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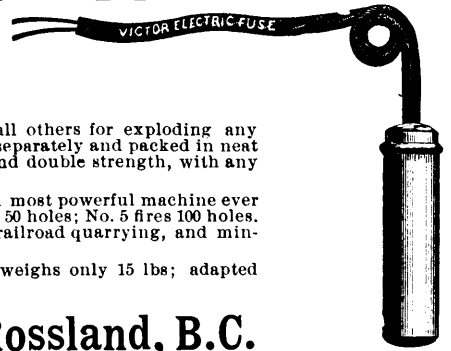
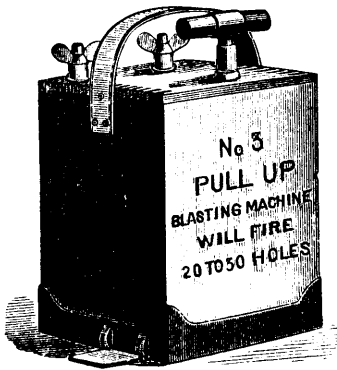
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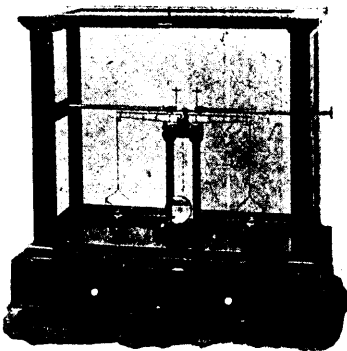
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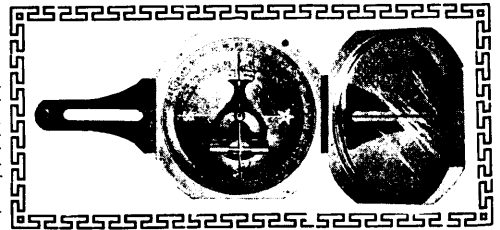


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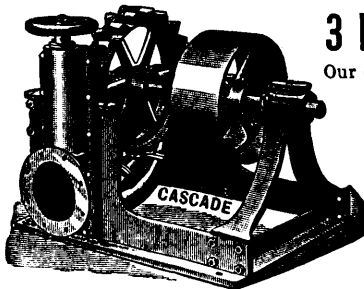
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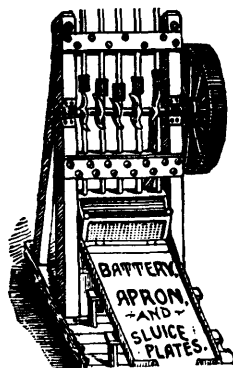
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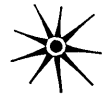
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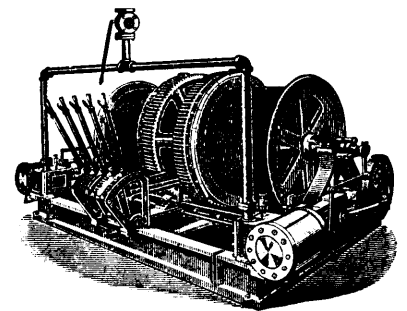
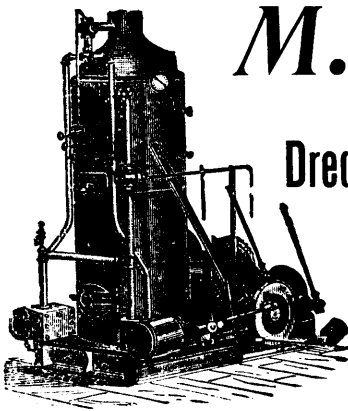
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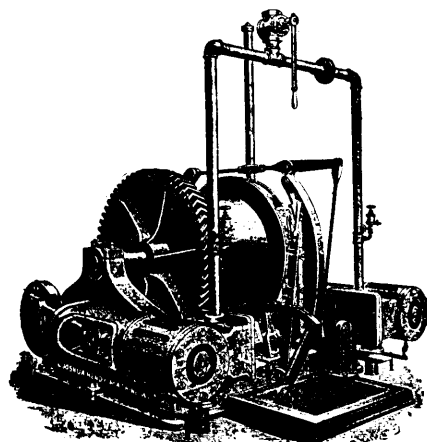
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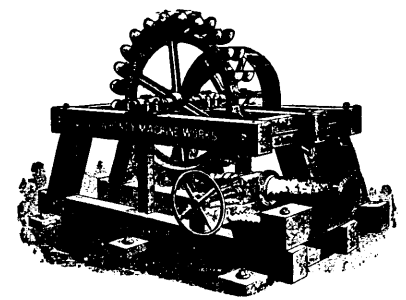
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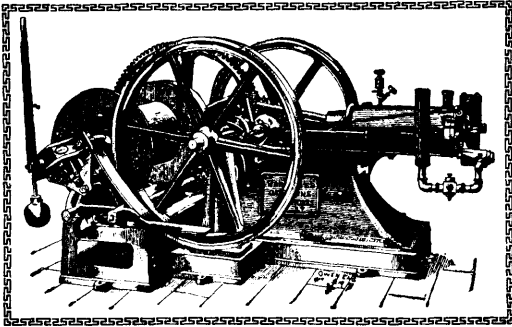
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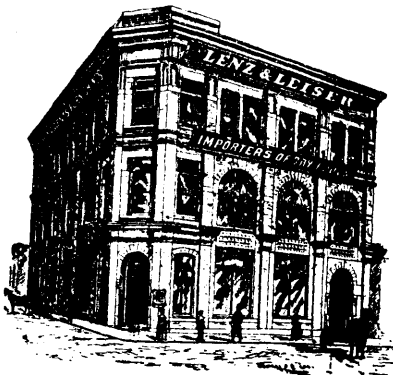
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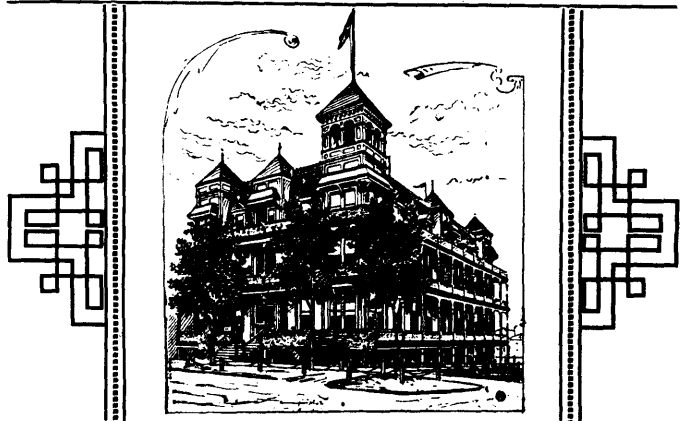
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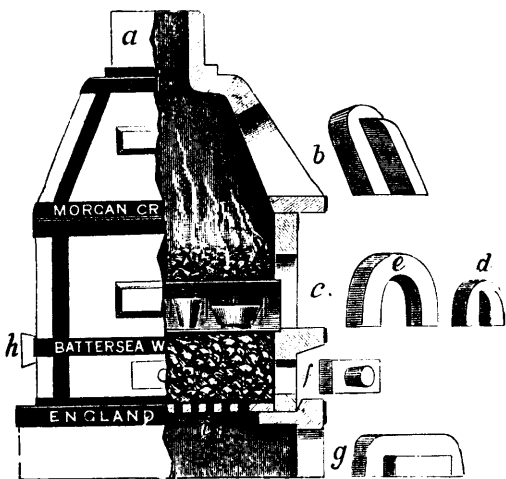
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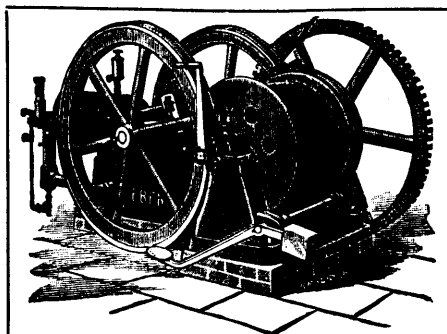
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The Mining Record.

Vol. III.

NOVEMBER, 1897.

No. 11

BRITISH COLUMBIA MINING RECORD.

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EDITORIAL NOTES.

MR. THOMAS CORNISH, an English mining engineer of note and well known as the author of a work in the gold supply of the world, has just suggested through the London *Mining Journal* a novel compromise suggestion for a settlement of the silver question. He cites many figures in proof of his view that it is necessary for silver to be made the "handmaid of gold" in the currencies of the world, and finally suggests that silver be made legal tender for the payment of all debts to the extent of ten per cent. of each debt. Thus an obligation of \$100 could be met by a payment of \$90 in gold or on a gold value basis and \$10 in silver. Silver would thus to a very considerable extent be rehabilitated instead of, as now, relegated by the leading nations to minimum use as coin, for "small change" only. Mr. Cornish holds that the adoption of his plan would markedly raise the stability of banks and other credit institutions in times of crisis and improve the position and to a reasonable extent raise the value of silver without depreciating gold. Were Great Britain and the United States to adopt the proposed compromise, the

other leading nations would, he thinks, soon also fall into line and similarly use silver. The change would greatly increase the money use of silver throughout the world, though it would not of course make so vast a difference in matters fiscal as would be brought about caused by an international re-adoption of a double, or gold standard.

Mr. Cornish dismisses as a "bogy" of financial imagination the idea that there is over production of silver, having regard to the world's increasing want of media of circulation. He states in proof that the total yearly production of gold and silver throughout the world and of avail for coinage, does not amount to one shilling, or twenty-five cents per unit of the world's population, whilst the much-mentioned yearly production of gold and silver by the United States does not amount to \$1.00 per head of the population of Great Britain.

Meanwhile though many British bankers, financiers and political economists favour the cause of silver, a majority of them, which majority is specially strongly represented in London, is bitterly adverse to any rehabilitation of silver. This majority has accordingly succeeded in "forcing the hands" of Mr. Balfour and other bimetallist members of the Imperial Government and compelled Lord Salisbury and his colleagues to decline to do anything to further the holding of an international money conference, or take other steps in favour of silver.

Fortunately for us in British Columbia, much as the rehabilitation of silver would increase our precious metal wealth, such a policy is not by any means absolutely essential to us. So many of our silver-lead mines in the Slocan and elsewhere being sufficiently rich in the white metal in association with lead to pay fairly, even under silver depreciation. Then, too, we have our wonderful, if as yet but slightly developed free milling gold, gravel gold and copper gold deposits.

The day will doubtless arrive when British Columbia will be in a position to treat locally her own lead-silver ores, and when Slocan mine owners will not be at the mercy of United States smelters. But this consummation is dependent entirely on Dominion commercial progress, and, at any rate, the creation of a Canadian market for lead manufactured products.

Under present conditions it is more profitable to market our silver and lead as crude ore than in refined form, taking into consideration high United States bullion duties on the one hand and the comparatively low prices at which lead is quoted in England on the other.

The utter folly of attempting to force an industry like a hot-house plant before due season has been demonstrated in a practical manner so often that it is almost a waste of time to insist upon the truth of such a statement. Nevertheless, Vancouver has its smelter scheme, and our Mainland correspondent writes that a proposition of a similar nature has been submitted to, and is under consideration by the New Westminster Board of Trade. How long a time must necessarily elapse before smelting can be profitably carried on at either of these two towns?

A significant condition of the provisional agreement between the Vancouver City Council and the Evans-Rothschild syndicate of London, England, in regard to the erection and working of a smelter and refinery on Burrard Inlet, is a proviso that neither Chinese nor Japanese shall be employed at the works. The agreement, which, as it stands, will probably be ratified by the necessary majority of the money by-law electors of the city, would but for this proviso very likely be rejected. Most municipal voters of Vancouver are convinced that it is as necessary in the interest of skilled white, and more especially British labour immigration and permanent settlement, to exclude Japanese workers from British Columbia, as it is to keep out the Chinese; in fact, the white workers of Vancouver fear the Japanese more than he does the Chinamen, knowing that the former will readily work for wages almost as low as the remuneration of the Orient, and, if necessary, live under similar poor conditions. The men of Vancouver are also aware that the Japanese are very clannish and specially adaptive, so that if in the absence of restrictive regulations they form the intention of establishing labour colonies in British Columbia, they can easily spare a sufficient number of assisted emigrants from a crowded out population of nearly 50,000,000, as altogether to outweigh the numbers and influence of British workers in many an important provincial industry. The fisheries are already a case in point, for there, admittedly, the white worker has but a very poor time of it, in competition with exploited Japanese labour. Hence the determination of the Vancouver masses to exclude Japanese labour from all municipal or municipally aided employment.

Another point worthy of note in Vancouver's smelter agreement is the fact that the grant of a bonus of \$65,000 on ores treated is not only to be based on actual output, being payable at \$1 per ton, but also conditioned on profit sharing, since for the \$65,000

of bonus thus to be granted, there is to be in return acquired an equivalent interest in the company's stock or shares. This possibility of direct profit-sharing forms an entirely novel precedent, as regards the grant of public aid to an industrial enterprise in British Columbia, and may well point the way to like action in the case of such grants as provincial money subsidies to railways, should any hereafter be granted, as is, of course, likely enough. The city's stock-taking in the smelter company will involve no further liability, for the undertaking will be registered under the British joint stock company laws, as a limited liability concern, and the shares granted as "fully paid," and, therefore, subject to no money liability. The city would, therefore, at worst lose its \$65,000 in the event of the failure of the smelter company.

There is little, if any doubt, that great and varied wonderfully as are our mineral resources, our output of gold, silver, lead, copper and iron will within very few years far exceed the metallic production of much boomed Western Australia, whose turn has come first, too often at heavy loss to British investors, involved in worthless mine schemes, got up by unscrupulous promoters. Nevertheless Western Australia's gold production is large and growing and at present far exceeds our like output. Thus the gold yield of British Columbia throughout 1896 is valued at \$1,788,000, or in round figures £36,000, whilst Western Australia's gold output of last month alone stood £272,750, or more than three-fourths of our corresponding output of the whole of 1896. In September, 1896, however, Western Australia's gold output was much less than that of last month, as it only represented £134,145. Allowing, however, for a like British Columbia gain in gold output that will show for this year a big advance on 1896, it is clear that Western Australia will still for this twelvemonth yield several times our value in gold output. We, however, shrewdly suspect, that when the numerous free milling claims of Lillooet, of Fairview, of Albern, of Harrison Lake and other points and the hydraulic gravels of Cariboo make next year a very great advance of productive development, these and the gold-copper and gold-silver properties of Trail, of Texada, of parts of the Slokan and many another locality, will make such an upward leap in our province's gold yield as should, in this as in other mineral production, cause British Columbia to rank higher than well-advertised Western Australia.

Admitting that of all provincial industries mining is and will continue to be the most important it is eminently essential that only legislation of a character likely to protect its interests and promote its development should be enacted. Now that lately so much discussion has arisen anent party politics and platforms it may not be inappropriate to suggest that a convention be held at (say) Nelson or some



THE HON. SIFTON AND PARTY LEAVING VANCOUVER FOR DYEA.

other central point to which delegates would be sent from every camp in the province for the purpose of forming a political organization in the interests of the mining industry and its associated branches. The convention would subsequently nominate candidates subscribing to its platform for parliamentary honours, and then, perhaps, albeit in the dim future, we shall find among the representatives of mining district constituencies in the Provincial Legislature men of practical mining knowledge in the place of agriculturists and attorneys. In that Utopian day the position will not be possible when in such a case as the unfair tax on working miners—the "Mining Committee of the House" can disregard the wishes of the mining community.

The purchase of the Victoria, Vancouver & Eastern Railway Company's charter by Messrs. MacKenzie & Mann, the well-known millionaire mine operators and railway contractors, has given rise to considerable comment, and the ingenuity of the "knowing ones" is somewhat tryingly taxed to explain to the satisfaction of enquirers the meaning of the move.

Meanwhile it is hardly necessary to state that the new proprietors of this valuable charter are not the sort of men to let the grass grow under their feet and interesting developments may ere long be expected. As both Sir William Van Horne and Mr. MacKenzie have denied that the C.P.R. is in any way connected with this transaction, we must, of course, accept their assurances, but it is nevertheless certain that the Crow's Nest Pass road will not long remain merely a branch of the main thoroughfare, because the company could not afford to let it remain so. The maintenance of the present main line with its four per cent. grade is enormous, and the Crow's Nest Pass road is being built on a one per cent. grade. Does this mean then that there will be competing lines from Vancouver to Robson? Not very likely we imagine.

One of the most noteworthy characteristics of the assurances made by railway magnates is their extraordinary mutability, and although Sir William Van Horne and Mr. MacKenzie are to-day protesting that no agreement exists for the consolidation of their interests, it is worth bearing in mind that a change in the status of the V., V. & E. might easily lead to the formation of an active collusion between the C.P.R. and the promoters of the new road. Would it be unfair to conclude from the premises that the denials of these gentlemen indicate a collusion of a negative nature—which needs but the ripening breath of increased legislative assistance to assume active positive proportions?

