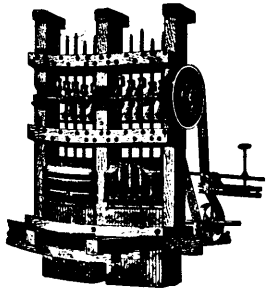


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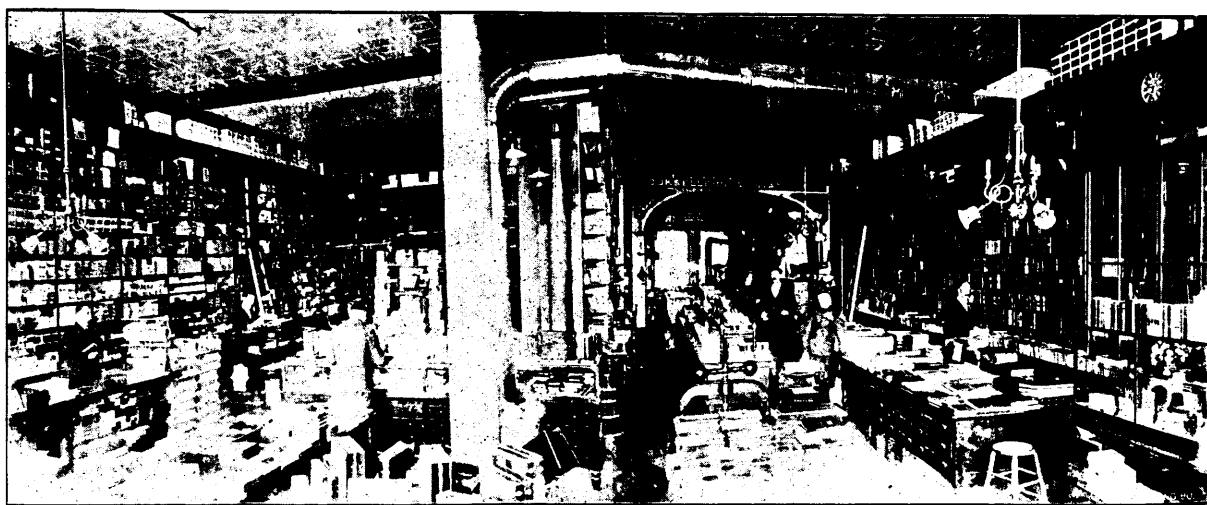
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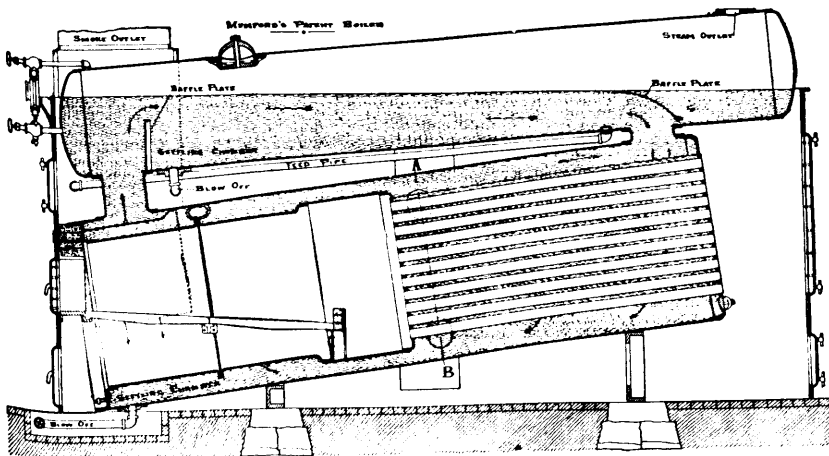
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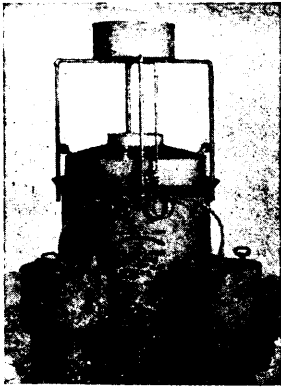
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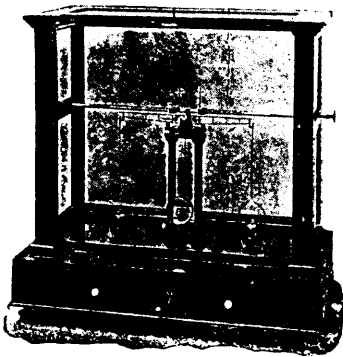
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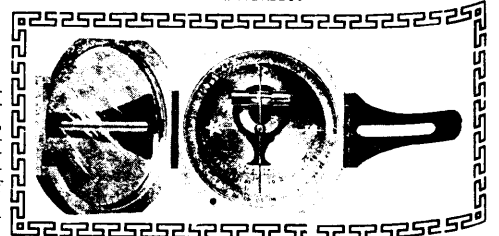
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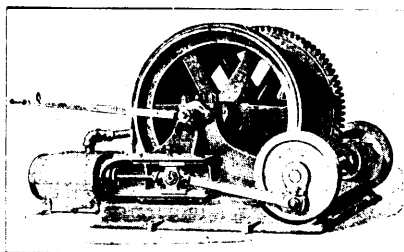
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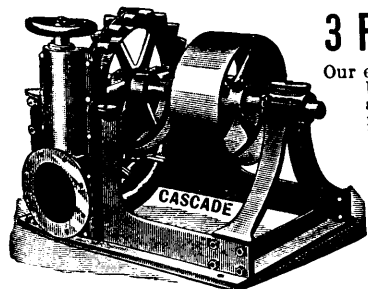
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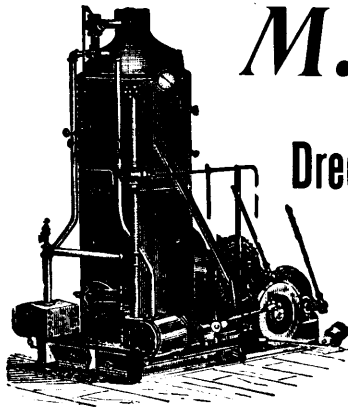
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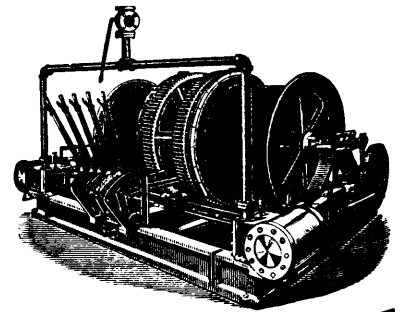
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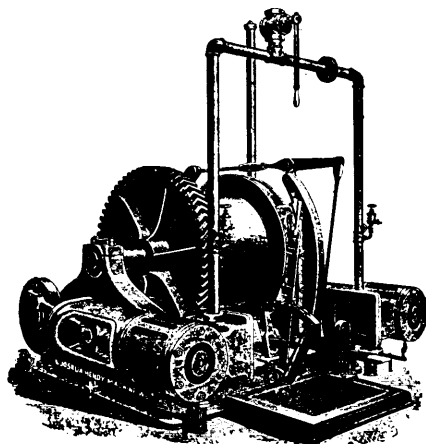
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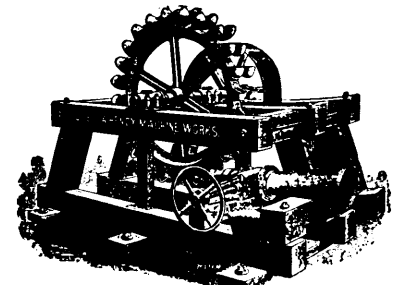
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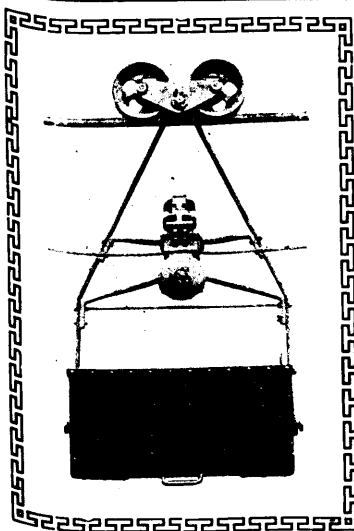
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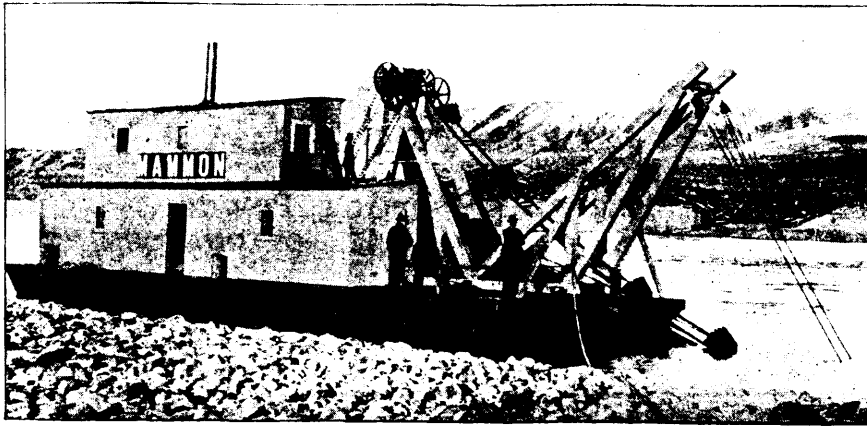
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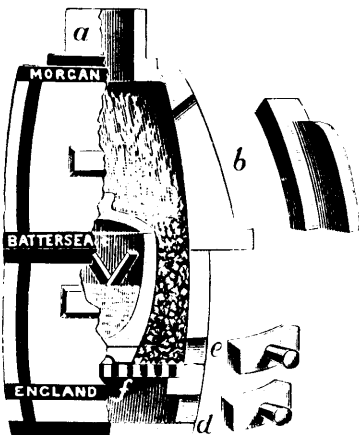
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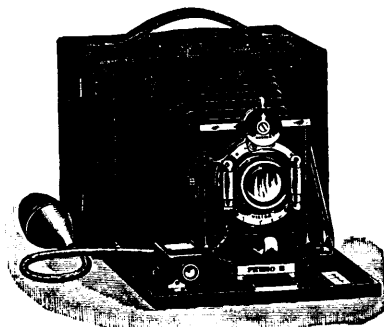
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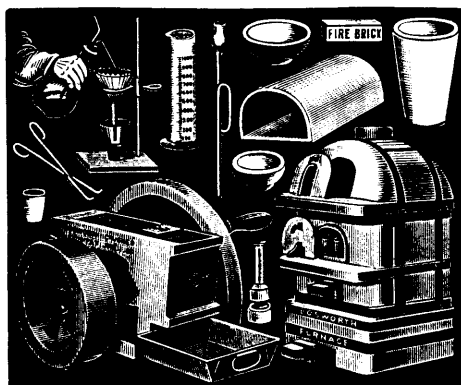
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# The Mining Record.

Vol. IV.

SEPTEMBER, 1898.

No. 9

## BRITISH COLUMBIA MINING RECORD.

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### THE MONTH.

OF the noteworthy occurrences of the present year in relation to the progress of mining in this Province, the indications of a permanent revival of Eastern Canadian interest and confidence in British Columbian mines and securities, afford, we think, opportunity for the greatest possible gratulation. Some two years ago an epidemic of ill-advised and reckless speculation in, generally speaking, worthless British Columbia stocks, broke out in Toronto and Montreal. This lasted a comparatively short time, but the effect was disastrous, and particularly so as the losses were widely distributed and borne for the most part by a class who could ill-afford to suffer from the inevitable bursting of the bubble. The re-action, which, consequently, set in was very pronounced, and it is only within the last few months that the small investor in the East has been able to regard British Columbia mining investments with any other sentiment than that of distrust. The change of feeling is entirely due to the prudent and business-like dealings of the Messrs. Gooderham and Blackstock, of Toronto, in the Rossland camp, and the eminently successful methods adopted by them in the development of the War Eagle mine. The announcement that this famous property had been placed in a position to make large and continuous daily shipments of ore to the smelter, and that shareholders might anticipate regular dividends, stimulated the share markets in the Eastern Canadian cities to an extraordinary degree, and during the past few weeks the demand for West Kootenay stocks in the East has been far greater than at any previous time. In this connection, however, it is to be regretted that as a result of the present speculative excitement favourite stocks have been quite unduly and unwarrantably inflated, and as prices cannot long be maintained on a purely ficti-

tious basis, a serious set-back in the market is likely to take place directly this truth becomes recognised. We meanwhile look forward to the time, which is measurably near when British Columbia stocks will be purchased largely by Canadian buyers for investment purposes pure and simple, following the example already set by Mr. Gooderham and members of his syndicate. Messrs. Gooderham and Blackstock have invested large sums in Rossland, because they have faith in the camp itself. Their mode of procedure has been to purchase outright a likely property, to develop it systematically, and to then offer a proportion of the shares to the public, expecting to realise profits, rather as the largest shareholder in the venture so floated than as the promoters thereof. The Centre Star recently acquired by the Toronto syndicate, for the perhaps rather too high price under existing conditions, of two million dollars, promises, however, to become one of the greatest dividend-paying mines of the Trail district, and the same policy, we are assured, will be followed with regard to its development, and subsequent flotation as was adopted in the instance of the War Eagle. For patriotic motives, as well as on economic grounds, the people of Canada have strong reasons for noting with satisfaction the gradual acquisition of valuable mine property in this country by British and Canadian capital from the former American holders, and the consequent diversion of the Kootenay trade to home channels. The Dominion's future commercial importance depends greatly upon the dimensions to which the mining industry of the West can grow, and it is reasonable to suppose that when our gold, copper and silver-lead mines are owned by Canadians, and not as now largely by our kindly disposed southern neighbors, that it will be a less difficult matter to find solutions for the problems—such, for instance, as those of ore transport and treatment—wherewith the industry is at the present time beset.

Mr. D. H. Lawrence, who is at present acting as consulting mining engineer in connection with the firm of H. Cuthbert & Co., Vancouver, THE CHAMBER has this month been appointed secretary of the British Columbia Chamber of Mines and its FUNCTIONS. The success or failure of that inchoate institution will undoubtedly depend on its secretary and if Mr. Lawrence can succeed in inspiring the mining community of British Columbia with confidence in the Chamber and conduct the institution upon a thoroughly business-like basis—on lines akin to those of similar bodies in Australia and the Transvaal, he will accomplish a great thing of much public benefit, and make a big name for himself. His task is not, however by any means, easy under the well-known circumstances of the case. One great difficulty of the situation as regards the Chamber is that the most capable of the mining men associated with it—capable as regards actual industrial rather than speculative capacity—are apparently too busy

with their own engineering affairs to devote much time to the work of the Chamber. Most of the responsibility of establishing and thereafter conducting it on the right basis will therefore rest with the secretary, one of whose duties should be the enlistment of wider and more generally representative support. The less control the speculative element of the Chamber's executive has of the operating of the body the better will it be for the community at large. The advisory safeguarding of the interests of the legitimate mining investor should be a very main concern of the Chamber, which should studiously avoid booming practices, whilst giving full credit to good work and really available mining opportunities. Provided this be ever borne in mind in laying down and carrying out a policy for the Chamber, that institution has our good wishes and will receive whatever support it is in our power to bestow.

Some months ago in referring to the exaggerated statements then being made by chiefly American journals of the sensational class of the probable output of gold from the Yukon for the 1898 season, we ventured to express the opinion that the returns this year from the northern gold fields would not greatly exceed six million dollars. Since then, however, steamboats have been constantly arriving from the north, each of which has brought down—we speak on the authority of pursers and other officials of high standing in the service of the transportation companies—gold dust and nuggets in value falling not far short of our moderate estimate of what the entire season's yield would aggregate. Already between twenty and forty millions dollars worth of gold has arrived by the steamboats—at least, so we are confidentially informed; and there is yet ample time for another several millions more to be accounted for in the same delightful and surprising manner. This being the case, we should have felt constrained to have admitted the egregious inaccuracy of our former computation, but for the fact that attention has been called of late to the somewhat reprehensible practices of the transportation companies in endeavoring to create a second edition of the Klondike "boom," one instance being the hiring of men disguised as returned Yukon miners, to carry sacks mysteriously sealed and labeled, but containing nothing more valuable than lead, about the streets of Seattle; and then again, our estimate has been privately sustained by no less an authority than the Alaska Commercial Company, and publicly confirmed by both the Dominion Government Inspector in the Yukon and the Superintendent of the San Francisco Mint. The latter named official and the Chief of the United States Assay Office at Seattle should together be able to make a very fair approximate estimate of the real season's yield of the northern territory, since Canada has no mint and the Government Assay Office in Victoria has not been in a position to undertake refining work this season, most of the gold dust brought down has found its way to the American national institutions in question. And as it happens, the estimate we have alluded to as made by Mr. E. E. Leach, the Superintendent of the United States Mint at San Francisco, was largely based on the work of the said mint and assay office

respectively. Mr. Leach states, that up to August 10th, the mint under his charge received about \$1,750,000 worth of Klondike gold, whilst the Seattle assay office dealt with approximately the same value of the like product. He thinks that some \$250,000 in Yukon gold "went east" in its original form and believes that there is a value of about \$1,000,000 yet to come out in respect of the season's yield. He thus estimates the Yukon output of the present summer at rather less than \$5,000,000. But it may well be that Mr. Leach hardly makes sufficient allowance for a considerable sum of Yukon gold dust, that has been or is being taken east through Canada, or else temporarily hoarded by miners in the Yukon, in addition to the very large amount of gold dust circulating as specie in the Klondike country. However, even granting these things there are sufficient indicia given in the reports of the gold received up to a period fairly well on in August by the two chief present handlers of Klondike gold dust, to show that the estimate of the Mining Inspector of the Yukon, that the gold there obtained this season will not exceed \$7,000,000 in value, is unlikely to err to any great extent in the way of an underestimate. On the strength of the Mining Inspector's advance calculation and the Mint Inspector's figures, it may indeed safely be asserted that nothing like the \$20,000,000 to \$30,000,000 so freely vouched by sensational news correspondents, has yet this year come out of the Yukon. It must in this connection be noted that many large bank drafts brought out by returning Yukoners, do not represent an actual gold dust output, but stand respectively for cash actually invested in the country in the form of claim purchases, and for trade profits made by supplying prospectors' wants, in cases where such wants have been largely supplied, not in return for gold dust obtained in the Yukon, but in return for cash brought into that country. It may seem ungracious to point out such facts as the above, but it is alike best for Canada as a whole, as for British Columbia in particular to learn the truth as to the Yukon, so far as the truth is at present in part ascertainable.

A London financial paper, in a somewhat absurd though doubtless well-intentioned fashion, recently attempted to draw a comparison between the production of gold from the YUKON VS. Witwaterrand mines from 1887 RAND. to 1891 with this year's estimated Yukon yield. It is shown that the output from the Canadian Northwest Territory during twelve months since it has been prominently before the British investor is considerably more than double that of the first twelve months of the Rand, and that it was not until their fourth year that the South African gold fields attained a gold production in excess of that which the first annual return from the Yukon shows. The article in question, for the reason, of course, that it sums up thus favourably for the Canadian diggings has been widely copied and with great complacency commented upon by journals throughout the Dominion, but so far as we have observed in no single instance has any trouble been taken to test the logical soundness of the conclusions arrived at by the London writer, or to point out the very ordinary fallacy of his argument. There may, very possibly, be some who will question the advisability of criticism in such a case at all. They will call it captiousness

We take the view—rightly or wrongly—that misrepresentation affecting important interests under any circumstances should not be tolerated nor when publicly made, remain unchallenged. The instance in point is not only a misrepresentation, but a foolish and mischievous distortion of fact,—foolish because the conditions governing mining and the character of mining in South Africa are both utterly dissimilar to those now prevailing in the Yukon, and no parallel is therefore possible; mischievous, because misleading to that large class of the investing who look largely to financial journals of standing, such as the publication referred to, for guidance. That the Yukon will ever occupy the position now held by South Africa, which after the United States, is the greatest gold-producing country of the world, is altogether and ridiculously improbable, and yet this is what we are practically asked to conclude from the premises.

The proportion to which the Witwatersrand gold mining industry has grown is due to the extent and continuity of the reefs, favourable economic conditions and the peculiar free milling qualities of the gold-bearing "banket" or conglomerates and the amenability of the tailings to cyanide treatment. In the Yukon all operations at present are confined to ground sluicing, and whether this will be followed by the inauguration of quartz mining is at least doubtful. The discoveries of quartz reported by the Geological Survey of Canada and by Mr. Ogilvie were by no means of a particularly promising nature, the value of the ore being generally lower than the average production of producing Kootenay mines, and since no remarkable quartz finds have, we believe, been authentically announced. Then again, the difficulties of prospecting for lode mines in the northern region must necessarily be reckoned with, besides which, under the most favourable conditions, the cost of either local treatment or of transportation of quartz would be enormous.

The wealth of the Yukon must continue to be exploited by individual effort, and from all indications joint stock company mining enterprise will never meet with marked success in the far northern field—a point to which due importance should be attached by the British investor.

To recapitulate briefly, South Africa owes its present prominence as a gold-producing country almost entirely to the enormous and, in the main, successful investment of British capital in the exploitation of Rand lode mines; the future of the Yukon, on the contrary, depends largely upon the labours of the individual prospector and miner in the amount of gold recovered from the river and stream beds, and with the possible exception of dredging operations, mining enterprise in the far northern territory will, unless conditions of transport and life generally change, always be attended with more than usual risk, so far as the investment of capital is concerned.

In view of the fact that a great deal of wooden fluming, in connection with hydraulic mining operations is being constructed in Cariboo and other districts just now, very interesting and very valuable information on the subject of flow under differing conditions of head and fall could be secured if engineers employed on this work would publish the results of their respective observations, in this regard. So far as we are aware no trustworthy information with regard to this important subject is to be found in any of the text books.

The question of employers' liability for injuries to workmen may ere long loom up large on the political horizon in British Columbia, the president of the Trades and Labour Council of Vancouver having recently, with the approval of his associates, declared that the existing Provincial Act is imperfect and unduly limits the claim of an injured worker or his representative. In England, by-the-by, a well-known colliery owner has just suggested that an ample national fund, for compensating the coal-workers of the United Kingdom in the event of accident, and also for providing a pension fund for old and disabled colliers, could be easily raised without detriment to trade, by a tax of two pence—or the equivalent of four cents—a ton on the annual coal output. In British Columbia a statutory levy of two cents a ton on output, raising over \$17,000 a year on an average, would probably provide a fairly ample compensation fund for injured colliery workers.

The White Pass & Yukon Railway Company, Limited, Certainly "mean business." It is raising £250,000 in 6 per cent. debentures, in addition to a share capital of £1,000,000 and 50 miles of line between Skagway and Lake Bennett may be constructed, and

perhaps even in full operation, shortly before the close of the present navigation season on the Upper Yukon and its tributaries, though it is possible that this desirable consummation may be postponed through present scarcity of labor, which has largely migrated with the new gold rush to the Tagish Lake District.

The board of the company includes some excellent names, in the Hon. Sidney Carr Glyn, the well-known English banker and director; also of the North London Railway, in Sir Allan Sarle, once General Manager and still a director of the London, Brighton & South Coast Railway; in Mr. Joseph Price, Vice-President of the Grand Trunk Railway, and in Mr. Edwin Hanson, of Montreal. The chief consulting engineers of the company, Sir Thomas Tancred and Mr. E. C. Hawkins, are men of note. The narrow-gauge line between Skagway and Lake Bennett should, under their suggestions, be well and satisfactorily laid. So far, so good, and there is this also in favor of the company, that organized as it is, and first in the field as it will be, it should, because, commanding a far shorter and quicker route to the Yukon than the long, difficult and impeded all-water journey via St. Michael's and the Yukon River, be in a position to become "the railway" to the Northern gold fields of the Territories.

