than 509 grains of gold, and the second from 385 grains of rock, 89 grains of gold. In conclusion, I have only to repeat, what I had the honor to inform you by my letter from Belleville, that the discovery of a deposit of gold of extraordinary richness, on the eighteenth lot of the fifth concession of Madoc, was, in my opinion, an established fact, and one that could hardly be exceptional in the region,—that this discovery, as well as that of the presence of distinct traces of gold, both in quartz and in the ochreous matter extracted from shallow excavations, made in several localities in the County of Hastings, was sufficient to give a favourable character to the region, and finally, that I anticipated sucessful results from the excavations which will probably be made next spring on a large scale, in that region.

I have the honor to be, Sir,
Your most obedient servant,
A. MICHEL.

GOLD MINING AS A BUSINESS.—Looking at it as a speculation, it is the fancy of the press generally to have a fling at gold mining. In every circle we hear men telling of successful adventures in what they mis-name mining. If you enquire closely, you will find all losses by speculation in Washoe stock are set down as losses in mining. Money paid for claims supposed to cover good mining ground, and money spent in finding out that there was no such ore as represented, is called mining. Money put into opening out ores that assay well, but which, after putting up expensive works, are found so full of base metal that our present milling will not work them, is classed as losses by mining. Tempted by under-estimates, men go into stock companies and find they cannot pay the assessment; so they lose what they have paid by forfeiture. Soon after, this numerous crowd croak against what it understands as "mining." Of all the class of regular newspaper writers there is scarcely one that does not take a fling at mining, and scarce one really knows anything about mining. Hearing much talk from the loungers about, they get an idea that mining is all loss and no gain. Seldom, if ever, these writers hear anything from men really engaged in mining. Legitimate miners are at their work, and are not encountered in the saloons, nor in the clusters at our street corners. When we consider that sixty millions of dollars are produced annually from our mines, we cannot resist the conclusion that mining is a steady and profitable bnsiness, and that a great many persons are engaged in it successfully; so many, indeed, that if they would take the same pains to chronicle their success and their monthly profits, as others do to circulate their vague and unsubstantiated denunciations against what they understand as mining, people would get a just conception of the wealth of our Pacific States. They who best know the value of good mines, well worked, are silently realizing. They do not talk nor write. Like the dog with a rich bone, they do not even like people to be looking enquiringly, and counting the income return. Unfortunately, one man who has a loss to tell of, like one whose head gets a crack in a crowd, makes outcry more than one hundred men whose heads have not been hurt. San Francisco owes everything to the gold mines of California. People come here for gold. They are kept here for gold. All other industries are an outgrowth from our gold mines. Take them away, and the whole state as well as the city would retrograde. The production of the precious metal is the talisman which started this coast into life, and will stimulate its growth as year after year rolls around.

We are not of those who complain that capital in San Francisco does not give aid to mining. It has done its reasonal share, despite of the efforts of the press to discourage it. What gold mining asks, and it asks no more, is fair and hon st representation. There are gold bearing quartz mines enough to assure us that gold mining will endure and be a permanent dependence of California. Every business has its risks. Taking the actual results of gold mining, pursued as a regular business, we are confident that it will be found to have less risks, in proportion to the profits, than any other business, wherever it has been conducted with equal prudence and economy. It is free from the risks of close competition, over importations, dull markets, dead seasons, chang ing fashions, remnants, bad debts, and the worry of a hundred detail annoyances, repeated daily from multitudinous dealings. It is not one season you make and another you lose. If you have a good mine in regular work, and keep your dead work a year ahead, it is the most steadfast and trustworthy of all investments for revenue. No advertising, no higgling, no white lies, no adulterations, no customers to please, and all seasons alike.

There may be exceptions to some of these rules, but they are more rare than in any other business. Gold mining has some other admitted advantages over all other industries that need to be considered. When once under system, it does not exact continuous personal presence, but gives you reasonable recreation. Besides, the duller the times, and the harder the money panic in other pursuits, the more eager is the demand for the production of your gold mine. If statistics speak truly, in all mercantile business men fail in staggering proportions. But the rarest thing one hears is the failure of a gold miner, whose mine is once opened and in regular work. The chief risk is not in working a gold mine, but in finding one that is workable to begin with. Here you need circumspection and good judgment.

A mere mining *claim* has no value. Listen to no large talk; you must have proof of the fact that the ore has been well and largely tested. As a general rule you are safest when you get on the well known mineral belts that have mines and mills strewn along their well known course. Then, you want to be convinced that the particular part of the belt you examine has a sufficient proportion to *pay chutes*. All quartz, on whatever mineral belt, is not pay quartz. Every line of quartz consists of alternations of pay and barren chutes, or sections. Take no account of certified analyses of small pieces of quarts. They should go for nothing. The vein may furnish rich specimens, and yet be *generally* not rich to pay. Prefer veins, as a general rule, that supply an assured plenty of rock of lower grade, so it be safe for satisfactory results, to veins that are so small as to make supplies uncertain, even when the yield of gold promises more to the ton. Ten dollar rock, and plenty of it, is more desirable than twenty-dollar rock with scant, uncertain supply. Rock that mills easily by present mill process is greatly to be preferred. Though other ores show more gold, and doubtless a time will come when they will be more valued, they do not answer your purpose at present. Of two places, one accessible and another difficult of access and shut out from the world, prefer the former, unless there be much counterbalancing disadvantages. Be sure that your capital is competent to your undertaking. As a rule, three or four should unite to make sure on this point. There is no paying mine that cannot extend its workings in time so as to satisfy the increased capital parties desired to invest.