Mr. MacKenzie's emphatic assertion made repeatedly to those interviewers who have sought to obtain

from him some information upon the subject, to the effect that the bonus of \$4000 per mile is entirely inadequate, would certainly tend to confirm the idea that those interested in the V., V. & E., charter are looking to some outside source for assistance. He says, of course, that an application will be made to the legislature during the next session for a grant sufficient to enable him and his coadjutors to construct the line, and this gives rise to two important considerations. First, it is to be supposed that when Messrs. Mann and MacKenzie purchased the rights of the original owners of the charter, they were fully cognizant of the conditions under which it was held. If, then, the grant of \$4,000 a mile was inadequate, it is fair to presume this fact was taken into consideration, and it certainly is no compliment to the astuteness of the purchasers to imagine that they would saddle themselves with an undertaking of a nature which would entail upon them an expenditure, to meet which the assistance they could rely upon was "entirely inadequate." It is possible (and this consideration is suggested by the recollection of the vast amount of lobbying which was done last session by those interested in the V., V. & E., that accompanying the transfer of the advantages already obtained, there were assurances that others could be relied upon with an assurance amounting to absolute certainty. And this leads on to the second consideration as to when this policy of wholesale bonusing of speculative railway undertakings is to come to an end. Granted, that the need for a direct line to the coast is pressing, is it not one of the functions of government to supply such needs: and would not the construction, control and profit of such a road come fairly within the domain of a local government such as that enjoyed in this province? Government ownership and control of railroads, however, is as yet too far advanced a theory for the majority of the people; but, as an alternate, could not the plan which is adopted with uniform satisfaction by the government of India well be adopted here? The guaranteeing of interest at a fair rate upon the capital invested in an undertaking should be sufficient inducement to investors to embark in the speculation, and, provided due care was taken to avoid overcapitalization, and the too frequent desire to construct railroads before the need of them is sufficiently pronounced, should mean but little more than an assurance that interest would be paid, since it is reasonable to suppose the constructed railroads would, at least, within a short time, have an earning capacity sufficient to pay the interest on capital out of the profits.

Why should not the Post Office Department at Ottawa do as much to advertise the fact that the Klondyke gold fields are in Canada as local Victoria and Vancouver business men, who have hit on the admirable plan of conveying this information together

with the hint that gold seekers' outfits should be purchased in British Columbia, by means of printed matter on envelopes? The Jubilee issue of stamps was a patriotic and popular move. Why not a Klondyke issue? The Klondyke stamp would be a miniature map in colours of the country showing the routes thereto starting from British Columbia. With the millions of letters sent to all parts of the world from Canada every week the stamp would convey its message and fulfil its mission. This idea should be worth a large sum of money, but we offer it without compliments, free gratis and for nothing at the altar of patriotism or rather on Mr. Mulock's desk in the shape of a copy of this number.

But as far as Victoria is concerned it may be reasonably asked what object can there be in advertising the town as the most suitable outfitting point for the Yukon trade if the merchants of the town do not endeavour to satisfy customers when they get them? The other day a large order was placed with a local firm to supply an expedition setting out northwards with so many barrels of bacon, samples of the article in the meantime having been submitted and found satisfactory. The barrels were packed in due course but an agent of the purchasers who had been quietly watching the proceedings, discovered that the bacon packed in the barrels was not of the same quality as the samples of bacon submitted. In fact it was very inferior "soft" bacon. The consequence was the order was cancelled. Now this is not only bad business, but as "soft" bacon will not stand packing, becoming soon unfit for food, to supply it to men going to a country like the Yukon, the act becomes criminal.

Assays taken from rich samples of ore from a mine or claim are very delusive, as they may but represent a very small portion of the deposits. This is sometimes curiously evidenced by attendant circumstances as in the case of a well-known mine in West Kootenay, which shall here be nameless. This is said to be promising enough and active development work is accordingly proceeding. A recent assay return from this mine is stated to show in silver 201 ounces to the ton, yet the owners propose not to ship, though facilities are good, until silver again rises. Obviously, were 201 ounces of silver to the ton, or ought approaching this, near an average of the mine's yield, there would be such ample profit assured as to leave no temptation to hold for a rise in silver.

The question of preventing promiscuous "wild-cat" staking is, we are glad to be able to state authoritatively, to receive the consideration of the Provincial Government and legislation will probably come into force to prohibit the transfer of a mineral claim unless the assessment work required by law is satisfactorily

performed and an amendment may also be introduced to the present clause of the Mineral Act in order to define more clearly what shall constitute an annual assessment. It is, moreover, proposed to appoint an inspector in each district, whose duty would be to visit claims and inspect the work after affidavits of its performance had been filed, without, of course, warning owners of his intentions before hand.

It is hardly, we are aware, judicious to advocate "claim jumping," even as a means to an end. The claim jumper in most mining districts is, as a rule, treated with contempt and distrust, and has, in fact, generally a bad time of it. Nevertheless, under certain conditions, it would be an excellent thing for the province if jumping were commoner than it is; for if a man was certain that unless he performed one hundred dollars worth of work in development (meaning work that would represent this expenditure in contract labour) every year, he stood the chances of losing his claim, there would be perhaps less perjury at recorders' offices, although it is true there might be as much afterwards in the law courts. The effect, however, of a few instances of legally sustained jumping upon grounds of non-compliance with legal assessment work requirements would undoubtedly prove salutary.

The line between plucky enterprise and fool-hardiness is finely drawn in the case of the expedition that started towards the close of October for Dawson City by way of the Dalton trail, with a drove of 300 head of cattle and 200 horses, which it is purposed to kill and sell at the end of the journey to the Klondyke miners. A large sum of money has been expended in the equipment of the voyageurs, and of course every precaution has been taken to ensure the success of the venture; but those who are entitled to speak with authority predict disaster. The snow is said to be already three feet deep on the Dalton trail.

The Colonist sensibly urges that the customs regulations recently made allowing prospectors to carry 100 pounds weight of personal belongings and provisions purchased in the States into the Yukon free of duty should no longer be allowed. We entirely agree. Already Puget Sound journals have taken advantage of this well-meant concession on the part of the Federal Government to spread broadcast misleading information. There is now no earthly reason why a Yukon gold-seeker fool enough to get his outfit in the States should not pay duty on every pound he takes across the Canadian border. Besides, charity begins at home, and our own trades-people and outfitters have a right to be considered.

Premier Turner declared the other day at Rossland his official approval of a significant change of Provincial Government policy in the direction of lightening

the taxation of the ordinary working miner. He favours the exemption of the miner from payment of a miner's license fee, unless he desires to locate and become interested as an owner in a claim. In such case he must pay the license fee continuously. The change is certainly desirable; the ordinary miner working merely for wages, being assuredly sufficiently charged, if he pays his Provincial poll tax and contribute, as he must whilst here resident, to Dominion general taxation, as also probably, though it may be indirectly, to Provincial or municipal local taxation.

The Premier, on the other hand, declared that he could not see his way clear to favour, as desired by the Rossland Board of Trade, the abolition of the heavier impost on mining companies, in the form of their special license tax. The fact is, that a host of \$100 license fees thus collected form too large and easily obtainable a source of Provincial revenue to permit at this juncture of increasing exports, any abolition or large modification of them. In the case of a large and fairly prosperous company, the impost is not felt very appreciably. It is, however, different, no doubt, in the instances of a large number of companies of but modest resources doing development and other preliminary work without immediate returns. These feel burdensome even a \$50 tax in addition to their other relatively large outlays.

The report of a meeting of the British Columbia Development Association, published in several leading London financial papers this month, makes exceedingly interesting reading, particularly when the statements therein contained are compared with those of Mr. McInnes, in his article on "The Impassable Pass," which appears in this issue of the MINING RECORD.

It would be a pity to interfere with the charter-mongering schemes of the British Columbia Development Association, or in any way to blight the hopes of its shareholders. But, really, the chairman should have been a little less confiding. The White Pass is by no means recognised by the Government of British Columbia as the most feasible route to the Yukon gold fields. Moreover, every man that has visited the country designates this pass as a "death trap." Again, from all accounts, a railroad through the White Pass would be a very lengthy if not almost impossible undertaking. If it can be said of any route that it is officially recognised, the Stikene alone has any claim to the distinction, on the ground that public money has been expended to improve its trails, and very possibly the sums already appropriated for this purpose will be augmented. The proposition that the traffic in British Columbia as well as in Yukon railway charters is now assuming will, of course, be noted by the patriotic people of this province with a feeling of proper pride. The only drawback seems to be that the proprietors of charters are kept so busy negotiat-

ing the sales of their "parliamentary rights," one to another, that nobody has time to think of building the roads. After all is the present system quite perfect?

Some idea of the enormous extent of the coal areas on the east bank of Elk River in East Kootenay may be formed from the recent computation of an expert that of the fifty seams of coal found there aggregating 300 feet in thickness the production would be sufficient to supply the markets of the world for the next seventy-five years, on the basis of the present consumption of five hundred million tons per annum.

Much has already been said and written regarding the benefits that will accrue to the province in consequence of the building of the railroad through the Crow's Nest Pass, but it is a subject to which it is impossible to attach too great an importance. With the completion of the line the whole condition of affairs in respect to mining in Kootenay will be changed and a new era of increased activity and development will be inaugurated. To confirm in some measure these statements it is only necessary to compare the present prices paid by our smelters for coke with those that will rule when the Elk River coal mines are operated.

The Smelting Company at Trail, for instance, now pays from \$15 to \$18 per ton for Welsh coke, albeit the Company has also purchased coke made from the Wilkinson, Washington, cretaceous coal at a cost of \$13.40. This coke, however, is of inferior quality, containing at least eighteen per cent. ash. A few coke shipments have also been made to the works by sea route to Vancouver from Westphalia, and laid down, at a rather less cost than was paid for the Welsh product, but it is reasonable to place the average present price of imported coke at \$14 per ton. When, however, the East Kootenay coal fields are operated coke will be supplied to Canadian smelters at a price certainly not in excess of \$6.00 per ton, or about one-third of the present market figures. Moreover, we are informed that in quality this coke is quite equal to the best products of Pennsylvania and South Wales.

The direct result will of course be a reduction of ore treatment charges, a very largely augmented list of shipping mines throughout the country and the establishment of custom reduction works at every centrally situated spot in Kootenay, not to speak of smaller plants that will be erected by mine-owners on their own properties. And this is only considering the advantages to be derived from the building of the road from one point of view.

It would be interesting to learn whether an estimate has ever been made of the saving that would have been affected to the C.P.R. itself in construction work and road maintenance had the transcontinental line been extended through the Crow's Nest instead

of through Roger's Pass twelve years ago. The general impression is, of course, that because of Federal Government ruling there was no question of choice in the matter, but the real facts of the case were—but to quote Mr. Kipling, that is another story.

The "blindness" of the C.P.R. to the railroad requirements of the province has been the subject of much adverse criticism during the past two or three years. As a matter of fact, the great corporation has not been "blind;" it has been "lame." But the convalescent stage has now been happily reached, and no better proof can be asked than its present activity in Kootenay.

In answer to our request for information in last month's RECORD anent the Government Assay Office we have been assured that although it is true receipts in the past compared but unfavourably with expenditures, this year the showing will be very much better. It seems that until recent times it was the practice of members of the Provincial Legislature to have assays made, not only for themselves, but for their friends, free of charge, whenever they saw fit. That this extraordinary state of things should have been going on for a number of years without protest is a matter for surprise; that it has now been stopped is a matter for congratulation.

Eureka, a promising new gold camp within the Colville Indian Reservation, in the State of Washington, is at present, through defective United States administrative methods, largely dependent for its supply of lumber and some other necessaries upon the neighbouring agricultural and mining district of Boundary, B.C. The United States have, it seems, in their restricted wisdom, granted mining, and with it necessary residential rights, to white mine workers within the Colville Indian Reserve, but retained for a diminishing band of Indians all other rights, though there is land enough for several times the meagre Indian population of 1,500 and for several thousand white rural settlers in addition. Yet, as things are, it is stated that in Eureka no miner has the right to sell any lumber off his claim, graze a cow or horse upon it, or cultivate it for profit. Hence lumber is being hauled to Eureka—duty being paid thereon—from British Columbia points thirty miles distant. So they don't by any means manage everything better in the States, "God's country" though its people proudly call it, the prevailing mismanagement of Indian affairs being in noted contrast with the manner in which like matters are administered international boundary in the Colville reserve, is why miners' rights are so restricted just across the international boundary in the Colville reservation, is that after its Indians made a treaty with the United States Government to open up their reserve to full white settlement, Congress meanly refused to ratify

the bargain, because one of its terms was a paltry money allowance to the land surrendering Siwash.

The *British Columbia Review* asks the following pertinent question:—

"Can any of our readers give us an explanation of, or reason for, the heavy fall in Lillooet and Fraser River shares? It seems a pity that this should happen in the case of such a prominent company at the present juncture, and especially after Mr. Horne Payne's very optimistic utterances at the meeting last year. Was Mr. Horne Payne a little too optimistic?"

One need not go far to find an answer. When a company like the one Mr. Horne Payne represents goes in for a reckless expenditure without rhyme or reason they generally come to grief. At the Lanark mine (?) a costly hotel was erected apparently for the sole convenience of a large staff of clerks, bookkeepers, also expensive works were installed without the slightest justification. These works, after a few months, were shut down when the supply of ore ceased, and from all accounts it is extremely doubtful if there is any more ore in the Lanark mine. Men of Mr. Horne Payne's caliber who know absolutely nothing about mining should be very careful in making statements in public, otherwise if their words fail to come true people are apt to say unkind things. After the way the Lillooet & Fraser River Company has been boomed in England the present *fiasco* is particularly unfortunate.

"M.E.'S," "E.M.'S" AND EXPERTS.

IN the September number of the MINING RECORD appeared a brief editorial including the following words: "If there are some incompetents among the assayers practising in the province, the name of those who without training, without even a theoretical knowledge of any of the 'ologies' connected with the science of mining, call themselves mining engineers or mining experts is legion. The harm that this class of men can do to the mining industry of the province is incalculable, and investors cannot be too cautious in finding out the professional standing of the self-styled expert before engaging his services or accepting his reports."

Permit me to offer a few remarks on the above subject with a view of clearing away a few misconceptions. That there are many men practising as mining engineers in this province and elsewhere who have never had the necessary training is unfortunately too true. Real estate men, drummers, fishermen, insurance agents and so forth are all to be found here and elsewhere in this western country posing as M.E.'s or E.M.'s, and in more than one of the prospectuses which have been issued for the purpose of obtaining subscriptions from the British Pacific, the statements made to influence subscribers are those of men belonging almost entirely to the classes above named. Should failure await such enterprises, can any one wonder? Only at the stupidity and gullibility of the subscribers. The so-called mining engineers *may* be to blame, as a rule there is an absence of evidence on

that point, but the subscribers we know *are* to blame, and much more than they—the promoters who, in cases of the kind named, are only anxious to put before the public opinions that will induce subscriptions, altogether regardless of the merits or demerits of the properties offered. In this connection let me repeat a story which may or may not be literally true. I give it as told to me. Within a hundred miles of the town of Rossland is a so-called mining engineer or expert who, when approached by a client as to the making of a report on any mining property puts the very pertinent question: "What do you want, a report on the facts or only a favourable opinion?" Asked as to his fees he says: "A report on the facts will cost you \$500, a favourable opinion \$2,000. So long as there are people who want merely favourable opinions which will enable them to sell their "wild cats"—and unfortunately such people are not rare—so long will experts of the stamp alluded to find a vocation. There is no effect—so far as we know—without a cause, and where there is a supply it is almost invariably in response to a demand. To give a favourable opinion on a mining property it is not necessary to have the elaborate training of a mining engineer. Those most unfamiliar with mines can give a favourable opinion, and generally the appreciation is inversely proportional to their knowledge. The opinions so given need not necessarily be dishonest, for the so-called expert who has probably never seen the inside of a mine, or, at most, only been in a few short tunnels driven into the hill sides, is as easily gulled as the most ordinary layman who does not affect the expert's garb and initials. "Salting" for such men would be a waste of time.

Other types of so-called mining engineers are they whose vocation is, or has been, more or less associated with mines. It may have been as assayers or surveyors. Both these classes of men may, some day, make engineers, with other and more varied experience, as both of them have had part of the training necessary for a mining engineer, but to speak of either of them as a mining engineer would be as inaccurate as to call the tail-board of a violin an instrument of music. This class of men usually realize, to some extent, their weakness and by way of safety, if not prepared to sell favourable opinions they "turn down" most of the properties inspected.

Of course, between mining engineers, who have had the necessary training, there are great differences; some have had much more experience than others, and even between those having equal experience there is frequently the very great disparity. A man's ability is compounded of two factors—hereditary and environment. The latter includes education or experience, the former those mental and physical qualities which, in absence of a better name, are often called natural ability. "We do not come into existence as sheets of white paper on which the world can write anything it pleases"—either technically or morally.

