

issue of the *Quarterly Review*. "It was our good fortune," writes this witness, "to spend several months during the past year in the Northwest and in British Columbia and to see for ourselves some of the capabilities of a region on which depends in a great measure the future greatness of the Dominion. Like every one who has made a similar journey, we have been as much delighted with the beauty and variety of the scenery as with the extent and richness of the fertile prairie. . . . The cordon of towns and villages which now stretches across the continent from Port Arthur to Vancouver is the best evidence of a progress which is remarkable, when we consider that it illustrates a history which does not go beyond a decade of years. Stone and brick buildings of fine architectural proportions, streets paved and lighted by electricity, elevators and mills busy night and day, are the characteristic of towns over whose sites only yesterday silence brooded." Elsewhere we give, from authoritative sources, an account of the foundation and growth of one of these thriving towns which so surprised and charmed our visitor. Brandon may be considered a typical settlement. Founded in 1881, it is to-day a flourishing centre, industrial, commercial and social, of a large and important district, with tributary towns glad to accept its supremacy and to profit by its superior advantages.

#### OUR BRANDON ILLUSTRATIONS.

To have added sketches of the \$40,000 Post Office, \$25,000 Provincial Reformatory, McDiarmid & Nation's solid brick block, with 120 feet frontage, Congregational Church, Baptist College, and Permanent Experimental Farm Buildings, which cost \$25,000, would have made the Brandon issue much more imposing. All these, excepting the two latter, are in course of construction, but none of them completed.

To give a fair idea of so much enterprise in an agricultural town, less than ten years old, without the illustrations to prove the facts, would have implied a large dependence on the reader's faith.

We will, therefore, await the completion of nearly \$100,000 of Federal, Provincial and Civic Public Buildings in the second city of the Province, and, if our present effort to bring to the notice of of Eastern and Old Country people this thriving agricultural centre is appreciated by our Western friends, we shall in a future issue feel encouraged to illustrate Brandon's public buildings and a few of the principal prairie farmsteads crowded out of this issue.

#### THE VESTIBULE AS A SAFETY DEVICE.

Closely related to the coupler is the vestibule, which within the last two years has become so fashionable. The vestibule is not merely a luxury, but has a certain value as a safety device. The full measure of this value has not yet been proved. Occasionally lives are lost, by passengers falling from or being blown from the platforms of moving trains. Such accidents the vestibule will prevent, and, further, it decreases the oscillation of the cars, and thus to some degree helps to prevent derailment. It is also some protection against telescoping. A few months ago a coal train on a double-track road was derailed, and four cars were thrown across in front of a solid vestibule train of seven Pullman cars approaching on the other track. The engine of the vestibuled train was completely wrecked. Even the sheet iron jacket was stripped off from it. The engineer and fireman were instantly killed, but not another person on the train was injured. They escaped, partly because the cars were strong, and partly, doubtless, because the vestibules helped to keep the platforms on the same level and in line, and thus to prevent crushing of the ends of the cars.—H. G. PROUT, in *Scribner*.



A good way to temper mill picks is to heat the bill to a blood-red heat, and then hammer it till nearly cold; again heat to a blood-red, and quench as quick as possible in three gallons of water in which is dissolved 2oz. of oil of vitriol, 2oz. of soda, and ½ oz. of saltpetre. The bill should remain in the liquid until it is cold.

The Swedish residents of Chicago have given an order to a firm in Stockholm for a statue of Linnaeus, to be erected in Lincoln Park. It is to be an exact representation of a figure now standing in the Hop Garden in Stockholm, the face being full of kindly grace and dignity, the figure enfolded in a long loose robe or cloak. The right hand holds the gathered folds of the garment, while in the left are a book and a little bunch of Linnaea.

Dr. Salzer, assistant to Prof. Billroth has given (*Medical Press Circular*) a report on the treatment of swallowed foreign bodies by the so-called potato cure. The method consisted in requiring the patient, who had swallowed a foreign body, to eat large quantities of potatoes, which had the effect to proportionately dilate the whole intestinal canal, so that the foreign body was enveloped, and could not cling to any part during its passage.

We learn from *Science* that it has been announced by the United States Entomological Bureau that Brood VIII. of the periodical cicada will appear this year throughout a large extent of this country. This race is of the seventeen year kind. The region in which it will appear commences in south-eastern Massachusetts, extends south across Long Island, then down the Atlantic Coast to Chesapeake Bay, thence up the Susquehanna River to Harrisburg, westward from thence into Illinois. The bureau will be glad to receive news of the appearance of the cicadas, and desires especially to receive accounts of all occurrences in West Virginia and North Carolina.

CARTRIDGE TO OIL THE WAVES.—A cartridge has been invented by Mr. Albert H. Walker, which, when filled with oil and discharged, will pacify the stormiest seas. The receptacle is of ordinary cartridge size, but is made of heavy paper, and weighted at the further end with a small piece of lead. It will hold about two ounces of oil. It is fitted in an ordinary cartridge shell, and fastened to it by means of cotton shreds. The cartridge is put into a breechloader, and the trigger is pulled. The cotton connecting the cartridge and the shell is ignited by powder. It is burned, and the cartridge, filled with oil, is sent spinning away over the waves. Then, at any point the navigator may wish, the cartridge, because of the lead at the head, will sink into the waves. The oil being lighter than the water, rises to the top of the sea, and spreads over it like a film over the waves. By means of these cartridges a path an eighth of a mile broad can be made through the heaviest of seas.—*Court Journal*.