The company should therefore command a large share of the freight and passenger travel to the Yukon. There is, however, something to be said "per contra" regarding the undertaking from the standpoint of the investor of ordinary means. The present share and debenture capital is practically all meant to provide for the completion and working of the Skagway and Lake Bennett portion of the line—the remaining section, construction of which may and probably will be much deferred, requiring, according to Sir Thos. Tancred, at least a further sum of £100,000 for its complete construction. Now, of the £1,250,000 proposed to be raised and allotted

respectively in debentures and shares in return for the Skagway and Lake Bennett section of the line, only between £600,000 and £700,000 in all represent cost of construction, purchase of wharves and provision of working capital. The remainder of the capital—this remainder representing at least £550,000—goes virtually in fully paid shares to the promoters, in return for the transfer to the company of charter rights and concession. These are valuable, no doubt, but the price paid for them is a very outside one, especially considering that the greater portion of the route—a stretch of 275 miles between Lake Bennett and Fort Selkirk—has not yet been even surveyed. Under the circumstances, therefore, the fifty mile route between Skagway and Lake Bennett is rather too heavily laden with capital representing profits, and it will require very large earning power to produce sufficient dividends to provide, in addition to debenture interest, a sufficient return on the ordinary share capital, most of which will no doubt, sooner or later, find its way from the hands of the promoters to those of the general public. It must also be noted that it is quite likely that the best of the Yukon's gold and other resources—chiefly places gold deposits, usually little capable of successful hydraulic treatment, in such a climate and country—may be got out, and that the bulk of the profitable travel will be over in about ten years. Hence, in that period a good reserve or sinking fund ought also to be raised in view of possible need of reimbursement of capital, although the debentures are not under the company's articles, made necessarily redeemable prior to the 31st December, 1925, or more than 26 years from date. Hence, although the opportunity is really good, and the concern is in strong hands, its manner of capitalization makes it more speculative than it would seem to be at first glance, this being a result of the very large promotion profits. In other respects there is little exception apparently to be taken to the undertaking, which may, we think, be classed, as one of the best, on the whole, of the Yukon undertakings, as yet organized in London, from the standpoint of an investor prepared to take some risks. The success of the company will depend, under the circumstances, almost wholly upon very careful and efficient management and financing, regard being constantly had by the directorate to the possibility of the profitable productivity of the railroad being confined to a comparatively short term of years, placer mines, when not capable of following up by hydraulicizing of deeper gravels, being usually exhaustible in a very limited time. And so far, the timber, coal and other resources of the Yukon than those represented by its gold, may be taken merely as subsidiary to the latter and insufficient of themselves to maintain the successful operation of a railroad for more than a limited period.

In consequence of a criticism in a Vancouver publication of the remarks we published last month in reference to the resignation of Mr. Pellew-Harvey as consulting engineer to the Associated Gold Mines of B.C., Limited, we have been requested by Mr. Harvey to state that in his letter to the MINING RECORD announcing his resignation the reasons he gave for this step were, as already stated, the demands made by his private practice on his time, which would have prevented his giving undivided attention to the

interests of the company in question. We placed our own construction upon Mr. Harvey's prudent action, and we have not since found any cause to change the opinion we expressed.

The disclosures of the promoter Hooley at the London Bankruptcy Court have had the effect in some quarters of creating sympathy in the bankrupt's favour. There are others, however, who refuse to see anything admirable in the spectacle of a discredited man frantically attempting to drag down former associates and friends to share in his disgrace and fall. There is no doubt that Hooley has deliberately lied in some of the charges he has seen fit to make against men of high position and standing, but at the same time the old proverb stands good and unquestionably with so much smoke the fire has long been smouldering. The present enquiry will be productive of a certain amount of good. Hereafter the public, however much it may "love a lord" will not be snared so easily with the bait of the gilded guinea pig, and it is to be expected that some time before the millennium drastic reforms of the English company laws will be carried through Parliament. It is even suggested on the principle doubtless of set a thief to catch a thief that Mr. Hooley himself should be elected to a seat in the august assembly at Westminster to "give Parliament the benefit of his unrivalled experience during the time that he was sowing his financial wild-oats." It is truly a great thing to be living at the end of the nineteenth century.

The people of West Kootenay have reason to congratulate themselves upon securing Cabinet representation in Mr. Semlin's Government. As executive head of the Department of Mines, Mr. Hume, the new Minister, has a very responsible, and, under present condition, difficult part to play in the management of the affairs of the country. He has yet to demonstrate his executive ability in this direction, but as a resident of long standing in one of the most important mining centres of the Province, where he has earned an excellent reputation in private life for shrewdness in business and good common-sense, Mr. Hume should perform the duties of his honourable office, if not with distinction, at least with credit to himself and benefit to the country. At the next session of the Provincial Legislature it may be, therefore, expected that some necessary reforms—notably the abrogation of the unjust tax on working miners—long insisted upon by the present Government when in Opposition, will be introduced.

If it be true, as reported, that placer ground in the Copper River country of Alaska has been salted in the interests of an American transportation company, thus seeking to create a temporarily profitable trade at terrible cost in suffering and disappointment to a host of hardy prospectors, there can hardly be any punishment too severe for the concoctors of such rascality. It would almost justify lynching.

Some regret seems to be felt in London over the reported retirement of Mr. Grant Govan from the Chairmanship of the Goldfields of B.C., Limited. Viewed from what we have seen of that gentleman's boom methods on this side of the Atlantic, we can-

not, however, regard the change as, per se, likely to prove disadvantageous to the shareholders in the company, but rather the reverse. It is doubtful if boom methods of mine company running pay in the long run. One result of booming in this instance has been to make everyone here in British Columbia distrustful when good reports come concerning a property to which such methods have previously been persistently applied. Thus there now seems reason to believe, that a really good strike has been made at the Waverley mine in the Illeciliwaet country, but in view of the manner in which inflated reports have in the past been constantly circulated concerning every minor operation at the mine, it is safer even now to wait a little for corroboration by actual results, which should not be long in forthcoming if all be as promising as stated in reports sent out by the Waverley management.

Sanguine expectations are held in the Revelstoke district, as to the results of the coming October clean up of the French Creek Hydraulic Gold Mining Company of the Big Bend country. Preliminary indications are stated to be decidedly good, and it is to be hoped that they may be fully realised, as a successful beginning of hydraulicing in the Big Bend country would greatly benefit a district, the development of which has been sadly impeded by wild-cat methods of mine company flotation and working.

The result of next month's clean-up at the Golden Cache mine is anticipated with great interest. The proprietary company, which had the misfortune to be over-boomed, is now, we are glad to be able to state, working the property in a thoroughly conscientious and commendable manner. The engineer in charge bears an excellent reputation for ability, a machinery plant of the very highest order has been recently installed and is in full operation, and the directors themselves evidenced so much confidence in the future of the mine that not long since they subscribed among themselves a sufficiently large sum to place matters on a sound financial basis.

It would probably be found expedient for the concern itself, were those in England who are interested in the shares of the British-America Corporation, more accurately advised from time to time by its officials than through the press when important proceedings affecting the undertaking are in progress. This has certainly not been the case during the trouble in regard to the complete acquisition of the Le Roi mine, as to which the withholding of specific information from the interested public in London, has caused many alarmist "ear" rumours, greatly prejudicial to the corporation's interests. No doubt the B. A. C. will in a short time obtain complete control of the Le Roi mine, but meanwhile Judge Richardson, of Spokane, has, it seems, granted an interim injunction, preventing all officers of the Le Roi Company within American jurisdiction from transferring or selling any more stock of the mine to the corporation. This is a rejoinder doubtless to the action of a judge of the British Columbia Court in placing Mr. W. A. Carlyle in control of the Le Roi on behalf of the corporation, as the de facto owner of most of the stock and thus legally entitled to control the mine management. Of course, pending settlement of the litigation in the United States,

the present controllers of the Le Roi will take care not to send any of the ore for treatment within the American jurisdiction by shipping it across the line to Northport. Hence there must be a temporary delay of further substantial profit earning. There never was a more hopeless muddle.

Notwithstanding the fact that the miners of the Slocan are making this summer very heavy shipments and the industry is altogether in a most prosperous condition, the complaint is made that in the towns of this section a decided business depression at present prevails. This state of affairs may possibly be due to the exodus of the prospector to other and less thoroughly explored districts. For, while, of course, there is still much unprospected territory in the Slocan proper, seemingly the opportunities offered by new districts in East and North Kootenay and in South Yale, which are just now coming prominently to the front, have more powerful attractions for the prospecting class as a whole, and consequently the Slocan has been practically deserted by them this season. The prospector is the means of putting a large amount of money in circulation when outfitting for his expeditions or upon his return from the hills, and the loss of his trade is undoubtedly severely felt by the Slocan business folk.

Mr. A. N. C. Treadgold, of the London *Mining Journal*, who is now in the Yukon, is about to make a series of elaborate reports to his paper, concerning the opportunities and possibilities of the Klondike country. Our Vancouver correspondent has been kindly permitted to peruse advance notes of several of Mr. Treadgold's communications in this regard. Amongst other things that gentleman reports, that the best recent strikes in the far North Country, have, from what he learns, been made on the American side of the Forty Mile district. As regards labour, he holds that a man who has brought in a year's supply of food will do well in the Yukon—if inured to hardship—on a wage of even five dollars a day. But having regard to the cost and labour of bringing in such a food supply, representing at least half a ton in dead weight, as also considering the high price of fuel and certain other necessities of life in the Yukon, it would almost seem as if, in making this calculation, Mr. Treadgold were just a little too optimistic, perhaps being unconsciously biased in some measure by the fact that a wage nominally equal to a pound a day in England seems a very big return indeed for ordinary manual labour in the open. Mr. Treadgold adds that the system of lays or labour bestowing on a profit-sharing basis is almost dead in those Yukon creeks in which good gold returns are well assured, and states that the autumn and winter supply of Klondike labour will be more than equal to the demand. Hence labour which in the Dawson district has already fallen in worth considerably, may, he thinks, decline even to \$5, which in such a country as the Yukon will not be more than equal, if indeed equal, to \$2 a day in Southern British Columbia.

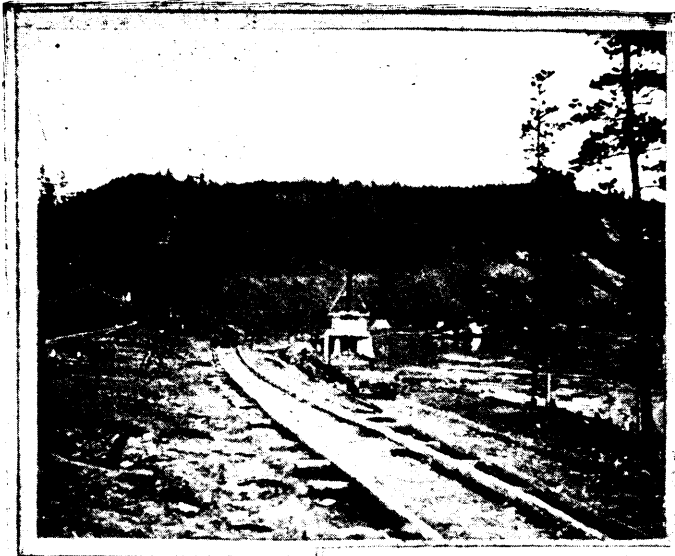
Mr. Treadgold's remarks on the inexpediency of the ten per cent. royalty on Yukon gold are thoroughly well founded. He shows that the heavy mulct is preventing the employment of labour on hundreds of claims, and inducing widespread frauds on the Dominion revenue by men who find that if made to pay the full legal due, they cannot work to any profit.



## FROM SKAGWAY TO DAWSON.

A TALK WITH MR. T. M. RATTENBURY.

MR. T. M. Rattenbury is one of the few fortunate individuals who have enjoyed the experience of awakening from slumber one fine morning to discover fame has crowned them. This must be very nice, and I look forward myself to be some day thus aroused, and though not even accustomed to wear a night-cap, as perhaps Shakespeare was, I would, I think, manage to make quite light of the uneasiness he tells us with which crowned heads are obliged to put up when they go to bed. Mr. Rattenbury, at any rate, seems to have taken it in this way, and while he is no doubt very proud of the fact that he was selected—on account of the superiority of his architectural design, by a



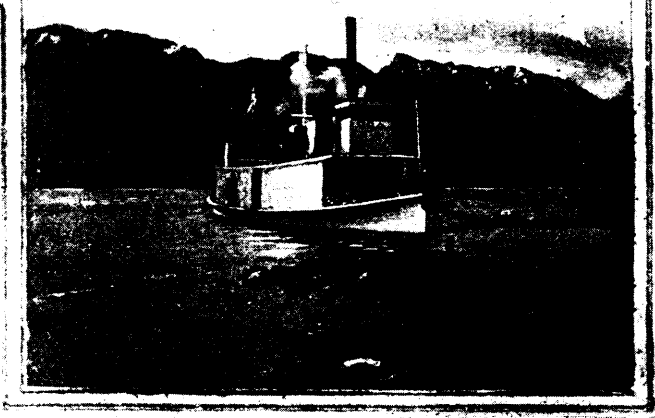
competent board of experts, from a crowd of other and therefore presumably more experienced professional competitors of other than British Columbia renown—as architect of the truly magnificent Parliament buildings at James Bay, his mind just now is fully occupied in the management of a big Yukon transportation undertaking of which he was the promoter and organizer, and he merely puts in leisure time at architectural work—such details for instance, as designing a great three-story stone building which the Bank of Montreal propose erecting at Rossland, and other small matters of that kind.

Mr. Rattenbury is a difficult man for the interviewer to catch. He is always busy, and his time is valuable. I am sorry to mention he failed to keep—I won't say deliberately—at least one appointment I made with him. But I was watchful and patient, and patience, we all know, has its own reward, (whatever that may mean). Mr. Rattenbury once nailed was entirely passive in my hands, and gave me not only many interesting particulars regarding the conditions of life in the Yukon at the present time, a descriptive account of the once difficult but now comparatively easy route to Dawson City from Skagway, but also a number of fine photographs, some professional workman-

ship, but several of his own taking, with which I am thus able to illustrate this article.

“And you want to hear about the big enterprise, and anything else I can tell you of the trip through the canyons and rapids of the Yukon, do you?” he remarked, in answer to a somewhat vague general confession of mine. “Let me see, where shall I begin? Well, you remember last winter there was a good deal of discussion with regard to the several routes to the Klondyke diggings. The idea occurred to me and other Victorians that a line of boats on Lake Bennett and the Yukon would pay well, so we put our heads together, formed a local syndicate, and raised the necessary amount of capital. Now, I don't want to ‘blow my own trumpet’ in the slightest,

but I think it is quite admissible to point out that in spite of all one hears of Yankee energy and American enterprise, it has fallen to the lot of Canadians to establish the only successful transport system in the Yukon territory. It is true we have two rival steamboat lines on the lake. These companies each own a little wretched 50-foot boat, and one of these recently got wrecked in the rapids, and yet they are accepting contracts for freight and passengers, demanding payment in advance and guaranteeing to land



1. MCCAULEY TRAMWAY AT WHITE HORSE.  
2. ORA, ON LAKE BENNETT.

the men and belongings at Dawson by their lines. Many unfortunates have thus got stranded half-way on the journey, and they have simply no means of redress. It is deplorable. We have gone on a different tack altogether, and we don't ask payment for carrying freight until it arrives safely at its destination. Another thing I think important to mention is that by the establishment of this line we have quite as good an all-Canadian route to the gold-fields as we would have had if the Teslin Lake railway had been built. There is no trouble, no delay in sending Canadian goods in over the passes in bond, in charge of this Company's agent, whereas, supplies bought in

American towns, are met by the inexorable Canadian Customs House official, who demands in a way that admits of no denial, his thirty per cent. dues, and there is nothing for it but to pay. Then, again, one can make the passage to Dawson in what is really wonderfully quick time when you consider all the transportation difficulties that it was necessary to surmount. Who would last winter have believed that it was possible to arrive in the heart of the gold fields within nine days after leaving Vancouver or Victoria, or make a return journey in not much more than three

and glaciers being picturesque in the extreme, with an Italian sky overhead, and the deep blue of the sea. One enjoys the scenic effects none the less, I can assure you, because at this season of the year the sea is like a pond and one is therefore not made wretched with even a mild attack of *mal de mer*, and then the further north you travel, strange to say, the milder and finer is the weather."

"On arriving at Lynn Canal, the 'cities' of Skagway and Dyea can be distinguished—both quite romantically situated beneath the over-shadowing moun-

tains, and here are the two passes of the Chilcoot and White, respectively, leading to Lake Bennett. To specify briefly the distinctive advantages of these two passes, it is generally admitted that the Chilcoot is the shorter and the easier trail to travel on foot. The whole distance is not more than 29 miles, and the walking is fairly good all the way, but in some places on the road the big boulders make it bad going for pack animals. The White Pass, on the other hand, is preferred for packing, and the grades are certainly much easier



weeks? Yet this feat is now accomplished, and there are several well-known Victorians, Mr. Joshua Holland and Mr. Henry Macauley for example, who have made the trip. And that remarkable lady journalist, Miss Flora Shaw, of the *Times*, established a record in arriving at Dawson one month only after leaving London, and she could have even done better, but unfortunately upon reaching Bennett, the steamer *Ora* had just sailed, and so she was obliged to wait for the next boat, and was thus delayed three days."

"The conditions en route? Yes, I am coming to that. The first part of the journey from the coast cities to the twin towns of the Lynn Canal—Skagway and Dyea—has been, I think, described before, so I will only remark that it is a most delightful four days' voyage by the well-equipped C.P.N. steamer and the *Amur*. The scenery is most perfect, the countless small islands rising out of the sea, and the icebergs



1. THE WHITE HORSE RAPIDS.
2. UPPER END OF LAKE TAGISH.

than those of the Chilcoot. A very general practice is to send one's outfit by way of the White Pass, and take the Chilcoot for the tramp, as both trails converge at Bennett. Soon, however it will not be necessary to walk at all, for ere long the shrill whistle of the locomotive will disturb the stern silence of the mountains in this grim north-land. Even now, several thousand men with pick and shovel are laying the steel rails, and twelve of the fifty-mile road is already

built, trains having been running over this section for some weeks past. The railway, after leaving Skagway, follows the bed of the river, and then heavy blasting begins, and the road is literally built through solid rock, all along the right bank of the Skagway River. There are many deep ravines to cross, but here the track is supported with heavy masonry, and indeed the whole work is of a most permanent and durable character. About the end of September the road will be constructed as far as the Summit, but as, of course, work must then cease for some months, it does not seem likely that the line will be opened from Skagway to Bennett much before the middle of next summer. From Bennett, as you know, there is uninterrupted water communication to Dawson, but it is the intention, I understand, to continue the railway a further three hundred miles to Fort Selkirk, there being practically no engineering difficulties to contend with in constructing a road through this territory. At the present time, between Bennett and Selkirk, surveyors' camps are to be seen everywhere along the route."

"But we are discussing present conditions, and as I have said, now, 'shank's mare' is the only mode of conveyance over the Chilcoot Pass, and he, she or it, is making uncommonly good time if the journey does not occupy more than nine hours. Generally travellers take it easier and leaving Dyea at 4 p.m., sleep one night at Sheep Camp en route, arriving at Bennett by four o'clock in the afternoon of the next day. Undoubtedly this is the wiser course to pursue, because you really enjoy the walk, instead of turning up at Bennett fagged out."

"My account of the Chilcoot Pass is not very terrifying, is it? Not at all like the harrowing stories of its hardships one reads of in the newspapers? Well, any number of women-folk are now going through the Pass, and making 'no bones about it.' The insidious and festive mosquito is not to be met with on the trail, and so the traveller is not here annoyed with his or rather her—because the gentleman mosquito does not sting—friendly but painful attentions; and one's nostrils are no longer offended with the effluvia from the decomposition of dead horses, which at one time, I admit, was a disagreeable feature of travel over the Chilcoot."

"Bennett, the western terminus of the Bennett & Klondike Steamer line, is the headquarters of Capt. Rant, the B. C. Gold Commissioner, who lives in a picturesque log chalet perched up on rising ground. Here, too, is quartered a detachment of the Mounted

Police, occupying a number of low-lying log shanties built in the form of a hollow square. The population is now probably between two and three hundred, but only a few months back—as recently as June in fact—there were several thousands living in tents, these canvas dwellings crowding every available space of ground on the site. One day, however, Bennett will I think, be a town of considerable importance—that is when the railway is built through it. The Bennett route is already recognized as the best, and no one thinks of going in or out by the circuitous St. Michael's trail, now the journey can be made in six days by water. Bennett should be a good point for storing Canadian goods, and if the warehouses there were now stocked, an immense profit could be made by selling to Dawson storekeepers, who would be glad to buy at so convenient a distributing centre."

"Bennett Lake is about twenty-four miles in length, and precipitous mountains are on either side. It is chiefly remarkable for a particularly disagreeable, bleak and chilly wind, which is constantly blowing.

As you approach Tagish there is a notable change. Tagish is the garden valley of the Yukon. The climate is delightful, and the country park-like, with grass meadows plentifully adorned with brilliant tinted wild flowers innumerable. And the fishing in the calm waters of the lake! Prodigious! You can catch all the trout and white fish you please, and four pounders at that. I have even heard of thirty-five



JUNCTION OF PELLY AND YUKON RIVERS.

pound trout. Here the Northwest Mounted Police commanded at present by Inspector Strickland, have established a post. I say 'at present' advisedly because when the force is increased Major Wood is to assume command. Well, almost opposite the post the Police have their dog camp. Hundreds of dogs of every conceivable breed and absence of breeding. It is the most extraordinary sight in the world to see these beggars when one of our steamers pass. Almost as if on a given signal the whole lot of them plunge into the lake and circle round the boats. You have noticed the odd expression a dog puts on when swimming? Fancy hundreds of dogs all wearing this imbecile look splashing about in the water. It is worth going a long way to see."

"Do I know anything about the new goldfields at Pine Creek? Yes, there was some talk of these discoveries when I was in the country, but the stampede has occurred since. The gold is very fine and of a beautiful colour, and I heard it reported that some of the ground gave as much as from \$2 to \$6 to the pan.

A number of quartz claims have been staked off near the police camp, and I have seen some very nice specimens indeed from them. And do you know, I am of the opinion the country all the way down from Bennett is well mineralized, and one very noticeable thing is the iron-stained rocks which give the mountains on Lake Bennett the effect of being painted a dull red colour. After passing through Tagish Lake the steamer *Nora* enters another sheet of water, called Marsh Lake, and here the topographical features of the surrounding country, as well as the climate, are very similar to those met with in the neighborhood of Tagish. I should say that the agricultural possi-

occupied in making the transfer and the run round the rapids is only a few hours. Before this system was inaugurated, however, a very plucky achievement was safely accomplished. This was nothing less than the shooting of the rapids by the steamer *Ora*, with Capt. Ritchie and Pilot Dixon of the Police Force in charge. Imagine a tearing, boiling torrent, ten mill-races rolled into one, confined between rugged cliffs but an alarmingly few feet apart and by a good stretch of imagination you will conceive some mild idea of the White Horse Rapids. They took the *Ora* through it, making the five miles in about a quarter of an hour, with her engines pounding away at full speed. Afterwards the *Flora* went through in safety, but it is estimated that at least three hundred crafts of various build and size have gone to pieces in this devil's cauldron."

"From the White Horse to Dawson is a run of two days and a half, passing through Lake Le Barge and the 30-Mile river. This river has played the deuce with small scows and boats this season, and its banks are plentifully adorned with wreckage. To steamers, however, when the dangerous places are known to the pilots, it presents no particular difficulties. As to the nature of the country between White Horse and Dawson, you will



bilities in this section are very promising, but we shall know positively very shortly, as experiments in oat and vegetable growing are being made. If the results are satisfactory I need not remark that it will be a very excellent thing for the country and a very profitable undertaking for agriculturists with so good a market as Dawson so near, not to speak of the demand still closer at hand, if these new gold discoveries prove permanent."

"We have now come a distance of 120 miles of our journey in 11 hours, and are about to arrive at the entrance to White Horse Rapids. Now, instead of taking the *Nora* through these dangerous waters, all the passengers, baggage and freight is transferred to tramcars, which are hauled by horses and run on wooden rails. This remarkable tramway is owned and operated by another enterprising Victorian, Mr. Norman Macaulay, (the clan of Macaulay is very much in evidence in the Yukon), and the time



1. UPPER END MILES CANYON.  
2. CARIBOO CROSSING.

obtain a fairly good idea from this photograph, (here Mr. Rattenbury handed me the view showing the junction of the Pelly and the Yukon (or Lewis) rivers, which I reproduce here.)

"It is a sparsely timbered undulating country not very inviting, and its character does not change to any noticeable degree until you reach Dawson City. This is the most remarkable mining camp in the wide



DAWSON CITY, AUGUST, 1898.

world and contains the most heterogenous collection of humanity possible. There is already a population, I am told of 30,000,\* so it is a larger place than either Vancouver or Victoria. Yet it is almost as orderly, and that, you will agree, is a great tribute to Canadian rule. Now will you let me off without any more questions?"