Let us see what is required of a mining engineer. He may have to make topographical, geological and mineralogical surveys for which purpose it is necessary that he have a thorough knowledge of surveying, stratigraphical geology and mineralogy. He frequently has to say whether certain ore deposits are or are not workable commercially and to do that he must have a thorough knowledge of stratigraphical

geology, mineralogy, the various operations of mining, the several processes of ore-treatment, the nature and uses of mining machinery, and the average life of different kinds of deposits. Or, again, he may have to conduct the operations of a mine already partially or wholly opened out. In that case it is necessary that he should be a stratigraphist, have a thorough knowledge of mining operations, the processes of ore-treatment, the uses of mining machinery, and also of the numerous subsidiary books required about a mine.

Of all the various kinds of work that a mining engineer is called upon to do, there is not one which demands such a wide range of knowledge as that of reporting on undeveloped properties, and yet that is the very kind of work so-called experts, who have had no experience in mining, profess to do. "Gall" alone could not brace itself to such presumption. Ignorance might, but ignorance and gall combined assuredly could and do.

It is of the first importance that a mining engineer should be practical, and that there may be no mistake about this statement we will define. By practical, as here used, is meant the facility or aptitude that comes to a man from constant practise of the particular pursuit in which, after proper training, he is engaged. A mining engineer cannot be produced in a college or chemical laboratory, although in both these places he will obtain part of his preliminary training, but it is on the mountain sides and in and about the mine and workshops that he learns those branches of his profession that are of the greatest commercial value, and let it never be forgotten that the mining engineer who is a commercial failure cannot be more than a very partial technical success. The man who cannot make his mining pay had better become an expert—at something else. It is sometimes contended that the best person to direct the operations of a mine is a *practical* miner. Let us see what truth there is in this contention. The experience of a practical miner is confined to pounding a drill, shot-tring, driving a shovel and setting up timber. These operations bear about the same relation to the complex requirements of a mining engineer that unconnected bolts, rivets and plates do to a finished Atlantic liner. If by a display of extra ability, or for any other reason, the miner finds himself acting as the foreman of a mine his experience is a little widened but not much; and if in later years he should chance to become a superintendent he has then an opportunity of familiarizing himself with one or more of the various processes of ore-treatment and the erection and use of machinery. But it will readily be seen that his experience even then falls far short of that necessary to the mining engineer. Not only so, but his preliminary training is altogether insufficient to enable him to discharge the duties of the latter. A mining Engineer's general training should include—besides a good ordinary schoolastic education—mathematics, physics, chemistry and geology.

Equally important with a proper training and wide experience is it that the moral character of the mining engineer should be above suspicion and in order that it may be so he should resolutely refuse to take stock in any company with which he is professionally connected or in any company furnishing supplies to mines for which he acts. He should, moreover,

decline to make a report on any mining property for a fee that is made dependent upon any contingency that might be influenced by the tenor of his report.

In conclusion let me offer a word or two of advice to the mining public and in this category I do not include those who only object to getting a mining property is to sell it again as early as possible, and at the greatest profit, to the first "sucker" they meet. I speak of those who, when buying mines, intend to stay by them and see them developed. To such it is important to secure, in the initial stages, the services of a mining engineer of good reputation. You can't go into an engineer's office and turn over his advice as you can the goods in a store, paying for such only as you are satisfied is good. It is therefore wise and safe only to employ those who have earned a reputation for ability and integrity.

The investing public are masters of the situation. If they would refuse to subscribe to the funds of any proposed company the prospectus of which did not clearly and fully set forth all known facts relating to the property offered, on the authority of mining engineers of established honesty, there would soon be an end of the bogus expert and his lying shingle.

VERITAS.

FROM SANDON.

THE fall in silver does not seem to affect the silver lead mines of the Slocan in the least; as witness the increasing ore shipments:

Ore has been struck in the fifth tunnel of the Slocan Star. After crosscutting 1000 feet a quartz ledge was struck in drifting twenty-five feet on this, and an ore body five feet wide was disclosed of good concentrating galena ore. This ore body is widening out and more galena coming in as drifting is pursued. It might be said that this crosscut tunnel taps the vein at a depth of 730 feet, which is the lowest depth as yet reached in Kootenay, and 130 feet lower than the Le Roi mine of Rossland. A sixth tunnel is contemplated, 450 feet lower than the fifth tunnel.

This property is looking exceedingly well; forty-five tons a day of both carbonates and galena are being shipped steadily.

The new tramway from the Payne mine to the Kaslo & Slocan Railway is completed and works very satisfactorily. It is 5900 feet long, with an average grade of fifty per cent. The cars weigh 1500 pounds and carry four tons of ore. The tramway is of the three rail system, with a five-eight cable. An ore house is being built at the foot of the tramway, where the ore which is brought down in bulk is sacked and loaded on to the railway cars. Extensive warehouses, offices and other buildings are also in course of construction. Sixty tons a day are shipped regularly. This mine has proved so far to be the richest in the Slocan.

They are now building a new rawhide trail and preparing generally for a heavy output this winter at the Last Chance. There is a large amount of ore in sight and the Last Chance will be one of Sandon's heavy shippers this winter.

The Le Roi will ship another carload next week, and also the Ajax mine.

The McAdams group of claims are looking well. The tunnel, which is 750 feet below the top of the hill, is in 240 feet. For the last fifty feet they have had two or three feet of clean galena ore. A carload has

already been shipped, and other shipments are to be made in the near future.

On the Canadian group the lowest tunnel is now in 220 feet, showing a ledge of good concentrating galena, four to five feet wide. A carload is to be shipped as a sample.

A VANCOUVER VIEW OF THE RAILWAY SITUATION.

THERE is an almost unanimous opinion in Vancouver that the transfer of controlling interests in the Vancouver, Victoria & Eastern Railway Company—otherwise the Coast-Kootenay project—to Messrs. Mann, MacKenzie and Ross, all well known as frequently associated in contract work with the C.P.R., means that the great line now controls the railroad situation in north and middle Yale, Boundary Creek and the Similkameen gold districts. Sir Wm. Van Horne's significant speech to the deputation of the Vancouver Board of Trade and City Council seems to confirm this view. The C.P.R., he says, considers all the above country as within its "sphere of influence," and as regards railroad building will say "hands off" to any other combination, be it the Coast-Kootenay present syndicate or the Heinze group of financiers, connected with the Columbia & Western Railroad. Canada's great railroad directorate means itself to build all necessary further connecting links of line between Robson and Hope, and with this in view will work for all required state concessions in cash subsidies or otherwise. With the Coast-Kootenay syndicate the C.P.R. can doubtless deal, and the Heinze group, the transcontinental railroad directorate, believe themselves easily capable of defeating.

The best possible statutory and other arrangements in protection of public interests should be secured, when and if the C.P.R. succeeds in its great endeavor. It is evidently useless to rely on the Coast-Kootenay projectors, as providers of any competitive system and the suggested People's Railway is not even in sight. We can only hope that the C.P.R. will be as wise and circumspect in its care for public interests in connection with its present plans of Upper Country railroad extension, as it is apparently strong to secure their adoption.

The C.P.R. will in return for the promised best of all routes and services between Vancouver and Klondyke and for its offered fine range of new terminal depot buildings, storehouses and wharfage, ask the citizens of Vancouver to grant large municipal tax exemptions of railroad property within the city limits. This may quite likely be now secured, in view of the probability that Vancouver may by early C.P.R. effort be enabled to vie with Victoria in competition for a very large share of the outfitting trade of the Yukon; otherwise, the concession asked would certainly be refused by the citizens' vote on the necessary by-law. As things are, many prominent Vancouver citizens favour in particular either total or almost total tax exemption for a term of years of the new buildings and improvements which the C.P.R. proposes at heavy cost to construct in the Terminal City. Greater difference of opinion exists, and will be noted at any poll taken, in regard to any proposal to exempt further Vancouver property of the C.P.R. that is already assessable, and cannot, therefore, be regarded as constituting new value given for a new concession.

MINING IN THE SKEENA RIVER DISTRICT.

UP to the present time very little necessary development work has been done on the Skeena River district, lack of transportation facilities and the heavy cost of supplies accounting largely for this state of affairs. Nevertheless, the geological formation here met with is favourable to the opinion that the country possesses rich mineral-bearing lodes. From the River's mouth up stream forty miles is a granite belt, in which some promising quartz veins have been discovered, with a trend from north to south. These veins show very little sulphurets and contain generally free-milling ore. In the vicinity of the Kitsimoalan River the formation changes to diorite and slate, and this continues apparently to the forks of the river, where again granite is encountered. The only claims that have been developed at all on the river are a group consisting of the Emma, I & L, and Bostock, the property of the Skeena Prospecting Company. These claims are situated on Kitsalas Mountain, some eighty miles from Essington, the nearest steamer stopping place. The work done consists of a fifty-foot tunnel on the ledge, and a fine body of granite, carrying high values, has been exposed. Other nearby prospects, the Mamie, Caledonia and May, will undoubtedly prove valuable when exploited.

At Lorne Creek hydraulic operations are being carried on. The result of a clean-up by the Gold Hill (Wood's) Company last spring was very encouraging, and still better returns are expected from the fall work. The gold is very coarse on Lorne Creek. On Kitwango bench lands pay ground has also been discovered, but the Indians in the neighbourhood are hostile to prospectors.

During the past summer some very fine ledges containing good copper and gold values have been found at Kitkagass, some thirty miles from Hazelton, and if reports are true, these will undoubtedly yield profitably when proper transportation for ore is provided.

Very little encouragement is given to miners by the Indians, who seem to consider their furs of more value than a possible future opportunity to labour in mines. In this they receive the active support of the missionaries. In summer the Hudson Bay Company's steamer *Caledonia* gives an excellent service, considering the business offered, and much information can be secured from its officers, who are largely interested in the development of the country.

BY THE WAY.

THE *Engineering and Mining Journal of New York* thus comments on the interview with Mr. Ogilvie published in the last issue of the MINING RECORD:—

The last issue of the *British Columbia Mining Record* contains an interview with Mr. Ogilvie, who is now, we believe, on his way back to Dawson. In this interview Mr. Ogilvie disclaimed many of the statements in the daily press which have been coupled with his name, but he asserted nevertheless, that \$60,000,000 would not be far wrong as representing the value of the gold in the placers. This is, of course a mere guess, and the figure might as well have been put at one-half or twice that amount in so far as any basis for it is concerned. It took Mr. A. D. Hodges, Jr., six months' steady work to make an examination of the Nueva California placer in Peru, a territory of forty-one square miles, which had been worked by Indians for hundreds of years and was well opened for examination. Probably no engineer would undertake to make an equally thorough examination of the Klondyke district in any less time.

Mr. R. H. Hutton, representing large interests in Colorado, who during the past two months has been

engaged visiting the different mining districts of the province, recently returned from Boundary Creek, of which camp he spoke very enthusiastically, stating that in his opinion it had a greater future than any mining district of the province. This view is shared, we find, by a large number of reputable mining men.

The Victoria Metallurgical Works are in possession of a very remarkable specimen of native copper ore brought down recently from Alaska. Very large deposits of this ore are said to exist in the district tributary to the Copper River, near Mount St. Elias. The ore is so malleable and pure that the Alaskan Indians use it in its native form as bullets for their rifles.

Mr. W. A. Carlyle, the Provincial Mineralogist, returned this month, after devoting the summer to visiting, in an official capacity, the mining districts of Vernon, Boundary Creek, Trout Lake, Cariboo, and other camps. He expects to publish his reports thereon during the early part of next year. Mr. Carlyle says it is impossible to form an exaggerated idea of the harm that is being wrought to the mining industry of the province by the now too common practice among prospectors of staking large areas of ground and the consequent cheating of the provisions of the Mineral Act with regard to development work.

Owing to a pressure on our space, we have been obliged to crowd out of this issue of the RECORD a number of interesting articles from correspondents, notwithstanding the usual size of the journal has been increased by the addition of four pages.

Says the *Toronto Globe*:

"The deepest mines in the Trail Creek district are, compared with workings in other parts of the world, mere surface scratchings. The Le Roi is down not much over 600 feet, whereas the Calumet and Hecla, the famous copper mine on the south shore of Lake Superior is down 4,900 feet. By the time the Rossland mines reach that level the silver question will have been effectually settled."

We may be dense, but we confess to not quite following the drift of this last sentence. Does the *Globe* mean that the silver question will have to be speedily settled, or is our Toronto contemporary labouring under the impression that Rossland is a silver camp?

Mr. Howard West, A.R.S.N., of New Denver, is to be congratulated on the possession of an extremely interesting, not to say unique, collection of rocks and minerals, brought from all quarters of the globe, and arranged with scientific precision under glass cases. The collection numbers over five hundred specimens, and is particularly useful to its owner for purposes of comparison with local ores, and also enables him to more easily impart information to prospectors seeking his services. Besides commoner minerals, Mr. West has specimens of the following rare classes: Tungsten, uranium, Molybdenum, titanium, niobium, vanadium and bismuth.

The Annual Report of the British Columbia (Victoria) Board of Trade just issued is particularly good, and the compilers are to be congratulated upon the highly satisfactory result of their labours. The report is illustrated with photographs of provincial and Yukon scenes, and contains two maps, one of the southern portion of British Columbia, and another showing the Klondyke, Cassiar and Cariboo gold fields, with the routes thereto.

FROM ALBERNI.

AT the Consolidated Alberni mine on Mineral Hill work is being vigorously prosecuted. Night and day shifts are sinking on the Simpson lead, running parallel with the Alberni, which has a good showing of rich free-milling ore, with a lead averaging about five feet wide. A large quantity of pay ore is stacked up at the mouth of this shaft, which is now down about fifty feet. The tunnel on the Alberni lead is being driven northward, and now shows sixteen inches of good quartz, which is also steadily widening. Several open cuts have demonstrated the continuation of Simpson lead northward to its intersection with Whyte's cross lead. This point offers an excellent opening for an adit tunnel, and to strike both the Alberni and Simpson veins. The mouth of this tunnel will undoubtedly in the near future be the site for a stamp mill, as all the ore is free-milling. We learn that a shipment of twelve tons of average ore taken from the fifty-foot shaft and shipped to Tacoma last week gave \$41 per ton in gold, and after deducting cost of treatment and other charges, netted the company \$30 per ton.

The Willapa will continue to bring down ore for treatment until financial arrangements are consummated for the equipment of a ten-stamp mill, to be operated on the ground. The utmost confidence is felt in the ultimate success of this mine by the people of the district.

It is understood that a company has been floated in England to acquire and work the Regina mine, a promising prospect enough. The Alberni Gold Development Syndicate are putting in two air compressors here, and work is being carried on steadily, the syndicate having "imported" a force of Australian miners recently. The same syndicate are driving a tunnel on the Happy John claim, situated on the canal, and a 200-foot tunnel is also being driven on the Eureka, at Granite Creek, where an enormous body of ore is supposed to exist, judging from surface indications. Hydraulic operations were also started recently on the Cataract, and two additional monitors are to be shortly installed here.

The frightful accident which occurred at the Gold Eagle mine, last week, whereby two miners lost their lives, has cast a gloom over the camp. It is to be sincerely hoped the lesson will not soon be forgotten that dynamite is a dangerous thing to handle carelessly.

THE GOLDEN CACHE.

THE results of a short preliminary period of ore crushing at the Golden Cache mine—generally regarded as typical of Lillooet's free milling gold claims—are slightly disappointing, only a little under \$10 a ton resulting. But as to this it should be borne in mind by the British investor and observer that our ton is one of 2,000 and not 2,240 pounds, and that at first the new plates of a stamp mill absorb a rather considerable amount of gold. The directors, moreover, state that the rock first placed in the crusher was mainly "country," and not selected from the best ledges. They are therefore confident of better returns when the mill begins working again at the end of the month. They are, however, pre-

paring, as it is understood, to treat the ore with the best of very complete machinery, in part worked by hydraulic power and with the aid also of electricity thus generated from an ample force of water. Probably \$35,000 will be so expended. The business moral, however, is that if, as believed, the Golden Cache is a fairly typical Lillooet free milling proposition, similar mines in the district must, to pay fairly, be worked on a considerable scale with large, well appointed stamp mills and high class machinery, provided at considerable cost. Parsimony will entail much risk of at least partial failure of dividend earning. Meanwhile the Golden Cache men are confident of good results, and backed by so wealthy a controlling stockholder as Mr. Mark Oldroyd, M.P., of Dewsbury, England, should be able to command all the capital they need.

CARIBOO MINES.

