

FOR FIFTY YEARS!
MRS. WINSLOW'S
SOOTHING SYRUP

has been used by Millions of Mothers for their children while teething, for other Fifty Years. It soothes all kinds of colic, and is the best remedy for diarrhoea.
Twenty-five Cents a Bottle.

BRITISH AMERICAN HOTEL.

Within Two Minutes Walk of Post Office.

DUNCAN BROUSSARD, - Proprietor

HALIFAX, N. S.

JOI ON PARLE FRANCOISE.

JOHN PATTERSON,

Manufacturer of Steam Boilers.

For Marine and Land Purposes

Iron Ships Repaired.

SHIP TANKS, GIRDERS, SMOKE PIPES and all kinds of STEAM IRON WORK.
ESTIMATES given on applications.

438 UPPER WATER STREET, Halifax, N. S.

ALFRED WOODHOUSE,

LUCIUS J. BOYD,

Mining & Consulting Engineers.

LONDON, England, and Halifax, N. S.

Are prepared to direct works, advise, report and estimate for Mines, Machinery, &c.

SPECIALITY, GOLD MINES.

P. O. BOX 325, HALIFAX.

Old Chum
(CUT FLUG.)

OLD CHUM
(PLUG.)

No other brand of Tobacco has ever enjoyed such an immense sale and popularity in the same period as this brand of Cut Plug and Plug Tobacco.

Oldest Cut Tobacco manufacturer in Canada.

D. Ritchie & Co.

MONTREAL.

Cut Plug, 10c. $\frac{1}{2}$ lb Plug, 10c.
 $\frac{3}{4}$ lb Plug, 20c.

MACDONALD & CO.

(LIMITED)

HALIFAX, N. S.

Manufacturers of and Dealers in

PUMPING MACHINERY

FOR MINERS' USE

IRON PIPES AND FITTINGS, &c.

UNSOLICITED TESTIMONIALS

CONSTANTLY BEING RECEIVED IN FAVOR OF THE FAMOUS

Heintzman's Pianos.

NEW STYLES, IN PLAIN & FANCY WOODS, Constantly Arriving.

PRICES AND TERMS TO SUIT EVERYBODY:

Sole Agents: **HALIFAX PIANO & ORGAN CO.**

157 and 159 HOLLIS STREET.

CUT PRICES.

Latham & McCulloch,

47 BARRINGTON STREET.

ARE SHOWING AN IMMENSE LINE OF

HOLIDAY GOODS. SHAVING SETS for \$1.

Others at Prices Ranging to \$5.

COLLAR BOXES from 25c. to \$3.

PURSES (Beauties) at 60 & 75c. Each.

EVERYTHING MARKED TO SELL.

MINING.

(Continued from page 15.)

In some mines of the Province, notably Montagu, "Nuggets" so called are found within the line of the Streak or Chute, and often contain from two hundred to three hundred ounces of gold in a few hundred weights of quartz. These nuggets apparently occur with some regularity 10 or 12 feet apart, and very naturally greatly increase the yield, but as it has been the custom in the past to crush all ore throughout the mine the average value of the rich Chute is much reduced by the addition of the unprofitable rock between the Streaks worth possibly only two or three dwts. per ton, and, as there would be fully ten times as much of this poor rock crushed compared to the true streak ore, it proves the rich ore has to pay the loss on treating unprofitable rock for an increased tonnage which must return a lower yield per ton throughout.

When the developments of Montagu enable the manager to attack only the Streak, leaving the poorer rock 'in situ' the returns should greatly exceed those of the past, especially as by that time more of the occurrence of the gold will have been learnt by experience under systematic working.

The mines I have seen in the Province appear unusually free of water, except such as is derived from surface where the numerous pits and cuttings form attractive reservoirs, and I have reason to think that if the shafts were puddled with clay well tamped behind the lagging, very little water would be found below.

Considering the minute proportion of gold to the bulk of rock, too much care cannot be given to avoiding unnecessary handling of the ore, from which there must be loss in gold and expense. The rock as broken should fall into passes connecting with the level, when a truck after being filled carries it to the shaft, and is hoisted to the surface on the cage and delivered by tramway to the mill house. When tipped, the ore is shot through a grizzle into the ore bins which supply the self feeders, and the large lamps which fail to pass through, are put into the stonebreaker. By this method, handling of quartz is reduced to a minimum.

Too often the first object of a manager is to make a good show on surface, and starts erecting substantial works before he has learnt the value of the mine, this is surely putting the cart before the horse, for surface works do not pay the dividends, and it is far wiser to expend working capital first in development and proving what the mine contains, merely erecting such plant as is absolutely necessary to compete with the requirements of the developments, before launching out into handsome buildings and expensive machinery, a system which has brought many a good mine into liquidation.

Ample working capital is most essential, and I do not consider Nova Scotian mines as a rule have had a fair chance. What could have been accomplished in other countries if they had had only the few hundred pounds available, that has been the history of this Province? They would have anticipated failure, and I consider very great credit is due to the mining men here to have done so much with the small means at their command.

Again, owing to the fact that many of the mines have been opened by men with small capital, the profits have been distributed without building up a reserve fund for developing new grounds when the rich ore they worked yielded smaller returns, and in consequence many mines that have yielded handsome profit in the past, are now closed down for want of funds to open out rich ore lying below. With ample working capital the mines can be worked not only on a larger scale but drawing ore from a dozen different points, the temporary falling off in yield at one or two places does not materially affect the return.

With the experience of Indian mines, having a working capital of at least \$100,000, and those of the Transvaal, where half a million dollars is far from an uncommon working capital for machinery and mine development, the small system of working in this Province cannot be considered a fair comparison, and yet I am convinced, from my own personal experience, that Nova Scotia mines will amply repay the outlay of large capital provided it is judiciously expended, I mean in bona fide development and not for show on surface.

The quartz occurs principally as bedded veins in a country formation of Talcose or Argillaceous Slate and dense quartzite tilted almost on edge, and the leads are likely to continue gold bearing to great depth, in fact, as deep as the slates. It is however, probable that the sulphurets will increase as greater depth is reached. And as considerable gold is associated with these sulphurets of iron, copper, arsenic, lead and zinc, more attention should be given to their concentration and treatment, a subject that has received little thought in the past and generally they will be found a welcome asset.

The ore having been delivered at the mill, the next process is to extract the gold as effectually as possible, and I would impress upon mining men that amalgamation is a science, and that it does not mean feeding so much rock under stampers with the addition of water to splash out the crushed particles, which are then conducted over some amalgamated copper plates. Any school boy or ignorant man can do that and catch a certain percentage of the gold.

The science of amalgamation is arresting and separating the last particle of gold that can profitably be extracted from the quartz rock, and I mean by this, that there is a point of gold-saving beyond which it costs more to extract the extra percentage than the value of the gold recovered.

The two first objects are to get the particles of crushed rock out of the mortar box, when reduced sufficiently to pass the screens without unnecessary pounding, and secondly to retain the gold in or as near the box as possible, and with this in view an amalgamated plate is generally placed inside the mortar box—quicksilver being introduced at intervals—on the crushed ore or pulp leaving the box, the great object is to check the forward flow of pulp as much as possible without causing it to silt, the tendency of a check