I was sorry for Mr. Rattenbury, but still I persisted: "What class of men are going into the country? Well, on the whole, a good sturdy class, but you will hardly believe that the very fellows you have been warning and advising and trying to frighten with

[\*A recent official estimate placed the population of Dawson City at 16,000.—Ed.]

stories of hardships, the class generally known as "tenderfeet," are the very beggars who stand the hardships and discomforts the best. Your old-time prospector is always growling and grumbling at the country, but the undismayed tenderfoot takes the whole thing as a joke and continues to laugh at the hardships. He may, and possibly will, bye and bye, discover that this is not correct form, and is a token of verdancy. Then he will growl too. Of course, I am only making light of the summer travel as it now is. Men have, and doubtless will, experience appalling hardships in the northern gold fields and at the best it is a cruel life while it lasts."

"Starvation this winter? No, I don't think so for a



TOWN OF BENNETT IN JUNE OF THIS YEAR. (Photo by Edwards Bros., Vancouver.)

moment. Five thousand head of cattle are being taken into Dawson this autumn and besides enough flour and other staples have been shipped to tide the population well over till navigation opens next spring. There will, however, be a scarcity of the luxuries of life, but they can put up with that." Before I left, which I did shortly after this, out of compassion for three or four gentlemen, who had been kicking their heels impatiently in the outer office, waiting to see Mr. Rattenbury on "important business," I learnt that he had incorporated a new company to establish posts for travellers from the Yukon in the winter, and was arranging for the carrying of the mails and express parcels. There are enterprising Britishers after all.

### OUR LONDON LETTER.

AS usual at this season of the year financial business is practically at a standstill, and promoters seek in more salubrious climes to recuperate in preparation for autumnal activity. You will not, therefore, be surprised when I tell you that there has been a lull and a decided halt in the registration of British Columbia companies, while the business in all classes of Canadian mining securities transacted in the Stock Exchange during the past month, was of exceedingly moderate dimensions. So slack, indeed, is business in the British Columbian section that Messrs. Whitehead & Chown have decided to publish their list three times a week for the present, instead of daily, as has been their custom since Canadian mines began to engage the earnest attention of London financiers. When I tell you that the firm of Whitehead & Chown is one of the most influential in the Stock Exchange, the deduction to be drawn from their action is obvious.

Of course, it is not at all unusual for business in the Stock Exchange to be exceedingly limited during this season of the year. With the thermometer at 80, it is perhaps not surprising that city men are inclined to leave markets very much to themselves, and take their annual holiday. But at the same time it may be admitted that the British Columbia market has been rather a disappointment for its friends. Somehow the public have not accepted very seriously either British Columbia or Klondike, and in proof of this, I might cite the inglorious result of the appeal for capital made by the Associated Gold Mines of British Columbia, while the poor subscriptions to a

number of the Klondike propositions formed in 1897-98, was common gossip in the city. So pronounced is this indifference that neither the earliest Klondike results, nor the British Columbia elections received a tithe of the attention paid to the marvellous stories cabled from the other side just a year ago. Even the sensational and romantic episodes accompanying the Le Roi deal aroused but little attention in London. Indeed, those responsible for the creation of the leading companies must be exceedingly depressed to see the way in which the prices of their shares have been depreciated. The fact of the matter is that the public had such a roasting over the South African and West Australian "booms" that they are not yet willing to respond freely to the invitations held out to them to ex-inflate prices. To successfully initiate a "boom" you must get your public to a white heat of excitement over the district you wish to exploit. Had interest been more general in the mines of the Dominion last year, and this interest represented by a number of mining companies, it is just possible that all the elements would have

been present for the creation of a burst of speculative activity in both British Columbia and Klondike shares. As it was, the public were only just beginning to awaken to the fact that away out in Western and Northern Canada there were large gold bearing areas which promised to rival if not outshine better known fields. The promoter eagerly snapped at the opportunity presented to him to foist a large number of, in many cases,

quixotic schemes upon the public with varying success. The Stock Exchange, ever anxious to keep pace with the times, started a British Columbian section, and began to deal in the better class shares. But it has all been very much like whipping a dead horse, for owing to the fact that the Stock Exchange has been under a cloud ever since the collapse of the "Kaffir boom"—and when I say this I, of course, do not overlook intermittent, but on the whole unimportant bursts in different markets—the public have with unusual sobriety held aloof from the attractoin of not only the general stock markets, but also the mining section. How long this indifference will last it is impossible to say, but it must be satisfactory to all interested in British Columbia to



\*THE FIRST BANK AT DAWSON.

\*Photo taken at the time of the spring flood in May. The manager may be seen standing on guard on the right of the picture.

know that if investors on this side have not yet allowed themselves the expensive luxury of a "boom" in Canadian mining shares they are undoubtedly quietly following the developments reported in the press from time to time. That they are also prepared to support Canadian mining projects liberally was proved in my letter published in your issue of July. The pity of it is that owing to the way in which companies are promoted in this country, in the majority of cases only a small amount of the money put up by the public is devoted to the proper purpose for which it is subscribed. The majority of companies whether of a financial, exploration, trading, or mining character are hopelessly over-capitalized at their birth, owing to the greediness of the English promoting fraternity. In this way companies which might have been successful on a moderate capitalization will, I am afraid, be able to present but a poor record. Both British Columbia and Klondike will be judged by home investors by results. Let us hope that my rather pessimistic anticipations will be falsified by events.

You will probably not be pleased to learn that the momentous election which took place last month in the province has hardly attracted an editorial in the London press. *The Pall Mall Gazette*, which has intelligently followed the developments in British Columbia, in commenting upon the fight between the Government and the Opposition, raps Mr. Turner smartly over the knuckles in regard to one of the reasons he was reported to have given in explanation of the defeat of his party, viz., that "The London press was not straightforward in the matter. For instance, the London *Times* had criticised him adversely, but since the insertion of a whole page advertisement of the Klondike Company nothing had been heard."

I do not believe in filling up a London Letter with cuttings from the London press, but you have recently passed through such a momentous crisis in the history of the province that I think I ought to add the *Pall Mall's* "comments" on Mr. Turner's "explanation." It is better than repeating the dignified rebuke administered to the Premier by the London *Times*, itself. Here it is:

"There is something delightfully absurd in the *Times* being "squared" for the price of a full page advertisement. But let that pass. The awkward part of the business is that the *Times* actually did criticise the concern alluded to (the Dawson City (Klondike) and Dominion Trading Company) a few days after the advertisement appeared. Moreover, our contemporary especially dwelt upon the frequent acceptance by officials occupying high governmental positions in the colonies of directorship on the boards of local commercial undertakings. Very properly, and that possibly is the sore point with Mr. Turner. But it does not excuse the disgraceful charges that he flings at random against London journals, and it is possibly an indication of the value of his statements in other respects."

With my letter I send you an extract from the *Canadian Gazette*, which as you no doubt are aware is the European organ of the Canadian Pacific Railway, and owned by Mr. Thomas Skinner, the city editor of the London *Daily Chronicle* and editor of the *Stock Exchange Year Book*, probably the oldest, and certainly the most useful work of its kind, published in Europe.

In publishing the cable giving the election returns, the *Daily Mail*, the most energetic of all the London dailies, headed its announcement "The Nemesis of Klondike."

Even the journal which represents the Whitaker-Wright interests felt called upon to deal somewhat severely with Mr. Turner over his connection with various companies brought out in London, and also (as well as the *Critic*) lamented the fact that such unconscionable delay had taken place in communicating the results of the election to the government agency in London.

Singularly enough, Sir Charles Tupper did not say a single word about the elections in his speech to the shareholders of the **New Goldfields of British Columbia**. In all the circumstances this is perhaps not surprising but it is very satisfactory to find that Sir Charles was able to report a very healthy state of affairs in connection with the company with which he is so closely identified, and in which he evidently takes such an energetic interest. This was the most important meeting of the month, and, therefore deserves more than a passing notice. Sir Charles told the shareholders that the company had been able to produce a cash profit, equal to seven per cent. on the paid up capital, but in as much the directors felt that they could advantageously use more capital, and proposed to raise another £25,000, it is not surprising that the directors do not recommend the distribution of this cash surplus. It was stated that the board had sold a fifth share in the Velvet group, near Rossland, for a sum, which if accepted as a basis of value for the Velvet group would be sufficient to return the whole of the issued capital. The company possesses property, not only in British Columbia but also has interests in Klondike, Nova Scotia, and in Victoria, Australia. In dealing with the New Fraser River Company, in which the New Goldfields of British Columbia has a large interest, Sir Charles said that work on the dredge was expected to be resumed the second week in July, and that the engineer in charge was most sanguine as to the results he would achieve. Touching upon the Klondike Mining, Trading and Transport Corporation, which was formed by the New Goldfields Company, it was pointed out that the scheme for forming a winter expedition over the Stikine River had failed, owing to the severity of the season. The company, however, had not confined its attention to this route only; it had an ocean and river steamer running on the Klondike route, a large interest in the Bennett Lake & Klondike Navigation Company, sundry gold schemes, and other important interests which promise well. The Bennett Lake Company's boat the *Ora* had been able to bring down the first shipment of gold from Klondike, and this was a point Sir Charles thought they might congratulate themselves upon. You might like to know that Sir Charles Tupper considered that "actual results would prove that the pessimistic views of the Klondike output for the past season would be found altogether at fault. He believed that the wash-up would fully establish the well-founded opinions that the region was of enormous extent, and of unparalleled richness, and that it would compare favourably with, if not exceed, anything that had ever been seen in any other part of the world. Regarding British Columbia, gold mining in that region still maintained its great promise,

THE NEW  
GOLDFIELDS  
OF B. C.

and was making excellent progress with the capital already brought into the country."

Banking is so intimately associated with the development of a new mining area that I think I ought to send you a brief account of the proceedings at the ordinary general ANNUAL MEETING. meeting of the Bank of British Columbia, held in the middle of the month.

At the gathering in question, at which Sir Robert Gillespie presided, it was pointed out by the chairman who was able to recommend the declaration of a dividend at the rate of five per cent. per annum for the past half-year, that the balance of the profit and loss account after making provision for all ascertained losses was £18,445, and after the payment of the dividend, £3,445 would remain to be carried forward. This result bore favourable comparison with the three previous half-years, and he was hopeful it was an indication of future greater success. It was true that an important improvement in the trade of British Columbia had taken place during the last six months, but rates of interest had been unusually low and the employment of capital difficult, while the competition among banking institutions had undoubtedly lessened the opportunity of making better profits. The price of cereals had assisted greatly in the improvement, as also had the demand that had sprung up for all descriptions of merchandise for the mines and those engaged in mining. It was too early yet to estimate the success of the year as regarded mining, but should the output of gold be what some anticipated, the improvement in the trade of Victoria and Vancouver, more particularly must be great. The financial position of the Bank was very strong, the investments having been recently increased to £180,761, while they had money at short call to an equivalent amount.

At the meeting of the Hudson's Bay Company, Lord Strathcona and Mount Royal in the course of a very interesting address to the shareholders said that:

"Mining in the western part of Canada, notably in the Kootenay country, and the mining districts of southern British Columbia had made great progress. Several large companies had been successfully floated, and were considered to be on a paying basis. He was afraid, however, that of not all of those companies that had been got up for mining in the Yukon and Klondike districts could that be said, and the Board were of opinion that great care ought to be taken in investing money in what, after all, was but a venture."

This emphatic condemnation of the methods adopted by London promoters in connection with the flotation of Klondike and Yukon companies punctuates my own previous criticisms. Unfortunately, however, I am afraid under the existing joint stock companies acts it will have little influence upon promoter's efforts so soon as market conditions are more favourable to the introduction of new schemes.

I see that arrangements are being made for the appointment of a permanent secretary of the British Columbia Chamber of Mines. Without

THE CHAMBER OF MINES. expressing any opinion as to the merits of the undertaking, may I point out that this is the very thing needed for the advancement and advertisement of British Columbia in London. As it is difficult to obtain accurate information except from the yearly publications issued by the Minister of Mines (*and these are by no means so come-at-able as they should be*). We want some reliable statements issued under official or semi-official

authority, showing the results achieved in the different districts month by month, and I hope you will do your best to bring the needs of such an institution before the proper people. If, as I assume, the British Columbian Chamber of Mines proposes to furnish such statistics, I can only say that it deserves the cordial co-operation of all who are in a position to place facilities at the disposal of those who propose to undertake the by no means easy task.

*London gossip in brief.*—What did the Associated Gold Mines of British Columbia obtain from the public? Estimates vary between £8,000 and £20,000, but I believe the former figure is nearer the mark. Poor Mr. Hardiman!

Hall mines have fallen to below par on the unsatisfactory developments of the mine. Only a couple of years ago these shares were nearer £3. The fall is all the more disturbing when we remember that this was the pioneer British Columbia Mining Company formed in this country (England).

The B. A. C. officials were not at all distressed at the collapse of the Le Roi deal. They informed me a few days ago, in an interview I had with them, that whatever happened they were satisfied that eventually the big mine would pass under their control owing to the contracts they had entered into to acquire a large majority interest in the company. B. A. C.'s have been very heavy but close a little firmer.

The Turner-Pooley group have been out of favour. Despite the efforts of the London people to keep up the prices of the different shares of Dawson City Trading, as I write, are at a heavy discount. Why is this? It is an interesting question.

Of course quotations generally have been weak, and in the majority of cases prices are a great deal more nominal than real. You may take it that this is so despite interested statements to the contrary.

One of the best of the finance companies, the Canadian Pacific Exploratory Company, has just ordered an extensive plant for its Porto Rico property—acting on the suggestions of its local managers. This company has extensive interests in the Ymir country and it is supported by a numerous and influential proprietary including many continental financiers.

There were two or three amusing incidents at the New Goldfields meeting. One was the pertinacity with which an elderly shareholder (who said he had bought 100 shares at 12) persisted in recommending the directors to pay a dividend of some kind. "If you cannot pay seven, pay five per cent." he pleaded. But Sir Charles Tupper was obdurate, and the shareholder had to be content with the promise that the directors were quite as anxious as himself to be able to divide a dividend.

I am sorry to hear that Mr. Grant-Gowan is no longer a director of the Goldfields Company. He proposes in future, I believe, to be a free lance so far as British Columbia is concerned.

Horne-Payne's Company, the Lillooet, Fraser River and Cariboo Goldfields, is still very much out of fashion, the price of the £1 share, fully paid, being very nominal at about 75 per cent. below the par value. His speech at the meeting of the B. C. Electric Railway was also pitched in a minor key.

I am just informed that the Bank of British North America has resolved to declare an interim dividend of £1 5 per share, equal to five per cent. per annum, or the same rate as for the two previous half-years. Unlike the Bank of British Columbia, which last year



raised its dividend from four to five per cent. the Bank of British North America remains stationary at five per cent. The report will, therefore, be scanned for some explanation of this apparent immobility in the matter of dividends.

*The latest.*—The White Pass & Yukon Railway Co., Ltd., prospectus out this morning. Share capital £1,000,000. Board includes two directors of English Railway Companies, Mr. "Joe" Price, vice-president of the Grand Trunk Railway and Messrs. Edwin Hanson, W. Brooks Close, of Montreal and Chicago respectively. Messrs. Coates, Son & Co., are the brokers, and altogether the company is the most influential which has yet made its appearance.

### THE GOLDEN CACHE MINES PLANT.

(BY A. C. MACCALLUM.)

A RESUME of the history of this much talked of property will doubtless prove somewhat interesting reading to the majority of the readers of the MINING RECORD, and so I submit the following particulars:

"While on a hunting expedition after game, a sure-footed and nimble half-breed well-known around Lillooet as Joe Copeland, in the course of following a deer along the face of—in which can be now seen the entrances to the tunnels and tram-line to the upper ore bin of this mine—he came across some loose pieces of rock which upon close examination exhibited much free gold. Taking some of the rock with him to Lillooet, the samples were shown to Mr. Arthur Noel of that place—a mining man of large experience, who later returned with Copeland to the place of the discovery and after a couple of weeks of rather exciting work, stripped and exposed the ledge now known as the "Golden Eagle," which with four other contiguous claims, "Ruby," "Jumbo," "North Star," and "Golden Stripe," are now owned by the Golden Cache Mines Co., Ltd., of Vancouver, B.C.

Assays made at various times during development work gave great promise of the future of the property and in spite of occasional disappointments, the outlook to-day fully warrants the installation of the fine plant now in operation.

This mine is easily reached from Lillooet by road, a distance of some thirteen miles. The property and mill are situated on the north side of Cayoosh Creek; the mine being at an altitude of some 1,500 feet above the mill, and reached by trail of rather more than half a mile in length. The mine has some five tunnels opening in from the face of the overhanging ledge and is reached from a level plateau upon which is built the boarding and cook houses, the blacksmith's shop and other accessories to the mine.

From the tunnels to the level plateau a surface gravity tram has been placed, carried upon trestle work, built upon the face of the cliff, the cars dump into a chute leading into another chute down which the ore falls into the ore bins at the head of a rock slide upon which has been placed the gravity surface tramway by means of which the ore is brought to the bins in the mill, situated directly at the bottom of the slide and close to Cayoosh Creek.

The mill was constructed for a capacity of twenty stamps, but at present only ten stamps have been installed. It is only a question of time, however, before the plant will be enlarged. The mill has been constructed along the well developed plans followed in the erection of stamp mills. The ore cars enter at the highest level in the mill and are tipped close to the grizzly which has been placed at the end of the car track in the mill, and is set at the usual angle to receive the falling ore. The rock crusher is placed in front of the grizzly; the crusher is of the "Blake" type 7x20; the ore bin capacity is that of a twenty stamp mill. The stamps are set in two batteries of five stamps each; the total weight is 850 pounds and a maximum drop of ten inches, making 96 drops per minute.

Each mortar has, for feeding the ore to it, one of the well-known Chal-

lenge type of ore feeders, and is driven from one of the stamp stems; the amalgam plates are placed behind the mortars in the usual way, the concentrates being carried to the vanners by means of troughs commonly employed in stamp mills.

(To be Continued.)



1. BIRD'S EYE VIEW OF MILL BUILDINGS.  
2. TRAMWAY AND MINERS' BOARDING HOUSE.

SOUTHERN BRITISH COLUMBIA.

By J. D. Kendall.

(Continued from last month).

In writing of British Columbia mines here, amid the Klondike rush, there is a great temptation to go back to the old Fraser River and Cariboo days—if only to see how history repeats itself—were it not that such an account must inevitably lose much of its interest unless by one who can write “all of which I saw and part of which I was.” For that reason this communication will be restricted to the recent development of vein mining in the Kootenay and adjoining districts, south of the 52nd parallel. It will also be confined to such minerals as carry gold and silver in commercially workable quantities. Iron and coal both occur in British Columbia, but they do not come within the scope of the present writing. Placer mining may be dealt with in a subsequent communication.

I. EXTENT OF TERRITORY.

British Columbia is situated between latitudes 49 and 60, on the Pacific slope of part of the great Cordillerian chain which forms the backbone of America. The eastern boundary of the province follows the water shed of the Rockies as far north as the 54th parallel. Thence it pursues a meridional course to the northern boundary at the 60th parallel. On the west it is bounded by the Pacific Ocean. The total area of the province is about 390,000 square miles, but the extent of the territory covered by this communication is only about 100,000 square miles.

2. PHYSICAL GEOGRAPHY.

British Columbia is almost entirely a mountainous country. The principal mountains, in the area under consideration, form four well defined groups:

1. The Rocky mountains, on the east. Several of the summits of this range have an altitude of more than 10,000 feet and Mount Brown is said to reach an elevation of 16,000 feet.
2. The Gold Range, made up of the Purcell, Selkirk and Columbia ranges. Some of these peaks also reach great heights. Mount Donald, on the Purcell range, having an altitude of 10,645 feet.
3. The coast range, occupying a belt of country about 100 miles wide, along the west coast. The mountains in this chain rise, in places, over 9,000 feet.
4. The Vancouver range, on Vancouver island, has also some lofty summits, Victoria peak being 7,484 feet high.

These mountain ranges, except the gold range, have all, more or less, a N.W. and S.E. trend. The gold range has a direction about N. by W. and S. by E.

Eastward of the Coast range is a broad belt of country, about 100 miles wide, occasionally spoken of as the Interior Plateau, but which is not quite what would be generally understood by that description, being considerably undulating everywhere, and, in places, highly mountainous. It has an average altitude of over 2,800 feet, the elevation decreasing northward. Its relation to the gold range and Rockies is partly indicated by the altitude of different stations along the main line of the Canadian

Pacific Railway, as given in the following table; though the railway naturally takes the most even way across the country, avoiding the hills as much as possible and following the river courses. It passes through the Coast range by the Fraser canyon, and therefore that range of mountains is not indicated by the undulations of the railway:

Station on C.P.R.	Miles from Vancouver.	Altitude, Feet.	Remarks.
Vancouver .....	0	20	} Follows course of Fraser through coast range.
Yale .....	103	200	
Ashcroft .....	204	1075	
Kamloops .....	250	1150	} Interior Plateau.
Sicamous .....	335	1300	
Craigellachie .....	351	1450	} Through Pass in Col'bia Range, Columbia River.
Revelstoke .....	379	1475	
Albert Canyon .....	401	2845	} Selkirk and Purcell Ranges.
Selkirk Summit .....	425	4300	
Beaver Mouth .....	447	2500	} Columbia River. Pass in Rockies.
Stephen .....	519	5296	

The two principal rivers are the Fraser and the Columbia with their respective tributaries the Thompson and the Kootenay. The general course of the greater part of the Fraser and Columbia is about north by west and south by east. Near their upper ends, both rivers make a sharp bend back towards south-east at the western foot of the Rockies. The country in the neighbourhood of this bend of the Columbia, is known as the Big Bend country. The Fraser, Columbia, and Kootenay are navigable, in certain parts of their courses, by flat-bottomed stern-wheelers.

As might be expected in a country so mountainous British Columbia possesses numerous lakes; some of them of great length but all narrow, seldom exceeding two or three miles in width. The longest are the Okanagan and Kootenay, each being about 70 miles long. The Upper and Lower Arrow Lakes are respectively about forty-four and forty-six miles in length; whilst Shuswap, Adams, Quesnelle and Harrison are each about forty miles long.

The sea coast is very irregular, a number of “inlets” and “arms”—resembling the Norwegian Fjords—winding in among the mountains of the Coast range and not unfrequently reaching inland as much as fifty miles. Numerous islands also occur at the outer end of the Fjords.

3. CLIMATE.

The climate of British Columbia may be said to be every where good. As with the Scotchman's whisky there are degrees of excellence, but in no part of British Columbia can the climate be spoken of as bad.

There is a great lack of precise meteorological information in the greater part of the province, but the following tables will, perhaps, convey a sufficiently accurate idea of the weather, in the area dealt with, for the purposes of the prospector and miner:

Average fall of rain and snow over a series of years to end of 1896:\*

Locality.	RAINFALL.		SNOWFALL.	
	Per Annum. Inches.	Rainy Days. Days.	Per Annum Inches.	Snow Fell. Days.
Esquimalt .....	37.47	186	31.0	20
Agassiz .....	61.96	162	48.9	13
Spence's Bridge .....	6.87	48	28.8	20
Nicola Lake .....	7.21	73	33.9	27
Barkerville .....	17.94	74	161.2	56
Fort Steele .....	11.30	70	40.0	25

\*This paper was read recently before the Institute of Mining Engineers in London. We are indebted to Mr. Kendall for a specially prepared copy.

The fall of rain and snow in 1896 at several places not given in the above table was as under:\*

Locality.	RAINFALL.		SNOWFALL.	
	Per Annum. Inches.	Rainy Days. Days.	Per Annum Inches.	Snow Fell. Days.
Chilliwack ..	66.46	151	54.8	24
Kamloops.....	5.93	..	49.4	26
Vernon.....	7.00	31	50.0	17
Glacier.....	4.93	24	513.7	102
Maslo.....	15.25	68	90.3	30
Salmon Arm ..	7.87	41	87.5	25

The greatest fall of snow in any district, where mining is at present going on, is probably the Slocan, on the Selkirk range. The following record of observations made during the winter of 1897-98, near the Idaho mines, at an altitude of 6,100 feet, of considerable interest to miners:

YEAR—MONTH.	Fall in Inches.	Days Snow Fell.
1897—September .....	3	..
October.....	12	2
November.....	95	22
December.....	56	13
1898—January.....	55.5	15
February.....	104.5	19
March.....	44	8
April.....	25.5	9
May.....	16	5
	<hr/> 411.5	<hr/> 93

The snow line in the Slocan is at an altitude of about 8,000 feet. In Cariboo it is between 7,000 and 8,000 feet.

The following notes, made in 1896† may also be taken as approximately indicating the more salient features of the weather, at different places in the southern part of the province:

	Agassiz.	Nicola Lake	Barker-ville.
Last Snow.....	28th March	14th April	1st May
Last Frost.....	16th April	16th May	4th June
Warmest Day.....	26th June	29th June	29th June
Mean Temperature....	73.5	77.25	67
Heaviest Day's Rain...	25th Feb.	16th Sept.	8th Aug.
Amt. that fell—inches	3.15	.42	.54
First Frost.....	7th Sept.	9th Sept.	8th Sept.
First Snow.....	11th Nov.	8th Nov.	2nd Sept.