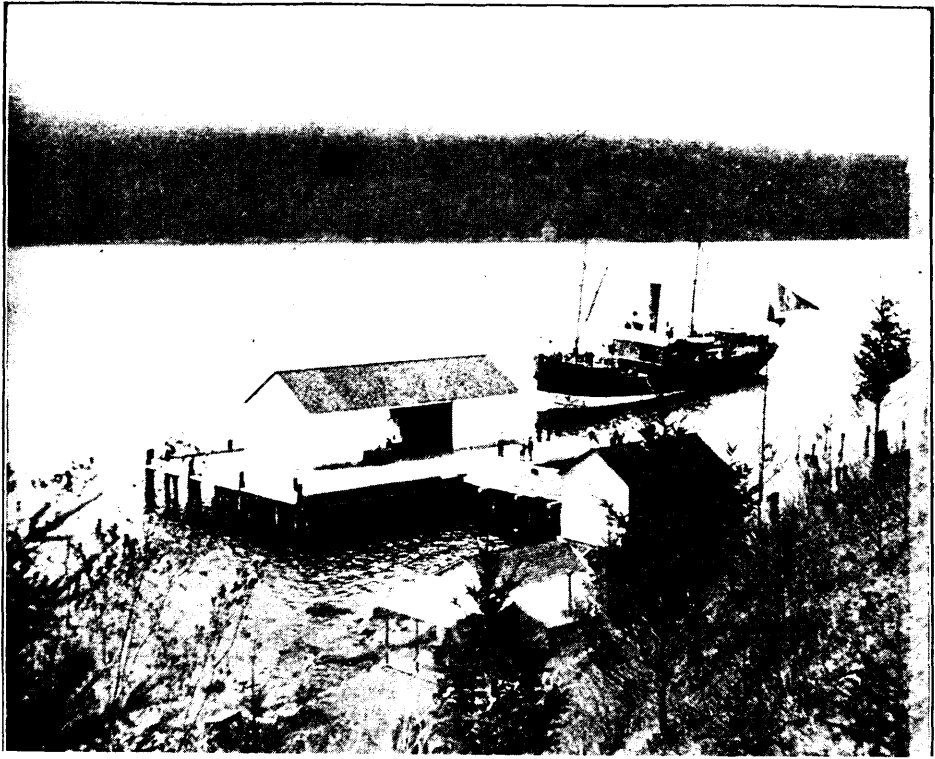
AT present we are by way of hearing of many different routes to Klondyke—to all of which there is some objection and some objection and something is to be said in favour of some of them. This is a subject that wants looking at from something broader than a mere local point of view.

When recently in Ashcroft I found quit a boom in the old Cariboo Road and Old Telegraph trail routes, and certainly is enterprise will bring them business the people of Ashcroft deserves it. At their own expense they have sent engineers over the proposed route to report upon it. This report is to be embodied in a pamphlet giving reliable information, and to be distributed free, and so as to reach the uttermost parts of the earth. Of the first 220 miles of this route the writer can speak from experience—from Ashcroft to Uesnelle, by stage over the Cariboo Road is a decidedly novel experience in these days of vestibuled trains and horseless carriages. The road in summer is magnificent, the scenery compels such admiration as even familiarity can not lessen, and the service is worthy of all that can be said in its favour. I don't know where else in the world can be found a stage line of 300 miles where the mails are delivered so regularly on time; seldom indeed is the stage late at Barkerville more than two hours. The stage company have way houses along the line, and one's day journey down, after a good meal and the most unscrupulously clean bed invites the jaded traveller to turn in early.

The mining season is about to close. The hydraulic man cleans up and the "old timer" bethinks him of a piece of ground he always reckoned was good since way back in the sixties. So he buys him some grub and tools and with another old-time partner who has faith he dies him to a mountain side and tunnels for a "back channel" until the bears come out of their dens in the spring.

The Horsefly Gold Mining Company, of San Francisco are cleaning up and good results are expected. They washed gravel during their last run that prospected fifty cents per pan. Think of it, Oh, Klondyke boomsters! Hydraulic mining being carried on in ground running \$50 per cubic yard.

The Horsefly Hydraulic Mining Company, of Montreal, don't seem to have met with such success as is merited by such liberal investors. Doubtless more thorough prospecting will show them some more economical way of reaching the rich pay which is doubtless concealed in their ground.



WHARF AT NEW TOWNSITE, ALBERNI, B.C.



A MINING SCENE IN BRITISH COLUMBIA.

The Cariboo Hydraulic mine has lately been suffering for want of water, the run only averaging some few hours a week. How annoying this is can only be appreciated by the management; so far everything the best of its kind, wonderfully rich ground, dump ample, a magnificent canal to carry the water to the ground and only a bucket coming down it, would make anyone swear. However once having seen this mine and prospected some of its gravels faith is not to be shaken that it is to be the greatest gold producers in the world.

Next season will probably see the equipment of an other immense hydraulic mine. The Victoria Company, who have a magnificent water right from Spanish Lake, have purchased the California Consolidated leases in Rose's Gulch. The California Consolidated was discovered two years ago, and has been well prospected. It is very rich in coarse gold, and its first season of running produced a \$67 slug, as well as numerous smaller nuggets.

The deep channel prospectors have during this season met with serious checks, but still undaunted they plug, or intend plugging away. Such indomitable spirits as C. F. Law, R. H. Campbell and Wm. Laird are not to be beaten. Time and again has some untoward circumstance or break in the machinery, a sudden flow of water, or some other of the thousand and one difficulties that must be overcome in the search for gold, has compelled a close-down for a time, but for a time only. Repairs made, work goes on again until some other check occurs or until bedrock, the goal, is reached.

The Miocime Gold Mining Company expected to bottom this fact, but inefficient pumps have compelled them to close down temporarily. Their manager, Senator Campbell, has gone to Barkerville to put in some of his hydraulic elevators for the Cariboo Gold Fields, Limited. Mr. Laird, on Willow River, seems to be nearer to his goal than any of them, and richly he deserves to strike good pay. Three years ago I met him going in, and ever since that he has been plugging away, sparing neither himself nor his money. Time and again has water driven him out, but not discouraged him. More pumps to work and at it again. Now he is making arrangements for still more pumping capacity, and thirty days' work should see him reach his reward.

A few of the necessary qualifications for a successful deep gravel prospector are unlimited faith, hope unbounded, unceasing watchfulness, dogged determination and a long purse to draw upon. When he wins he deserves it all, and more, too.

The quartz mining of Cariboo is being brought to notice, principally through the energy and enterprise of Messrs. Marsh and Thompson, lessees of the old government mill at Barkerville, in connection with which they have established chlormative works and a cyanide plant. Large bodies of low grade quartz have been struck close to Barkerville, and as Mr. Marsh informs me that \$7 rock can be mined and milled at a good round profit, a great development of the quartz interests of the country may be looked for next year.

Although the season has not been quite as successful as spring prospects promised, a strong feeling of confidence in the country is abroad, and we all look for larger development next season, when more favourable conditions will probably obtain.

COAST NOTES.

HERE is general satisfaction expressed in well-informed circles in Vancouver over the resolve of the city to take stock in the Evans-Rothschild smelter-refinery scheme, coupled, however, with some slight feeling of responsibility—if not anxiety—in respect of the manner in which the syndicate's proposals may be laid before the British investing public. This results from the fact that the city of Vancouver—assuming the ratification of the enabling by-law and taking of the \$65,000 of stock—is as it were made a participant in the promotion of the smelter company. It is felt that the promoters are entitled to profit remuneration in respect of their long continued efforts, but hoped that they will make demands in reason and not load the company with an undue amount of stock issued as fully paid, or with too large a cash obligation, required in respect of promoting efforts. A total authorized capital of £250,000 should, however, enable all reasonable promoters' remuneration to be met without handicapping the resulting company.

Some in Vancouver demur to the agreement provisionally made in the city's behalf, because the smelter is unlikely to be located within Vancouver's present limits, thus causing all the workers to live in the city. It is, however, better for the smelter to be placed on Burrard Inlet a few miles—they will not at most be more than four or five—beyond the bounds of residential Vancouver. Thus will possible detriment to the amenity of the most pleasant parts of the city be minimized, as otherwise it could not well be. The *Province* urges that smelter fumes may be rendered innocuous to vegetation and other things by the use of high smoke stacks and other preventives, but under present conditions of possibilities of smoke and fume treatment, it may be regarded as certain that vegetation and amenity of residence will to quite an appreciable extent be affected within a radius of two miles of the smelter site. It is therefore best for the smelter premises to stand at least two miles from the city. Vancouver will, of course, be the base of supply for the smelter's requirements and those of the workers, whilst to and through Vancouver with general profit to the city, will be shipped—mostly by water—the ore, matte, fuel and fluxes required by the smelter and refinery. Then, too, the city limits of Vancouver will certainly be extended at an early period—much accelerated by the building and working of the smelter and the population and industries that will follow in its train—so as to include the present suburb, probably that of Hastings—in which the site will be located.

Last of all—a convincing argument—no good smelter site is to be found within Vancouver's present limits.

Meanwhile Messrs. Remington & Co., of Salt Lake City, who unsuccessfully compete for smelter aid at Vancouver, are making an offer to the city of New Westminster, similar to that they made Vancouver. They will build a large smelter on the Fraser River, in or by the Royal City, if the latter will undertake \$100,000 in stock in the company, which the Remingtons will form. A committee of the New Westminster Board of Trade is considering the matter and will shortly report and make recommendations

thereon, but it is generally thought that the amount required to be taken in stock is more than New Westminster as a city can afford to add to its present very considerable, albeit largely secured and in part monetarily representative municipal indebtedness.

Only quiet work of development—and this proceeding slowly—is at present being done on the copper-gold claims owned by the Findlay syndicate and others up Seymour Creek, North Vancouver. Some of the claims are, however, bonded to an English syndicate and properties as a rule require very considerable capital—far more than present owners possess or command—in order to be made profitable shippers. Considerable lengths of tramway and a large amount of working plant of a good and somewhat costly type are required on most cases by these properties close to Vancouver.

The directors of the Golden Ears mine, at Pitt Lake, are well satisfied with the results of the experimental shipment now being made to the Vivians of Swansea of twenty tons of ore. Mr. Pellew Harvey, of Vancouver, having sampled it, values the ore sent at rather over \$50 a ton, a value chiefly represented by copper, though the ore runs over \$3.50 to the ton in silver, and also contains a little gold. It is stated that the mine will, before Christmas, send further small shipments, probably amounting to about 100 tons, and early in 1898 make steady and more rapid headway. Messrs. Seymour, Clinton and others have property at Pitt Lake adjoining the Golden Ears mine, which is stated to be at least equally rich, and there is accordingly a good prospect from these and other claims there located, that Pitt Lake will, much to the advantage of the supply town of New Westminster, become a productive copper-gold camp. Very busy development work is meanwhile proceeding about Harrison Lake at various camps, on which many miners are already engaged in preliminary operations. Good accounts are to hand as to the extent and value of the ore on the Providence mine in particular, for which mine, in a then almost undeveloped state, an offer of \$75,000 was some time since refused by the owners. Some of the best ore is here believed to lie under the lake, and in that direction accordingly tunnelling and other operations will be directed. Experts, however, do not all agree that the mine is being worked on so skilled and businesslike a basis as is desirable. But the working owners think otherwise and expect to justify their strong faith in the value of the mine by early future results of further ore shipments sent to Everett for smelting. The Fire Mountain Company also possess on Harrison Lake a property believed to be very rich in free gold. Their claim, the Money Spinner, is stated to reveal much visible free gold, as a result of a considerable amount of preliminary development work, done with a view to expose the ledges. A stamp mill will, it is hoped, be at work early next month, and the directors also intend to spend a large amount in making a tramway, trails and other mine facilities that are specially necessary to a claim situated 5,000 feet above the sea. It is stated that a recent test of Fire Mountain rock assayed \$82 in gold to the ton, though this probably was an exceptionally good sample.

Good reports are to hand of the successful working of a gold amalgamating machine recently invented by Mr. Parke, of Vancouver, which, on a recent test, is stated to have worked easily and successfully, losing only ten per cent. in the tailings of the assay value

put through the machine. More probably, will be heard of this invention later.

It is understood that despite the partial disappointment of very exceptional and, perhaps, too high pitched expectations, in connection with the Golden Cache mine, some very important transfers of Lillooet free-milling gold claims in the same neighbourhood are now on foot. New Brunswick capitalists are figuring in one of the largest of these, the negotiations being on the part of vendors, conducted by well-known Vancouver men.

There is understood to be legal trouble possible concerning an intended transfer to a new Company of the very promising Silver Tip mine on Texada Island. This may, however, all be settled satisfactorily and, it is to be hoped, will be ere this issue of the MINING RECORD appears.

It is reported on the authority of Vancouver purchasers of the Haskins and other controlling interests in the Orphan Boy free-milling gold claim in the North Bend country, that those stockholders in the former Orphan Boy Company whose rights were so ruthlessly disregarded by the former directorate, will be fairly compensated by the new purchasers. However, as yet, according to the *Revelstoke Herald*' dispossessed stockholders know nothing of the asserted abandonment of the civil action against the Vancouver purchasers in question, in virtue of a fair compromise settlement. This, however, will, it is to be hoped, be arranged, as amongst those concerned to secure it are men with reputations, who have, moreover, promised to do the right thing towards former stockholders, who were assuredly badly used, whether under sufficient shelter of snatch legal procedure or not. Opinions differ as to the real worth of the Orphan Boy, the credit of which as a free-milling gold claim has suffered very severely, as a result of many and serious misrepresentations as to the amount of work done and other matters. The real worth of the claim has yet to be proved, and about this at present experts have most contradictory opinions.

THE IMPASSABLE PASS.

AT an extraordinary general meeting of the British Columbia Development Association, Ltd., held in London on the 28th of last month, Mr. R. Byron Johnston, the chairman, stated to the shareholders assembled that "the White Pass has now been generally admitted and proclaimed to be the future highway of the Yukon Basin"; that "we hold the key to the position as regards the traffic of that great country"; and, that "this view is clearly shared by the Dominion Government and the present Government of British Columbia." Now, these statements and others contained in the chairman's address are highly misleading and calculated to impart a false impression to the shareholders and general public of Great Britain as to the real nature of the White Pass and as to the so-called trail through it, claimed to have been constructed by this Company. In the first place, the fact, known to every one on the Pacific Coast, that of the thousands of hardy, determined and well-equipped men who struggled this year to get through the White Pass, not more than one in ten succeeded, while of those who braved the steep and dangerous heights of the Chilcoot Pass nearly all succeeded in getting over, gives the lie to the statement that the White Pass is the "key to the situation," the "future highway of the Yukon Basin," etc. I myself know

many who having wasted a month in vain attempts to get through the White Pass, gave it up, and, going over to Dyea, succeeded in crossing over the Chilcoot Pass and reaching the headwaters of navigation in less than two weeks. To state, as this chairman stated that because the Dominion Government, or the British Columbia Government, had granted his company powers to construct a railway or other road over the White Pass, it clearly showed that they recognized it as the "key to the situation," the "future highway," etc., is puerile. The granting of a charter proves nothing. The Dominion Government or the British Columbia Government would grant a charter to build a road to Hades if the proper parties asked for it, but this would not mean that either government to build a road to Hades if the proper parties asking for the charter as "the future highway" to those regions or the "key to the situation." The Dominion Government did indeed send a large force of Mounted Police to enter the Yukon country by the White Pass, but the attempt to enter by that pass ended in a miserable failure. On the other hand, the Mounted Police have successfully crossed over the Chilcoot Pass. The chairman further stated that the company had expended some £2,000 in making a trail through the White Pass. If so, there is certainly no evidence of it to those who go through the pass. The bridges over the Skagway River were built by volunteer work of the miners themselves, and wherever an attempt has been made to corduroy a bog or blast a path over the rock it has always been by the miners and at their own expense. From one end of the pass to the other one could hear nothing but curses for the officials and the papers that had deluded thousands into attempting to reach the Yukon by this route. The bleaching bones of over three thousand horses and the hundreds of worn and disappointed men returning to Victoria and Seattle by every steamer southbound from Skagway scarcely point to the White Pass as the "future highway to the Yukon basin."

In spite of all that can be done by the officials, charter mongers and real estate boomers of Skagway townsite to lure people to the White Pass, the truth as to that impassable pass is spreading far and wide among those intending to enter the Yukon, and we may confidently look forward to the tide of immigration flowing in *via* the Stickeen and Lake Teslin, the safest and shortest route to the Klondyke. The safest because the many dangerous rapids encountered by the White and Chilcoot Passes are avoided by this route. And the shortest, because, although in actual mileage a little longer, we are dealing with a country where distance is measured by time and not by miles. The mere fact of its being an all British route is in itself an immense advantage. No American official can interpose as at Dyea or Skagway to collect \$30 on every horse landed, to break open your supplies, to confiscate every drop of your good Canadian whiskey and otherwise make himself disagreeable. While at Skagway, in common with many others, I was asked by those abandoning the White Pass for the Chilcoot to write or otherwise warn others from coming to Skagway. This I have already done, but on reading the erroneous statements of Mr. Johnston I felt that one more letter on the subject in the RECORD, widely read and relied upon as it is in Great Britain, would not be out of place. T. R. E. McINNIS.

NELSON.

