MINING NOTES.

The first gold brick will be produced inside of a month from this date, and thereafter greater activity in stocks may be anticipated.

The proprietors of the George Heenan claim have collected evidence sufficient to satisfy themselves of the soundness of their title, and are actively at work,

Mr. Brown, of the Bourse, has, in reply to a request from American capitalists, despatched a number of specimens from selected locations, making offers for sale. Among the properties are the Ash Rapids and the Sultana.

The Keewatin Company's shaft is being slowly driven through the hard trap, and the superintendent writes that the paystreak is steadily widening and improving in quality. The Bourse has received samples from 28 feet down. The footwall is the finest on the lake, and Mr. Nagle reports himself abundantly satisfied.

The Winnipeg Consolidated Company has received an assay from Prof. Chapman, of Toronto, giving over $110 to the ton. An assay from Prof. Pike is daily expected. Those who threw doubt upon the genuineness of the assay made in Winnipeg and New York will now have the pleasant task of retracting.

During the past week more mining shares changed hands than on any previous week, but the prices obtained were not as high as were generally asked. For Keewatin $7.25 was asked, but the transactions were done considerably under that price, owing to the introduction of sundry small parcels by needy holders. Winnipeg Consolidated sold steadily at $25, a few shares of proprietary stock being eagerly snapped up at anything less. For Lake Winnipeg the quotation was $4.50.

The Winnipeg Consolidated have bought the Boulder Island Mill which they will transport across Big Stone Bay to their shaft. With this mill a thorough milling test will be made of the rock, and thereafter an extensive plant will be erected. The latest specimens received in the city from the shaft show less decomposition and more free gold than was manifest when the shaft was fifty feet down. Carbonates of copper are now found in the ore, which is by old miners considered a good sign.

The Pine Portage Property, belonging to the Macdonald-Fraser party, has been purchased by a private association of capitalists from Ontario principally, the consideration being $23,000. Supt. Miller will have charge of the development. This property is a remarkable one, a vein of it, called "the Whale," being eighty feet wide. In the canyon there are huge detached masses of quartz lying on the surface, which can be broken up and teamed to the mill. The ore will require skilful treatment, as almost every known metal is found in it, platinum among the number. It is said that machinery has already been ordered for the location.

The American Tariff Bill.

A Canadian who has the spare time and perseverance to wade through the reports of the American Houses of Congress during the present session, would certainly be amused at the wrangles over the tariff bill in the Senate, and the subterfuges adopted to defeat the very moderate measures of reform set forth in that bill. There are the two parties in the house. The Western and Southern representing the purely agricultural interests, and the Eastern and Northern representing the manufacturing interests. It is the growing power of the former that admits of the possibility of a reduction of tariffs being seriously considered, and the schemes of the eastern senators to cripple if they cannot defeat the bill, go to show how determined is the opposition to any modification of import duties. This has been specially noticable in connection with tariffs on iron, the most petted and pampered of all American industries. In the matter of wire fencing, for instance a reduction had to be made to please some western senators, and all passed off agreeably. A few days later, however, the protectionists played a check mate game by trying to enforce an extra cent a pound on all galvanized iron goods, and were only prevented from so doing after a little debate and an exciting division.

Thus it has been with tariff reform in the United States so far, and the progress of the movement in the legislature this winter adds still stronger proof that the work of both houses of congress will be only to keep one class of protected parties from robbing the others too barefacedly. There is not a shadow of any policy being adopted which would have any tendency towards free trade, but merely a changing around of tariff arrangements to try and please more parties who make demands to be protected.

The Electromotive.

Mr. George H. Bliss, a well-known writer on electricity, in a recent number of the *Railway Age* publishes the result of his investigation of Edison's electromotive, which is designed by the use of electricity instead of steam as a motive power to supercede the locomotive on railways. It will be readily conceived that the initial difficulty to be overcome is the insulation of the rails, and this has been successfully done by japanning all but the surface where contact is made with the wheels of the electromotive. The rails on the truck are made electrally continuous from end to end of the ten mile sections by means of copper wires riveted into the lengths of the rails which there join. A bedding of japanned cloth is placed under the rails at each tie, and the spikes and clamps used for holding the rails are also japanned. The ends of the ties where the rails rest are also coated with an insultating compound. The wider the gauge the less is the loss of current. A speed of thirty miles an hour has already been attained on the experimental track which is only two miles and a half long, and has in one portion a grade of thirty feet to the mile. Mr. Bliss says:—"To any one familiar with electrical appliances it will readily be seen that there are difficulties to be overcome at frogs and switches, all of which have been successfully provided for. The operation of an electric railway is not without peculiar obstacles. An iron bar placed across the rails would be a serious detriment and bring a train to a stand still. A sleigh passing over the track at a street crossing might have a similar effect if the centre of the track was not filled so as to prevent the runners from resting on both rails at once. In renewing rails unless a temporary wire connection was substituted trains on that section of track might be brought to a stand still. Possibly this would be an advantage by preventing accidents. A broken rail where metallic contact was sundered could not be approached until repaired. An open drawbridge would break the electric contact and prevent the possibility of accident." The practicability of the electric railway is based upon the superior economy of the stationary steam engine as compared to the locomotive. The following statement will give a rough idea of the factors in the problem: Two pounds of coal in the best form of the stationary steam engine will generate one horse power, while from six to eight pounds are required on the locomotive. The latest style of dynamos convert 97½ per cent. of the applied energy into electricity, and making a liberal allowance for loss by internal currents, resistance of dynamos and track, escape of current etc., the energy available for the electromotive would still be 72½ per cent of what is applied, which leaves a profit on fuel of 117½ per cent., which profit would be still further enhanced by the fact that the energy absorbed by the locomotive in overcoming friction is three times as great as that consumed by the eletromotive. From this it may be inferred that the question of running railways by electricity is to all intents and purposes successfully solved.

The Atmosphere of Flour Mills.

Messrs. Charles A. Pillsbury & Co., the great millers of Minneapolis recently had a chemical examination made of the atmosphere in one of their mills by Prof. Dodge of Minnesota State University. After alluding to the method of testing, the professor says:—"In the evening of December 22 I visited the Pillsbury A Mill about 9:13 o'clock, and procured samples of the air from the upper story of the mill near the centre, using simple apparatus. Again on the evening of December 28, I procured sample from the second floor, near the pacing arrangements. These samples of air have been tested by me and I find them not to differ from the air of an ordinary, well-ventilated building. A determination of the amount of carbonic acid gas in air serves as a standard test of the purity of the air and of the thoroughness of the ventilation. Now, in the air taken from the upper story, I found 3 8-10 parts carbonic acid gas in 10,000 parts of air by measure. In the air from the second story on another evening, I found 4 1-10 parts of carbonic acid gas in 10,000 parts of air. The air out of doors regularly contains between 3 and 4 parts in 10,000. In the house it is often 5 or more. The air of the mill is nearly as pure in this respect as the air out of doors This proves the satisfactory character of the ventilation. Further, the quantity of fine dust of flour etc,, in the samples of air which I procured, representing the matter of that kind suspended in the air at that moment was extremely minute, so that it proved to be impossible to make a determination of the amount. So far