

production of valuable ore, its shipment to smelters and its ultimate reduction to bullion therein.

This is the certain game which creates dismay in the ranks of the host which has learned the art of "how not to mine, how not to do it," as the expert forces under J. B. Hastings, W. A. Carlyle and Samuel Hall are every day proving that there are mining men and mining men.

The calendar year 1898 closed with a total production from Rossland mines of 116,000 tons, of which the Le Roi furnished 60,000 tons, the War Eagle 42,779 tons and the remainder 7,918 tons. The previous year (1897) the figures were officially given at 72,000 tons as the total output, and the preceding year (1896) at about 38,000 tons. The total gross valuation of the ore for 1898 amounted to \$2,842,393. The value of the Le Roi production is officially given for 1898 at 18.36 per ton net, making a total valuation of \$1,111,800. The net value of the War Eagle production for 1898 is officially given at \$11.70 tons, the total net valuation having been \$500,514, the net value of Iron Mask ores is officially given at \$40,960, the Centre Star at \$34,012 net, and the smaller shippers are credited with a total valuation of \$5,320.

At the close of the present calendar year (1899) more light will be shed on the technical and commercial features of the industry that has heretofore been given. One fact seems to be clear and this is that men like Hastings and Carlyle intend to systemize and tabulate their statements with commendable simplicity, what the public have a right to know will be presented in a lucid way, what is really none of its business will not be divulged. The Provincial Government insists on being in the know, because its tax collector wants to get the lowest base centieme to help the Provincial exchequer, and I have no doubt that great vigilance in this respect will be used, the mining man being a fit and proper subject for the taxman's attention. The industry, so far as these mines are concerned, has entered upon a season of vast preparations which must soon be followed by important results. One principle in connection with this industry has been exemplified very fully of late, and this is that trade must and will follow the flag.

The rapid growth of this trade is beginning to foreshadow its potentialities. The outlines of its possibilities must, at present, be measured by the proportions which have been made by railway corporations, manufacturing establishments, mine managers and banking corporations, to meet the requirements of this steadily advancing industry. The forces behind these factors having obtained the best scientific experience that the world could furnish, and having obtained reports and check reports, and having observed all the precautions known to capitalists struck their head balance as readily as if it were an ordinary account, eliminated the gambling feature or reduced it merely to a minimum, and are now advancing along the lines of a permanent and prosperous industry. Their practical skill with its hands thus strengthened, entered into this lawful and defensible combine, and the pace of commercial activity was quickened into the progressive march of continental progress, even as healthy as that which has colonized and quickened into prosperous life many of the great states of America and Australia. One may for a moment pause in contemplation of the wild, mad rush which heralded the birth of the Trail Creek gold fields. Much of the wild work of the early days was due to ignorance rather than wilful dishonesty, and it may be truthfully said that nowhere else do men show more ignorance as well as enlightenment than they do in the first rank of a mining camp. Now, that the 'fiat lux' has been proclaimed by the genuine modern mining engineer, the industry has been placed beyond the control of the gambler, and capital, always timed, has found its true protector in the man who looks up to heaven before he looks into the earth and thus acquires the inspiration which is absolutely necessary to secure confidence.

So far no reliable statistics have been tabulated as to the total value of mining machinery installed in Rossland mines. The task will doubtless soon be undertaken. The information will add materially to the mining literature of Rossland, and it will no doubt do ample justice to the mining man's necessary compeer, the mining machine factor.

On all sides in Rossland one hears the scream of his steam whistle, the swish and rattle of his engines and his cars, the positive vernacular of his steam pump endeavouring to say, "this noisy pump." This noisy pump, the burr and hum of his drills, the mighty detonation of his blasts, the clatter of his trams, and the incessant rattle of his wheels, while the smoke from his long chimneys denotes that the new factor—coke has come to stay.

It is known that until recently mining capital has been timid about coming into British Columbia, especially into

the interior where, whilst the mineral resources are very great, the facilities for transportation, etc., were imperfect and even prevented. When in 1895 the writer travelled through the interior of the Province the route was certainly a very awkward one and tedious in the extreme. Rossland was then known only to the initiated prospector, and it had then only a place on the map as a new mining camp. It has long since passed that stage, and the epithet "camp" is now resented by the new comer who advances along the lines of eastern ways. The influences which have contributed to its marvellous growth are continental rather than local, permanent rather than temporary, and revolutionary as well as evolutionary. Re-enforcing all this is the fact that Canadian energy, backed by British as well as Canadian capital, has come to remain as a potent factor of its progress. Owing much to its continental situation, it has grown from an American mining camp into a substantial British-American town of third-rate importance in the Province. Its people asked for a city charter and got it without question. Its regular population has steadily increased, considerable progress has been made in streets and other improvements, and it has now the most efficient council since its charter was issued. Its people reason that if the mines go ahead so must the town, a logical conclusion, provided the management is honest and enlightened. The city has now a population of from 8,000 to 10,000, which is steadily increasing.

The principle already affirmed that trade must and will follow the flag has materially influenced Rossland's solid growth. The first emphatic affirmation of this principle was the purchase by the War Eagle mine from its American owners by a Toronto syndicate by which J. B. Hastings, one of the most competent mining engineers of the continent, was placed at its head, not only as engineer, but as general manager. He possessed both organizing and executive ability, and began work by a system of management that has been carried out with great success. Mr. Hastings found that his predecessors had run the mine down by the bang and clatter process. The result of his conservative management has pleased no one better than the directors and stockholders of his company.

At the present time the mine is in first-class condition, and its affairs being directed by a highly intelligent staff it will soon begin to compete with the Le Roi for first position. The facilities for making shipments from this mine by the new hoist and tram are on the verge of completion. Shipments, which, up to a few days ago, were nominal, have since been greatly increased. The ore now being shipped is from the 250-foot level, and there is a lack of transportation facilities. The new electric plant, hoist and tram are of course now the centre of attraction. Two or three tests have so far been made, and notwithstanding numerous reports that the plant would not work well, the management seems to be satisfied that all will go well, and that in a few days the entire compressor plant will be tested to its fullest capacity, it being still on the hands of the contractors, who must make it "go" before it will be accepted by the mine management. The new shaft is down 734 feet, and as this shaft has been sunk on or close to the true fissure vein of the property and evidently run to a great depth there are no just apprehensions of "petering." The capacity of the hoist and tram is enormous, and it is not unlikely that an average of 500 tons a day will be the record for some time to come.

Le Roi.—The winter of 1898-99 had almost commenced before Ex-Governor Mackintosh succeeded in placing St. George's Cross on the fortress-like ramparts of the Le Roi mine. As Wolfe gained the Heights of Abraham, so did Mr Mackintosh ascend the steep rampart-like sides of Red Mountain and plant the standard of his corporation where previously the flag of our neighbors' was the triumph of the day. With adversaries, comprising men of first-rate ability, Hon. Mr. Mackintosh maintained his ground with commendable tenacity, and the experience which a gubernatorial of fire confers materially assisted him in his negotiations. These negotiations would make an interesting romance. In these Hon. Mr. Mackintosh was ably assisted by his some time colleague in public life, Hon. T. Mayne Daly, whose legal advice was at times invaluable. Mr. Edwin Durant, the financial agent and manager of the British-American corporation is a man of much natural shrewdness. In direct touch with those whom he represents, Mr. Durant sustained his position with more than ordinary ability, and the negotiations were carried to the focii of success.

When Mr. W. A. Carlyle, as engineer-in-chief for the British-American corporation undertook the management of