THE condition of the Wonderful mine, as disclosed at the recent general meeting of shareholders held in Spokane, may be taken as typical of a great many other companies floated on the boom of last year. The treasury is empty, and (to put it mildly) the Company has not reached a paying basis. Its resources are at an end unless some philanthropic person steps in, because the chances of getting more money out of the public are slim. The share market is dead in spite of what certain journals may say and of a few spasmodic efforts to galvanize it into life. The local public have too many gaudy share certificates on their hands to wish for more. Even the people of Toronto and other eastern places seem to have satisfied their wants in this direction. These remarks do not, of course, apply to going concerns whose names have now become almost world wide. They proceed quietly on their way. They were there before the boom and they are still there, and there is not one of the boom companies that has joined their ranks. The Noble Five seems to be in much the same position as the Wonderful. The directors have issued notice of a special meeting to shareholders, inviting them to authorize the borrowing of no less a sum than \$150,000 on debenture bonds. The circular accompanying this notice states that the money is "required to liquidate the present indebtedness, and with the balance it is believed that sufficient development can be done to put the Company on a sound and dividend paying basis." These are honeyed words, which seem somehow or other to have a familiar ring about them. It would be interesting to know also to whom the dividend so confidently anticipated will be paid. To the shareholders? or to Messrs. ———? But this is anticipating.

The interesting document goes on to say: "It is the opinion of those who have made a personal thorough examination that the property owned by the Company contains large bodies of minerals, only needing the judicious expenditure of money to make it a success . . ." This was exactly the condition of the mine when the present company took it over. They were supplied with money, presumably as much as they thought necessary, for they proceeded with the work of development and erected a tramway and concentrator. If they had not enough money on hand to carry out these works they acted wrongly in commencing them. Who are these people who have made a "personal and thorough" examination of the mine? Is their opinion worth anything? Probably not much. Sir Charles Tupper goes all over the place saying that everything is beautiful and that he is pleased with it. Sir Charles no doubt is a very good man at his own particular line of business, but his opinion about mining affairs is not worth a cent. Why do not the directors of the Noble Five engage some expert whose name is a guarantee of skill and honesty, and let the shareholders know what he says about it, instead of producing the "opinions" of some person or persons unknown?

That there is more behind this circular than meets the eye is pretty clear and rumour points pretty plainly to the plot of the story. Some time ago Messrs. Rand, of New Westminster, bought a large block of stock for a certain firm well known in Victoria and it is understood that this same firm is prepared to advance the \$150,000 with a view to com-

pleting the "cinch" on the property. Theirs are the pockets into which the future dividends are to flow, not into the stockholders' if they are foolish enough to authorize the loan. PICK.

THE B.C. IRON WORKS AND MINING MACHINERY.

WHEN I called upon Mr. John O. Norbom, the well-known mechanical engineer and the present manager of the B.C. Iron Works Co., Lt., at his office at Vancouver, for the purpose of securing some information regarding the company's proposal to manufacture mining machinery for the provincial market, (writes a representative of the RECORD) I found that gentleman busily occupied opening telegrams of which there was a sheaf on his desk, and rapidly noting their contents and sending replies. In this atmosphere of bustle I felt very much like an intruder and was about to beat a hasty retreat but Mr. Norbom courteously begged me to take a chair, looked resignedly at his telegrams and turning asked what he could do for me.

"What has been the result of our announcement so far? Well, as you see, it has elicited a number of enquiries and we have already been promised several orders. I may confidently say the success of the venture is already assured."

"You think, then, that you can compete with the San Francisco firms?"

"Why on earth shouldn't we? Here in Vancouver we have everything in our favour—market situation, shipping facilities, and the price of labour rather below than above what it is in the States. Then the duty on imported machinery gives us, of course, a great advantage."

"And how has the C.P.R. treated you?" I asked.

"Most liberally, indeed. In fact nothing could be handsomer than the company's offer. So, you see, it will be our fault if we fail, but we don't mean to. Last year I visited the province for my firm in San Francisco and sold in a very few weeks machinery to the value of \$60,000. The mining industry in British Columbia has grown since then, more mines are being opened almost every day and the demand for mining machinery is increasing accordingly, hence it is not difficult to understand that the Iron Works had fairly strong reasons for the present move."

"But you have not actually started to manufacture machinery yet, have you, Mr. Norbom?"

"Yes, we have a twenty-stamp mill now building, with four motors weighing 6,000 pounds each, and the stamps 1,000 pounds; an 8x12 rock breaker; six Norbom concentrators; an 8½x10 hoisting engine; a 14x22 Duplex air-compressor with ten to twelve drills to be run by either steam or water power. Oh, we are not wasting precious time."

This seemed a rather obvious hint, especially as Mr. Norbom looked rather anxiously at his telegrams, so with cordially expressed wishes for the success of the enterprise, I bade the energetic manager of the B.C. Iron Works Company's mining department adieu, much impressed with what I had heard.

EAST KOOTENAY COAL.

THE existence of extensive and valuable deposits of coal in the Crow's Nest Pass has been known for many years, but it is but recently that any sys-

tematic or thorough exploration of the coal areas has been carried out. It is only necessary to say here that as a result of these investigations the reports before circulated anent the rich potential resources of the fields have been fully confirmed. Through the kindness of that well-known authority on coal mining, Mr. William Blackmore, of Cardiff, South Wales, who visited the Crow's Nest Pass section last month as expert for the company owning large interests there, we are enabled to lay the following information before our readers:

The coal-bearing lands extend longitudinally from a point five miles south of Morrisey Creek, forty miles to the north lying upon the east bank of Elk River and stretching eastward distances from eight to ten miles, being bounded at the extreme east by Nichol Creek and the divisional line between Alberta and British Columbia. The coal area is not less than 150 square miles, allowing for a considerable distance area which has been swept away by glacial action and other erosive forces. The measures are superimposed upon the Cambrian limestones and are covered by sandstone shales. They lie in the trough of a syndimal fault and are exposed upon the east and west slopes of the mountain ranges as well as in the creeks that lead to the Elk River. Dr. Selwyn estimates that the tonnage available for extraction is 37,500,000,000.

The coal at Coal and Marten Creeks is of excellent quality and bituminous in character. At Coal Creek it is particularly firm and compact and will compare favourably with the best Welsh coals. The coal at both creeks will make a marketable coke, and good household coal is found at Marten Creek. The analysis of coal from Coal Creek made by Prof. Sussman, the C.P.R. expert, compares well with the best standard analysis of the South Wales and Pennsylvania products, being high in fixed carbon and low in both sulphur and ash. The seams are all remarkably free from impurities and deleterious matter generally. The seam at Coal Creek crops out about fifty feet above the level of the creek, thus affording ample head room for tipping, screening and loading, and hence may at once be advantageously and profitably opened up. A seam of from six to seven feet in thickness, dipping to the east to an angle of twenty-three degrees, has already been proved here by a heading. It is thought by the end of June of next year if work is commenced at this point forthwith about 500 tons will be ready for market.

Following is the report and analysis of various samples of coal made by Mr. G. C. Hoffman, F. Inst. Chem. chemist and metallurgist of the Geological Survey of Canada:—

Coal from the Peter seam, second crossing, Marten Creek, Crow's Nest Pass. Seam said to be fourteen feet thick. Geological position, cretaceous Kootanie series. Taken thirty feet in from outcrop. Analyses by slow and fast coking gave:—

	Slow Coking	Fast Coking
Hygroscopic water.....	1 79	1 79
Volatile combustible matter.....	25 45	33 04
Fixed carbon.....	69 14	61 55
Ash.....	3 62	3 62
Coke per cent.....	72 76	65 17
Ratio of volatile combustible matter to fixed carbon.....	I— 2 72	I— 1 86

An ultimate analysis gave, exclusive of sulphur, ash and hygroscopic water:—

	Slow Coking	Fast Coking
Carbon.....	80 51	85 57
Hydrogen.....	5 20	5 53
Oxygen and Nitrogen.....	8 37	8 90
Sulphur.....	51	
Ash.....	3 62	
Hygroscopic water.....	1 79	
	100 00	100 00

Actual calorific power.....	77 30
Pounds of water (at 100 degrees C.) evaporated by 1 lb. of fuel.....	14 39

Coal—From the Jubilee seam, second crossing, Marten Creek, taken fifty-five feet in from outcrop:—

	Slow Coking	Fast Coking
Hygroscopic water.....	1 89	1 89
Volatile combustible matter.....	24 88	30 41
Fixed carbon.....	68 86	63 38
Ash.....	4 37	4 37
	100 00	100 00
Coke, per cent.....	73 23	67 70
Ratio of volatile combustible matter to fixed carbon.....	1— 2 77	1— 2 08

An ultimate analysis gave, exclusive of sulphur, ash and hygroscopic water:—

	Slow Coking	Fast Coking
Carbon.....	80 04	85 82
Hydrogen.....	4 94	5 30
Oxygen and Nitrogen.....	8 28	8 88
Sulphur.....	48	
Ash.....	4 37	
Hygroscopic water.....	1 89	
	100 00	100 00

Actual calorific power.....	76 18
Pounds of water (at 100 degrees C.) evaporated by 1 lb. of fuel.....	14 18
Coal Creek (Elk River coal).	

Hygroscopic water.....	58
Volatile combustible matter.....	24 42
Fixed carbon.....	75 00
Ash.....	2 50
Sulphur.....	not determined
Coke—Ash.....	4 80

By the foregoing figures the excellent quality of the East Kootenay coal is apparent. In adaptability for smelting purposes it is very much superior to the coal of Glenwood Springs, Colorado, of Utah or of Granger in Wyoming, and distance conditions necessarily will keep Pennsylvania coal out of our provincial market.

THE CROW'S NEST PASS RAILROAD.

THE rapid progress that is being made in the building of the Crow's Nest Pass Railway is due in a great measure to the energy and executive ability of Mr. M. L. Haney, manager of construction for the C.P.R. Some weeks ago, however, work was somewhat checked owing to the fact that necessary road materials, such as rails and heavy timbers and other supplies were not being forwarded from the East with adequate dispatch. Mr. Haney at first contented himself with writing indignant letters to the different superintendents of divisions protesting against the delays, but this not proving sufficiently effective he went straight to headquarters and laid the matter before Sir William Van Horne himself, threatening at once to resign his position unless immediate measures were taken to insure the delivery of

supplies as they were required. It is hardly necessary to say that since, Mr. Haney has had little cause to complain on that score at any rate. But Mr. Haney's name will ever be associated with the building of this road, for the fact that he is responsible for having the change made in the location line which resulted in decreasing the grade to one per cent. When the engineers came to him with their plans and reported that the grade would be 2.35 per cent., he waved his hand. "It won't do, gentlemen," he said, "it won't do. I must have a one per cent. grade," and new surveys and new plans were made until the grade was reduced to one per cent.—that is from Lethbridge to Kootenay Lake, and from Kootenay Lake to Nelson the increase will be very immaterial.

Meanwhile fifty miles of grading has been completed, twenty miles of track laid, and the location of the line decided on for a distance of a hundred and twenty miles. In fact, but for the difficulties of construction in the vicinity of St. Mary's River, necessitating deep cuttings and bridgework, the road would ere now have been completed to Summit Lake, as it is by the 15th of the present month freight will be handled to this point and by July of next year the road will be completed to Kootenay Lake. On the work some three thousand men are employed in different capacities, and from Lethbridge to the Rockies camps of from one to two hundred men are established, under contractors, at intervals apart of a few miles.

Construction work is to commence immediately west of Summit Lake to Morrissey Creek and the valley of Elk River. Here the engineering difficulties are, with the exception of rock-cutting along the west shore of the lake, inconsiderable and the line proceeds upon an easy and natural grade passing through a country wooded with valuable timber. At Coal Creek, a connection will be established with the coal mines. At Elk River bridge the railway makes a sharp curve to the west—the scenery here, by the way, is magnificent, the Elk River Falls being particularly beautiful are worthy of note, and through a 1,000-foot tunnel the road proceeds northward until it reaches the Kootenay River twelve miles away. Skirting the west bank of the river the route is westward from Cranbrook, the divisional point, and then south it follows this course past the Moyie River until approaching Bedlington, when the direction is again westward and thence northward to Nelson.

FROM ROSSLAND.

THE summer is well-nigh over at Rossland and preparations for the approaching winter are being made on every side. Though we are still enjoying the lingering beauties of the Indian summer and the mountains, clad with fir and pine, surrounding us are a perfect blaze of gorgeous autumnal tints; the sere leaves of the larch with the golden spines of the tamarac decking the woods with glorious dizenment, yet these very beauties are but forerunners of the severities of the months to come. The camp is filling up with prospectors and others seeking employment. For the ordinary mucker work is not too easy to find, but for experienced machine hands the demand is more than equal to the supply. These men command from \$3.50 to \$4.00 a day.

The mines in the north belt, the Jumbo, Le Roi, War Eagle, Iron Mask, Centre Star, Evening Star,

Monte Cristo, Iron Colt and others are working steadily and much progress is being made. A large body of ore was recently struck in the Iron Colt, which, if it makes good the promise of its discovery, will go far towards placing that mine on Columbia and Kootenay Mountain in the front rank of the foremost mines of the camp. A good strike, the extent of which is as yet not thoroughly known, has recently been made in the Evening Star. The Le Roi has fewer men working at present than it had some few weeks past, but its staff is soon to be increased. It is yet the largest slipper of the camp. The War Eagle has been shipping some small quantities of ore for fluxing purposes, but the main body is being withheld in accordance with the policy it has entered into in conjunction with some of its neighbours pending the solution of the transportation difficulty. The Velvet, the new mine on Sophia Mountain, close on the International Boundary Line, has sent ten ton of ore to the smelter that its value may be ascertained. Much money has lately been expended on this new property and a more than commensurate return is confidently expected. Until a short time ago few in camp believed in Sophia Mountain claims since the diorite formation with its familiar iron capping prevailing on the older and better known mines near at hand, is there absent, its place being taken by a puzzling porphyritic conglomerate. Sir Charles Tupper has invested largely in this property and his example has been followed by others with neighbouring claims. It thus seems probable that quite a thriving camp will spring up next year on Big Sheep Creek. Nor will there be much trouble in getting a railroad near to the camp as the Red Mountain line passes across the mouth of the valley.

The O.K. mine is still lying idle. Not long ago, indeed, it is but a very few months, this mine was regarded as one of the very best in camp. Early in the summer it borrowed money from a Spokane bank which then became the dominant factor in the directorate. The next news was that the large body of ore in sight was said to be "illusiv"; next, the mine was bankrupt. It is, however, hard to persuade some of the older hands but that the O.K. is really one of the best properties about Rossland, if properly looked after. The Spokane bank people aver that they are but looking after their own interests. Without gainsaying them the mine people declare that it was the action taken by the bank that compelled bankruptcy. The concern is now in the hands of a liquidator, but when the matter is cleared up or whitewashed it will be a surprising circumstance if something good is not made of the mine after all.

The Silver Bell, behind the O.K., has sent a small shipment to the Trail Smelter and if the test is satisfactory the company may place their venture on the shipping list. The Wallingford, which has been worked steadily for nearly two years despite its situation on Record Mountain, 3,000 feet above Rossland, is now shut down, being under the option of an English syndicate. Another British company has purchased the Buckeye and intends to convert the property into a real mine this winter.

The suit between the Centre Star and the Iron Mask *re* the real ownership of a ledge whose apex outcrops near the boundary line between the two mines is to be settled in Nelson. This case arises out of the old mining law under the provision of which both these claims were originally located.

The White Bear, on which much steady work has been performed, will resume operations with an increased staff about the end of November.

On the south belt the outlook is every bit as inviting. From the Crown Point half way down Trail Creek Valley to the Lily May at its head activity is rampant. The Lily May has had a good deal of new machinery installed and Sunset No. 2 has followed suit. The Abe Lincoln adjoining the Sunset on Deer Park Mountain is also getting in good work and putting in improvements. The Homestead claims on the middle of the belt are, it is true, at present lying idle, but it will not be for long. There has been some hitch in the option which was granted by the proprietors to a London firm. This, it is expected, will shortly be straightened out and work for the winter will be resumed on this magnificent property.