The table below gives some information as to the varying temperature:

	Agassiz.	Barker-ville.	Spence's Bridge.
Highest.....	†90.3°	†82.4	†101.6
Lowest.....	‡9.0	.7	‡1.7
Annual Mean.....	48.78	36.7	49.49
	†June.	‡January.	March.

\*B.C. Sessional Papers, 1897.

†Highest, lowest and mean temperature (Fah.) for a series of years.

The climate of British Columbia is largely influenced by the warm Japan current, just as that of Western Europe is affected by the Gulf Stream. The moisture laden air in contact with the former current, has its moisture precipitated by the mountains of the Vancouver and Coast ranges. The rain-fall, it will be noticed, increases as the latter group of mountains is approached and the condensation becomes more complete. This is illustrated by the relative rain-fall at Esquimalt and Agassiz, as given in the foregoing table.

Immediately east of the Coast range occurs an extensive area known as the "Dry Belt," the rain-fall on which is very low, as, for example, at Spence's Bridge and Kamloops; but, as on the sea side of the coast range, it increases eastward, and the second maximum precipitation, though much less than the first, at the Coast range, occurs on the high ground of the Gold range. The precipitation also increases toward the Cariboo mountains.

As the land become warmer with the advancing year the zone of precipitation moves eastward, so that the period of greatest rain-fall on the Dry Belt, for example, is some months later than it is west of the Coast range.

Another interesting fact may be here mentioned. The dessicated air of the western winds, descending from the summits of the Coast range into the Dry Belt, is often capable of absorbing a large amount of moisture; and the winds from this direction have been known to remove snow more rapidly than either sun or rain could do it. These winds are locally known as "Chinook" winds and resemble somewhat the Foehn wind of Switzerland.

The Dry Belt corresponds approximately with the Interior Plateau and has two other peculiar features which will be pointed out in the sequel when the forests and geology are considered.

4. FORESTS.

These are of interest to the miner in more ways than one. Except on the Dry Belt, British Columbia was, prior to the advent of the prospector, largely occupied by forests. In some of these the undergrowth was so thick and the fallen trees so numerous that search for minerals, except on or near the higher mountain tops, was an impossibility. The determined prospector, however, not to be denied, cleared a path for himself by fire. The destruction of timber in that way has been enormous. Still there remains a vast deal more than the miner will ever need.

The great majority of the trees in British Columbia are Conifers. Of deciduous trees the most common are Maple, Birch, Cotton-wood or Poplar and Alder, but they do not occupy any large area, except as underbrush. As full grown trees they occur mostly at or near the margin of the forests, by the rivers, lakes and streams or "creeks" as the latter are locally called. Often deciduous trees spring up after a fire and take possession of the ground for a time, but, by and by, the firs and pines appear again. As their lengthening tops exclude the light and heat from their deciduous rivals the latter become sickly and die, so that, as timber trees, the Conifers eventually obtain possession of the ground once more.

Coniferous trees being best suited for mining purposes, and being at the same time, so abundant in the province, it may be interesting to mention the several genera and species met with. The following

list\* is perhaps complete. It gives, too, the range of altitude, in feet above sea level, through which the more important species have been observed:

Botanical Name.	English Name.	Feet.
<i>Thuja Gigantea</i> Nutt. ....	White Cedar .....	10 to 6000
<i>Thuja Excelsa</i> Bong. ....	Yellow Cypress .....	
<i>Juniperus Occidentalis</i> [Hook.	Red Cedar .....	
<i>Pinus Monticola</i> Dougl. ....	White Pine .....	
" <i>Albicaulis</i> Engelm. ....	White Barked Pine. ....	4000 to 7000
" <i>Resinosa</i> Aiton. ....	Red Pine .....	
" <i>Ponderosa</i> Dougl. ....	Yellow Pine .....	500 to 5300
" <i>Contorta</i> " .....	Scrub Pine .....	
" <i>Murrayana</i> Balf. ....	Black Pine .....	1300 to 7000
<i>Picea Nigra</i> Hook. ....	.....	
" <i>Alba</i> Link. ....	White Spruce .....	
" <i>Engelmanni</i> Engel. ....	Engelman's Spruce .....	1300 to 7000
" <i>Sitchensis</i> Carr. ....	Menzies Spruce .....	
<i>Tsuga Mertensiana</i> " .....	Hemlock .....	10 to 3500
<i>Psuedotsuga Douglasii</i> [Carr.	Douglas Fir .....	10 to 4000
<i>Abies Subalpina</i> Engelm. ....	Mountain Balsam. ....	10 to 6000
" <i>Grandis</i> Lind. ....	White Fir .....	3000 to 7000
<i>Larix Occidentalis</i> Nutt. ....	Tamarack .....	
" <i>Lyelli</i> . Parla-tore. ....	Mountain Larch .....	

The timber line in the Slovan is about 7,000 feet above sea level, but it descends northwards. Towards this line the forests become thinner with little or no underbrush in the higher tracts and the trees often form isolated clumps or occur singly.

It has been seen that the orographic features of the country determine the relative depth of rain-fall in its several parts. Now there is evidence that the latter influences largely the character of the vegetation. On the lower tracts of the Dry Belt trees are relatively few and they occur either singly or in clumps separated by large areas of open grass country. On the higher ground timber is more general and much thicker.

Several of the trees named above are either entirely absent from this Dry Belt or occur but sparingly in the higher altitudes. *Pinus Monticola* and *Pinus Albicaulis* appear to be entirely absent. The most abundant trees on the Dry Belt are *Pinus Ponderosa* and *Pinus Murrayana*. The former appears to be characteristic of the central and southern portion of that area, but also occurs in the Columbia-Kootenay valley. *Pines Murroyana*, is characteristic of the northern part of the Interior Plateau though it also occurs south, on the higher ground. *Pinus Monticola* and *Thuja Gigantea* are seldom met with in this region. The White Cedar grows to an enormous size, in the damper atmosphere of the lower land, bordering the sea. There are three trees in Vancouver park measuring, respectively, 58 ft. 6 in., 48 ft. and 44 ft., in circumference, four feet above the ground.

The timber of the White Cedar, or Cedar as it is usually called, is used largely for joiners work. It also resists damp well and is suitable for piles and fencing. *Picea Sitichensis* is also extensively used for joiners work. The Douglas Fir, or Red Fir as it is often called, affords, perhaps, the best timber for framing, although hemlock is frequently used for that purpose and answers very well. Hemlock, Balsam and Red Fir are extensively used for prop wood in the mines. Red Fir makes good ties or sleepers.

\*Partly after Prof. Macoun.

## 5. GEOLOGY.

As might be expected in a country so recently occupied very little has been published relating to the Geology of British Columbia, and less that is of any value to the miner. Several traverses have been made, by members of the Dominion Geological Survey, along the coast line, through the more important valleys and where the absence of timber permits of observations being made, but the country is so enormous, the difficulties in the way of close stratigraphical work so great, and the funds naturally so limited, that anything yet done is practically useless to the miner.

It is unfortunate that so much public money should be spent on the geological surveys of different countries with so little real benefit to the mining industry. This is not because geology has no bearing on the miners' art. On the contrary a knowledge of certain branches of that science, although not indispensable to either the miner or prospector, must of necessity enable them to carry out their work more certainly, more cheaply, and in every way with greater intelligence. Blind blundering can never cope with scientific and technical precision.

That geological maps afford so little assistance to the prospector and miner arises mainly from one cause—too little attention is given by those in charge of geological surveys, to the economic aspects of geology and too much to the purely scientific. Take for example one of the geological maps of Great Britain, that relating to Furness. The relative ages of the different rocks, their subdivisions and areas have been worked out with more or less care and recorded on that map, but notwithstanding that it deals with one of the richest mineral districts in England there is nothing on the map to indicate in any way the existence of the valuable ore-deposits which have made Furness so famous. Moreover the stratigraphical work, so important to the miner, is most incomplete. It also needs rectification as well as multiplicatoin of details so as to suggest to the miner the most likely places in which to search for other ore.

It should not be forgotten that the localization of ore deposits in many districts—especially those like Furness—has been determined by geological structure, so that it is of the first importance to the miner that the stratigraphy of any mineral bearing country should be carefully worked out, with a view of establishing the relation of the ore deposits to the structural details of the rocks. In that way a most valuable guide would often be provided for the prospector and miner. The former would be saved much useless toil whilst the latter would pursue his avocation with the confidence and greater certainty of action which naturally comes to a man who recognizes the cause or causes—proximate or immediate—of the effects with which he is dealing.

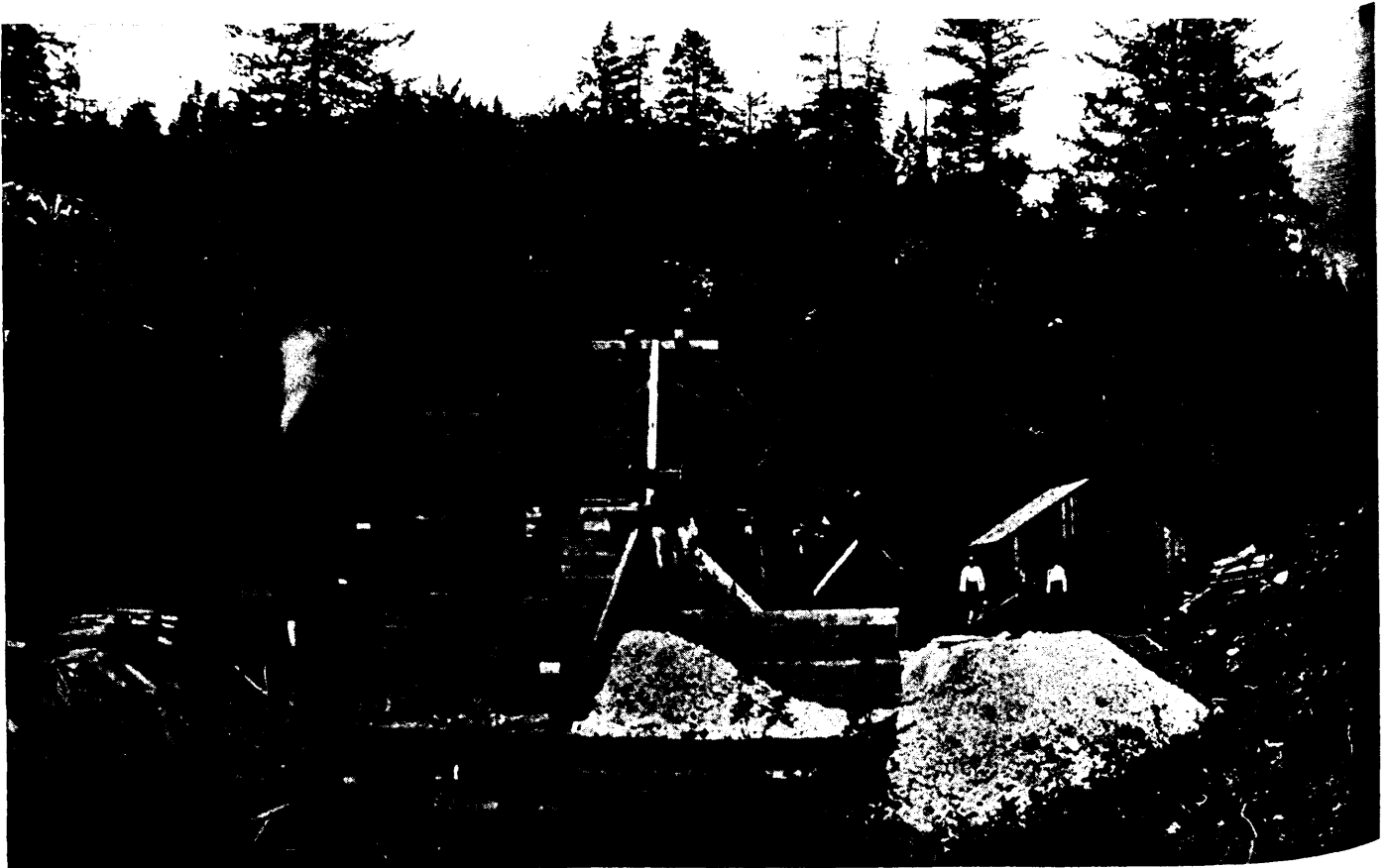
Surely if there is a threatened iron famine in England, as has been alleged by at least one important London paper, it is vastly more important to the country that the geological survey should be employed on work which might lead to the discovery of further bodies of necessary ore, than in endeavouring to ascertain the order of succession among the rocks of the western Highlands, or whether the rocks of certain other areas are metamorphic or of igneous

origin. These doubtless are questions of the greatest possible interest to science and their solution some day may have utilitarian results which cannot, now, be even guessed at, but is it wise to neglect altogether that which is of the greatest value to the nation, for the exclusive pursuit of that which may, or may not, be so.

(To be continued.)

prospectus of the syndicate the assays from these and adjoining properties guarantee the shareholders a splendid reward for their temerity.

The best feature of Camp Fairview is undoubtedly the mother lode which crops up at intervals and is traceable plainly through fifteen claims, the most noticeable of which are the Morning Star and the Stemwinder, both of which are being developed at



THE STEMWINDER MINE, FAIRVIEW.

## A DESCRIPTION OF FAIRVIEW AND THE SURROUNDING COUNTRY.

BY "RICARDO."

(Concluded from last month.)

On the steep hillside, between the Tinhorn mine and Fairview, there lie several very promising looking claims, amongst these are the Mikado owned by Mr. C. K. Millburn of Nelson; the Mountain Eagle owned by local prospectors, and the Smuggler, of which I have made notice from time to time in the MINING RECORD. In Fairview the Smuggler is looked upon as one of the best properties in the camp and yet it is being operated in such a "one horse" kind of way and the directors are so continually promising things which are not performed, that the public here would gladly welcome a change of ownership. The mine looks well and there is any amount of good ore coming out of it and all that is wanted is real development work to put the company upon a first-class financial standing. Near the Smuggler mine lie the claims owned by the Dominion Fairview and Golden Klondike, a syndicate floated last year in London by Thomas Elliot, and on which scarcely any development has yet been done, though according to the

present. The Morning Star is shipping ore to the Joe Dandy mill as fast as teams can haul it over the two and a-half miles of road. This mine is owned by Messrs. Mangott & McEachren, men who have been here for several years and who are blessed with a firm belief in the future prosperity of the camp. They have tested their mine pretty thoroughly and while milling ore some time ago in the old Stratheyre mill obtained over \$30,000 worth of the precious metal from their claim. The Stratheyre Company own several claims on this ledge, but they are doing no work now as their extravagant expenditure, while they were operating, added to the difficulties which then existed in developing properties, seems to have frightened them away from Fairview and they are leaving their plant and buildings to rust and rot instead of utilizing them to develop the promising properties they own here.

The Stemwinder mine recently purchased by the Winchester Gold Mines Co. from Messrs. Sheenan & Gwatkin is now being very steadily developed. This mine is well equipped with air compressor drills, steam hoist and pumps, and the company is now building a road to connect the mine and the Tinhorn mill, and as soon as this work is completed they will

commence hauling ore and continue to do so until the mine is thoroughly tested, when the advisability of erecting a mill on their own property will be considered by the company, I am informed. On this claim are three parallel ledges, of which two have been worked to a considerable extent, while about the third very little is known. At present the miners are working in a shaft on the middle ledge and drifting to connect with the north ledge at the ninety foot level.

The mother lode I have mentioned above runs in a northwesterly direction from the town, but there is another continuous ledge running north parallel to the Okanagan river; on this ledge the Rosie, Black Hawk, Riverside, Iceberg and Cayuse mineral claims are located, several of these having recently changed hands.

In between these two continuous ledges many claims have been located, each having its own little cropping of mineralized quartz of greater or less value. Satisfactory assays are obtained almost everywhere, but development work is needed to prove whether the claims are good or not.

There are certainly great possibilities before Camp Fairview, but to become rich we need money and it is so with the claims, and what is needed here is a large development company willing to prospect and thoroughly investigate the properties already staked out and which look on the map like the squares of a checker board loosened and all mixed up together, so closely are the claims staked.

To conclude, Fairview has good scenery, good prospects, good claims and good people, so all we need are a few good companies to make one of the liveliest and most prosperous mining camps in the province of British Columbia.

## THE SLOCAN GRANITE DISTRICT.

**I**N that portion of Kootenay which lies between Nelson and Slocan Lake, there has been but little outside interest shown since last summer. At that time there was a brisk demand for wild cats and all other kinds of "snaps" which could be purchased for a few dollars. Whilst the properties of greater merit were held at somewhat higher figures.

The properties held under bond by outside capital were not apparently very good bargains, and in the majority of cases were never "taken up," work ceasing usually before the second payments became due.

The amount of development done there rarely exceeds the amount of the first five or ten per cent. payment, and with a couple of exceptions no one of these properties have been developed

HOW CAPITAL to a depth of 100 feet below the ten HAS crop. In the district south of Ten "BLACK-EYED" Mile Creek. Yet thirteen of these THE CAMP. properties have made shipments of

ore within the year, chiefly in lots ranging from a few tons to a carload and in half of these cases the shipments were made by the original locators themselves, under the heavy cost of "packing" over the trails. Having been condemned by the superficial operations above described, the district has to depend upon the prospectors themselves for its salvation, with the assistance of three or four companies operating more or less continuously and employing a few men.

The amount of development which a prospector can accomplish upon his claims can rarely be extensive.

In order to keep working he has to dig out in an expensive manner the little ore he can show up, or else go into debt, which soon looks bigger than his mine.

The ore bodies are small and the ore is chiefly in chutes as is usual in most mines. The grade is high in silver and the gold value fair, but this ore has to be sorted very carefully. Sorting alone costing from \$5.00 to \$10.00 a ton in wages.

SIZE AND VALUE OF ORE-BODIES It should cost more, being in the nature of an expert occupation, for the values are not always apparent to one who does not get many assays. Moreover there is no division sharply defined between pay-streak and gangue matter. These quartz ores carry values all through them, but more especially in the bands and patches of pyrites and silver sulphides or grey copper and galena. Hence the probable ultimate method of working will be to treat the quartz vein, or the mineralized portions thereof, entire, which would give a value as high as that of the present shipping mines of Rossland, where at the present time a foot or two of ore is by no means dispised, provided it reaches the value of \$25.00 to \$30.00.

These quartz veins vary from one to five feet as a rule. Their tonnage is not great, nevertheless, such veins would make a very respectable output.

However, there are many sceptical people who maintain that these peculiar veins are of very short lived continuity. That the district is much broken up and faulted and that nothing can be assumed for which there is not visible proof on the surface. This is all very well, but capital has been exceptionally timid, neither has the want of continuity been proved, excepting that there are a large number of minor faults along the outer margin of the great granite mass, which occupies this district. At points further removed from the contacts with surrounding formations there are ore bodies of great continuity on the surface and, as so far proved in depth they maintain themselves.

THE CONTINUITY OF THE VEINS. In fact some of the fissures of this granite district will compare very favourably with any in West Kootenay for straightness of course and well defined walls.

This applies more particularly to those veins having a high dip from the horizon. The low dipping quartz veins show less movement along the walls, and are sometimes only free on one wall, at other times occur as a narrow ribbon quite free and distinct from the decomposed granite country rock, or along the contact of intrusive dyke matter. The mineralized sections will be well served by the wagon roads now under construction, one from Kootenay arm to the upper Lemon Creek country, and one from Slocan City up Springer Creek. These roads are more especially needed for the taking in of machinery, without which no great development will be done, owing to the necessity of running inclines and shafts instead of tunnelling as adopted in the upper Slocan. Furthermore when these roads are built there is a probability of the inauguration of milling in some form of concentration or with treatment on the ground.

It may be expected that if the lead smelting industry is built up in Southern Kootenay that essentially dry ores will be somewhat in demand. The rates for freight and treatment will have to be considerably reduced, however, before any great tonnage can be supplied, but if \$40.00 ore can bear those rates there need not be much fear about the output, as far as can be judged by present superficial development.

The district has been called one of rich surface showings. A high grade camp, and that is true, in one sense. Its ores can be sorted to very high grades with a very small production. But the final outcome may be that it will develop into a camp of lower grade ore and larger production. SLOCAN.

there was a regular boom; streets were opened up, land was cleared and buildings of a good, substantial character were built. But, alas! here was another instance of premature town growth and many people suffered in consequence. But this spring, the result of development at the mines began to tell and Ymir and its inhabitants are now flourishing exceedingly. As may be seen from the accompanying photograph the town is situated in a valley. This is the valley of the Salmon River, some twenty miles distant from Nelson and a very favourably location the sheltering mountains on either side rising to altitudes of about 2,000 feet.

Flowing merrily through the townsite is the stream by the name of which the town was first known—Quartz Creek—and here is situated the Bullion mine



THE TOWN OF YMIR—SHOWING SALMON RIVER.

## THE TOWN AND MINES OF YMIR.

(BY JOHN MCVICAR, B. A.)

IT was during the summer and fall of 1896, when mining speculation (legitimate and otherwise) was particularly active in Rossland, that prospectors began first to turn their attention to the section of country now known as the Ymir camp. The Nelson & Fort Sheppard railway afforded a means of easy access to the hills to the east and west of the line and soon every stopping place along the route became a busy prospecting centre. But the principal point was the "water-tank" at the mouth of Quartz Creek, for in this vicinity excellent prospects—the Ymir, Elsie and Dundee amongst others—had already been located and besides here the mineral showings were exceptionally promising.

And this is the genesis of Ymir. A log cabin, which did double duty as hotel and general store was the first building erected, but in the following spring (1897) the townsite was surveyed and platted by the railway company and then followed quite a rush to secure lots, the by no means moderate valuation placed on which by the

which is being steadily opened up. Opposite the town the Wild Horse and Bear Creeks join with the Salmon River and on these creeks are respectively the Ymir and Dundee mines. About a mile below the town Porcupine and Boulder Creeks enter the Salmon River. Two and four miles north of the town Stewart and Barrett Creeks join the river. On the latter Creek the Porto Rico mine is situated. Now any of these creeks have basins extending.

On Wild Horse Creek, about five miles away, is the Ymir mine, to which an excellent waggon road was built by the proprietary company last year, and where now preparations for the installation of a 40-stamp mill are in full swing. Meanwhile an air compressor plant has been placed in position and other facilities provided for handling a large output. I shall not, I think, be accused of over-hopefulness in predicting that the Ymir has fore it as promising a future as any mine of its class in the country. The ore, of which there is a very large body in sight,\* is galena, iron pyrite and quartz

\*It is stated that 60,000 tons of ore have been blocked out in this mine.—ED.

carrying well in gold. On the same creek, but a little further up, are such properties as the Elise, Blackcock and Wren, on all of which work is now being actively prosecuted. Nearby, too, is the Tamarac mine, where a steam hoist has just been installed and here, soon, yet another stamp mill will be in operation. The ore of the Tamarac is iron pyrite in a quartz gangue carrying in coarse gold.

The Dundee and Nebraska Girl mines are situated on Bear Creek, and on the former a concentrator is being erected, in connection with a tramway to the mine, on the banks of the stream. For about a year now a steam drill and a hoist have been operated on this property and last winter several car-loads of ore were shipped by the Dundee Company, the returns from which were eminently gratifying. The ore is a galena and iron pyrite with some zinc blende, in a quartz gangue.

The Porto Rico is on Barrett Creek. This property has capital shipping facilities in an excellent waggon road to the railway some seven miles distant. A site for a stamp mill has been prepared on the creek side and a tramway thence to the mine is also to be shortly built, besides which a five drill compressor has been purchased. The ore here is pyrrhotite and copper pyrites carrying very high gold values—specimens showing free gold being not all uncommon. A trial shipment of this ore was recently sent to San Francisco and ninety per cent. of the gold values were saved on the plates.

The camp has been peculiarly fortunate in attracting adequate capital to develop its mines, and the acquisition of property by such FAVOURABLE strong and well-backed corporations CONDITIONS. as, for instance, the London and British Columbia Gold Fields, the Canadian Pacific Exploration and the Dundee Gold Mining Co., is a matter for hearty congratulations. Again another favourable condition is the situation of the camp as regards the accessibility of reduction works for the treatment of its ores and concentrates. There is the smelter at Nelson, eighteen miles distant; another at Northport, forty miles away and a third at Trail about thirty miles off. Ore can be shipped direct to two of these three smelters over the Nelson & Fort Sheppard railway and thus while there is only a nominal difference in the freight charges to either, mine operators will reap any advantage of competitive treatment rates.

