

is believed to be not less than fifteen feet. The inquiry was started whether gold was diffused in this earthy bed. From a central locality, which might afford a fair assay for the whole, the cellar of the new market house in Market Street, near Eleventh Street, we dug out some of the clay at a depth of fourteen feet, where it could not have been an artificial deposit. The weight of 180 grammes was dried and duly treated, and yielded one-eighth of a milligramme of gold; a very decided quantity on a fine assay balance. It was afterwards ascertained that the clay in its natural moisture loses about fifteen per cent. by drying. So that, as it lies in the ground, the clay contains one part gold in 1,224,000. This experiment was repeated upon clay taken from a brickyard in the suburbs of the city, with nearly the same result. In order to calculate with some accuracy the value of this body of wealth, we cut out blocks of clay, and found that, on an average, a cubic foot as it lies in the ground, weighs 120 pounds, as near as may be; making the specific gravity 1.92. The assay gives seven-tenths of a grain, say three cents' worth of gold to the cubic foot. Assuming the data already given, we get 4,180 millions of cubic feet of clay under our streets and houses, in which securely lies 126 millions of dollars. And if, as is pretty certain, the corporate limits of the city would afford eight times this bulk of clay; we have more gold than has yet been brought, according to the statistics, from California and Australia. It is also apparent that every time a cartload of clay is hauled out of a cellar, enough gold goes with it to pay for the carting. And if the bricks which front our houses could have brought to their surface, in the form of gold leaf, the amount of gold which they contain, we should have the glittering show of two square inches on every brick.

#### Microscopic Photography.

Professor Gerlach, of the University of Erlangen, has obtained some photographs of microscopic objects by a new method, which consists in taking the object itself as the negative image, and then taking a magnified positive of this image, and repeating the operation, alternately positive and negative until an image is obtained of such a size as to present details of structure far exceeding in magnitude those obtainable by the most powerful microscopes at present in use.

#### The Electricity of the Torpedo.

M. Armand Moreau has informed the French Academy that he has at length succeeded in collecting and condensing this electricity, by taking extreme care in insulating the body of the animal, and only bringing it in contact with the condenser at the moment when, the nerve being excited, the discharge takes place. Without these precautions the electricity is immediately conveyed to the earth. Thus it is that it is nearly impossible to collect spontaneous discharges, and that we can only succeed by provoking one.

#### TO INVENTORS AND PATENTEES IN CANADA.

Inventors and Patentees are requested to transmit to the Secretary of the Board short descriptive accounts of their respective inventions, with illustrative woodcuts, for insertion in this Journal. It is essential that the description should be concise and exact. Attention is invited to the continually increasing value which a descriptive public record of all Canadian inventions can scarcely fail to secure: but it must also be borne in mind, that the Editor will exercise his judgment in curtailing descriptions, if too long or not strictly appropriate; and such notices only will be inserted as are likely to be of value to the public.

#### TO CORRESPONDENTS.

Correspondents sending communications for insertion are particularly requested to write on one side only of half sheets or slips of paper. All communications relating to industry and Manufactures will receive careful attention and reply, and it is confidently hoped that this department will become one of the most valuable in the Journal.

#### TO MANUFACTURES & MECHANICS IN CANADA.

Statistics, hints, facts, and even theories are respectfully solicited. Manufacturers and Mechanics can afford useful coöperation by transmitting descriptive accounts of LOCAL INDUSTRY, and suggestions as to the introduction of new branches, or the improvement and extension of old, in the localities where they reside.

#### TO PUBLISHERS AND AUTHORS.

Short reviews and notices of books suitable to Mechanics' Institutes will always have a place in the Journal, and the attention of publishers and authors is called to the excellent advertising medium it presents for works suitable to Public Libraries. A copy of a work it is desired should be noticed can be sent to the Secretary of the Board.

## INTERNATIONAL EXHIBITION, LONDON, 1862.

THE Commissioners for Canada of the International Exhibition of 1862, give notice to all parties desirous of exhibiting Canadian Products (whether application has been already made for the exhibition of the same or not), that such articles may be sent in for examination and approval to the following places, at any time between the TENTH DAY OF FEBRUARY next, and the under-mentioned dates, viz:—

**IN CANADA WEST.**—London, 18th February; Hamilton, 20th February; Toronto, 22nd February; Kingston, 25th February; and Ottawa, 28th February.

**IN CANADA EAST.**—Quebec, 14th February; Three Rivers, 18th February; St. Hyacinthe, 22nd February; Sherbrooke, 25th February next; and Montreal, 3rd and 4th March next.

Articles will be received and stored at the Depots of the Grand Trunk Railway Company at London, Toronto, Kingston, Quebec, (Point Levi), Sherbrooke, and St. Hyacinthe.

The Commissioners will begin their examination at 10 o'clock a.m. of each day named.

Intending exhibitors must deliver the articles for exhibition at the above named places free of charge. Should they not be approved, the Grand Trunk Railway will return them free of charge to any Depot on their line from which they have been sent.

Parties sending in Grains or Woods are requested in every case to transmit a certificate, stating the species, and varieties, and where grown. Woods should be sent of the usual dimensions for commerce; and Her Majesty's Commissioners have expressed a desire that they be shown in planks 4 inches thick, showing the sap on both sides, or in 4 inch scantling, and accompanied, wherever practicable, by twigs with leaves or flowers.

Parties desirous of further information may apply, concerning Minerals and Specimens of Economic Geology, to Sir W. E. Logan, Montreal; concerning Products of the Forest and Waters, to Dr. Tache, Quebec, or Dr. Hurlburt, Hamilton; concerning Agricultural Products, to Hon. L. V. Sicotte, St. Hyacinthe, and Col. Thompson, Toronto; concerning articles of Canadian Manufacture to Dr. Beatty, Cobourg; or to the Secretary, Montreal, to whom also, communications on all other business of the Commission are to be addressed.

**B. CHAMBERLIN,**  
Commissioner, Secretary

Montreal, Dec. 12.