On Sunday, the 17th October, a party ran over the now completed railway between Trail and Robson in three-quarters of an hour. The line will shortly be opened for general traffic. Parallel to this railroad, but not touching Trail itself, the C.P.R. surveyors are still at work so that it is expected that the locked up mines in camp will presently have an opportunity of redeeming their boast of their ability to eclipse the Le Roi. News reached the camp that the Crow's Nest line, which is expected to pull through by the end of next year, is to have no greater grade than one in 100. This, if correct, would seem to infer that a through line to the Coast is the object on which its projectors are bent. Now, as the cost of living in Rossland is quite twenty per cent. higher than in similar mining camps over the border, if adequate railroad communication be given us to the coal fields to the east and to the ranching country to the west of us, there is no doubt that the help thus afforded would not only materially lighten production, but would also cheapen food stuffs. A through line is therefore absolutely necessary to us. Let it come at any cost, say some, but far-seeing heads growl at the price exacted, just the same. The land grabber who insists on the 20,000 acre grant per mile and the accompanying subsidy of \$4,000 is extorting an usurious rate of interest for a very safe investment. Still, if the Government, who are supposed to safeguard the interests of the people are willing, it seems to some of us, too willing, to pay this price, it will have to go at that. Yet with the examples patent to the British Columbian of watered stock and over capitalization in this country on one hand and of governmentally guaranteed railways on the other it seems passing strange that Premier Turner *et cetera* cannot think out a more workable plan than the present scheme of giving away the rights of not only the present but of unborn generations. We are fond of borrowing money which is to be left to our descendants to pay, but we are not scrupulous enough as to restrict the lavishing away of lands which they will have to do without in meeting those very bills. A splendid example is before the English-speaking world afforded by the at present much-abused government of India. There the government has succeeded by limiting its capitalizations and guaranteeing interest in establishing a series of excellent railways running at lower rates than any other in the world. And that despite the fact that the interest guaranteed has to be four per cent., whereas Canada can get a loan at two and a half subscribed twice

over! Perhaps it is rather that these things are seen through than the reverse of the case. Perhaps it may be that the invisible ties of our Provincial Government are such that the present Premier may liken himself to the god Janus.

ALFRED W. DYER.

FROM SODA CREEK.

A FALL of busy preparation is closing the mining season of 1897. Mining plant of every description is being hurried in before the mud of November roads increases the cost of transport. There has been landed at Quesnelle during the past few days the greater part of the machinery for a new dredger. The items are imposing by reason of their weight and strength. The bucket destined, let us hope, to bring up the richness of the river bottoms weighs over a ton and its handles twice as much. Not less interesting is the apparatus now being fixed in Mr. Laws' venture opposite Quesnelle. It has been deemed better and more economical to dispatch fresh air along the tunnel to where the work is now going on by mechanical means rather than by the old-fashioned method of ventilating shafts. A few days more will complete the innovation and ozone will go through the long pipe to the gasping miners working at the face.

It would seem as if luck had now turned in favour of Willow River. Mr. Laird, whose confidence in spite of difficulties seems unabated, has conquered the water which for a while proved too much for him. There is probably no claim for which success is more ardently wished than Willow River. It means a boom in the Willow River District where numerous enterprises will be undertaken as soon as Mr. Laird's claim is pronounced a success.

Some of the men on Capt. Black's claim at Omineca have come south and their reports are far from discouraging. At the same time it must be confessed that the difficulties of access, etc., add so greatly to the expense of mining in the Omineca country that the companies exploiting that section are seriously handicapped. An intelligent mining policy is wanted for Cariboo, but the agitation at present going on for an all-Canadian route to the Klondyke may probably accomplish the long delayed development of the north by securing a highway through the entire length of British Columbia.

HUB.

NOTES FROM LYTTON.

AS time passes it becomes more and more obvious that Canada in general, and British Columbia in particular, are becoming fields for investment of British and foreign capital.

Since the steady advancement of the Kootenay and Slocan districts, British and Eastern Canadian, as well as American mining capitalists, have had reports of those locations constantly kept before them by the daily and weekly papers, as well as by the mining and engineering journals of the province.

It will take but a few years to prove that Kootenay and Slocan are not the only mineral bearing portions of the country. From all indications a well mineralized belt runs south-westerly from Northern Koo-

tenay until it reaches the Thompson river, and continues for from five to ten miles in breadth on each side of the river to its conjunction with the Fraser at Lytton. In this mineral belt are some valuable properties, already partially developed, located at different points throughout its entire length, viz.: Kamloops, Savannos, Spence's Bridge, Thompson's Siding and Lytton.

Such valuable finds at so many places must indicate that were the whole region properly prospected one of the best mineral belts of British Columbia would be opened to mining men, and this western portion of the province would get its share of the millions, which, according to political prophecy, will pour into the country.

In the vicinity of Lytton are several properties under course of development; one, the California group is a free gold proposition, and, I believe, the peer of any in the province. Running through the group is a twelve-foot ledge of rose coloured quartz, the walls of porphyry and granite being well defined. Good colours can be obtained in every horn of pulp, and the average of several assays taken throughout the entire length of the ledge is \$40 per ton. A 200-foot tunnel will be driven on it this fall, and the owners purpose erecting a stamp mill in the spring. They are confident they have a bonanza, and all who have seen the rock perfectly agree with them.

On the Chatham group John Francis & Son have a crew of men tunneling and building a house for the winter. Two tunnels are being driven on two distinct and well defined ledges, the mouths of the tunnels being within 200 feet of each other. The work on the Lily May has been stopped for a few days, but will soon be renewed with increased vigour.

Messrs. A. J. Colquhoun and G. F. Monckton, of Vancouver, have made Lytton their headquarters, and are examining and reporting on several claims in the vicinity.

Messrs. Burns, Kilby and Stevenson are pushing along development work on their claims north of the Thompson, a few miles from Lytton. These properties consist largely of copper, and run from \$35 to \$45 per ton.

Besides quartz mining there are several placer claims being worked. The Rosy Bell Company have enlarged their plant on the Fraser, opposite the town, and in another year will be able to carry on extensive operations. A Mr. Killam, of California, is putting in a hydraulic plant a few miles up the Thompson, opposite the Lily May, where he claims to have struck a rich bar.

We hope in the near future to see capital coming in, the country prospected and the properties being developed; for certainly if there is any part of the province which gives indications of mineral wealth, it is the belt already mentioned, extending north-easterly from Lytton, Yale district, to the Kootenay region.

W. S. KEITH.

KAMLOOPS.

THE past month has been marked by visits from several persons of considerable importance in the mining world. Chief of these was Dr. G. M. Dawson, of the Geological Survey, a man whose intimate

knowledge of the geology of British Columbia, from the boundary line to the 60th parallel, has made him the authority on that subject.

It is many years since he first visited this district, and the novelty of seeing this enthusiastic student of nature hammering away at rocks, examining gravels, etc., afforded no little amusement to the not very numerous residents.

It is related that one of the men he employed as a packer could not for the life of him comprehend why Dr. Dawson should carry around with him and bestow such care upon so many "bits of rock." Day by day additions were made to the sack, which steadily became heavier for him to lift on and off the pack saddle. By some misadventure, while following a trail over a precipitous bluff the pack became loosened and toppled into the stream beneath, much to the joy of the packer, and equally much to Dr. Dawson's chagrin.

"There was nothing in the blamed stuff, anyway," Ned would say when recounting his experience to his friends.

Dr. Dawson visited several of the principal claims during his brief stay, and, so far as could be ascertained his opinion favours the view that the mineral deposits of Coal Hill will prove to be permanent.

Following close upon the heels of the distinguished geologist came Mr. Carlyle, Provincial Mineralogist, who remained here a few days, which he spent in looking over the camp, and whose opinion regarding it will doubtless be given in the official report of his extended trip through the various mining camps of the province.

Among others interested in mining who visited Kamloops during the past month must be mentioned Mr. H. Mortimer Lamb, who requires no introduction to readers of the MINING RECORD, and Mr. Abeling, of Moscow, Idaho, an expert in the concentration of low grade ores, a calling he has followed for many years.

It is gratifying to be able to say that all these gentlemen speak in favourable terms of this young camp. It is, however, to be regretted that so little work is being done here at the present time. The Iron Cap, Iron Mask, Python and several other good properties have been too long idle. It is very evident that the right parties have not hold of them, and the camp consequently suffers for the lack of enterprise or capital, or both, on the part of those who control these undoubtedly good claims.

A year ago Kamloops was in the throes of mining delirium; claims were located and recorded at the rate of from a dozen to a score a day, and locators asked ridiculously high prices for totally undeveloped claims. Then came the day when the glamour passed away, and the spurious inflation of value collapsed, and there is now every indication that properties will bring the prices they merit.

The attraction of capital to the camp is quite out of the question until an amount of work sufficient to show the value of the claims is done, and the sooner claim holders realize this the better. With but few exceptions little else has been done than mere assessment work to fulfil the requirements of the Act.

One of these exceptions is the Kimberley Mining Company, whose properties, a nest of six contiguous claims, are situate about four miles south of Kamloops, with the Nicola waggon road a few hun-

dred yards distant only. A tunnel has been driven for 130 feet cutting through several stringers of mineral, and it is expected to strike within the next fifty or seventy-five feet the large ledge upon which a small shaft has already been sunk for about twenty feet. The ore revealed by this shaft looks well and the owners of these properties deserve great credit for their praiseworthy energy in prospecting their claims in so thoroughly systematic a manner. So well pleased are they with the outlook that they recently declined an offer of \$7,500 cash with \$50,000 worth of paid up stock.

In this connection reference may be briefly made to the Iron Mask case. Mr. W. T. Newman secured this claim and several adjoining properties on behalf of a Toronto syndicate, incorporated under the title of the British and Canadian Gold and Silver Mines Company and as superintendent at once commenced development work. In April last a transfer was made to the Coal Hill Gold, Silver and Copper Mining Company. The peculiar feature of this affair is that the three directors of the original syndicate formed the Coal Hill Company (one of the directors being represented on the new company by proxy) and as directors of the first company transferred the property to themselves as the Coal Hill Company! In this deal the rights and claims of smaller shareholders in the original syndicate were entirely ignored.

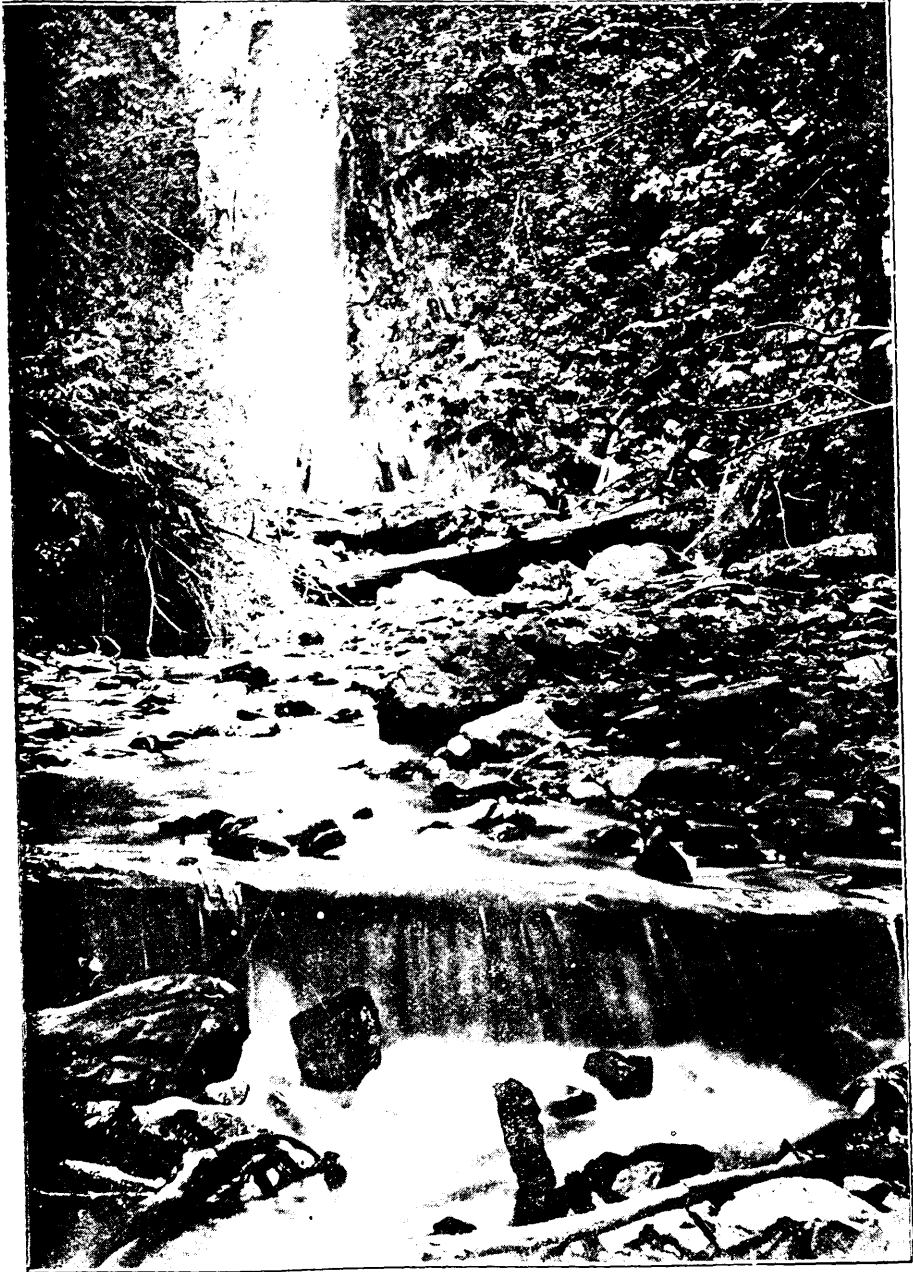
Mr. Newman, as one of these, claims \$7,500 and damages. Three separate intending purchasers have dropped negotiations on learning of Mr. Newman's claim, for as every mining man will understand, no intending buyer will invest in a property in the face of a certain lawsuit, and as the present owners prefer to "freeze out" Mr. Newman and the other smaller shareholders to developing it themselves, this apparently valuable property is shelved for the present.

Such a condition of affairs is detrimental to the progress of the camp, and the sooner the Coal Hill Gold, Silver and Copper Mining Company makes a settlement with Mr. Newman and others, the better for all concerned.

A pleasing feature of the Agricultural Association exhibition opened on the 13th October was the making of copper medals by Mr. Wentworth F. Wood. The ore from which the copper was obtained came from Coal Hill and was the first from the camp turned to practical use. On one side of the medal is a picture of Kamloops showing Coal Hill in the background; on the reverse an inscription setting forth the facts anent the origin of the copper used. Mr. Wood also had an exhibit of two large cases filled with samples from the best claims in the district. W.

BOUNDARY CREEK.

THOUGH slowly, yet steadily, and for the most part to owners' satisfaction, this district is being developed. With the approaching winter comes a renewal of activity. It may be the lovely October weather, or a dearth of opportunities for investment, or possibly the value of the Boundary Creek district itself that has induced such men as Patsy Clark to undertake a \$50,000 bond here. The Snowshoe claim has been in the market all summer; it is now bonded and those mining investors who have been negotiating and dilly-dallying thinking they could close at any time, have nothing to blame but their



THE GOLDSTREAM FALLS, VANCOUVER ISLAND.

own procrastination. One man had made up his mind and by riding all night got in Greenwood Camp at 2 a.m. But the bond had been signed the night before. Work is to be started immediately on the property and the payments are in three equal installments at the end of six, nine and twelve months.

Mr. E. M. E. Munns, of the Powys Syndicate, has under the superintendence of Mr. J. C. Hole, started two tunnels on the Anaconda group. Winter quarters are being got ready and it is expected that work will be carried on continuously.

Few of our readers appreciate the immensity and high grade of some of the copper properties in this district. The B.C., which is now being developed, is certainly an unusually rich property as far as developed. The vein is twenty feet wide and almost solid copper pyrites. The shaft is down some seventy feet and no waste has been taken out. Every pound of dump is high grade copper ore.

The Sunset and Crown Silver bond for \$1,600 has been taken up. This property has been developed by a tunnel and a shaft. At the bottom of the shaft and in the crosscut a fine body of copper ore has been struck.

The outlook for the winter is very satisfactory. Nearly every camp will have development carried on. In Longlake Camp on the Enterprise and possibly North Star; in Summit, B.C. and R. Bell; in Greenwood Camp, Ironsides, Knob Hill, Snowshoe and Stemwinder; in Wellington Camp, Brandon and Golden Crown and Winnipeg; in Deadwood, Mother Lode, Sunset, Great Hopes, Anaconda, Kootenay, and Columbia; in Skylark, the Last Chance; in Smith's Camp the Boundary Falls.

There will also be work done by private individuals. Altogether there will be a very good pay roll during what is usually our dull season.

Greenwood, B.C. PIERRE O'TITE.

NEW DENVER AND SURROUNDING CAMPS.

THAT the variable and still unpropitious state of the silver market effects the Slocan to a minimum degree is plainly evident to anyone who will take the trouble to analyse the customs returns for September, where an enormous advance in mineral exports is shown over the same month of last year. The Payne and Ruth are simply excelling themselves as producers, while the Star and Whitewater are keeping up a continuous record a little in the rear of the leaders.

A distinct triumph for the believers in the permanence of Slocan veins has happily again to be recorded. Since ore was struck in No. 4 tunnel of the Star, few have had the temerity to question the possibilities of deep mining on a large scale, and the fact that during the week the No. 5 tunnel has reached the ore body, looking as promising as ever, at a vertical depth of 750 feet, goes far to confirm even the most optimistic opinions expressed. That a limit will eventually be reached, beyond which galena will cease to exist in paying quantities, nobody in their senses will gainsay, but that it is not within measureable distance of fulfilment at the present time is evidenced by the fact that another tunnel will be commenced in the near future to tap the vein at a depth of over one thousand feet.