The country tributary to Ymir has a great variety of both the eruptive and metamorphic series of rocks.

The district east of the Salmon River may be said to be granite holding THE FORMATIONS. slates, quartzites, and crystalline limestone; that west of the river principally diorite or greenstone, and granites, and some syenite. The granites throughout are of different types. The most prevalent is a light colored medium grained rock with the quartz feldspar and mica easily discernable. There is also a distinctly hornblende granite and one over considerable area which has large feldspar crystals well developed. The residual metamorphics are greatly tilted and contorted by the eruptive dykes which cut them. These dykes are everywhere common and are exceedingly varied in their mineralogical texture and composition.

Veins of various sizes are everywhere to be found. Those upon which extensive development has been done show to be of three classes:

1. Veins carrying auriferous galena and pyrites of iron with some zinc blende in a quartz gangue. These cut across the stratified rocks and some can be traced for several hundred feet along the strike of the vein and where systematically opened up they have disclosed strong ore bodies.

2. Quartz carrying free gold also pyrrhotites and chalcopyrite. These are found in or associated with eruptives.

3. Auriferous pyrites in a quartz gangue found in either slates or granite.

In some of these veins we find a few minerals of a rarer occurrence. Molybdenite, for instance, is found but not as yet in large quantities and tellurium has also been discovered to occur in combination with gold and silver giving the mineral sylvairite. Again it is perhaps somewhat out of the ordinary to find as is found in this section galena and zinc blende carrying the high values they do in gold. Often more than fifty per cent. of the total value of the ore being in gold.

In conclusion it might be said that while only time and the well directed expenditure of capital will show what lies under the ground yet considering the time given to the companies to open up their properties—a little more than one year—it can be safely remarked Ymir has a showing that will compare favourably with any camp in British Columbia. Nor are these properties already opened the only prospects. Many other properties have good values on the surface and would warrant company enterprise in proving them, but the claim owners here as elsewhere are unreasonable in terms and prices. No company will give the price of a mine for a prospect with only an assessment or so done. This has been the experience of Ymir this spring.

## MINES AND METHODS.

(BY A. H. HOLDICH, NELSON, B. C.)

IT does seem at last as if claim owners were coming more to their senses, as hitherto a man would locate a vein, say of iron pyrites, or possibly white quartz, and while doing no work whatever except, perhaps, (not always) assessment upon it, would want a \$10,000 bond on it for thirty days or some such nonsense. Now, however, moneyed people will not invest in anything that does not show enough development work to enable them to form a fair idea of the probable worth of the claim, and quite rightly so, as mining must always, from the very nature of it, be more or less a gamble, and it is only reasonable for capital to expect at least a show in the matter. There is not the least doubt that many properties would have changed hands to the benefit of both buyer and seller if the seller had not had such extravagant and entirely hypothetical ideas as to the value of their claims. Another very popular fallacy is that ore can be valued by the market price of the metals it contains. That is not so by any means, and those who have sent sample lots to a smelter know well what a difference there is between the calculated value at the mine and the actual value received from the smelter. If I may illustrate this, I will merely refer to the July issue of the RECORD, where on page 40 is a list showing the assay value of some twenty-three samples, and the supposed market value at a smelter. It is quite safe to say that in nearly every case the actual smelter value is about one-half



the assay value. No doubt when the copper contents go up to fifteen per cent. or so, more per unit is allowed, but as a general rule one dollar per one per cent. (or per "unit") is all you can expect. And also, the smelter knocks off some one and one-half per cent. anyhow as the difference between the "wet" and "dry" assay value. Take sample No. 13. Copper 6.5 per cent. that will be five per cent. only at smelter and will be worth \$5 per ton. Silver 5.2 ozs., say 5 ozs. value at smelter \$2.75 per ton. Gold, \$4.12, say \$4.00, value at smelter \$4.00 per ton. This is a pretty high allowance, and it reaches only \$11.75 per ton. Add cost of mining, freight, and smelting charges \$8.00 per ton, and where is the value of your ore? It is a "minus quantity."

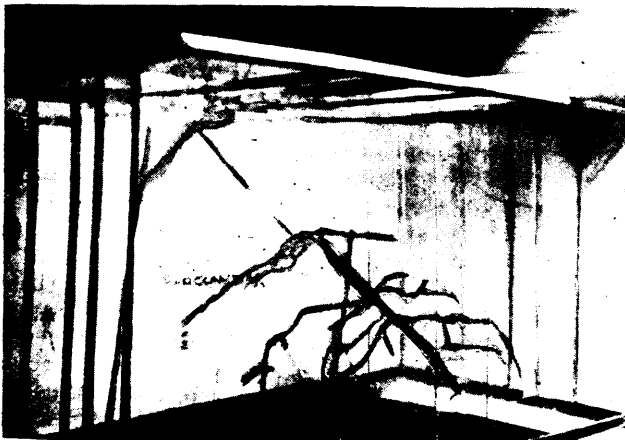
I do not wish to discourage mine owners in the least, far from it, but we must look facts in the face and unless you have your own smelter, operated by yourselves, it is necessary to value the ore solely by what you can get for it.

Smelters, however, cannot be erected in a day, or for a \$10.00 bill, and when they are established they must be constantly supplied with ore if any profit is hoped for, consequently it is best to have at least one year's supply on the dump and at least another year's supply "blocked out," and access provided to the ore bodies, before starting a smelter.

It is unnecessary to mention names, but there is a large plant in British Columbia where such apparently obvious precautions have been neglected, to the disadvantage of the shareholders, but "that is another story." It may be worth while once more to point out the folly and waste of money incurred in erecting a large stamp mill to treat gold rock that is free milling now, thanks to natural agency acting through centuries, but will not be free milling a comparatively short distance down, but base ore only fitted for smelting. Surely it is well worth while to obtain the best possible advice from skilled men in such cases, rather than "go it blind," as too many have done before, and probably will do again. This matter will, very likely, be referred to again in the future.

#### A NEW IDEA IN MODELS.

THE photograph reproduced here gives a very fair idea of a model of the Slocan Star Mine, recently constructed in glass by Mr. Maurice E. Bucke,



M.E., of Kaslo. The view shows the model in perspective looking down diagonally from one of the

upper ends, but for general description purposes, it may be stated that in all five panes of glass each 24x44 inches, and each containing the outline of one of the levels supported one above another at the proper and respective heights, laying horizontally. Between these are fixed glasses containing a vertical cross-section of the workings, on all these panes are coloured the character and nature of formation of the various minerals contained in the vein, and on the outside of the workings the character of formation is shown in colours, various colours representing the different minerals or country rock, the colours being spotted approximately in accordance with the nature of the vein filling. Only one cross-section is shown here as more would too greatly obscure the view. A vertical pane on the back, not readily visible in this view, shows the amount of ground stoped or worked out. The advantage claimed for this system of mine modelling over that of vertical cross-section glasses arranged about two inches apart, is that surveys can only be made underground along the levels, but here they can be made as accurately as desired, and therefore on this system the great bulk of the work shown can be placed in position in accordance with actual measurements, whereas in the other system only the points where the levels cut through each pane of glass can be so drawn and the balance, which is much the greater portion, must be assumed.

#### THE SILVER LEAD MINES OF WEST KOOTENAY.

##### THE WHITEWATER AND WHITEWATER DEEP.

TO the Whitewater Deep Mine has fallen the distinction of being the pioneer deep level mine of the Slocan country. The success of its owners in THE PIONEER proving the continuity of the White-DEEP-LEVEL water vein and its ore chutes to a MINE. vertical depth of about 1,000 feet below the apex has done much toward adding to the fame of one of the greatest silver-lead mining districts in the world.

The Whitewater Deep group of mines is situated in the Ainsworth Mining Division of West Kootenay district, British Columbia, and joins the town of Whitewater on the north.

Whitewater is situated in the valley of Kaslo River on the Kaslo and Slocan Railway. It is eighteen miles from Kaslo, the eastern terminus of the railroad, and twelve miles from Sandon, the western terminus. Its latitude is fifty degrees north, its longitude 117 degrees west, and its altitude 3,400 feet above sea-level.

Whitewater may be reached both from the east and the west by several routes—partly by rail and partly by water. At Sandon the Kaslo and Slocan Railway connects with a branch of the Canadian Pacific Railway, and at Kaslo (via steamboat to Nelson) with the Spokane Falls and Northern Railway. This railway furnishes daily connection with Spokane, an important railroad centre. A second route to Spokane is via steamboat to Bonner's Ferry on Kootenay River, and the Great Northern Railway.

The climate in the vicinity of Whitewater is favourable for the continuation of mining operations throughout the year. Although much snow falls during the long winter months it in no way interferes with mining, but on the contrary serves to facilitate and cheapen the transportation of ore from the mines to the railroad by means of sleighs.

The principal mines in the vicinity of Whitewater are the Whitewater Group, Whitewater Deep Group, Elkhorn Group and Pauper's Dream claim, all lying on the steep mountain side to the north of the town. These properties all contain the Whitewater vein, the apex of which is in the first named group.

A large number of claims have been staked both to the east and west of the groups mentioned on the extension of the Whitewater vein. On some of these tunnels are being driven into the mountain side with a view to cutting and exploiting the vein.

The Whitewater group has a total area of 100 acres, and consists of four claims viz. Whitewater, Irene, Myrtle R., and Jennie C. The length of the group in the direction of the vein is 2,100 feet. The strike of the vein is north 80 degrees west, and its dip from 35 to 45 degrees to the south. Its width varies from two to twenty feet. The vein is

to three or four feet often lies between the wall and the ore. The remainder of the vein filling consists for the most part of decomposed slate (locally termed "talc") through which are disseminated (1) quartz and spathic iron often in a more or less decomposed state, (2) fine particles of argentiferous galena and (3) fragments of galena, tetrahedrite and chalcopyrite.

The Whitewater vein has been extensively developed in the Whitewater and Irene claims by a series of adits varying in length from 200 to 1,000 feet. The deepest adit or level is about 500 feet below the highest. The several levels are connected by winzes and raises, thus securing excellent ventilation.

Up to the present time the maximum output of the Whitewater mine has been thirty-five tons per day. It is proposed to largely increase the product by erecting a 125-ton concentrator to treat the large bodies of concentrating ore, reference to which has been made else-



THE TOWN OF WHITEWATER.

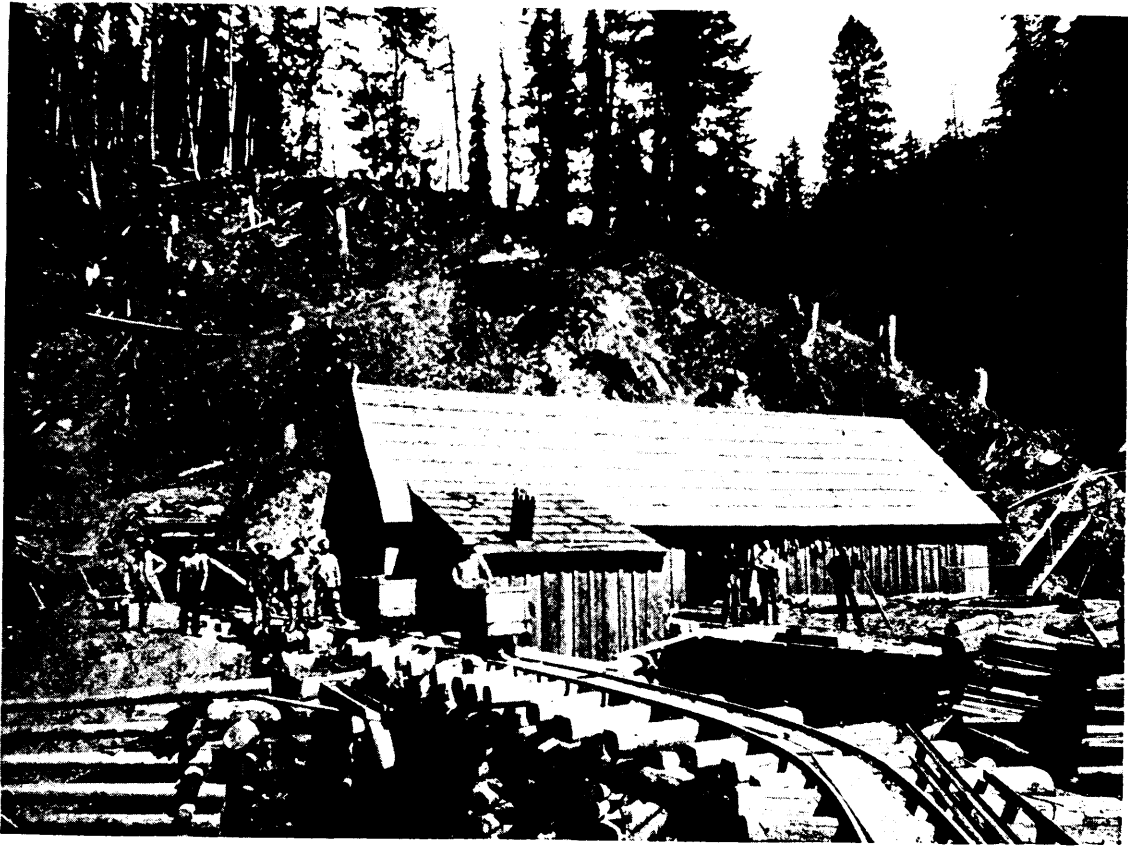
persistent both longitudinally and vertically, is quite regular and well defined, and easily followed. It is, moreover, a true fissure, the country rock being slate. The footwall, or fissure plane is smooth and hard, but the hanging wall is more or less shattered and requires timbering. As a rule the gangue is soft, and requires but little blasting for its removal.

The ore is of two principal varieties—clean and concentrating, and the latter (after treatment) yields practically the same values as the former. The clean ore is fine-grained and is locally termed "steel" galena. The clean ore occurs on either wall, and varies from several inches to several feet in thickness. A deposit of spathic iron varying in thickness from a few inches

where. At present prices the Whitewater ore yields a net profit of \$40 per ton.

The Whitewater Deep group of mines covers that portion of the mountain side lying between Whitewater Group and the town of White-

water and has an area of about 135 acres. On this property the Whitewater vein has been cut by a tunnel 800 feet in length at a vertical depth of approximately 1,000 feet below the apex, or about 400 feet below the lowest level of the Whitewater mine. At this great depth the vein and ore exhibit practically the same characteristics as in the upper workings. Although the mine has not yet begun shipping, a con-



TUNNEL ENTRANCE WHITEWATER DEEP.

siderable quantity of ore is being extracted in the course of development. This work is being systematically and vigorously prosecuted with a large force of men. Drifts are being run at different levels, and are being connected by raises with a view to blocking out the ore bodies for facility in mining.

At the foot of the mountain close to the Kaslo and Slocan Railway, a large air compressor plant is now in process of erection. It is designed to drive the compressor by a water-wheel operating under a head of 500 feet. The water is to be obtained from Whitewater Creek which flows through the property, and will be conducted to the wheel by a 10-inch pipe line 3,000 feet in length.

About seventy feet above the base of the mountain directly opposite the compressor plant a cross-cut tunnel

has been started which will cut the vein about 1,800 feet in from the entrance, and nearly 1,500 feet below the apex. Between the air compressor station and the tunnel, a concentrator will be erected similar to the one now under construction at the Whitewater mine.

A hoist operated by compressed air is now being installed in the upper workings preliminary to starting a winze to connect with the deep level tunnel.



1. CAMP BUILDINGS—WHITEWATER DEEP MINE.
2. UPPER WORKINGS—LOOKING UP WHITEWATER CREEK.
3. KASLO RIVER—NEAR MOUTH OF WHITEWATER CREEK.

The ore will pass from the mine through the deep level tunnel to the concentrator, whence the clean ore and the concentrates will both be loaded on cars for transportation to the smelter.

To illustrate some of the profit possibilities of Whitewater Deep Mine, the following deductions are given. These are based upon data taken from the authenticated reports of several mining engineers of good repute and are believed to be conservative.

The average width of footwall ore body in the Whitewater mine has been stated by Mr. Fowler to be eight inches, and by Mr. Kendall to be seven inches. The former has placed the profit value per ton of footwall ore at \$34 and the latter at \$38. As stated elsewhere, the superficial area of the Whitewater Deep mine is 135 acres, or 5,880,600 square feet. Area of the plane of the vein inclined  $35^{\circ}=7,171,500$  square feet. Assuming that not more than 1,500,000 square feet can be profitably worked, and that 7 cubic feet of ore=1 ton, then if the ore shall average 3 inches in thickness, the mine will produce 53,571 tons, which at a net profit of \$20 per ton will yield \$1,071,420; at a net profit of \$30 per ton, \$1,607,130; at a net profit of \$40 per ton, \$2,142,840.

If the ore sheet averages six inches in thickness, then the total profit values of the ore at \$20, \$30 and \$40 per ton respectively, will amount to \$2,142,860, \$3,214,290 and \$4,285,720.

It is not too much to say in conclusion that the persistent and scientific development of the Whitewater Deep property has tended in no small degree to strengthen the possibilities of profitable and permanent mining in the Slokan country. The effect cannot but be beneficial to the entire mining community. Many mine owners who have hitherto contented themselves with surface mining and with desultory and unscientific methods will now be stimulated to exploit their properties scientifically and at greater depths. The result will be a permanent mining region which is destined in the near future to occupy a front rank among the famous mining camps of the world.

## REPORT OF PROGRESS—CROW'S NEST COAL COMPANY.

AT the mine—the branch line built by the C. P. R. reached here on the 5th inst., and enables the company to bring up their machinery to the mine. Some twenty cars of this has been lying at Fernie for several weeks past. Gangs of engineers and laborers are busy at work getting machinery into position in preparation for the winter's output. The first cars of coal were loaded on the eleventh and consigned to Winnipeg. It will be at least three months under favorable circumstances before everything is in position and the mine in running order. Two seams of coal are being exploited. No. 1, on the north side of the creek is a high-class domestic coal, and this is the coal that is now being shipped east. The workings in this seam are yet of a very limited extent, as work was suspended during the winter. The proof heading for tunneling the mountains is driven several hundred feet and in the course of a few weeks the breaking off of the working places will commence. No. 2 seam is on the south side of the creek, and here the operations have been more extensive, the proof headings have reached a distance of 1,000 feet, and operations are now com-

mencing to break off rooms and open up working places. The bulk of coke coal comes from this place. About a mile west down the creek an exploration heading is being driven in No. 3 seam. This is an excellent blacksmith coal, and gives promise of satisfactory results when exploration has proceeded further. So far the indications are all that can be desired. Two and a half miles up the creek from Fernie town a dam is being put across the stream, from which a 6-inch pipe will convey water down to the site of the coke ovens, giving a head of 250 feet. This water will be utilized, in the first instance to drive two Pelton water-wheels, for generating electric power, which will haul coal from the bin to the coke ovens, and also supply light to the town. Surplus water will be used for town supply. A branch railway line is being put in near the coke ovens with trestles to feed a coal bin capable of holding 1,000 tons.

On the Fernie townsite, which belongs to this company the busiest scene in the Kootenays is to be found. Houses are running up in every direction, and there are thirty being put up for the company's miners. These are all cottages of the bungalow design, and are very neat and attractive. Upwards of fifty lots have been sold to tradesmen of every kind. The Bank of Commerce came in on the 10th inst. and commenced operations in one of the miner's cottages, pending the erection of their larger offices, the contract for which has been let.

Two good hotels, the general offices for the company, a large boarding house, capable of accommodating 50 men, with detached dormitories, are all in course of erection; and the company have donated four free town lots for church purposes. The first of these is being built on by the Presbyterians. There are two saw mills in operation, and in the course of a few months it is expected that the large C. P. R. saw mill, about three miles below Fernie, will start. Meanwhile the coal company are running a saw mill and furnishing rough lumber at very moderate rates. Already there is a population of 400 around this locality, all busily occupied in one way or another, not including as many more employed in the construction of railway work.

## THE MONTH'S MINING.

### ALBERNI NOTES.

(From our own Correspondent).

CAPT. De La Mar, of Utah, has bought the Thistle group of claims on Douglas Mountain, China Creek, and has put on twelve men to open up the property. Capt. De La Mar owns some of the largest quartz mines in the States. He is also having several other properties examined with a view to purchase.

At Hayes' camp a splendid copper lode has been intersected at a depth of 140 feet, and it is intended to ship the ore at the earliest possible date.

At Anderson Lake the B.C. Agency are taking out some very fine copper ore.

The Cataract Hydraulic Mine has been sold by the Alberni Syndicate to a London company, and it is expected that work upon a large scale will be commenced by the new company ere long.

Mr. Toy, at the Golden Eagle, is making satisfactory progress, and there is a rumour that the King Solomon (one of the highest grade properties in the district) is to be opened up shortly.

## QUATSINA.

(From Our Own Correspondent.)

Nothing of interest has occurred since my last letter. The only work going on in Quatsina now, is that being carried on by the West Vancouver Commercial Company prospecting their coal properties.

## OMINECA.

(From our own Correspondent).

The trail from Ashcroft to Manson Creek is in good condition and feed for horses plentiful. Many outfits are on the road for Omineca, and should experience no trouble in reaching their destination.

The Northwest Mounted Police, under Col. Moody, left here recently to cut a trail to Fort Graham and on to Teslin Lake. This will help those wishing to prospect an entirely unexplored country to the North, and rich discoveries most likely will be made this year.

Ezra Evans is working on Manson Creek, and C. McKinnon has just come in from Lost Creek, where he has been working on his claim with very gratifying results, some good sized nuggets having been taken out.

Col. Wright arrived recently with a large pack outfit, and has commenced hydraulicing operations, Cataline having packed in on mules for this company about 10,000 lbs. of pipe.

J. Kavanagh has arrived with six men, and has started to work his property.

A. H. Owens, who came in this week from Kamloops, has located some ground on Lost Creek.

Capt. Black left for the Coast with Messrs. Rathbone and George, who came here to examine some property which is likely to change hands.

C. F. Venosta has located a townsite at Germansen Landing.

A general feeling of confidence prevails in the camp, and all new-comers congratulate themselves on having ventured to this distant but very promising field.

F. W. Valleau, our gold commissioner, will be kept busy this year, but next season will see some wonderful developments in this district.

## KAMLOOPS.

(From our own Correspondent).

There is a decided forward movement in mining matters in the Kamloops camp, and one of the chief causes of this is the settlement of the Iron Mask difficulty, the owners and Mr. W. T. Newman, their former manager, having come to terms, and thus rendering it possible to place this important group of claims on such a footing that outside parties may confidently take hold of it. The result of this settlement has been that Mr. T. C. Cotherill has bonded the property, and is now in England with the object of forming a company for its development, and with the additional object also of ultimately erecting a local smelter.

A visit to the Iron Mask, which is about six miles southwest of the town; shows that a good deal of work has been already done to show up the resources of this promising group. Two drifts have been run from an open cut which tapped the ore chute; that to the east is 90 feet and that to the west 45 feet, both in ore all the way. A winze is being sunk in the east drift, and will be continued to a depth of 50 feet, when cross-cutting will begin. At the time of your correspondent's visit the winze was down 18 feet, showing ore throughout, with four feet standing up. Much of the ore is high grade, but, including the lower grade, the average value, arrived at from numerous assays made throughout both drifts and winze and from a smelter test, is 15 per cent. copper with about 2 dwt. in gold. The smelter test was made at Everett, Wash., where some 17 tons were sent for treatment, the result being \$2.55 gold and 17.50 per cent. copper.

In addition to the large body of ore in sight in the workings, there are about 80 tons on the dump of good clean ore ready for shipment, and it is intended to shortly begin shipping; even at the present stage of development, from 15 to 20 tons may be shipped weekly. The waste dump will pay for concentrating.

Mr. T. C. Cotherill has bonded this group, and is now in England with the object of forming a company to work the property, and at a later stage with the ultimate design of erecting a local smelter. Coke for this purpose can be had from the North Thompson gold fields, about fifty miles from Kamloops, with direct water communication between. From tests made by the Dominion Geological Survey this coal makes splendid coke, so that when the question of a local smelter becomes a real issue, the matter of a supply of coke is provided for at our own doors.

Mr. Wentworth F. Wood is superintending the work for Mr. Cotherill, and under his management the capabilities of this valuable property are being fully demonstrated.

