretary to the Citizens' Committee.)

OUR NEWFOUNDLAND CORRESPONDENCE.

ST JOHNS, Nfld., May 13, 1871.

THE "CANADIAN ILLUSTRATED NEWS" IN TERRA NOVA.

We have given a very cordial welcome here to the *Canadian Illustrated News*, and we are prepared to do our part in sustaining a periodical that reflects so much credit on the Dominion of Canada. Some among us were at first inclined to doubt whether Canada could furnish an illustrated paper that could compete with British and American periodicals of a similar character; but we have been delighted and astonished to find the *Canadian Illustrated News* rapidly improving with every issue, so that it is now little, if at all, behind the best illustrated papers of London, and has already left the American far behind. In our newsroom it lies side by side with the *Graphic*, the *Illustrated London News* and the *Illustrated Times*; and, in regard to artistic excellence, it does not suffer by a comparison with these world-renowned periodicals. When such a degree of excellence has been attained by such a young periodical, we may anticipate a bright future and a successful career for the *Canadian Illustrated*. The admirable sketches of our two Cathedrals, given in recent issues, have afforded great satisfaction. We hope that, from time to time, you will present us with sketches of portions of our fine natural scenery which is often of a most picturesque and striking description. A public benefit would in this way be conferred on Newfoundland—a country regarding which Canadians, in common with the rest of the world, are, for the most part, profoundly ignorant. To aid in this laudable work, I propose to send you occasionally some *word-pictures* of the country and its inhabitants, and also to keep you informed of current events.

NEWFOUNDLAND—ITS POSITION AND PROSPECTS.

A glance at a map of the world shows that Newfoundland occupies a most commanding position between the Old World and the New, stretching out from the American shores till it approaches within sixteen hundred miles of the Irish coast. This oceanic interval has often been crossed by swift steamers in less than five days. A line of first-class steamers would place St. John's, the capital, within four and a half days' steaming of Valentia. A line of railway, 250 miles in length, crossing the island, from St. John's to St. George's Bay, would enable mails and passengers to reach Shippegan Harbour, Bay of Chaleur, in twenty-four hours, and thence railway would convey them to all parts of America. All the perils and disagreeables of a long sea-passage would thus be avoided, and three or four days would be saved. There can be little doubt but one day this will be the favourite route between Europe and America. When the Canadian Pacific Railway is constructed its extension across Newfoundland (a steam-ferry between) will be regarded as the natural and inevitable completion of the grand enterprise, if it is to compete successfully with American lines for the trade of Australia, China and Japan. Chicago, with its vast exports, wants the shortest and quickest route to Europe, in order to compete with New York; and that route lies through Canada and across Newfoundland, with St. John's as the eastern terminus. Indeed there is no reason why the line across our island should not be first constructed instead of having to wait the completion of the continental portion. The eminent engineer, Mr. Fleming, is a warm advocate of this route, and has pointed out the immense international benefits that would flow from it. The cost of the construction might be largely met by the sale of the fine tracts of land in the unexplored interior, and on the western shores of the island, which a railway would open up and render available for settlement. From discoveries already made, it is now certain that Newfoundland is rich in minerals. On the western side of the island there are three valleys containing nearly half a million square acres, according to the report of the Geological Surveyor, of fine land, with excellent timber, and extensive beds of coal, marble and gypsum. There are but a few score settlers in these immense tracts, and their resources are yet untouched. The fisheries, too, around this western shore are most productive. A railroad would speedily have the effect of converting these solitudes into thriving settlements. In the neighbourhood of St. George's Bay there is a coal-field which the Geological Surveyor estimated to contain 54,720,600 chaldrons of coal, much of it within workable depth, and this is but one of many such seams. At present an island one fifth larger than Ireland contains but 146,000 inhabitants, thinly sprinkled around a thousand miles of coast, and almost entirely engaged in fishing. The construction of such a line of railway as I have described would speedily alter the whole aspect of affairs, and communicate such an impulse to all our branches of industry as would constitute an epoch in our history.

OUR FISHERIES.

The fisheries of Newfoundland, the finest in the world, constitute the staple industry of its inhabitants. It is marvellous to think that each year 150,000,000 codfish are drawn from the waters that encompass its shores; and that on the Great Bank, 600 miles in length and 200 in breadth, nearly as many more are taken; and that all this has been going on for three centuries, without producing any diminution in the supply of this noble fish.