It is very gratifying to learn that the reported cave-in at the mine was much less serious than supposed, and operations are now being resumed as before.

Big deals are still the order of the day; the latest transaction of the kind resulting in the sale of E. H. Tomlinson's half interest in the Last Chance, for a considerable, though unnamed amount (reported to be somewhere in the neighbourhood of \$150,000), to Scott McDonald, Bigelow Wilson & McCune, of the Payne mine.

The new management has recently taken hold of the Queen Bess, after making the first payment of the bond of \$120,000. Everything promises to run satisfactorily. The mine is a good one, and should add to the reputation of the district in London, where the company operating it have their headquarters. A waggon road has just been constructed, and a concentrator will follow before the snow goes. Two car-loads of ore are already awaiting shipment, and the force will be largely increased as soon as accommodation can be obtained for the men.

The Three Forks road is now completed, thanks to the energy displayed by the contractors; but there is unfortunately an adverse balance amounting to eighteen hundred dollars. In view of the local enterprise shown in the matter it surely would not be asking too much of the government to make good at least part of the deficit.

A leading feature of the month was the visit of Sir Charles Tupper and Sir Mackenzie Bowell to these parts. Sir Charles, who is interested largely in the Exchange group, on Dayton Creek, made an inspection of that property, and also admired to the full the glorious scenery to be everywhere observed around beautiful Slocan Lake.

Phenomenal specimens of quartz, exhibiting free gold have of late been brought from claims near the Lemon Creek townsite, and it is to be hoped that development will further demonstrate their value. A shipment from the Chapleau is expected to reach fully one hundred and fifty dollars to the ton in gold, and it must not be forgotten that five tons from the Little Daisy, on Eight-Mile, gave returns of \$124 per ton in gold some time back; proof positive that gold is worth looking for, even in the silvery Slocan.

How badly a waggon road is needed up Springer Creek was not fully comprehended until a small boiler destined for the Arlington, was forced to remain at Slocan City all summer, pending means of transportation. After strenuous efforts it has now been hauled in over the old trail, and will assist greatly in the economical working of that property, which, by the way, has undergone a change of management.

Slocan towns are now little, if any, behind outside places in the matter of civilizing adjuncts. With the electric light in Sandon and New Denver and an excellent water-works system also in the former, the subject of efficient fire protection is now engaging public attention, and doubtless before long Sandon will be as safe from fire as any town so situated could possibly be.

HOWARD WEST.

THE GOLDEN MINES.

PROFESSOR Hardman, of Montreal, has been on a visit of inspection to the International and Burns Basins, near Golden. He expressed himself highly pleased with what he saw of the mineral prospects of the district, and informed the writer that he looks forward to the northern portion of East Kootenay proving more valuable as an ore producing section

than the southern, as here the deposits are of a more favourable character than in the south, and carry higher values. The professor also examined the properties in the Fort Steele district recently bonded by Mr. Hammond, and on which a two-stamp test mill has been at work for some time. As the result of his inspection and the work that had been done, he recommended that the options on these properties be abandoned, and the mill has in consequence been shut down. Mr. Bruce, the company's manager in East Kootenay, will be located at Nelson, and Mr. White, who has been in charge of the stamp mill, will in future look after the company's interests in East Kootenay.

P. Wattleet recently made a shipment of ore for test purposes from the properties owned by Dr. Langis, of Vancouver, at the head of Bugaboo Creek. The ore will be tested at the Tacoma smelter. An encouraging feature of this property is that with the depth of the workings the gold values carried in the white iron have increased from \$10.00 per ton at the surface to \$22.00 per ton on the lower level.

Messrs. Mitchell Innes have shut down work on their claims at Prairie Mountain, but have put in a winter camp on the Pretty Girl, on Horsethief Creek. This latter is a copper proposition, and excellent accounts are being received of the results of development work thereon. A shaft is to be sunk here to follow the ore body.

A strike of gray copper made on J. White's property in the Cariboo Basin has given an assay of \$18 a ton in gold and silver.

T. Hebsen is putting in a winter camp on his claim at Ottertail.

The Bald Mountain Company have shipped a quantity of ore to the Victoria Metallurgical Works for a mill test. The assays obtained from their recent strike gave \$65 in gold from the gray quartz and \$36 in gold from the blue quartz. The owners contend that this is a free-milling property.

The Kootenay Consolidated Company have struck the Big Boston lead at the 250 foot level, on the Bennison claim, by means of a tunnel which they have run over ninety feet. They will now cut across the lead. This enterprising company have, moreover, just let the biggest contract that has been let in East Kootenay, namely, for 500 feet of tunneling as a low level working tunnel at the Bennison and Boston claims.

Some excitement has been caused at Donald by the discovery of a ten-foot lead of well-defined character on the divide between the Bluewater and Wit-a-Pit Rivers. The assays obtained gave an average of twenty-six per cent. of copper. Several claims have been located.

Mr. Knowlton, of Quebec, has taken up the bond on Logan's property on Logan Creek, and on Saturday the purchase price of \$4,000 was paid over. Mr. Knowlton has also taken working bonds on the Bluewater claims owned by Dr. Taylor, Messrs. Moodie and Conner, and the Sunday claim at Ottertail.

Work has been stopped on the Mercier properties on Bugaboo for the winter months. It is stated that there are 200 tons of ore on the dump here.

The Alberta and Kootenay Company have now driven the development tunnel on the Copper Creek property in about sixty feet, and intend cutting across the lead forthwith.

Captain Armstrong has run a tunnel about sixty

feet into the Delos lead, Horsethief Creek, and the property is showing up well.

Mr. Keyser has purchased Mr. Townsend's interest in the Picton and Maple Leaf claims in the International Basin.

A road is badly needed up the Beaver Valley to give access to the claims on the eastern slope of the Selkirks. Some of these are among the most promising properties in the district, but owing to the want of access it is practically impossible to do anything with them at the present time.

Golden.

E. A. HAGGEN.

VERNON NOTES.

THE machinery and engine of the Morning Glory Mining Company is being put up now and in a few weeks' time we may expect the mill to be hard at work as the proprietors are using every effort to make the thing a success. The treasury stock has been sold with the exception of 20,000 shares, so that the company may congratulate themselves upon their success so far. The next thing we shall expect will be a dividend. It would be a welcome Christmas box.

The Densy is now owned by a corporation under the style of the Densy Company. Work is proceeding satisfactorily under the supervision of the company's engineer, Mr. Harris.

The second shaft on the Silver Queen has had to be abandoned for the time being on account of tapping a spring at a depth of thirty-five feet, the flow of water being so great that until sufficiently powerful pumps are installed it will be impossible to work in the shaft. The ore brought in, however, is very rich and it is understood the necessary machinery will be put in as soon as possible.

The Bon Diable Mining Company expect to recommence work again shortly, and it is very likely that a part interest may change hands in the near future.

Work is progressing on the Bachelor claim owned by Mr. G. Milligan and others and the ore from this property is very similar to that of the Hic Jacet and equally rich.

Captain F. Molyneaux, the purchaser of the Monashee mine, has returned from Sandon and is in town awaiting the arrival of his engineer from the Old Country, when he will at once proceed to the Monashee.

A great many new claims have been recorded during the past month which goes to show that great attention is being paid to this district, and among the names of the recording parties I notice the Canada American Gold Mining Company, who have had a large body of prospectors at work during the whole summer, and from reports that have come to me, next spring will see some serious work undertaken in more quarters than one.

It is quite certain from the general average of the assays obtained from samples in the vicinity of Vernon that there must be some very rich ledges somewhere, but whether they have been covered by the claims already on record or not it is impossible to say until more development work has been done.

The British Pacific Gold Property Company is also acquiring an interest in our district which is likely to assume considerable proportions before very long. In fact, the outside world is beginning to find out that Vernon is by no means an agricultural district

only, and it will shortly be possible for people to enjoy life in an unrivaled climate with scenery not to be surpassed in any other part of the world, to have prosperous mines all round them and a plentiful supply of fruit and vegetables grown on the spot; nor does this list of resources include all the advantages Vernon enjoys, as the city can boast of a flour mill, a saw mill and sash and door factory, a creamery that will commence work next spring, and a good brewery in operation. All these, with our railroad and steam communication to the end of Okanagan Lake to Penticton, from which point good waggon roads connect with the mining camps of Fairview, Greenwood, Camp McKinney, Boundary Creek and on to Midway, all soon to be connected with the Kootenay by rail. Surely these advantages should not be overlooked by would-be immigrants.

F. ADRIAN MEYER.

OMINECA NOTES.

NOW that the Yukon is claiming the attention of many thousands of prospectors and miners, and excitement is at its height anent the rich discoveries in that country, people are apt to treat mining news from other districts somewhat contemptuously. Nevertheless, the progress of development of Omineca and that section in the vicinity of Skeena should also excite interest, and I propose here to briefly describe the work that is there being carried on.

Under the capable management of Col. Wright, of the Forty-Third Mining and Milling Company, preparations are going forward on the company's property at Manson Creek for next year's washing. Upwards of sixty men are employed on the claim, and the prevailing opinion is that the shareholders will receive a most satisfactory dividend from the next clean up.

At Tom's Creek Messrs. Lyons and May, owning the Mayflower placer claim—a very promising property—are at present drifting and have now seven feet of pay dirt which prospects from ten to fifty cents to the pan.

A party of Chinamen on Vital Creek are apparently doing well, and as near as could be ascertained, each man's share was \$800 as the result of clean-ups for five weeks' work. Chinamen are generally reticent—and these were no exception to the rule—regarding their gains, but from one of the partners it was learned that the above-mentioned sum was not over-estimated. The claim was formerly owned by James May, of Tom's Creek, and sold by him to the present owners for \$1,000.

Alex. Fraser, well-known in Victoria, was, when seen by the present scribe, rather down on his luck. He is working on Silver Creek, a tributary of the Omineca at Kiskagasse, on the Skeena, sixty miles from Hazelton. A number of claims have recently been located in this neighbourhood and a good deal of development work (in most cases the result being encouraging) has been prosecuted this season. Among the more developed properties are the Milburn, E. C. Stephenson, Hick Largent, Diamond Jubilee and Standard, all of which were located and are owned by the Hazelton Prospecting Company.

Practically little quartz prospecting has been attempted in the Omineca, owing to the absence of

transportation and smelting facilities, but there can be little doubt that rich mines will one day be operated at Kiskagasse, when claims that have been opened up to a limited extent show up well. Two properties, the Alexander and the M.E.O. in particular, are worthy of mention. Both have leads of boronite carrying high copper, gold and silver values.

There yet remains at the headwaters of the Finlay River a vast country, as yet unexplored, and as gold is found in paying quantities on the lower bars of this river, it is reasonable to believe that there is rich placer above. I would certainly advise prospectors to visit and explore this section and who can say we may not have here a gold area not less rich than Klondyke itself? J.

THE PROGRESS OF SIX MONTHS—A VISIT TO MINING TOWNS OF YALE AND WEST KOOTENAY.

ONE'S first impressions of Ashcroft are likely to be prejudiced for the east-bound train deposits you at the ill lighted station at some unholy time in the middle of the night, and you stand and shiver (particularly when the month is October), until some one finds time to direct you to an hotel, whereat you arrive in a state of mind at the best strictly critical. The local hotel service might possibly be improved. But in the morning, with the sun shining brightly, Ashcroft is decidedly an interesting spot, and the first thing that strikes one is the cleanliness of the streets. I saw several men employed raking up refuse during my stay, and upon enquiry elicited the information that whenever the town began to look untidy some one would take round the hat and collect enough money to make things ship-shape again. Ashcroft is at the present time the distributing point for Cariboo and other districts, and teams may be seen almost every day leaving for the long and tedious journey to Quesnelle and Barkerville. Teaming over the Cariboo road is a poor business; competition has reduced the rates, and taking into consideration the hardships of the life, the teamster's, like the policeman's lot is not a happy one.

About eighteen miles from Ashcroft, on Bonaparte Creek, some very fair quartz claims are being developed. Of these the Maggie, with ore assaying \$35, and the Rivers mine group, owned by the B.C. Development Company, are showing up exceedingly well. But Ashcroft looks forward to very prosperous times next spring, when it is hoped it will become a starting point for the Klondyke gold fields, the route thence being, from local accounts, comparatively easy; but in order to supply enquirers with really reliable information regarding its feasibility, a number of enterprising people of the town, including Dr. Reynolds, editor of the local paper, a few weeks back, engaged a party to travel over the route and to report their experiences. The agents received instructions to journey by the Cariboo road to Quesnelle, a distance of 220 miles, and crossing the Fraser River there, proceed to Hazelton and from Hazelton by trail, (of which there are two) to Telegraph Creek; from here to Lake Teslin, the distance from Quesnelle being approximately 620 miles. Enquiries regarding this route are received almost every day at Ashcroft, and shortly after my visit a party arrived from Spokane (I think) with the mad intention of setting out, but it is needless to say they were speedily disillusioned when they were told that the snow was already six inches deep at "83-Mile." April, of course, is the earliest time possible to start by this route, and perhaps even April is too early.

Journeying by freight train is not the most comfortable mode of railway travel, but the writer preferred that method of going from Ashcroft to Kamloops as it landed him at his destination at noon in place of getting there on the passenger train at 3 a. m.

The trip is a most interesting and enjoyable one through scenery which the traveller, on ordinary occasions, has no opportunity of seeing unless his train is many hours behind time.

Situated at the junction of the north and south branches of the Thompson River, Kamloops is a substantially-built town, containing a number of good stores, many neat residences with trim lawns and well-kept flower beds, and several rather indifferent hotels. This latter shortcoming is in a fair way of being speedily remedied as a new hotel, of brick and stone, is in course of erection.

Scattered here and there in the valleys of the two rivers, as

well as on the higher benches, are cattle ranches and farms. Good wagon roads traverse the country in all directions, steamboats ply upon the rivers, and the general impression created in the mind of a visitor is that residents of Kamloops are not only most unquestionably in the world but have several advantages to their credit not possessed by coast towns, including a dry, bracing and genial climate.

Leaving town on horseback, the long climb out of the Thompson valley was soon made, and in less than half an hour after leaving the livery stable, discovery and other posts were very much in evidence. The first claims of any importance are those of the Kimberley Mining Co. There is a nest of six claims four miles south of Kamloops belonging to this partnership. On the Occidental there is a wide ledge, how wide has not yet been determined, on which assessment work has been done. Samples of rock from this claim assayed \$80.00 in gold besides a little silver and a small amount of copper. On the Charlotte, however, this company has set to work, in a systematic manner, to ascertain what they have. Already a tunnel has been driven for over 130 feet, and several small stringers of mineral have been cut through. The owners expect to shortly reach the main ledge which has a surface showing on the top of the hill of some 30 feet wide. A shaft some 20 feet deep has been sunk on this ledge showing some excellent ore, assays going from a few dollars to several hundred dollars of gold per ton. This ledge has been traced through the Saucy Lass claim adjoining the Kimberley group and owned by the Pedro Mining Co.

On the opposite side of Peterson Creek valley is a group of quartz claims said to contain free gold, some assays giving from \$30 to \$90 per ton, and in some samples shown free gold is plainly visible. Nothing has been done, however, to show the value of these claims. Half an hour's trot over the hills to the Jacko Lake section and a veritable host of claims is seen, some more or less developed; others untouched by drill, pick, or shovel.

The Breeden group of claims is lying idle. A bond on these claims (\$10,000 with \$1,000 cash paid down) is held by some English capitalists, but there seems to have been no effort made to prospect the properties in a workmanlike manner. Certainly a shaft some fifty feet deep was sunk, but it would have been better left alone and the money so expended used in prospecting for a proper place to commence operations on. As it is, the spot chosen seems to have been taken at haphazard. The Pedro, Eureka, and Gold from the Grass Roots claims, adjoining the Breeden group, with their numerous prospect holes showing several ledges, have been more judiciously treated. Gold from the Grass Roots is bonded to some Fairhaven people. On these and many other claims in the neighbourhood there are good indications, fully justifying the expenditure of money, and no doubt this will be forthcoming in course of time. One feature of this country is the perfect ease with which one can ride or drive in almost any given direction. The hills are rolling, dotted here and there with pines and clumps of cottonwoods growing by the many small lakes that serve as watering places for the herds of cattle that graze hereabouts.

The Lucky Strike claim, bonded by J. Cobledick, for English capitalists, is being developed and is showing up well. Ore is being sorted and sacked as it is mined, and averages an assay of \$45 per ton, total values. Several properties around the Lucky Strike have been fairly well prospected, but not sufficiently to show any real value. The Lucky Strike vein is four feet wide at the surface, and so far gives no sign of "pinching." Within a short distance of the Lucky Strike are two important claims, the Python on the one hand, the Iron Mask on the other. Both of these are idle—the Python waiting for capital; the Iron Mask for a settlement between the Coal Hill Gold, Silver & Copper Mining Co. and Mr. Newman, who developed the claim for the original syndicate who acquired it from the locators. The ore of the Iron Mask is high grade copper-gold, assaying from \$35 to \$70 per ton. A trial shipment of half a car-load gave \$33 per ton at the smelter. A tunnel is in sixty feet, following the strike of the chute.