In the winze of the Iron Mask, now 18 feet down in the east drift, the ore body is of good grade, and the owners are naturally more than satisfied. The Pothook shows some fine ore at 150 feet. The owner of the Copper King is sacking ore for shipment. This claim was recently "turned down" because the chute was missed. After the bond expired the owner set to work, found the lead, and is now getting ready a sample shipment. The ore is high class mixed copper ore, well mixed with enough lime for self fluxing. After driving their tunnel for 200 feet on the Charlotte claim in the Kimberly group, the owners have struck the ledge, and the showing is very fine. Its extent is not yet known. Work is being pushed to show this. Additional claims are being recorded constantly, and the camp is feeling a healthy movement. Several properties around the Jacko Lake section are looking well, though the work done here is very limited. There is a report that several claims will change hands soon. R. Lyons has bonded four claims for \$15,000.

## REVELSTOKE.

(From our own Correspondent).

Mining matters are quiet in North Kootenay just now. The war and the price of silver have exercised a depressing effect on the district; still there are some people representing capital and visiting claims in the Lardeau, Big Bend and Jordan Pass, and there is a very hopeful feeling in the air. The survey being made from Arrowhead to the Kootenay Lake in the Lardeau, is the first step towards the construction of a line which will make Revelstoke the western terminus of the Crow's Nest system, and open up at the same time a district of extraordinary promise in the neighborhood of Trout Lake and up the Lardeau.

We are all hoping here to be shortly informed of a big clean-up as a result of the operations at the French Creek placers of the French Creek Company. There is very little doubt but that these hopes will be realized. This creek was one of the richest creeks in the Big Bend excitement of thirty years ago, and your correspondent has learnt from one of the original party of French pioneers, who gave the creek its name, that at least \$150,000 were here taken out by the miners during the two years of the excitement. The company is working on the bench lands, just above the scene of the old river bed diggings, which proved so productive in former times, and where later rich dirt was found by expensive tunnelings, carried on some few years back by a party of Revelstoke miners. If, therefore, the French Creek Company succeed in making a satisfactory clean-up this season here, others will be induced to go in and operate other promising propositions in the same district.

The Carnes Creek Consolidated people are very well pleased with the result of their operations on the Roseberry mine. The showing is improving as development proceeds, and a recent assay made in Vancouver, gave \$230 in gold to the ton from the paystreak which is twenty-two inches wide.

The Waverly people are getting their sawmill and concentrator up to the mine by degrees. The recent news that in the lower level tunnel the lead had been struck and a large ore body exposed, was received here with great satisfaction as tending to prove the permanency of the lead.

The season has been very backward and there is not a great deal left of it. North Kootenay has enormous natural difficulties to contend with, but a steady, if slow, progress is apparent. If surface indications go for anything, and in almost every instance development has fully sustained the richness of the surface prospects, then North Kootenay is bound gradually to forge her way to the very front rank of the mining camps of the West.

## LARDEAU AND TROUT LAKE.

(From our own Correspondent.)

In Lardeau lately, these have been very good. The Bouchier group has been bonded by G. Frank Beer, of Nelson, for \$150,000. Average assays give a value, it is said, of \$150 per ton. The bonder has now three shifts at work, and expects to get out a first shipment at no very distant date.

Trout Lake has been very quiet lately, but is now improving. Some very rich strikes are reported from there this week. From the Klondyke group some splendid ore samples have been brought in—gray copper, giving 660 ounces silver and fifteen per cent. copper per ton. Some very rich ore has also been obtained at Canyon Creek, at the foot of the lake, and the prospects for Trout Lake City are very bright.

## VERNON.

(From our own Correspondent).

In your August issue I was glad to see that you devoted a small space to the Associated Gold Mines of British Columbia, as several statements have been made by them in their prospectus published in the *Standard* and *Scotsman* which are very liable to mislead the public, besides doing incalculable injury to the districts in which these claims are situated. I notice especially the reference to the Mountain Chief and the O. K. claims. Now, on turning up my list of records, I find that these claims were recorded on the 27th March, 1897, and what work may have been done on them has never been brought to my knowledge, neither do I know whether any assays have been made of the rock. The most misleading part of the statement with reference to these claims, however, is that they adjoin the Morning Glory claim, which is supposed to produce ore assaying "\$1,000 per ton." The fact is, the stuff here was so rich that, like a Christmas pudding I once read of, the whole concern went to pieces, and is in a state of insolvency, two sheriff's sales having disposed of all the machinery and belongings of the company; and whether legal or illegal, the various claims have been jumped by people who had some connection with the original Morning Glory Company. A solitary sample of rock was taken from the Sarah claim, belonging to the company, which carried free gold, which went:

Gold, 1,515 oz. 12 dwt. 22 grs. . . . .	\$31,313 34	Per ton.
Silver, 144 oz. 12 grs. . . . .	93 85	

Assayed by T. Hays, Esq., Assay and Consulting Chemist, Toronto.

The average assays of the Morning Glory were \$7 to \$13 in gold and \$3 in silver, according to the prospectus issued by the company at the time of incorporation.

The plant is at present in the hands of a gentleman residing and doing business in this city, and who has some intention of forming a new company upon purely practical lines for the purpose of thoroughly developing the Morning Glory claim, which, if properly handled, there is every reason to believe would turn out to be a paying concern.

Development work is proceeding in various directions with very satisfactory results in this district, and ere long it is to be hoped promoters will seize on some of the better class of mining property in the vicinity of Vernon to place before the public.

## CAMP MCKINNEY

The Cariboo Mining, Milling & Smelting Company, of Camp McKinney, capital \$800,000, has been reorganized as the Cariboo Consolidated Mining and Milling Company, of B.C., with a capital of \$1,250,000 in \$1 shares. The directors of the new company are to be Messrs. Jaffray, S. W. McMichael of the Customs Department, A. Ainsley, Henry M. Pellatt, G. B. Smith, all of Toronto, and Messrs. James Monaghan, and George B. McAulay, of Spokane.

The new company will take over all the property of the old company and its assets and the following additional mining claims contiguous to or on the same vein, namely: Alice, Ellen, Maple Leaf, Okanagan and Sawtooth. The owners of the 800,000 shares of the old company will get share for share in the new. Of the remaining shares, 375,000 go in payment of the new claims taken over and 75,000 are left in the treasury for a contingent fund.

During the month the present battery of 10 stamps was increased to 20 stamps. A dividend was also paid.

As soon as the organization is completed and the president is elected the stock will be listed on the Toronto Stock Exchange, and there is every probability that it will become a favorite investment.

## FAIRVIEW, B.C.

(From our own Correspondent.)

This camp is at present centring its expectations and hopes in the future of two of the most promising mines, both of which will shortly be put to a thorough mill test. The Stemwinder, by the time these notes are printed, will have commenced hauling ore to the Tinhorn Mill and good results are confidently expected from the first months' mill run. Since the new machinery was put in place in the Stemwinder mine, about 400 feet of work has been done, including a drift 200 feet long on the centre ledge at the 86-foot level along the foot wall, this drift is 5 feet wide and the ledge has been cross-cut another 5 feet without reaching the hanging wall. The following values of the

centre ledge were given by one of the directors. On the hanging wall is a pay streak assaying from \$130 to \$400, the balance of the ledge running about \$5 or \$6. From the foot of the main shaft on the centre ledge, a cross-cut 88 feet long has been run tapping the north ledge at a depth of 86 feet; at this point the ledge is 5 feet six in. wide, and carries better value than the centre ledge. An upraise to the surface has been made at this point all in ore. The plan of work in this mine in the immediate future is to sink another 90 feet of the main ledge and then cross-cut to the north ledge afterwards drifting along both ledges. There is a fair sized dump awaiting transportation, and the director above mentioned tells me that this ore will average about \$15 per ton.

Smuggler—Work on the construction of the Smuggler Mill is rapidly going ahead and it is expected that everything will be in running order by the middle of October. A line has been surveyed from the mine to the mill with a view to the construction of an aerial tramway. The Company will make a saving of over \$10,000 by their change of plans in regard to the location of a mill site, the present site being only 3,000 feet from the mine, while the former selection on Okanagan river was 2½ miles away and involved a large expenditure in fencing and purchase of land for road, etc. In the mine drifts are being run at the 50-foot, 100-foot and 200-foot levels, at the 50-foot level the ledge is about 14 feet wide, of which 7 feet is very good grade ore, assaying (according to the Superintendent) in places as high as \$1500, and averaging about \$39. This is pyritic ore and 200 lbs. of it has been shipped to Tacoma smelter by way of test.

Orofino mines—These properties have been recently examined by Mr. Pellew Harvey, who apparently is of the opinion that development work should be pushed forward and suggests (in his report) several ways of doing this; amongst other things advocating the erection of a small mill by which means, enough ore could be crushed to pay for the development work. Several of the claim holders have just had their eyes opened to see the methods of the bonding sharks. One of that ilk in the person of Z. M. Burnham, of San Francisco, recently came to camp and bonded one or more properties, giving bonds in lieu of cash for the option and when the bond expired and judgment was obtained against him, left his hotel by the back door on a dark night, and pulled out for Penticton. One of his creditors getting wind of this followed on horseback with a good stout horsewhip and succeeded through muscular suasion in obtaining his money. Others were not so fortunate.

## BOUNDARY CREEK.

There is nothing special this month in regard to mining matters in the Boundary Creek mining camps. Yet there is, comparatively, a considerable amount of both surface prospecting and underground development being carried on, so that in the aggregate the monthly pay-roll outgoings make up a fairly large sum. Deadwood and Greenwood camps appear, just now, to be vying with each other in an endeavour to take the lead in development, and each is contributing a considerable share of the business that is keeping things quietly moving in the districts. The big plant recently sent in by the British Columbia Copper Company, Ltd., of New York, is now being placed in position on the Mother Lode claim. The main working shaft on this claim started with the object of further prospecting and opening up the 185 foot ledge, already explored by cross-cuts and a winze to a depth of 200 feet below the outcrop, has been sunk between thirty and forty feet. Sinking will be resumed as soon after as steam power for hoisting is available, as conveniently may be and thereafter will be continued probably until the 500 foot level is reached. There is every indication that operations on this mine will be extensive and continuous, and the manager, Mr. F. Keffer, M.E., of Anaconda, is confident that the big ore body will give increasing values as depth is attained.

The Sunset group, including the Sunset, Crown Silver and C. O. D., which are adjoining the Mother Lode, are having a deal of work done on them, especially the Sunset. These claims are owned by Mr. W. J. Hogg and associates, of Montreal, whose mining manager is Mr. J. H. MacFarlane. It is intended to thoroughly prospect the claims, which give promise of proving as valuable, proportionately, as their big neighbour. There is a probability of work being shortly resumed on two or three of the claims situate at the north-eastern extremity of Deadwood camp and owned by the Boundary Creek Mining and Milling Company, of Greenwood. Mr. Hector McRae, of Rossland, representing a syndicate which

has lately acquired a controlling interest in this company was at Greenwood this week arranging with the directors to commence work on the D.A. and G.A.R. claims, both of which have showings of ore giving promise of improving with further development.

Chief among the claims in Greenwood camp that are at present having development done on them are the Old Ironsides, Knob Hill, Snowshoe, Stenwinder and Brooklyn. The steam plant put in last fall for the joint use of the two first named is now being added to, and it is anticipated that following the installation of a compressor plant to work the machine much more effective work will be done in the future towards opening up the masses of ore known to occur on these claims. Work on the Snowshoe is much retarded by reason of the lack of steam appliances for pumping and hoisting. A considerable amount of exploratory work has been done on this valuable claim, the shaft on which is well down towards the 200 foot level and the drifts in which disclose some very nice ore. Steam plants have already been delivered at the Stenwinder and Brooklyn claims respectively, but are not yet in operation. Work is, however, being vigorously pushed below the surface on both claims with very encouraging results.

The B.C. mine in Summer Camp, after twelve months vigorous operation has closed down. No reason is assigned for the stoppage of work, but it is thought that the B. C. Copper Syndicate of London, England, is now quite satisfied that it is in a position to ship ore, so will not expend more money until railroad transportation facilities have been provided and a return can be obtained by shipment of the ore output to a smelter. About 900 feet of work have been done chiefly in shafts and drifts, and it is stated that about 1,500 tons of shipping ore now lies on the dump. The final payment of about \$25,000 under the \$60,000 bond covering this claim will be payable a few days hence.

There are many other claims in the district information about which could be given, but space limitations prevent reference to more than a few. The Winnipeg, in Wellington camp, is reported to be well maintaining its high reputation—in fact it is said to be looking better than ever. The Athelstan in the same camp, is being worked by its Rosslund owners, who are prospecting its good ore showing with a steam plant. The City of Paris, in White's camp, is to be shortly equipped with machine drills, and a long tunnel is to be driven to cut it, fine quartz ledge at a considerable depth. Golconda, in Smith's camp, is again at work, whilst the tunnel on the Bruce, in Graham's camp, near Midway, is now in about 250 feet and is thought to be nearing the ledge, the outcrop of which contains some of the finest copper ore to be seen in the district.

#### PERCY VERENS,

##### CHRISTINA LAKE.

(From our own Correspondent.)

The Christina Lake pioneers are feeling jubilant. The depression, which in any new mining district, invariably goes hand in hand with conflicting rumours about the prospects of transportation facilities, has given way to unbounded enthusiasm now that the early advent of the Columbia & Western is assured. This line will at once open up a magnificent mineral belt which lies between Christina and the Arrow Lakes.

Christina Lake itself is one of the loveliest sheets of water in the interior, and on the completion of the railway will become the natural pleasure resort of the Trail and Boundary districts. However, the prospector's mind does not run in the channel of building up "Bar Harbours," or "Medical Lakes." He is looking for mineral in place, and in this section he finds a much favoured field. It is pleasing to note the stimulus the commencement of railway construction has given to every kind of business in this section. At Cascade City buildings are springing up like mushrooms. At Lavalley's a small flotilla of boats is kept busy by railway men and prospectors who are on the move back and forward, and at English Point, where McRae Creek empties into the lake, land is being cleared and cabins erected.

The C. & W. survey from Robson passes up the shore of the lower Arrow Lake to the new town of Brooklyn; thence up Dog Creek to the Summit, and down McRae Creek to English Point. From there it lies along the mountain side, keeping at a high elevation along the east shore until the foot of the lake is passed, and two miles beyond winds through Cascade City and up the valley of the Kettle River towards Grand Forks.

From a mining point of view the most talked of portion of the district is that known as the Burnt Basin, although there are excellent surface showings and plenty of virgin ground to prospect all the way up McRae Creek, and also up Texas Creek, which flows parallel a few miles further north. The Burnt Basin proper includes the territory between McRae and Texas Creeks, beginning at the mouth of Dog Creek, and extends several miles in a north-easterly direction. The mineral here differs from that of Rosslund and also from other portions of the Christina district, in as much as the heavy iron cap is not in such strong evidence, and the work so far accomplished shows considerable galena as well as copper. The leads in the main hold a north-easterly and south-westerly course, but in the basin between the summits of the mountains which rise from the creeks above mentioned, the formation is extremely eruptive, and the lodes, so far as they have been traced, seem to run east and west. It is here that some remarkable copper strikes have been made, and several promising galena ledges uncovered. Also in this immediate vicinity, free-milling quartz yielding phenomenal surface values, has been found. The claims which are attracting the most attention at the present time are the Halifax, Eva Bell, Isabel, Tammany, Lewiston, Silver Key, Mother Lode, Mystery, Big Chief, Edison Group, Red Chief group, Bryan, Sewell and Solid Gold.

Ten miles from the mouth of McRae Creek, where the creek takes a sudden bend to the north, where Messrs. Good, Cameron and Forest have pre-empted three hundred and twenty acres of land, a commodious hotel has been put up, which is proving of great accommodation to the public. It is not unlikely that by the time the railway is constructed past the Burnt Basin, that a few of the claims there will be able to make trial shipments.

Although a large number of claims have been staked on McRae Creek, still it may be said that the country is yet in its infancy as far as prospecting is concerned. A very good water power exists at the mouth of McRae Creek, which will doubtless be harnessed in the near future. Near the shore of the lake, between McRae Creek and Baker Creek, (which lies three miles to the south) D. C. Beach has recently stripped a lead of pyrotite ore, which gives surface values of \$28 in gold and copper.

The country along Baker, known as Shamrock Mountain, has been staked back for miles from the Lake. Shamrock Mountain is a veritable mass of iron, and so far is a puzzle which the many now interested there are trying hard to solve. Solid mineral has been found on the surface, on nearly every claim so far prospected, and the leads are well defined and strong, but surface assays are low, averaging from \$3 to \$18, although there have been some notable exceptions. Should work show up better paystreaks, this camp will have a great future. Up in the Burnt Basin assays from \$25 to \$75 are by no means uncommon, hence the greater rush up McRae Creek at the present time. Among the best known and developed Baker Creek claims, are the Elmore, Shamrock, Beach, Yellowstone, Alphonse, Highland, Express, Rose, Red Hill, Nancy Hawks and Cannon Ball, but there are many others which, as far as surface indications go, may be equally meritorious. A lot of development work is now being carried on in this camp at the present time, and its reputation will probably be settled for good or bad before next year.

Of Castle Mountain, near the foot of the lake, little can be said, except that the principle claims there were carefully examined last season by Mr. Inkster, the well known expert. He issued a favourable report, and seventeen claims are now owned by the British America Corporation. At the present time sufficient work is being done to obtain Crown grants for the whole group, and owners of adjacent property are waiting to see with what result.

Some very fair showings have been struck lately on Sutherland Creek (south, of Baker Creek), also on the west shore, and north end of the lake. These may be the subject of a later article. Generally speaking the Christina Lake district appears to have a good future before it, and is well worth a visit by anyone interested in the mining industry. It will be much more heard of from now on.

CON. CENTRATE.

##### FORT STEELE DISTRICT.

(From our own Correspondent.)

The Hall Mines Co., of Nelson, B.C., have bonded the following properties here, viz.: Lone Star and Equator, on Wild Horse Creek; Mammoth and Big Three, on Shingle Creek;

and Blue Grouse, on Sand Creek. Several other claims in this district are also likely to be bonded to the Nelson Company, but negotiations as yet are not finally closed.

**Dibble Group**—Work has been steadily pushed at the Dibble Group, and a shipment will be made shortly to ascertain the value of the ore.

**Tracy Creek**—The Estella Company are working steadily at the lower tunnel, which is now in about 500 feet. It is calculated they will strike the ledge at about another 150 feet. The Estella ore is high grade, worth from \$100 to \$200 per ton, and carries values in gold, silver and copper.

**Perry Creek**—Present investigations at Perry Creek by Mr. Farrell, a well-known mining expert of Spokane, show the reports on Perry Creek to have been of a decidedly misleading character. The reports on Perry Creek were based on mill tests of various claims, a mill being shipped in for this purpose by Montreal capitalists. The mill was handled by men ignorant of their work, with the result that barely traces were saved from the quartz crushed; but on examination of the tailings and waste around the mill it was found to carry large values in gold, and a rough estimate shows that the quartz put through the mill must have been decidedly rich. This, together with the favourable reports of several mining experts who have visited the Fort Steele District in the interest of their companies, and who all speak well of Perry Creek, looks well for the future of Perry Creek as a milling camp.

#### MOYAI.

The Fort Steel Development Syndicate, of London, Eng., has taken a bond on the Moyai and Queen of the Hills, which are direct extensions of the St. Eugene mine. Mr. Wallinger the local manager, has made arrangements for work to recommence right away. Mr. J. Williams, late foreman at the North Star mine will be in charge. The Moyai and Queen of the Hills have over 300 feet of tunneling besides open cuts and shafts on them, considerable ore having been taken out. Average value of the ore \$55 to \$60; silver, 45 to 60 oz., and lead 50 to 65 per cent.

#### NORTH STAR.

The Fort Steel Development Syndicate have purchased the Kimberley Townsite, which is situated immediately between the North Star and Sullivan mines. A contract has been let for 500,000 feet of lumber and the Syndicate will at once commence building a first-class hotel and store. A number of lots have been sold and several buildings will be commenced as soon as lumber is available.

#### ROSSLAND NOTES.

(From Our Own Correspondent).

**Le Roi**—The struggle over the control of the Le Roi mine is still proceeding. The latest phase, in which the B. A. C. captured an injunction against the previous controllers has been the cause of the production of a very convincing piece of evidence as to the increasing prosperity of the camp. A few months ago the shutting down of the mine consequent on the change of controllers and the sudden discharge of 170 men would have been severely felt in the town. So much work is going on that the men had no trouble in obtaining other employment. So many other mines are also shippers that the reduction in the week's output is not very perceptible. Before long the snarl into which the affairs of this mine has got will, no doubt, be entangled and the Le Roi, after a certain period of development work, rejoin the ranks of the large shipping mines of this vicinity. The B. A. C. generally, is proceeding to develop its properties with a view rather to ultimate results than to immediate shewings. This is the behavior of a company which is financially strong. Even should it run short of funds it would be in a position to ship immediately and recruit its strength at once and at a better rate than it could probably obtain at the present moment. In the meantime work is continuously going on. Indeed, I hear that on one of its mines, the Nickel Plate, the manager, Wm. Haskins, has succeeded in breaking the record in the camp for fast mining.

**The Gooderhams**—But whatever may be considered to be the faults of the B. A. C. in regard to immediate shipments shortcomings in this respect are more than wiped out, in the eyes of those who desire to see the weekly shippings increase at once, by the large output of the War Eagle. Now that the principle owners of this property have purchased the Centre Star, a mine on which 6,000 feet of development work has been done, in the course of which immense bodies of shipping ore have been exposed, to such an extent that it is confidentially stated that the mine is in a position to send 500 to 1,000 tons per diem to the smelters, the figure of 2,000 tons per week will soon be exceeded by the camp. In addition to this the Gooderhams not only are in control of the Crown Point on the South

Belt, a property on which work will commence as soon as the great Canadian Syndicate can take a real grip on its properties, but are reputedly reported to be in a deal with the present owners of the Iron Mask, a mine which its friends think to be in the very first rank, and, no doubt, the action of the Canadians in thus investing their capital in their own mines will attract the attention of the capitalists of Europe.

**Monte Cristo Mountain**—A few weeks ago a strike on the Virginia mine in the municipal limits, on Monte Cristo Mountain, just north of town, created great excitement. Monte Cristo Mountain adjoins Red Mountain but is divided from it by Centre Star gulch. No great shipments of paying ore have as yet been sent from any mine except those on Red Mountain itself. The strike on the Virginia thus proves the possibilities of other claims on the north belt, especially those on the hill on which the lucky strike was made. Shares leaped in three days from 45 cents to \$1. In the neighbourhood of this price the stock has since remained. The story of another strike on an adjacent property, though perhaps of lesser importance, reads less like a romance. The Virginia in a day left country rock and went into paying ore: the Monte Cristo has been steadily developing from strong surface indications till now when it has attained a depth of 600 feet with its values improving continually and with 30,000 tons of ore in sight. Lately it began to ship in small quantities but soon had to cease owing to the inadequacy of its machinery. Either new machinery will soon be installed or advantage will be taken of the power supplied from Bonnington Falls and the Monte Cristo will be a firm addition to our shipping mines.

**The South Belt**—Nor are the prospects of the mines on the South Belt looking less fair. At the present moment it may truly be said that the Deer Park is generally regarded as the principal property of the South Belt. Your correspondent visited the mine a few days since and was shown all over it by the manager. The shaft is down 295 feet and it is the intention of the owners that as soon as the shaft is completed down to the even 300 feet to stop sinking for the present and begin drifting. To enable them to do this new machinery will be installed. It has already been ordered and is expected to arrive within a short time. Prospecting has been done on the 50, 100, 150, 200 and 250 feet levels with increasing values with the depth attained. At 50 feet level the shaft has barely pierced through the heavy iron capping and the value though perceptible is low. At the 100 feet level the shaft is distinctly in ore and in ore of a paying grade. At 150 feet values increase and so continue all the way down. Here a cross-cut has been started to find the wall. The grade is even better than in the drift fifty feet above. No wall has as yet been touched, shewing the great width of the lode, which dipping at about sixty degrees, as far as can be judged from the indications, is crossed by a 300-foot shaft without touching its limits. As soon as the wagon road between the property and the Trail Rossland railroad is put into good order, a distance of two miles, shipments will commence. Further east on the belt the Homestake group of claims are getting into shape. A meeting of the shareholders was recently held and it was agreed to sell the Homestake to an assessable company. Capital, \$1,000,000, shares assessable five cents in the dollar. Similarly the R. E. Lee and the Maid of Erin, grouped together and presumed to be on the same lead, determined to be sold to a similar company on a capital basis of \$2,000,000. The remaining claim is the Gopher. The meeting of the shareholders of this property has been adjourned. A similar agreement to that of the others will soon be arrived at in all probability. Of course, if the Deer Park people commence shipping in any reasonable time, and they aver that they will, there will be no trouble hereafter with the mines of the South Belt. Not only those mentioned but the Lily May, Hattie, Sunset, Abe Lincoln, Silver Bell, Grand Prize and others will come in for a share of the general prosperity.