THE EIFFEL TOWER.—In addition to the lighting, there are several points connected with this great tower of interest to electricians. During the building of the tower the telephone proved of great use as a means of communication between the men at work at the top and those engaged below; and the various platforms are now all permanently in telephonic connection with one another. Special provision has been made to protect this huge lightning conductor from lightning. Eight cast-iron pipes, 19 inches in diameter, connected to the ironwork of the structure, pass through to the water-bearing strata, 60 feet below the level of the Seine, while at the summit soars a long pointed rod of the ordinary description. Bent on vindicating the practical utility of the Eiffel Tower, the French have been at great pains to enumerate the various scientific possibilities of the structure. First and foremost, there is the laboratory at the top, for which great things are predicted in the way of meteorological observations and discoveries in atmospheric electricity.

A UNIVERSAL CLOCK.—A very simple and ingenious clock for showing the time on all the four quarters of the globe at a glance has just been devised by Mr. John W. Mason, Edinburgh, already known as the inventor of several novel movable diagrams of the seasons, which have been introduced into a good many schools. On the clock face, which may be described as a flattened globe, has been painted the map of the world. This is divided into 24 hour lines, which radiate from the North Pole, which forms a central pivot outwards like the spokes of a wheel. The clock face is movable, and goes with ordinary clockwork. On a fixed marginal circular belt are painted the hours, the figures for the day are coloured pink, and for the night a deep blue. When the clock map is slowly revolving the hour opposite the meridian or line of each country is the true time for that place. The clock map can also be used in a diagram form—all that is necessary to be done in that case being to get the British Islands opposite to the hour of the day, determined by a reference to a watch, at which the person is making the investigation, and the time in every country of the world is then shown at a glance. A curious feature is that it has no hands, and yet it tells the time truly and shows a great deal more than any other clock can do, if it had twenty hands or dials. Mr. Mason's universal clock is certainly as efficient for the purpose intended as it is ingenious in contrivance and simple in construction. The clock has been shown at the Paris Exhibition.

#### PIONEER TIMES.

BY ALEX. BEGG.

Well do I remember the advent of the first sewing-machine, and the sensation caused by the arrival of the first piano—truly an event in the history of the settlement. Tallow dips reigned supreme, and the first coal oil was sold at from 14s. to 16s. per gallon. Now gas and the electric light are common. I had something to do with the introduction of civilized ideas. I formed, for instance, the first theatre in the North-West, and from the stage sprang the first church in Winnipeg. It was in this wise. Having organized an amateur theatrical troupe from native talent, a hall in one of the buildings was fitted up as a theatre. The attempt was crude, it must be admitted, and I don't know that we ever tried "Hamlet," or anything so high-flown. Pantomime was indeed our forte. One day Archdeacon McLean, now Bishop of Saskatchewan,\* suggested that the theatre should be utilized on Sunday evenings for religious services. Consent was given, and I agreed to act as first sexton. I regret to say, on behalf of the dramatic art, that the Archdeacon drew better audiences on Sunday evening than the theatrical troupe did during the week. The result was a threatened collapse of the floor of the theatre. One Sunday evening, hearing some ominous cracks from the overburdened floor, I rushed out, and with the aid of the shopkeeper underneath, having obtained a number of poplar poles, we propped up the devout worshippers overhead. It was well the services of the church forbade applause, or else I fear the whole congregation would have found themselves in the depths below, rather than in the realms above. It is needless to say there were no more services in that church. The Archdeacon adjourned to the Court House adjoining Fort Garry, and soon afterwards Holy Trinity was built. Having seen the danger of buildings collapsing and falling to the earth, the idea of preventing them from being blown up was next conceived, and the first general powder-house in the country established; but it was not a success, as you will understand when you know that it was no uncommon thing for a trader to seat himself on a keg of gunpowder near the camp-fire, and smoke his pipe in the most leisurely way. The Hudson's Bay Company were the bankers as well as the rulers of the settlement, and the currency of the country consisted of gold and silver coins and blankets; not the domestic article of that name, but merely a sort of bank-note circulated by the Company in something the same form as that issued by the Bank of England. To bring the settlement into closer communication with the outside world, a stage running three times a week, *via* the United States, was established in 1869.

Settlers now began to arrive in the country in large numbers; some came in waggons, others floated down the Red River in flat boats, the railway having then only reached St. Cloud, a town in Minnesota, a short distance beyond St. Paul. An immediate spread of settlement followed this influx, and to avoid disputes the Dominion Government found it necessary to take steps for the proper survey of the country. Provision was made in 1872 by the Dominion Lands Act for the division of the land into townships, each consisting of thirty-six square miles or sections. A Government Land Office was established, and settlers were allowed to take up free homesteads wherever they were to be found. In the meantime, the stage travelling on alternate days had given place to a daily coach, and in 1871 Mr. James J. Hill, now president of the St. Paul, Minneapolis and Manitoba Railway Company, placed the first regular passenger and freight steamer on the Red River between Moorhead in Minnesota and Winnipeg in Manitoba. On November 20 of the same year telegraphic communication between Manitoba and the outside world was completed, and on that day the first message (one of congratulation) passed over the wires between the Governor of the North-West, the Hon. Adams G. Archibald, and the Governor-General of Canada, Lord Lisgar.

\*The good bishop has since died, to the regret of many persons both in old Canada and the North-West.