For centuries the mines of Mexico, of Peru, and Chili, have been worked to proverbial profit, under difficulties that are not in California. In Europe, lean gold and silver ores, in very deep workings, are still the most envied investments. So would be our gold mines of California, if their undoubted superiority were understood abroad. But California, with the best chances to offer, is perhaps the only mineral country in the world where the press decries its mines and unwittingly sends abroad advice not to come and invest in this our best and most attractive property.

Gentlemen of the press, we pray you to inform yourselves, and we know you will alter your verdict. Instead of listening to men about town speak among the veritable miners who are producing sixty millions of gold and silver annually, and be assured that you will find quite a different picture to present to capital abroad and at home. There is not a day that you may not chronicle a mine that is paying what no other industry does. However, in the time of our inexperience, some may have been misguided (and let us freely admit it), gold mining has now become a science, and a safe industry to those who use ordinary discrimination. Moreover, whatever our mines have paid, it has been from only one-half of the gold which fire assay proves to be in our ores. Now, by new process of finer pulverization, our miners are beginning (as shown by ample proofs at Mariposa) to add to their profits the greater part of the other half of the gold hitherto lost, and at no appreciable additional cost of reduction. We need not say that this improved process is about to double the value of our gold mines generally, and to bring into use many mines now not available on account of the impracticability of getting more of the contained gold from the ore by present modes of reduction.—*Alta California.*

THUNDER BAY SILVER MINE.—We are indebted to Messrs. Adilburg & Raymond, of this city, for the following extracts from their Canada correspondence: I have packed a small box of the ordinary working ore from the new silver mine at Thunder Bay, Lake Superior, to give you an idea of its quality. Enclosed is one small piece of rock containing metallic silver, in very large quantities, which I think you will pronounce the richest you ever saw. It is a fair specimen of 100 pounds of the same quality, taken out by one man in two hours' work. Also two specimens of the black sulphuret, one separated and the other sticking in the rock. Many of the specimens contain native silver. I have on hand two or three barrels of the same kind, one sample weighing 400 pounds, and another of 40 pounds, all showing native silver. The mines are being worked this winter, and the erection of stamps and furnaces is intended in the spring. Neither the "Thunder Bay" company—the shares of which are held in Montreal—nor the "Shuniiah" company, on the adjoining property, offer stock or lands for sale. "Shuniiah" is the Indian name for river.—*American Journal of Mining.*

LAKE SUPERIOR IRON ORE.—This region competes with Pennsylvania in the production of iron ore. The supply from the mines back of Marquette, as we learn from the Marquette *Journal*, amounted in the last year to four hundred and fifty thousand tons, exceeding by fifty per cent. the yield of any former year. Of this total little remains on hand for export, the demand having continued good up to the close of navigation. In regard to the extent of the ore deposits there is apparently no limit. The *Journal* says the introduction of machinery and the system of deep mining in the older mines will enable the various companies to maintain without exhaustion a large production from year to year, although the costs are somewhat increased, compared with mere surface operations of former years. Generally speaking, the deposits of ore in these mines enlarge as they are worked downwards, giving promise of an unfailing supply."

MARMORA IRON WORKS.—It is reported that these works, including 22,000 acres of land, and the Cobourg and Peterborough Railway, have been sold to a Philadelphia company.

THE MADOC GOLD REGION.

BELLEVILLE, Dec. 23, 1867.

In my former communications I have given you all the reliable information I could gather respecting the mines of Hastings. I shall now, for the information of your readers, say a few words respecting the reduction works which have gone into operation.

The first to attack the "quartz" (miner's quartz includes all the gold bearing rocks, whether silcious, calcareous, or composite) is that of Messrs. Daniels, Scott & Taylor. The crushing part of this mill consists at present of only two stamps, of small dimensions, not exceeding 100 lbs. each. At the top of each stamp-shaft their is an air tight box, fitted with a piston, to which the stamp-shaft serves as a piston rod. When the stamp is raised by the action of the cam, the air within the box is compressed in the upper part, and when the catch is released drives the stamp down upon the material to be crushed with a force of 6,000 lbs., or 3 tons, with a speed of sixty blows a minute, which can be increased to over seventy in case of need. The catches are so contrived as to give the stamps a rotary motion on the longitudinal axis, so as to impart a grinding as well as a crushing action. These stamps work