**The Salmo C. consolidated**—The Salmo Consolidated Group of properties are situated about ten miles S. E. of Salmo on the Nelson and Fort Sheppard Railroad. Intelligent development together with careful general management has served to confirm the very promising indications of a mine as shewn up by an extremely rich surface shewing. Development consists of two shafts and a tunnel, Shaft No. 2 being now sunk to a depth of 125 feet. The shewing at that depth is very rich, the shaft being all in solid ore carrying values of \$31.75 in gold and silver to the ton. The company is in good financial condition and are now making arrangements for the installation of the requisite machinery. A concentrating plant will also be installed, (the ore produced concentrating three into one), thus greatly increasing the Company's profits.

The Gooderham-Blackstock syndicate is again behind a big Rossland mine purchase, that combine of Toronto capitalists having bought the Centre Star mine for \$2,000,000. It is believed that a new company will be formed, capital-



ized in \$3,000,000. The mine will accordingly rank with the Le Roi and the War Eagle, as the three most noted present mines of Rossland. After the successful results at length obtained by the Gooderham-Bostock syndicate in the case of the War Eagle, they will probably find little difficulty in floating the Centre Star under the capital suggested, after making a substantial personal profit on the transfer.

NOTES FROM THE SLOCAN.  
(From Our Own Correspondent.)

The rapidity with which great mines are developed is indeed an astonishing feature of this camp. What was yesterday but a mere prospect worth a few hundred or thousand dollars at most, is to-day after the expenditure of a little labour and forethought a mine in every sense of the word. A case in point is that of the Bosun, situated half-way between New Denver and Silverton. It consists in reality of two claims the Tyro and Bosun, the latter of which lies contiguous to and just below the Fidelity. Its original value from a mining stand point lay wholly in its possibilities, as is evident from the fact that the two claims being near the shore were purchased last year for agriculture purposes, the price paid being less than a thousand dollars. While doing the assessment required to hold the mineral rights, however, a small vein of galena two or three inches wide was discovered almost at the boundary line, apparently connected with the ore-body on the Fidelity. The owner not desiring to investigate further for himself, gave a month's working option to Mr. Sandiford, representing the Northwest Mining Syndicate for \$7,500, which option was taken up and the money paid. Since then work has been pushed continuously by means of an inclined shaft sunk directly on the vein and also a drift started about 400 feet further down the hill. The ore-body so small and meagre at first, was found to increase uniformly with depth and now forty feet down, there is fully two feet six inches of magnificent galena across the whole width of the shaft and extending into the sides without any apparent diminution.

In the drift, too, some very fine ore has been met with, but as it has been proved to run in chutes, no further developments of importance are looked for until the tunnel is driven some distance further. A change in the character of the ore with depth is particularly noticeable, near the surface the grain of the galena is extremely fine, which becomes coarser and more crystalline as depth is gained, a condition somewhat hard of scientific explanation and not at all in keeping with past experience. It is estimated that over a car-load of ore has been taken out in merely sinking the shaft and it is the intention to ship almost immediately. Such unexpected and promising developments will do much for the camp, not only in the way of creating a good impression in London, which is particularly desirable, but in stimulating further effort on the part of those who have dosed into a state of lethargy and become desultory in their operations.

There are not many dry-ore propositions at present on the shipping list, but the Mollie Hughes is still in line, and is sending a car-load to Trail this week for treatment. Ores of this class have not so far proven an unqualified success, but it has been frequently remarked, with some semblance of truth, that this is largely due to want of pluck on the part of the operators who appear to have become easily discouraged. Lack of sufficient capital wherewith to work has been assigned as the cause of much of this and doubtless it is true to a considerable degree. Whatever excuses may have been made in the past however will certainly not apply in this case. Mr. Sandiford is a man of large and extensive foreign experience and has at his back an English company who are prepared to invest large sums in efficiently proving their properties. For the credit and reputation of New Denver and the dry ore belt, let us hope they will be as successful with the Mollie Hughes as they have every appearance of being with the Bosun.

Scott MacDonald, superintendent and part owner in the Payne, examined this latter property last week and his opinion of it may be judged from the fact that he has since acquired a two-third interest in the Fidelity, adjoining; the consideration involved has not been made public, but is believed to have been about \$10,000 cash. The California is maintaining its good form and gives evidence of becoming a steady producer. Messrs. Marks, Burns and Wilson, the three parties interested paid it a visit a day or two ago and were much pleased with its appearance. I have referred many times before to the excellent prospects of this mountain and am convinced that such news cannot be reiterated too often. The recent discoveries on the Bosun and other claims go to confirm the highest opinions previously expressed, and it can be only a matter of diligent search and careful exploitation before the

mines on this side will begin to rival the more famous properties at Sandon. The Wakefield will not resume shipment again before winter, but I understand that the property is looking better than ever. An enormous reserve of ore is exposed in the workings merely awaiting the word to mine. Adjacent properties are also looking extremely well, so there need be no apprehension regarding the future of that section of the country. Four Mile is following the lead of some other creeks and will soon boast a concentrator of its own. The Comstock Mines will erect one to treat their product almost immediately, about a mile above the junction with Fennel Creek. This property is situated in the granite area which here flanks the prevailing slates and schists of the Slocan proper, and has a most persistent and well-defined lead. It has been worked continuously for two years with a large force and consequently has enormous dumps of lower grade ore which can only be treated to advantage by wet methods. Messrs. Finch and Hyman two of the principal owners in the Enterprise paid a visit to the mine last week, but it is not yet known whether a more vigorous policy is to be pursued in its development. The mine is of course easily able to pay its way under existing conditions, but transportation costs would be materially reduced and the profits correspondingly augmented in the event of the ore, which carries a high percentage of zinc and but little lead, being treated nearer home and herein lies the chief difficulty. A lead stack cannot be blown in too soon at either Trail or Nelson to meet the pressing requirements of the Slocan in this direction, the many and varied objections to the contrary notwithstanding.

FOUR-MILE CREEK.

A correspondent writing from Silverton denies the truth of the report widely published in the local papers of a "strike" having been recently made at the "Galena Farm." He states that "the ore chute was cut in the shaft at 35 feet or thereabouts, and a drift from the 100-foot level found the chute in place. The shaft was continued to 200 feet and drifting begun. This drift has been driven much farther than was thought necessary, but the chute was not found. All underground work at the mine has been suspended, and surface prospecting is going on. There is much activity on Four-Mile Creek, and at least 10,000 tons of ore will be shipped this winter."

NORTH EAST KOOTENAY.

(From our own Correspondent.)

Important discoveries of copper ore have been made during the past three weeks in the vicinity of Golden. It remains for development work to prove the commercial value of these deposits, but at present the leads appear to be large and strong in their definition. The ore is mainly chalcopyrite, and is more or less associated with gold. The advantage of these locations is that they are convenient to transportation.

There is great activity in the Windermere district, where a good deal of development is going on. The Golden British Columbia Company, which owns the Pretty Girl on Horstheif Creek, has been reorganized and the capital doubled. This Company, represented here by Mr. W. G. Mitchell-Inness, is prosecuting the development of its property, and the probabilities for this proving a valuable copper mine are excellent. The Mines Development Company of Rossland are carrying on work at the Swansea mine at Windemere and the Delos, which is situated close to the Pretty Girl, on Horse Thief Creek. Both are copper properties. It is confidently hoped that several of these mines may be shippers within a short time.

In the Donald Division the Bald Mountain Company has just completed a tunnel of 86 feet at the Eastern end of the property, and this tunnel has cut the lead. The tunnel at the Western end of the property has been extended this season right across the lead, so that the ore body on this portion of the property is now well developed. Two drifts have also been run from the tunnel, cutting the lead at different points. This is a very promising gold property.

T. A. Knowlton is at work on the property he recently bonded on the divide between the Bluewater and the Clearwater rivers, Donald Mining Division. He has taken out half a ton of very high-grade copper ore, assays on which have run from \$300 to \$600 per ton. This rich ore has been found in stringers, and a tunnel is now being driven to tap the ground at depth, and to ascertain whether or not the lead can be found at that point, and whether it contains an ore body of value. The Donald Development Company are also doing some work on their property on Brown's Creek, but at present the claims are merely prospects, and no body of ore has yet been struck.

PUBLICATIONS.

THE *Kootenay Mail*, of Revelstoke, has published a very excellent map\* of Fish Creek, Lardeau Mining Division compiled by Mr. C. Menhenick, formerly Mining Recorder for this district. The map is drawn to a scale of an inch to the mile, and gives the position of the principal mining claims of Fish Creek camp. The back of the map is utilized to the purpose of a general descriptive account of the district.

\*Price, 50 cents.

THE METAL MARKET—AUGUST.

Compiled from special telegraphic quotations to the B. C. MINING RECORD, from the *Engineering & Mining Journal*, New York.

The close of the Americo-Spanish war has had a good effect on the money market, and a general period of prosperity is anticipated.

SILVER.

The Indian banks have been buying freely and the market for silver has been steady throughout the month. The lowest point reached being 58 9-16 on the 1st of the month, since when prices have fluctuated, being 59 1/4 and 59 1/2. Our quotations by wire to-day (August 26th) is 59 1/2. The average price for July was 59.06 cts.

LEAD.

The month opened not altogether auspiciously but during the second week a better tone prevailed in this market. The latest advices show that the firm tendency continues, and there is a good healthy demand for pig lead. Prices are higher than they have been for many months, and a steady advance since the first week of August has taken place. The price on August 26th was 4.7 1/2, as compared with 3.92 1/2 for the corresponding day last month. The average price of lead in July, 1898, was 3.95, and in July, 1897, 3.72.

SPELTER.

The market was irregular and flat during the first two weeks of August, but improved towards the close, and the consumption continues good. We have to quote 4.65 and 4.72 1/2 for the last week in August, New York prices.

COPPER.

As in other markets the termination of the war has favourably affected copper, and a very large business has been done at good prices. The English market is particularly active, and heavy realizing sales for speculative account are reported. The latest New York prices for lake copper are 12 and 12 1/2, a material advance. The average price for July, 1898, was 11.63, and for July, 1897, 11.11.

SHIPPING MINES.

SLOCAN—JULY.

A satisfactory increase in the output is reported from the Slocan for July. During the month the following mines shipped *via* the Kaslo & Slocan Railway. The ore going out *via* Nakusp is as follows:

	Pounds.
Payne .....	3,200,000
Ruth .....	700,000
Whitewater .....	192,000
Last Chance .....	120,000
Slocan Star .....	120,000
Antoine .....	65,300
Coin .....	12,000
Wonderful Bird .....	1,940
<b>Total .....</b>	<b>4,411,240</b>

The ore clearances at the Kaslo Customs House for the month were:

Gross pounds ore .....	4,622,000
Value .....	\$187,631
Pounds lead, contents .....	2,230,015
Ounces silver, contents .....	231,415

The Nakusp clearances reported to the port of Kaslo were:

Gross pounds ore .....	2,697,604
Value .....	\$99,384
Pounds lead, contents .....	953,910
Ounces silver, contents .....	119,010

The shipments *via* Kaslo were divided among the smelters and purchasers as follows:

	Pounds.
Pueblo .....	3,350,000
Everett .....	982,000
Kootenay Ore Co., Kaslo .....	79,240
<b>Total .....</b>	<b>4,411,240</b>

We are indebted to Mr. H. E. Croasdaile, general manager of the Hall Mines, Limited, for the following results of this company's smelting operations for the four weeks ending July 29th: During twenty days' smelting 3,946 tons of ore were smelted, yielding 188 tons of matte, containing (approximately) 61 tons copper and 64,890 ounces silver.

ROSSLAND—JULY.

The shipments from the Rossland mines for this month were the heaviest in the history of the camp, as the following table will show:

	Tons.
War Eagle .....	4,980
Le Roi .....	3,240
Centre Star .....	840
Monte Cristo .....	295
Iron Mask .....	280
Giant .....	30
Sunset No. 2 .....	15
<b>Total .....</b>	<b>9,680</b>

Following are the ore shipments from the mines adjacent to Rossland from January 1 to August 13, 1898:

Le Roi .....	27,721
War Eagle .....	20,186
Centre Star .....	2,577
Poorman .....	453
Iron Mask .....	2,143
Cliff .....	140
Velvet .....	350
Monte Cristo .....	416
Sunset No. 2 .....	30
Deer Park .....	6
Giant .....	83
<b>Total .....</b>	<b>54,105</b>

COAL SHIPMENTS.

The New Vancouver Coal Mining & Land Company, Limited.

FOREIGN SHIPMENTS, JULY, 1898.

	Tons.
1—S. S. Pah Shan .....	Tacoma 542
3—Str. Tyee .....	Port Townsend 45
6—Str. Tyee .....	" " 33
7—S. S. Burma .....	San Francisco 4,453
8—S. S. Titania .....	" " 5,484
8—Bark Sea King .....	Hondolulu, H.I. 2,383
9—Str. Pioneer .....	Port Townsend 33
12—Ship C. F. Sargent .....	Hondolulu, H.I. 2,704
13—Str. Wanderer .....	Port Townsend 35
18—S. S. Burma .....	San Deigo 4,560
20—S. S. Titania .....	San Francisco 5,384
21—S. S. Roanoke .....	Alaska 534
23—Str. Sea Lion .....	Port Townsend 15
23—S. S. Siam .....	San Francisco 4,420
27—Bark Fresno .....	Hondolulu, H.I. 1,967
29—Str. Wanderer .....	Port Townsend 46
<b>Total .....</b>	<b>32,638</b>

## LIST OF FOREIGN SHIPMENTS TO AUGUST 20th, 1898.

		Tons.
2—S.S. Titania.....	San Francisco	5,414
5—S.S. Burma.....	" "	4,446
8—S.S. Rosalie.....	Port Townsend	43
9—S.S. Siam.....	San Francisco	4,497
12—S.S. Amur.....	Alaska	173
15—S.S. Titania.....	San Francisco	5,424
16—S.S. Burma.....	Port Los Angeles	4,580
19—S.S. San Mateo.....	" " "	3,874
19—Str. Sea Lion.....	Port Townsend	40
Total,		28,491

## COAL EXPORTS.

During the month of July 58,302 tons of coal were exported from the Vancouver Island collieries. Of this the New Vancouver Coal, Mining & Land Co., shipped 32,638 tons, the Wellington colliery, 15,960 tons, and Union 9,703 tons.

## TRADE CIRCULARS AND PRICE LISTS.

It is satisfactory to note that British manufacturers of mining machinery and appliances are beginning to contemplate British Columbia as a promising field for business enterprise, and hence are already beginning to establish agencies in this country. We are in receipt this month of three very handsome illustrated catalogues issued by Messrs. Bullivant & Company, of London, the best known firm of wire rope manufacturers in the United Kingdom. Messrs. Bullivant & Co. supply wire rope all over the world, and have even successfully competed with American manufacturers in their own territory. This firm's catalogues and price lists may be obtained from Messrs. W. A. Anderson & Co., MacKinnon Building, Vancouver, agents for the manufacturers.

## CORRESPONDENCE.

*The Editor does not hold himself responsible for the opinions which may be expressed in this column. No notice will be taken of communications unless accompanied by the full name and address of the writer.*

## BRITISH COLUMBIA DEVELOPMENT ASS'N LTD.

**TO THE EDITOR:**—We notice in your issue for July, this year, that in your London correspondent's letter he states that this Company has promoted the Incorporated Exploration Company of British Columbia, and the Lake Bennett & Klondyke Steam Navigation Company.

It is only fair to state that we did not promote the existing Lake Bennett & Klondyke Steam Navigation Company, which took over Mr. Rattenbury's steamers. On the other hand, your correspondent has not given us credit for the largest undertaking which we have carried through, viz: the obtaining of the charters for the White Pass and Yukon Railway.

Yours faithfully,

G. DAWSON, Secretary.

London, E. C., 9 New Broad St., 4th Aug. '98.

## THE BRITISH COLUMBIAN MINERAL PROPERTIES LIMITED.

**TO THE EDITOR:**—Had it not been for the information given by you, I would have been quite taken by surprise at seeing my name on the prospectus of the British Columbia Mineral Properties, Ltd., as one of their consulting engineers. I was certainly informed that it was projected to get up a company to take up good prospects and develop them, and I agreed to examine their prospective properties as their consulting engineer, but I never agreed to allow my name to figure on their prospectus, practically giving to the statements therein contained, whatever little weight my name may carry as a guarantee of the correctness of same. I know nothing of the prop-

erties referred to in said prospectus, neither do I know anything about any of the directors, with one exception.

I am writing to the Secretary of the company asking him to kindly withdraw my name from the prospectus, as I never gave permission for it to figure there. I am perfectly willing to examine properties for them or any one else, but I do not care to have my name figure on the prospectus of a concern whose general statements please me so little, and which commences its existence by producing two new mining engineers. I am not a Fellow of the Geological Society, as the prospectus states, neither do I use the letters M.E., I am a Fellow of the Chemical Society, and have been one since 1880. My experience in mines, mostly gained underground, give me the right to consider my opinion of some value, at least I flatter myself that it does. I would ask you, therefore, to allow me to state that I have not acted as consulting engineer to the B.C. Mineral Properties, and in no way care to guarantee any statements that may be made about their properties up to the present time.

J. A. MACFARLANE.

## MR. TOPPING AND THE B. C. MINERAL PROPERTIES.

**TO THE EDITOR:**—You publish a communication in your last issue headed "More Wild Cats" and signed "Trapper." In this letter which seems to have been penned by some malicious and dyspeptically inclined person, there is much that requires correction. For instance, I did locate and name the Le Roi. Again, how does a stranger to this section know that the properties owned and being acquired by the British Columbia Mineral Properties, Ltd. are "Wild Cats"? And as to myself, what does your correspondent know of my experience and capabilities? I ask you the same question? As a matter of fact I commenced mining at Sweetwater, Wyoming in 1868 and I have been mining or interested in mines ever since.

I am no Mining Engineer, nor have I ever signed the letters "M. E." to my name. Indeed, except in cases where long experience and time has erased from the graduates' minds the fixed rules taught them in Schools of Mines do I have any use for "M. E.'s." for it takes but three year's study of technical terms, a diploma and lots of assurance to make one. The best Mine Examiners—and my acquaintance is not limited in that respect—are men who have served their apprenticeship underground and who have gained their experience by years of actual contact with mines. As to the prospectus of the British Columbia Mineral Properties, Ltd., I can say that the terms "M.E." used by them in association with my name were wholly unwarranted by me. I made a very conservative report for this concern on a property that I know well and that I do not believe is a "wild cat" and that is the extent of my connection with the Company. In your estimate of my character, Mr. Editor, I thank you for the "estimable," but I am modestly dubious regarding the "perfunctory" nature of my acquaintance with mining. Were you more intimately acquainted with my personal history you would, perhaps have commented more justly.

Yours Respectfully,

E. S. TOPPING.

## ANSWERS TO CORRESPONDENTS.

**T. N.** (St. Johns, Newfoundland.) The principal work done during the present year on the Van Anda mine, Texada Island, consists of a well-timbered shaft, (4½x9 feet inside measurement) now down rather over 200 feet. The shaft has passed through ore at various depths, but the main ore body lies to the side, and has been cut at the 150-foot level for some twenty feet without encountering the hanging wall. The ore is chiefly concentrating. The best ore assays for \$40 to \$60. The intention of the Company is to sink to a depth of 250 feet; to then cross-cut and drift on the lode. From present indications the prospects of the Company are promising.

**A. E. P.** (Nanaimo.) We are unable to obtain any information with regard to the existence of the mine you refer to.

**S. P.** (Belleville, Ont.) We cannot assume any responsibility in the matter of advising you what stocks to buy. If you will submit your list we will give you an opinion.

**Ainslie,** (Toronto.) It is impossible to say until the results are published in September. An account of the new installation appears in this issue.

**Mining Stocks.**

Prepared by A. W. Morse & Co., Mining Brokers, Victoria, B.C., Aug. 25, '98

Company.	Capital.	Par Value.	Price.
<b>TRAIL CREEK.</b>			
Alberta.....	\$1,000,000	\$1	\$ 5
Big Three.....	3,500,000	1	9
Bruce.....	1,000,000	1	10
Butte.....	1,000,000	1	02
Caledonia Con.....	1,000,000	1	5 1/2
California.....	2,500,000	1	15
Camp Bird.....	1,000,000	1	05
Celtic Queen.....	750,000	1	03
Centre Star.....	500,000	1	10
Commander.....	500,000	1	25
Deer Park.....	1,000,000	1	20
Enterprise.....	1,000,000	1	06
Evening Star.....	1,000,000	1	15
Georgia.....	1,000,000	1	11
Gertrude.....	500,000	1	15
Golden Drip.....	500,000	1	03
Hattie Brown.....	1,000,000	1	05
High Ore.....	500,000	1	10
Imperial.....	1,000,000	1	20
Iron Horse.....	1,000,000	1	95
Iron Mask.....	500,000	1	10
I.X.L.....	1,000,000	5	12 1/2
Iron Colt.....	1,000,000	1	05
Homestake.....	1,000,000	1	05 1/2
Gopher.....	1,000,000	1	04 1/2
R. E. Lee.....	2,000,000	1	35
Jumbo.....	500,000	1	7 00
Le Roi.....	2,500,000	1	20
Lilly May.....	1,000,000	1	15
Mabel.....	1,000,000	1	10
Mayflower.....	1,000,000	1	19
Monita.....	750,000	1	33
Monte Cristo.....	1,000,000	1	04
Morning Star.....	1,000,000	1	10
Nest Egg-Firefly.....	1,000,000	1	10
Northern Belle.....	1,000,000	1	65
Novelty.....	1,000,000	1	05
Palo Alto.....	1,000,000	1	13
Phoenix.....	500,000	1	13
Poorman.....	500,000	1	11
Red Mountain View.....	1,000,000	1	22
Rossland, Red Mountain.....	1,000,000	1	06
St. Elmo.....	1,000,000	1	12 1/2
St. Paul.....	1,000,000	1	06
Silverine.....	500,000	1	1 00
Virginia.....	500,000	1	3 00
War Eagle Consolidated†.....	2,000,000	1	28
West Le Roi.....	500,000	1	09
White Bear.....	2,000,000	1	

**AINSWORTH, NELSON AND SLOCAN.**

American Boy.....	1,000,000	1	15
Arlington.....	1,000,000	1	10
Argo.....	100,000	1	10
Athabasca.....	1,000,000	0 10	30
Black Hills.....	100,000	0 25	10
Buffalo of Slocan.....	150,000	1	—
Canadian M. M. and S. Co.....	2,000,000	10	07 1/2
Cumberland.....	500,000	1	75
Dundee.....	1,000,000	1	08
Dardanelles.....	750,000	1	12
Dellie.....	1,000,000	1	05
Eldon.....	1,000,000	1	07 1/2
Ellen.....	1,000,000	1	10
Elkhorn.....	1,000,000	0 25	10
Exchequer.....	200,000	1	80
Fern Gold.....	800,000	1	25
Goodenough.....	650,000	1	17 1/2
Gibson.....	750,000	£1	7 00
Grey Eagle.....	300,000	1	12 1/2
Hall Mines.....	1,000,000	1	12
Idler.....	1,250,000	1	25
Kasio-Montezuma.....	150,000	1	25
London.....	1,000,000	0 25	50
Minnesota.....	250,000	1	16 1/2
Nelson-Poorman.....	250,000	1	18
Northern Light.....	1,200,000	1	12 1/2
Noble Five Con.....	1,000,000	2 50	10
Ottawa and Ivanhoe.....	2,500,000	1	07
Payne.....	1,000,000	1	16
Phoenix Consolidated.....	1,000,000	1	30
Rambler Con.....	1,000,000	1	06
Reco.....	1,000,000	50	1 50
Slocan-Reciprocity.....	500,000	£1	05
Slocan Start.....	\$1,000,000	0 25	12 1/2
Santa Marie.....	250,000	1	10
Silver Band.....	1,000,000	1	07
Slocan Queen.....	1,000,000	10	03 1/2
Star.....	500,000	1	30
St. Keverne.....	500,000	1	13
Sunshine.....	240,000	1	25
Two Friends.....	1,000,000	1	05
Washington.....	1,000,000	1	
Wonderful.....	1,000,000	1	

**LARDEAU.**

Consolidated Sable Creek Mining Co.....	1,500,000		10
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**TEXADA ISLAND.**

Texada Proprietary.....	250,000	1	25
Van Anda.....	5,000,000	0 25	03 1/2
Victoria-Texada.....	150,000	1	10
Texada Kirk Lake.....	600,000	1	00
Raven.....	1,000,000	0 10	10
Gold Bar.....	100,000	1	10

<b>VANCOUVER ISLAND.</b>			
Alberni Mountain Rose.....	250,000	1	05 1/2
Consolidated Alberni.....	500,000	1	10
Mineral Creek.....	500,000	1	05 1/2
Mineral Hill.....	750,000	1	05
Quadra.....	500,000	1	10
<b>CARIBOO.</b>			
Cariboo Gold Fields Ld.....	£100,000		
Cariboo Hydraulic Consolidated.....	\$5,000,000	1	85
Horsefly Hydraulic.....	200,000		
Horsefly Gold Mining Co.....	1,000,000	10	1 50
Cariboo M. & D. Co.....	300,000	1	25
Golden River Quesnelle.....	£350,000	£1	85
Victoria Hydraulic.....	300,000	1	
<b>LILLOOET DISTRICT.</b>			
Golden Cache.....	500,000	1	60
Alpha Bell.....	500,000	1	50
Cayoosh Creek Mines.....	500,000	1	50
Lillooet Gold Reefs.....	200,000	25	25
Excelsior.....	500,000	1	50
<b>FAIRVIEW CAMP.</b>			
Tin Horn.....	200,000	0 25	15
Winchester.....	2,000	0 25	20
<b>BOUNDARY.</b>			
Old Ironsides.....	1,000,000	1	25
Golden Crown.....	1,500,000	1	25
<b>CAMP MCKINNEY.</b>			
Cariboo.....	800,000	1	75
Minnehaha.....			17

† Dividends paid to date are as follows : War Eagle, (new company) \$90,000 ; Trail Creek District—Le Roi, \$825,000 ; War Eagle (old company), \$217,000. Camp McKinney—Cariboo, \$221,000. Nelson District—Hall Mines, \$226,750 ; Fern, \$10,000. Slocan District—Payne, about \$1,000,000 ; Slocan Star, \$400,000 ; Reco, \$287,000 ; Idaho, \$240,000 ; Whitewater, \$151,000 ; Rambler-Cariboo, \$40,000 ; Last Chance, \$40,000 ; Two Friends, \$6,000. Dividends paid since last month's list was made up, War Eagle, \$30,000.

