cradle washing, and confine our remarks to quartz-mining on veins where the gold exists in moderate quantity, and needs for its extraction costly and complicated machinery, and a certain degree of chemical and mechanical skill to direct the operations.

The first question to be resolved is, what size of vein, and what amount per ton of ore will constitute a paying mine? A vein of four feet wide, may be taken as a fair standard, as in it the drifting can be done within the vein itself, without necessitating the removal of much unproductive matter. Such a vein, yielding gold at the rate of eight dollars per ton, would pay to work with a five-stamp mill, while a poorer vein would require a larger number of stamps to make it remunerative. Of course, a much narrower vein would pay, if the ore were rich in proportion. For instance, some of the Nova Scotia veins are only a few inches in thickness, and miners have to take out three to six tons of dead matter, for each ton of ore; but the vein stone proper yields from $40 to $100 per ton so that the value of the vein at the mine runs from $10 to $20 per ton.

Such a vein as the one described, worked with a five stamp mill, ought not to cost more for mining and milling, and all other expenses, than $5 per ton, which would give a profit of $3 per ton; or, taking the capacity of the battery at one ton per day for each stamp, would give a net profit of $15 per day, or $4,500 per annum. With ten stamps the profits would be greater in proportion, for though the expense per ton for mining and drawing, (which we have put at $2.50 per ton) would be the same, the cost of milling would be reduced from $2.50, our estimate on five stamps, to $1.50, making the total cost for mining and milling $4 per ton; and taking the quantity per stamp to be the same, the profit would be $4 per stamp, equal to $40 per day, or $12,000 per annum.

The capital required to be invested to produce this annual income, exclusive of the purchase of land, mining rights, &c., would be about as stated below:—

Steam engine, 15 horse power.......	$950 00
Battery of 5 stamps..................	470 00
Grinding pan, Wheeler or Hepburn's	250 00
Amalgamating pan.....................	250 00
7 feet settler........................	290 00
Line shafting, belting, tubing, &c..	300 00
Shoots, traps, &c.....................	20 00
Copper lined shoot from screens to pan	30 00
Shaking table and tail box...........	25 00
Blankets, tubs, &c....................	15 00
Blacksmith tools and bellows........	40 00
Buildings..............................	500 00
Mercury, chemicals, assay apparatus, &c............................	240 00
1 month's working expenses before any return could be had—say..	500 00
Contingencies	120 00
Total working capital................	$4,000 00

For a ten stamp mill, from $1,500 to $2,000 more would be required.

Calculating upon the basis of five stamps, and taking the net profits at 25 per cent. on the total amount invested, the value of such a vein, extending across ten acres, or 660 feet in length, would be ascertained in the following manner. Annual net profit, $4,500, less $1,000 (25 per cent. on the working capital of $4,000); $3,500, equal to 25 per per cent. upon $14,000. But as all mining enterprises are subject to special casualties, such as partial or total impoverishment of the ore, the influx of water, the crushing in of the roof or sides, or sudden termination of the vein itself, it would not be safe to give more than two thirds of the estimated value, say $9,000 for such a mine.

The value of a vein of any degree of richness may be calculated in the same manner, but it should be remembered that the larger the sum to be expended, the larger in proportion ought to be the amount allowed for casualties.

COURSE OF THE BARLEY TRADE.

Up to the present the barley season has been quite unsatisfactory. Exporters and farmers both fixed their calculations, as to prices at figures fully twenty-five per cent. above those now current. This view was based upon an expected full demand from the States, and only a deficient crop with which to supply it. That the crop is deficient, has been corroborated by all the facts yet collected, but the anticipations as to demand have proved to be wide of the mark. An important element was left out of the calculation; that is, the unprecedented supplies that were obtainable in the West. A feeling of uncertainty, as to the extent of the Western surplus, has prevented speculation, and kept the market under a cloud; until within the last few days it was almost impossible to realize on cargoes.

This influence not only paralyzed the trade at the shipping ports, but completely put a stop to business in many of the inland towns and villages; farmers would not accept the reduced prices offered; they expected 75 to 80c. at least, and therefore refused to take 50 or 60c. The dealers on the other hand were afraid to buy, and so the trade, and the movement of the crop has nearly stopped. Although the season is two weeks earlier than last year, the amount moved up to this date does not much exceed the figures of 1869. The exports from Toronto, up to the 12th of October, were 352,338 bush.; a somewhat less quantity being moved at the same date last year.

The dullness in barley is being felt adversely in the importing trade, and by manufacturers. The season, so far, in these branches, has been very brisk, many Toronto firms report the largest sales in the range of their past experience; but for the last week or two it has been noticed that money is not coming forward freely. The reason is that country merchants are not selling their goods as rapidly as they anticipated, because the farmers are not selling their barley. And there is now a feeling, among some, that the best of the season is over; that unless the barley market takes a decided turn, the remainder, from this to the close, will not nearly realize the general anticipations.

We are glad to see what may be regarded as symptoms of a revival. The bulk of the purchases of barley so far, were made on Canadian account; it is stated, however, that there are considerable American orders in the market. These purchases have been chiefly moved forward to Albany and New York, and are mostly in Canadian hands still. Quite recently, however, sales have been made at Oswego, in the neighborhood of $1.12; and some cargoes bought at Toronto for about 65c., have netted handsomely. It is found that the Western barley does not take well with Eastern malsters; and the consequence is a steady appreciation in the value of Canadian barley as compared with Western. By a telegram from New York, of Tuesday, sales of choice Canadian barley were reported at $1.22 and of Western at $1.15. It is affirmed too, that the Western surplus is pretty well worked off. However this may be, some of the principal dealers profess great confidence in the future of the market. The fact, that an advance of 15c. has been established on the figures quoted a few days ago would seem to indicate that matters have taken a turn for the better, which it is to be hoped they have, as the course of the barley market is that upon which the whole season's business chiefly hinges.

FARM INSURANCE.

A good deal of intercourse with the managers and agents of joint-stock fire insurance companies has led us to notice an increasing anxiety to do a farm business at the low rates current. The success of one or two of the mutual companies which live by insuring this class of risks chiefly, has had much to do with the prevalence of this view. The recent sweeping losses in the Ottawa fire have, however, presented a new and instructive phase of the subject. This incident demonstrates that this branch of fire-underwriting is not exempt from hazard; and when the low rates are taken into account—say 25c. per $100 for a three years' risk—it will be admitted that the risk bears as high a ratio to the premium as in any other department of fire business.