Amsterdam, of old, was said to be "built on herring bones," the great Dutch herring fishery having laid the foundation of its wealth and greatness. Of Newfoundland it may be similarly affirmed that it owes everything to its cod fishery. A visitor to our shores is speedily reminded that he is in the land of Cod. If it be summer time, he sees myriads of these fish drying in the sun, and half the population busy in catching and curing cod. Should he take a walk into the country, the peculiar odour exhaled from manure heaps reminds him, rather disagreeably, that the offal of the cod is utilised for agricultural purposes, and when mixed with bog and earth forms a fertilising compost almost equal to guano. In his rambles he will observe the steam and smoke rising from numerous small factories in the various coves, where the far-famed cod-liver oil is in process of manufacture. In the larger settlements, should he peep into the merchants' stores he will find them piled to the roof with dried codfish waiting exportation to Brazil, the West Indies, Spain, Italy, or Britain. The odour of cod is in the air. The very talk of the people is fishy. Nay, the chances are that when our traveller breaks the top of his egg in the morning at breakfast, the concentrated essence of double-distilled cod salutes his nostrils, for the fowl, in prowling about, get a wonderful liking for cod, and disclose the fact both in their eggs and flesh when brought to table. So largely indeed are cod used by our population, that it no longer holds good that "all flesh is grass,"—it being nearer the truth to say that "all flesh is fish." Physiologists have recently discovered that a fish diet, containing a large proportion of phosphorus, is favourable to brain-operation; so that we ought to be a very clever people. How important to us is our codfishery may be judged of by the fact that the value of codfish and codoil annually exported is nearly six millions of dollars.

SEAL FISHERY—ITS IMPORTANCE AND ITS PERILS.

Our next great staple is the seal fishery. The great Arctic current that rushes along our shores towards the equatorial regions is in spring laden with fields of floating ice on which the seals bring forth their young about the middle of February. In stoutly-built sailing vessels, and of late years in steamers, our hardy seal-hunters push out into these stormy ice-laden seas in pursuit of the seal. Ten thousand of them embark from our various ports about the 1st of March each year, and for two months are engaged in the capture of seals. The young ones remain on the ice for the first five weeks of their existence, suckled by their mothers, and the hunters aim at reaching them during this period, when they are unable to escape, and are easily despatched by a slight blow on the nose. I hope to see in the pages of the *Illustrated News* a picture of a Newfoundland seal-hunt—one of the most wonderful sights imaginable. The vessel cleaving her way through the ice, which is sometimes "rafted" by the force of the waves, and piled all round her—the glittering icebergs towering two or three hundred feet above the surface and grandly diversifying the scene; and then the men scattered over miles of the frozen surface, "clubbing" the seals,—"sculping" the dead, as the process of separating the skin with the adhering fat which is alone brought away is called; and dragging their precious loads with tow-ropes over the broken hummocks towards the vessel—themselves all covered with fat and gore—all this constitutes a strange and exciting scene, and one worthy of your best artists. Fearfully perilous too, at times, is the seal-hunt—the blinding snow-drift sets in when the poor sealers are miles from their vessel; or the ice opens and leaves a gulf between them and the ship, and on an island of ice they are borne away, their only chance being to reach some other vessel. Sometimes the vessel itself is caught between two ice-masses and crushed to atoms. Only yesterday news arrived that the steamship "Wolf," one of the most powerful of our steamers, had sunk in Green Bay, an iceberg having stove in her broadside, and the men having barely time to leap upon the ice before she went down. Fortunately, they were within hail of another steamer and were all saved. Had it not been so, all might have perished miserably after frightful sufferings. The annual value of our sealfishery ranges between a million and a quarter and a million and a half of dollars. In addition to these, we have a valuable herring and salmon fishery.

THE PEOPLE—THEIR MANNERS AND EMPLOYMENTS.

Our people are a hardy race, inured by their employments to hardships which have made them a robust, manly, much-enduring people. Their habits of life are simple, and there is very little crime of a serious character. They are of Saxon and Celtic (Irish) origin, the former having a majority of 24,000. Living in small, detached settlements around the coast, and but very insufficiently supplied with means of communication, it cannot be expected that they are far advanced in civilization. Education and increased means of communication with more advanced communities are their most pressing wants. The fisheries furnish but a precarious source of subsistence, and disastrous failures frequently entail widespread suffering. Were agriculture, manufactures and mining combined with the fisheries, the country would rise into prosperity. Those, however, who have been accustomed, for generations, to gain their living by mining in the silvery quarries of the sea, acquire a strong repugnance to the plodding industry of the farm, the factory or the mine. The excitements of the fisheries, the prizes that are often taken, the "spurt" of severe toil, and then the delightful season of entire idleness—all these present irresistible attractions to our population, and indispose them to other pursuits. Time alone and the spread of education and intelligence, will wean them from exclusive dependence on the fisheries, and lead them to direct their energies to more steadily productive channels.

THE SEAL-FISHERY OF 1871.

We are now in a position to judge of the results of the seal-fishery for this season, for although all the vessels have not yet returned, the greater number have been reported or have already arrived. Beyond all doubt this is the best fishery Newfoundland has ever seen. At the present date more than half a million of seals have been brought into port—the value being, at the rate of $3 a seal, $1,500,000. It is confidently expected that the total "catch" will approach 800,000 seals. All the gold and silver mines of Peru cannot compare in value with this sea-mine, which, after being worked for more than two centuries, is as productive as ever. A vast amount of wealth is thus poured into the country; but the drawback is that a great proportion of it is spent by our wealthy capitalists on the banks of the Clyde and the Mersey, where they reside, instead of being reinvested here to develope further the resources of this fine island.