**STOCK MARKET.**

DURING the month of August, B.C. mining stocks have been very active, and quite an advance in price has taken place in a number of shares.

In the Rossland camp, Virginia has advanced since our last month's report, from 50 cents to \$1, and a large number of shares have changed hands from 95 cents to \$1.10. The advance was caused by a strike at a depth of 300 feet, of a vein 30 feet wide, of good ore. One day it has been selling in the vicinity of 90 cents, and two or three days afterwards at \$1.10 ; a fall back to 95, followed by a rise to \$1 in a few days. Large profits have been made on Virginias during the last few weeks. Deer Park is also a great favourite, and it is advancing rapidly, some now quoted as high as 25 cents. There has been a good demand for Iron Colt, and the price has advanced from 6 cents to 11 cents in seven days, and with very few for sale under 20 cents. This stock will advance rapidly. It is the intention to re-organize the Company, and make the shares in the new Company assessable so as to provide funds to resume work on this mine.

Commander, Homestake, Gopher, R. E. Lee, and War Eagle shares have also been in good demand.

In Camp McKinney the Cariboo has advanced to 75 cents. The owners of the 800,000 shares in the old company will get share for share in the new Company, which is now being re-organized.

In the Slocan stocks there has not been much activity and we cannot understand the public distrust of silver mines when the value per ton of the Slocan ores is from three to five times greater in value than the Rossland products. We, however, anticipate great activity in Slocan stocks at an early date. Dardanelles and Noble Five have been enquired for and the resumption work at the Dardanelles has created some demand for that stock and several good sized blocks have recently changed hands at a low figure.

In the Nelson district the principal feature has been the strike in the Nelson-Poorman, and the prices have advanced from 25 cents to 50 cents.

Regarding Coast stocks there has been most enquiry for Van Anda, and a number of sales have taken place at the present low price. Consolidated Alberni had one clean-up of the stamp mill, resulting in a yield of \$15 per ton, but a much better result is expected from the next returns, which will be made public towards the end of August. Very encouraging reports are to hand from the mine itself, and it is generally believed that the bond on the property will be taken up, the present shareholders receiving \$50,000 in cash and a quarter interest in the English Company now holding the bond.

It is expected that a clean-up will be made in a few days of the Golden Cache mill, and it is reported from Fairview that the Tin Horn mill has resumed operations crushing ore belonging to the Winchester Company. This has created enquiry for Winchester, resulting in all the cheap stock being bought up.

## MACHINERY INSTALLATIONS AND INDUSTRIAL NOTES.

**T**HE James Cooper Manufacturing Company, Ltd., of Montreal, are doing a very large and important business in supplying mining machinery to the British Columbia camps. Among the orders recently received by this firm are the following: An 80 h. p. boiler for the Trail smelter; two miles of six inch pipe line, a boiler, engine and mill plant for the Crow's Nest Pass Coal Company; a hoisting engine, boiler and pump for the Athelstan Gold Mining Company, of Rossland; and 810 buckets for the Hall Mines, Ltd., tramway, which is being re-equipped—delivery of this order is to be made within eight weeks. Of recent installations made by the James Cooper Manufacturing Company, the compressors of 12 drill and 5 drill capacity, respectively, supplied to the B. A. Corporation—which, by the way has no less than nineteen Ingersoll-Sergeant drills in operation—and now in running order; the Liberty Mining Company, of Rossland, have recently installed an Ingersoll-Sergeant, Preston Inlet compressor with a full complement of drills; a ten drill air compressor plant of the belt-driven type, a Pelton water-wheel with half a mile of converse lock-joint pipe, and a mile of air-line pipe, are being placed in position at the Whitewater Deep; a 7 drill compressor plant and one and a half miles of pipe line has been installed at the Noble Five, Sandon, and a 12 drill plant at the Mother Lode, owned by the British Columbia Copper Company, at Boundary Creek.

The Gutta Percha & Rubber Manufacturing Co. Ltd., of Toronto, announce a further advance of ten per cent. in the price of all Mechanical Rubber Goods from August 1st. As was the case with the first advance, this firm were the last to advance prices. The Mechanical Rubber companies all over the world took action several weeks sooner. The reason for this advance is the steady and unprecedented advances in cost of crude rubber. There is no prospect of lower prices, and all the indications point to even further advances in the future.

The newly appointed Governor of the Yukon, Mr. Ogilvie, left recently for Dawson City to assume his gubernatorial duties. In the place of blankets he and his party

took eiderdown sleeping bags and eiderdown quilts made of strong canvas on the outside and lined with a pure natural wool. By an ingenious device the down interlinings are arranged in such a way that when the bag is in use every seam is protected by a layer of down, either inside or outside, and therefore provide absolute immunity from even the lowest temperature. The bag is waterproof and wind-proof, and its weight is about that of two pairs of blankets. Weight is an item of considerable importance in an Arctic outfit. The bags and the quilts are made by the Alaska Feather & Down Co., the well known makers of high class Bedding and Down goods in Montreal.

Later reports show that the damage to the works of the Jenckes Machine Co., at Sherbrooke, Quebec, by fire, on the night of the 13th inst., was very much exaggerated. The fire was confined to the machine shop building, and the other departments foundry, boiler shop, etc., were in operation as usual on the following Monday. A few days later a portion of the machine shop was started up, and the whole is expected to be in running order by the end of August. The patterns, drawings and office records were preserved practically intact, and the numerous orders in hand will suffer comparatively slight delay. The principal item requiring replacement is the roof of the machine shop, which, however, is well under way. The whole of the work is being pushed with great energy, and all orders will be accepted as usual.

Mr. Sidney Shore, of Victoria, whose advertisement appears on page 4 of this issue, has secured the agency for the Hamilton Acetylene Gas Machine Company's Generators for the province of British Columbia. The Hamilton machine is constructed under the approval of the underwriters of fire insurance and possesses many special features of merit.

### ERRATA.

**I**N last month's issue of the RECORD, a photograph was reproduced and described as "Kootenay Lake in Summer." This should have read "Slocan Lake in Summer," as an indignant correspondent from New Denver, the Lucerne of West Kootenay, very properly points out.

# The Royal Electric Company

MONTREAL, QUEBEC.

— MAKERS OF —

## Electrical Mining Machinery

### MOTORS

Adapted for Operating Stamps, Compressors, Hoists, Trams, Drills, Pumps.  
Lighting Plants for Mines and Buildings.

## OUR S. K. C. SYSTEM

RENDERS DISTANT WATER POWERS AVAILABLE  
FOR ALL CLASSES OF MINING WORK.

— WRITE OUR BRITISH COLUMBIA BRANCHES AT —

Rossland.

36 Government St., Victoria.

# COAL! COAL!

## The New Vancouver Coal Mining & Land Co.

(LIMITED.)

(FORMERLY THE VANCOUVER COAL COMPANY.)

Are the Largest Coal Producers on the Pacific Coast.

### NANAIMO COAL

(Used principally for Gas and Domestic purposes.)



### SOUTHFIELD COAL

(Steam Fuel.)

### Protection Island Coal & New Wellington Coal

(House and Steam Coal), are mined by this Company exclusively.

**THE NANAIMO COAL** gives a large percentage of gas, a high illuminating power, unequalled by any other bituminous coal in the world, and a superior quality of coke.

**THE SOUTHFIELD COAL** is now used by all the leading steamship lines on the Pacific.

**THE NEW WELLINGTON COAL**, which was introduced in 1890, has already become a favourite fuel for domestic purposes. It is a clean, hard coal, makes a bright and cheerful fire, and its lasting qualities make it the most economical fuel in the market.

**THE PROTECTION ISLAND COAL** is similar to the New Wellington Coal. This coal is raised from the submarine workings under the Gulf of Georgia and is shipped from wharves both at Protection Island and Nanaimo.

The several mines of the Company are connected with their wharves at Nanaimo, Departure Bay and Protection Island, where ships of the largest tonnage are loaded at all stages of the tide. Special despatch given to mail and ocean steamers.

**SAMUEL L. ROBINS, Supt., Nanaimo, B.C.**

# Compressed Air from Falling Water.

A HIGH TESTIMONIAL.

THE DOMINION COTTON MILLS, Ltd., MAGOG, QUE., JUNE 7th, 1898.

THE TAYLOR HYDRAULIC AIR COMPRESSING CO., Ltd., Montreal, Que.

DEAR SIRS:—

We have had your Air Compressor in successful operation for over twelve (12) months in our Print Works, where it has replaced steam to drive the engines in the Printing Department. Your Compressor runs without attention or expense, and is saving the cost of fuel formerly employed to drive the same engines by steam.

I am pleased to certify to its successful operation as a most efficient motive power.

Yours truly, W. T. WHITEHEAD, Manager.

TAYLOR AIR COMPRESSING CO., SPOKANE, WASH.

## THE SHAREHOLDER,

TELEGRAMS: "Suasible," London.  
A Financial "Review of Reviews."  
PUBLISHED EVERY MONDAY IN LONDON, ENG.

Head Office:

88 Fleet Street, London, E.C., England.

YEAR'S SUBSCRIPTION 8s. 8d.

The World's Financial Press Condensed.

## M. R. SMITH & CO. ★

ESTABLISHED 1858.

### BISCUIT MANUFACTURERS.

GOLD MEDALS awarded at Royal Agricultural Exhibitions, 1895-96. MEDAL AND DIPLOMA awarded at Colonial & Indian Exhibition 1886

SILVER MEDALS at Provincial Exhibition.

VICTORIA, - - B.C.

## HARRIS, KENNEDY & CO.,

Codes { A B C, Moreing & Neal's, Clough's.

Box 157 ROSSLAND, B.C. and KASLO.

Cable address: "Graham," Rossland.

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WE have some valuable properties suitable for the English market. Confidential reports made on B.C. Mining Properties. References: Roberts-Lubbock & Co., Bankers, 15 Lombard Street, E.C.; George Freeman, 23 Throgmorton Street, E.C., and others if required. Correspondence Solicited.

E. A. HAGGEN. Golden, B.C.

### Broker and Mining Agent.

Cable address:—"Kanagan," Golden. Bedford, McNeill and Moering and Neal codes.

## The Kootenay Mail, ESTABLISHED 1894.

REVELSTOKE, B.C.

The pioneer and representative paper of North Kootenay. Clear, Crisp, and Consistent.

PRICE, \$2.00 PER YEAR.

STOCK AT PAR.

## Thomas Bros. & Grant

Civil, Naval, and Military Tailors.

### MANUFACTURERS AND MINERS' OUTFITTERS

Samples and self-measurement forms sent on application by mail.

We carry but one Line of Goods— THE BEST

— LARGEST STOCK OF—

### IMPORTED WOOLLENS

to chose from in B.C.

Call or write for prices.

92 GOVERNMENT STREET,

VICTORIA, B.C.

## A. VAN DER NAILLENS'

School of Practical, Civil, Mining, Electrical Mechanical Engineering.

Surveying, Architecture, Drawing and Assaying, Cyanide, Chlorination, Metallurgy, Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blow-pipe Assay, \$10; Full Course of Assaying, \$50. Established 1864. Open all year.

Send for Circular. 933 Market St., San Francisco, Cal.

## W. PELLEW-HARVEY, F.C.S.

(Mem. Fed. Inst. M. and M.E.)

### Assayer and Mining Engineer.

Appliances for testing Parcels up to 200 pounds.

PENDER ST.

VANCOUVER, B.C.

# PROVINCE OF BRITISH COLUMBIA.

Gold, Silver, Lead, Copper, Coal, Coke, Oil, Iron, Mercury, Platinum, Etc.

The Mines of British Columbia Have Produced Over  
**\$100,000,000.**

AMOUNT AND VALUE OF MATERIALS PRODUCED 1896 AND 1897.

	Customary Measures.	1896.		1897.	
		Quantity.	Value.	Quantity.	Value.
Gold Placer.....	Oz.....	27,201	\$ 544,026	25,676	\$ 513,520
" Quartz.....	Oz.....	62,259	1,244,180	106,141	2,122,820
Silver.....	Oz.....	3,135,343	2,100,689	5,472,971	3,272,836
Copper.....	Lbs.....	3,818,556	190,926	5,325,180	266,258
Lead.....	Lbs.....	24,199,977	721,384	38,841,135	1,390,517
Coal.....	Tons.....	846,235	2,327,145	882,854	2,648,562
Coke.....	Tons.....	615	3,075	17,832	89,155
Other Materials.....			15,000		151,600
			<b>\$7,146,425</b>		<b>\$10,455,268</b>

Production for 1890, \$2,608,608 ; for 1896, \$7,146,425 ; for 1897, \$10,456,268.

## GOLD.

Gold-bearing lodes are now being prospected in many parts of the province, and at Rossland magnificent ore-chutes of very profitable gold-copper ore are being mined and smelted, the Le Roi having paid to date \$725,000 in dividends, with a large and increasing amount of ore in sight as the workings attain greater depth, while systematic development on other properties is meeting with excellent results, mining having just fairly begun in this camp. Little doubt can be entertained that Rossland will become a heavy producer of gold, and that excellent properties now only await sufficient and abundant capital to become paying mines, to further aid in which the facilities for cheaper transportation and smelting are being now supplied. At Nelson and at Fairview, Camp McKinney, Greenwood, Central and other camps in the southern part of Yale, important work is being done on the quartz ledges there, several new mills being under erection.

Exploratory work has also been in progress in East Kootenay and in Lillooet, Alberni, and on the Gulf Islands and along the coast line of the Mainland, as well as in other parts of the Province.

In Cariboo, several large undertakings, involving a large amount of capital, are at work exploring both modern and ancient river channels, the Cariboo Hydraulic Mining Co., on the Quesnelle River, proving, on development, to have in a channel of the latter kind, a great deposit of exceptional richness, while other parts of this district now offer every inducement to capital.

Into Cassiar, Omineca, and the great area to the north, as well as Cariboo, there now promises to be a great exodus of explorers, excited by rich diggings now being mined in the Yukon as on the Klondyke, to the north, and rivers and creeks long reported to be gold-bearing will now be made accessible, and well tested.

## SILVER-LEAD.

Despite the drop in the price of silver, the Slocan mines are being much more extensively worked, while the shipments of high grade ore are constantly increasing. The production for 1897 has much exceeded that of 1896, as such mines as the Payne, Ruth, Whitewater and other mines increased their output.

At Nelson, the Silver King or Hall Mines are shipping constantly a large amount of silver-copper ore, and the Lardeau, Trout Lake, Illecillewaet districts, on further exploration, promise to become rich. In East Kootenay large bodies of silver-lead ore will be mined on completion of the railroads now under construction.

## COPPER.

Copper is being produced to a limited extent at Rossland and Nelson, but the large deposits of at present low grade ore in the Boundary Creek district will be fully tested when the railroad, now almost assured, is constructed. Prospecting is being done at Kamloops, along the west coast of the Mainland and of Vancouver Island, as well as at many other points, and Texada is producing high grade bornite ore.

## COAL AND COKE.

The large collieries on Vancouver Island are producing about a million tons of coal annually, and at Comox an excellent coke is now being produced, much of which is shipped to the inland smelters. The great deposits of coking coal in East Kootenay, at the Crow's Nest Pass, are now being opened, as the C.P.R. is now being built to the Columbia River to supply the great mining regions with cheap coal and coke.

## SMELTERS AND RAILROADS.

The smelting industry is now beginning to assume large proportions, as preparations are being made to treat the ores of this Province within her own borders, a most important factor in the increasing prosperity of this country, entailing as it does, and will, the employment of much capital and many men. The extension of the railroad systems to different parts is now in progress, and the next few years will see many parts in which the prospects for good mining are excellent, made easy of access, while ores can be shipped with facility to the smelting centres, where the assembling of the various inter-fluxing ores will make possible the treatment of all British Columbia ores at home.

## CAPITAL.

Capital can now find here excellent and many opportunities for investment, if proper business care and the experience of qualified men are utilized, as the values placed on mines and undeveloped properties have reached a reasonable basis.

## MINERAL LANDS.

Mineral lands are open to location to any person over eighteen years of age, who has obtained a free miner's certificate, and perfect title to lode claims can be easily secured after \$500 worth of work has been done per claim. A great extent of territory has yet to be prospected.

## YUKON GOLD FIELDS.

As the Klondyke and other gold fields in the Yukon in British territory are reached mostly via British Columbia, all supplies and outfits obtained at Victoria, Vancouver, Ashcroft, Kamloops, etc., can be taken in free of duty, which otherwise will have to be paid if not purchased in Canada.

For information, Reports, Bulletins, etc., address

F. W. ROBERTSON,                      The HON. J. FRED HUME,  
 Department of Mines,                      Minister of Mines,  
 VICTORIA, B.C.                              VICTORIA, B.C.



# The British Columbia Review

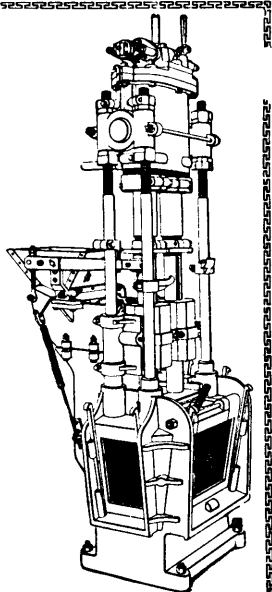
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A GOOD INVESTMENT.

To Brokers, Mining Engineers, Owners of Mining Claims, Assayers, Journalists and others: Advertise in the **B. C. REVIEW**—The only Representative B. C. Journal in Europe.

39 Bishopsgate St. Within, LONDON, ENG.

## Steam Stamp Mill.



DESIGNED to help the Prospector develop his property and pay its own way.

WEIGHT, only 3,350 lbs.  
CAPACITY, 10 tons daily.

Over 100 MILLS now in operation.

Can be transported anywhere a mule can travel.

An unparalleled SUCCESS, only equalled by that .... of the ....

## GATES ORE CRUSHER

Gravity Stamp Mills, Gates Vanners, Smelters, Rolls, Jigs. 15 Catalogues describing our Mining Machinery.

**GATES IRON WORKS,** 650 ELSTON AVENUE, DEPT. SS. CHICAGO.

Sales Agent, George O. Bradley, Atlas Bldg, Salt Lake City, Utah.

# .. THOMAS BATEMAN ..

MINING ENGINEER,

ALBERNI B.C.

MEMBER OF THE AUSTRALASIAN INSTITUTE OF MINING ENGINEERS

Twenty-five Years Experience in Gold, Silver, Lead, Copper, Tin and Coal Mining.

Mines examined and reported upon. Careful attention given to Superintendence of development work in the Alberni Mining District and outlining of methods of exploitation.

## Canadian Pacific Navigation Co., Ltd.

TIME TABLE NO. 33.

(Taking effect March 1st, 1898.)

### VANCOUVER ROUTE.

VICTORIA TO VANCOUVER daily except Monday at 1 o'clock.  
VANCOUVER TO VICTORIA daily except Monday at 13 o'clock or on arrival C.P. Railway No. 1 Train.

### NEW WESTMINSTER ROUTE.

LEAVE VICTORIA—For New Westminster, Ladner's Landing and Lulu Island Sunday at 23 o'clock; Wednesday and Friday at 7 o'clock. Sunday's steamer to New Westminster connects with C.P.R. Train No. 2 going east, Monday.  
FOR PLUMPER PASS—Wednesdays and Fridays at 7 o'clock.  
FOR MORESBY AND PENDER ISLANDS—Fridays at 7 o'clock.  
LEAVE NEW WESTMINSTER—For Victoria Monday at 13:15 o'clock. Thursday and Saturday at 7 o'clock.  
FOR PLUMPER PASS—Saturday at 7 o'clock.  
FOR PENDER AND MORESBY ISLANDS—Thursday at 7 o'clock.

### FRASER RIVER ROUTE.

Steamer leaves NEW WESTMINSTER for CHILLIWACK and way landings every Tuesday, Thursday and Saturday at 8 o'clock during river navigation.

### NORTHERN ROUTE.

Steamships of this Company leave Victoria for Fort Simpson via Vancouver and intermediate ports on the 10th, 20th and 30th of each month, and for Queen Charlotte Islands on the 10th of each month.

### KLONDIKE ROUTE.

Steamers of this Company leave weekly for Wrangel, Juneau, Skagway and Dyea.

### BARCLAY SOUND ROUTE.

Steamer "Willapa" leaves Victoria for Alberni and Sound ports the 10th, 20th, 30th of each month, and for Quatsino and Cape Scott on 30th. The Company reserve the right of changing this Time Table at any time without notification.

G. A. CARLETON,  
General Agent.

JOHN IRVING,  
Manager.

TELEGRAPHIC ADDRESSES:—

"Wrathless, London."  
"Cary, Denver, Colorado."

CODES USED:—

Bedford, McNeill, A. B. C.  
Morring & Neal, General.

# The Wilfley Ore Concentrator Syndicate, Limited.

32 OLD JEWRY, E. C. LONDON.

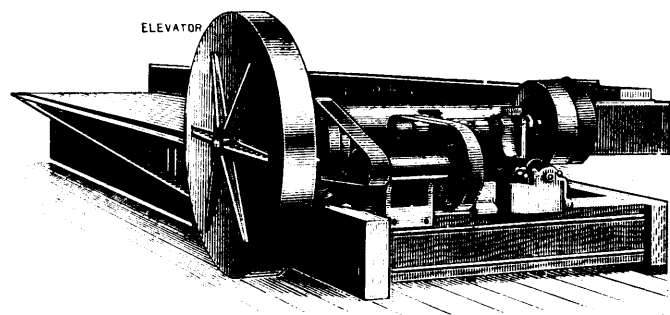
Agents for the U.S.A. Mine and Smelter Supply Co., DENVER COLORADO.

WE CLAIM THE FOLLOWING FOR THE WILFLEY TABLE:

- 1st. It will successfully handle three or four times more material than any belt concentrator made, without any exceptions.
- 2nd. It will save more concentrates in proportion while so doing and will catch any fine gold, amalgam or quicksilver which may escape from the mortars or plates.
- 3rd. It will make cleaner and more valuable concentrates, thus saving needless expense for transportation of valueless material, and also reducing the smelting charges.
- 4th. It requires little or no attention when once adjusted, and no expert is required either to adjust or run the machine.
- 5th. It will save much expense in power and room as compared with mills using other concentrators.
- 6th. It has no expensive belts to crack and wear out and no complicated machinery to keep in repair.
- 7th. It is the only sensible plan of concentration, as it successfully treats any kind of materials, which is not true of any style of belt machine.

—CATALOGUE POST FREE—

These tables are displacing belt tables of every make, as shown by numerous letters in our possession.



PRICE, - £93. WEIGHT, - 2,450 lbs.

The Wilfley Table is fully covered by Patents in all Countries.