The Python claim, the first located in this camp, has been developed by shaft. The ore is copper pyrites, averaging twenty per cent. copper and \$22 in gold. A road has been made connecting the mine with the Government wagon road about a mile distant.

Less than a mile from the Iron Mask the Iron Cap claim comes into view. Here is a shaft sixty feet deep, following the dip of the vein, which is copper pyrites carrying gold. This is also lying idle. A local syndicate holds a bond on the property. A half-car-load of ore was shipped to the Everett smelter, but the returns have not yet been made known. Assays have yielded from \$12 to \$178 per ton. The Iron Cap shaft is about 200 feet from the Fragment

claim and as the ledge dips towards and under that property, which shows in addition a number of small ledges and stringers of the same nature as the Iron Cap deposit, there is every indication of this turning out a valuable claim.

A couple of miles farther on the Bonanza and Pot Hook claims are reached. Here is a large body of low grade ore, but its extent is not made evident. Two shafts have been sunk, most work being done on the Bonanza, however. Assays give from \$2 in gold and 10 per cent. copper. This ore would require concentrating.

Towering nearly a thousand feet above the Bonanza, and a mile and a half distant, stands Sugar Loaf Hill, the whole of which has been staked off in mineral claims. On the Little Smuggler, Gold Cup and Green Cub a fair amount of work has been done. Near the latter are the Chieftain No. 1 and No. 2, both under one ownership. Each has been sunk on to a depth of 50 feet. The ledges vary from one to three feet in width, the ore being iron pyrites, carrying gold and a little copper pyrites. The gold assays vary from \$2 to \$24 per ton. As this tour embraced most of the claims on which work beyond bare assessment work has been done, the writer took a short cut across country and in a couple of hours reached Kamloops, ready for the fray at dinner time.

There is a good supply of wood close at hand for timbering shafts and tunnels: the claims are all easily accessible by wagon road; the railway, in a straight line, is never more than five miles distant, and camp supplies are readily obtained in the town. Possessing these features, with good ore in many instances, this camp should soon come to the front.

Of all up-country towns Revelstoke perhaps has made the most rapid growth this summer, and it is estimated the population has quite doubled in the last six months. New buildings are going up in every direction—and in most cases they are buildings that would not disgrace well certainly no city in Canada. Recently a branch of the Imperial bank was established here and the town people take a pardonable pride in the new court house. In some ways Revelstoke is a peculiar place—it should be re-named Trinity town. There is the old town, the middle town and the new town, and they come together and make Revelstoke. But a stranger often does not quite know what to make of it when he is driven in the free bus, a mile or more, to an hotel in the lower town; albeit it sometimes impresses him favourably—a visitor last winter remarking that it was the finest place he'd ever struck, they gave a man a freesleigh ride before they had had time to even properly make his acquaintance or estimate his character.

The straggling manner in which the town is building is due, as is well known, to the action of the C. P. R. in removing their station and shops from the old town to the present site, which occasioned at the time a good deal of dissatisfaction, however, happily now all disagreeable feeling in the matter has been forgotten. Revelstoke also suffered for a period under the burden of litigation between the original pre-emptor of the townsite and the Dominion Government, the latter claiming that the land was within the railway belt and title was refused to purchasers of lots; a settlement was not reached until comparatively recent times. Everything now points to a prosperous future for the town, a capital water-works system is in force and a local company are now installing an electric-light plant. (I don't intend, by-the-way, to visit Revelstoke again until this service is completed, for wandering through its streets in the Stygian darkness of a cloudy night is an experience I have no desire to repeat.) There is, moreover, every probability that the town will, ere long, be incorporated. Among the local institutions number a hospital, eight or nine hotels, several general stores, the Revelstoke Iron Works, four hardware stores, three (!) breweries, four (!!) churches, two newspapers, one of which, the *Herald*, is issued semi-weekly, two cold-storage rooms, seven milliners establishments, five drug stores, etc., not to mention a number of Chinese shops in the main business street of the town. Revelstoke has been called the "Clapham Junction of British Columbia," which is obviously a somewhat foolish comparison, but it certainly is an important distributing centre, albeit by the building of the Crow's Nest Pass road the traffic of Southern Kootenay will be carried through another channel. Notwithstanding this the important camps tributary to the town, the camps of McCulloch with its quartz and placer claims, of French Creek and Jordan Pass where apparently valuable discoveries of galena have recently been made, of the Illecillewaet and Carnes Creek camps—fully justify its growth and guarantee its future prosperity. Of these camps I intend to speak more fully at some future occasion. At Arrowhead, some twenty-five miles by rail from Revelstoke, you board the steamer which takes you down to Nakusp, and if you are lucky enough to have a clear sky with the moon full (of course, you must take good care not to be in the same

condition) this trip down the Arrow Lake is the most enjoyable experience imaginable. The C.P.R. Company's lake steamship service is superb (if they would only take the Lytton back to the Fraser) and in a comfortable deck chair with a fragrant Havanna (Svengalie size) a man's liver must be very badly deranged indeed if he does not appreciate the perfectly unique and withal magnificent lake scenery, as the steamer makes its rapid journey over the deep calm water.

There is little to be said of Nakusp, except it supports four hotels (the one I sampled, the Leland, being excellent) and a drug store. In the vicinity of the place a little prospecting has been carried on, but as far as I could learn the results were nothing to boast of. At Deer Park, however, some very promising claims are being developed. I met a young Englishman at Nakusp who has been prospecting in the province for the past two or three years, and some of his experiences were not uninteresting. He said prospecting was not at all what many people imagined—a life devoid of incident. A man could have all the excitement he desired in the hills if he only went the right way about it. He said this summer alone he got lost twice, went without food for over two days, was caught in a brush fire, was very nearly blown up (when two sticks of dynamite became ignited and exploded directly over a spot where just previously he had been reclining), besides undergoing such minor adventures and hardships as falling down precipices and meeting itinerant preachers. "Oh, yes," he continued, "one requires a strong constitution."

A short rail journey to Roseberry and the steamer Slocan, the fastest boat on the route, takes you down the Slocan Lake to New Denver, Silverton and Slocan City. To describe the gorgeous beauties of Slocan Lake scenery one would require the pen of a Ruskin at least (and I hardly think I can lay my hand just at the moment on the article), but I heard an Irishman on the boat singing "Killarney," and the words of the song were not inappropriate. Perhaps I saw the country at its best, but nothing could well be more inspiring than the sight of these lofty ranges clothed in their autumn garb of gold and purple and red, reflected with extraordinary fidelity on the placid water and above the translucent blue of a cloudless sky. Having decided to make a stay at New Denver on the steamer's return journey and to see Slocan City first, I remained on board when we called at the former place. Some four miles below New Denver is Silverton and here for the first time during my journey I saw signs of mining actively. As we approached the wharf a pack train of mules laden with ore from the Fidelity mine had just arrived and the sacks were being stored in a shed ready for shipment. The mules make two trips a day, the seventeen animals bringing down about two tons every journey. It may be thought that this is a somewhat expensive mode of transport; and so it is, but ore as produced from such mines as the Fidelity and others like it in this wonderful Slocan will stand expensive methods of handling, and it is said the Fidelity ore will net the fortunate owners \$150 per ton. The Fidelity is a comparative new discovery, but it is certainly proving a valuable one. Silverton has grown very much this year and now supports a weekly newspaper which the enterprising proprietors publish under cover of a canvas tent.

Slocan City, destined to become an important point, is charmingly situated at the foot of the lake. The population now numbers about 800 souls and some Chinamen, but this summer when the boom was at its height there were almost double this number. The townsite was laid out in '92, but it was not until the spring of this year that the city began to assume the proportions of a village. The building of the branch line of the C.P.R. from Slocan, crossing on the Kootenay River to the town will necessarily largely divert travel and traffic in this direction. Specially constructed barges for the transportation of railway cars over the lake have been built, and the ore shipments by this route will, in the natural course of events, be heavy. Meanwhile, there is a good deal of mining activity in the hills in the vicinity of the town, and ore shipments are being made from the Two Friends, Meteor, Chapleaux and Evening Star, (No. 8), The Howard Fraction, Arlington and Exchange have also shipped recently, but the Arlington is reserving its ore for rawhiding. A stamp mill is shortly to be installed at the Howard Fraction, and some twenty men are employed at present at the Exchange. Then there is a very large number of other promising prospects on Lemon and Springer Creeks, and on Four Mile, Ten Mile and Twelve Mile Creeks. I stayed over night at New Denver, and I should have liked to have remained longer, for not only is it a delightful spot in itself, but its people are remarkably hospitable. New Denver is at present the principal town on Slocan Lake, and the geographical centre of the district. During the year over fifty substantial buildings have been

erected, the aggregate value of which would not be less than \$60,000. Of these the new and commodious building occupied by the Bank of Montreal, is perhaps the most noteworthy. There probably is no bank in the interior having more comfortable quarters. The New Denver hospital, established by Dr. Brouse, in August, 1895, is an institution whereof the townspeople may well be proud. The building was erected at a cost of \$8,000, and is fitted with every convenience. In the last twelve months no less than 145 indoor and 692 outdoor patients have been medically treated. Among New Denver's other institutions I must not forget to mention the local paper, with its power presses and large staff; the brass band, and the club (where all the members are their own bar-keepers). The New Denver club was the first of its kind started in Kootenay.

The railroad from New Denver to Sandon is a wonderful piece of engineering work, and the grade is so steep (5 per cent. at times) that the locomotive has to be attached to the back of the train, and pushes instead of pulls, and the journey is hence somewhat slow. At length you arrive at Sandon, which is a typical, and, it may be said, the best example of a mining camp to be met with in British Columbia. The town is situated in a gulch, 3,500 feet above the level of the sea, and has one long main street, just wide enough for two waggons to pass one another if the drivers are careful. Houses are also built on the sides of the mountains, but most of the available ground here is taken up by the railway tracks of the C.P.R. and the Kaslo & Slocan roads. The site was originally located in May, 1892, by Mr. J. M. Harris, who has in consequence since become a millionaire, or very nearly so. The story is told that when Mr. Harris staked the property he offered a friend a half interest in consideration of the payment of the recording fees, but he was only laughed at for his generous proposal. The history of the town really began a year and a half ago, when the C.P.R. road was built to connect with the K. & S., and the progress that has been made since then is phenomenal. Sandon now boasts of a population of nearly 2,000, and notwithstanding the peculiarity of the situation, whereby the town is liable at any time to be destroyed by fire (although every precaution has been taken to guard against the danger) or buried beneath a snowslide, most of the business blocks are substantial and expensive structures, for instance, the Good-enough hotel cost well in the neighbourhood of \$20,000, and Mr. Harris' offices could not have been built for much less. Talking of hotels, by the way, there are no fewer than nineteen in the town! But it must be remembered that Sandon is the heart of what is certainly, at least at the present time, the richest and the most important mining camp of the province, and visitors are frequent and numerous. Most of the great mines in the vicinity, however, are owned by close corporations and private individuals, and that is the reason, perhaps, one hears so little about them in comparison with the Rossland properties. The Payne mine, for instance, three and a half miles northwest of Sandon, is without doubt the best mine in British Columbia to-day. It pays nearly twice as large a monthly dividend as the Le Roi, and beside the Payne, the Slocan Star, the Ruth, the Last Chance, the Rero, the Good-enough and over twenty other mines are paying large dividends every month. Through the kindness of the managers of the Ruth and of the Slocan Star, I was allowed to visit the workings at these two mines. The formation at the Ruth is rather curious, in that the veins cross one another like the wires of a gridiron. Four tunnels have been driven at different levels for distances of respectively 800, 500, 300 and 300 feet, with upraises at regular intervals. The mine is now shipping daily 30 tons of galena ore, averaging 120 ounces in silver and 70 ounces lead, to the Pueblo smelter, while the carbonates are sent to Everett. The Scotch syndicate under the name of the Ruth Mines, Ltd., which acquired the property some six months ago, have met with great success since it passed into their hands, and the result of recent development has demonstrated the mine to be worth at least four times the price paid, which I understand was \$250,000. The company are now putting in air-compressor drills and other machinery to facilitate the work. At the Slocan Star a force of 100 men is employed, 80 in the mine and 20 in the concentrator.

This concentrator has twelve jigs and a daily capacity of 120 tons, the machinery being operated by both water and steam power. Ore is at present being brought down from the mine over surface gravity tramways, a distance of 1,700 feet. But next year a tunnel is to be driven starting close to the works and electric cars will be used to carry the ore. This tunnel will give a depth on the lode of 1,000 feet from the outcroppings, the present workings in No. 5 tunnel giving 750 feet.

The ore body exposed in some of the old workings is a marvellous sight and reminds one forcibly of the fortune caves of Arabian Night stories—great masses of sparkling galena ore in places 37 feet wide! But I must hurry on.

You get some rare glimpses of scenery along the Kaslo & Slocan Railroad which, by the way, is a wonderful piece of engineering work, the road being built for a great part of the way high up the steep slopes of the mountain sides and one can look sheer down the precipices from the vantage point of the car window into the valleys hundreds of feet below. Approaching Kaslo the view of Kootenay Lake is very fine. At Kaslo I met Mr. G. O. Buchanan, one of the pioneers of the place, who gave me the materials for the following historical sketch of the town. Kaslo seems to have received its name from an Indian trapper of marten who worked in the neighbourhood from twelve to twenty years ago. This Indian was probably named by the priests Costello, which became contracted to Caslo, and when Mr. Buchanan first visited the bay for the purpose of staking a timber limit, just eight years ago this month, the creek by whose banks he and his companions camped he called Caslo Creek. In 1891 the present site was pre-empted by Mr. G. T. Kane, and shortly afterwards it was surveyed by Mr. J. Keen, P.L.S., who inscribed the site on official maps as Kaslo, perhaps for reasons of alliteration—Kane, Keen, Kaslo and Kootenay. It may be stated here that Kaslo was part of Mr. Buchanan's timber limit, his claim being jumped before the year had expired. The historical first building—a log cabin—was built by Mr. Kane in the spring of '91. This building may still be seen and occupies a site on Third Street.

In the fall of the same year, on the strength of the discoveries in Jardine & Briden camps, Kaslo was boomed, and the Kaslo-Kootenay Land Co. was organized to sell lots in the townsite. This boom, however, might not have been persistent but for the amazing discoveries in the Slocan camp which attracted attention from all quarters. In the rush thither the wealth of the Jardine & Briden camps was temporarily forgotten, and except for the efforts put forward by Mr. King, through his paper, the *Kootenaiian*, might have remained so up to the present time. In the spring of '92 the rush to secure claims in the Slocan commenced, and shortly afterwards the camp was invaded by an army of experts. It is interesting now to recall the fact that the whole of this rich, silver-lead producing region (the richest in the world perhaps) was utterly condemned by the scientific visitors. At the first celebration held in the town May the 20th, 1892, a prize of \$25 was offered for the best specimen of ore shown by a prospector. This prize was carried off by a man called Henney, who brought his specimen (a huge lump of galena) in a sack on his back all the way from the Noble Five mine. The story of the heroic effort, whereby the Kaslo people in the fall of '92 secured a wagon road leading into the mining camps, has often been told. How the business men of the place (and none of them were very well off at the time) subscribed sums of from \$100 to \$1,000 in cash towards the enterprise, until with the generous contribution of the Pilot Bay Smelting Company, and the Government and Townsite Company's appropriations, a sufficient sum was raised. The slump in silver in '93, although it created an exodus from the town, did not prevent the enterprising citizens from taking steps towards incorporation, and the summer of that year saw Kaslo the first "city" of West Kootenay, with Mr. Robt. F. Green as its first chief magistrate, a position which he now occupies for the third term. The first years of municipal control, however, were clouded by inauspicious circumstances, a great part of the town being destroyed first by fire and later by flood. But the tide of prosperity set in with the commencement of railroad construction in 1895, and the last three years there has been a period of steady growth and progress. There has been no boom and consequently no failures and no set-backs; the population is possibly no larger than it was in the boom times of '93, but it is now a settled and permanent population with no idle people.

Among the institutions of Kaslo must be mentioned the sampling works, in which ore is tested and graded before being shipped; the large saw mill establishment, the two banks, the large school house with its four departments, the numerous fine store, hotel and office buildings, the system of water works, put in by the municipality at a cost of \$30,000; the electric light works, two newspapers, and the fine wharfs wherefrom ore is shipped over the lake to be subsequently transported by one of three great railroad systems. Meanwhile the area of profitable mining is extending nearer and nearer in the direction of the town. The claims of the Whitewater and of the South Fork of Kaslo River are rapidly coming to the front. A concentrator is be-

ing erected at the Montezuma mine, and both the Silver Bell and the Black Fox have recently shipped ore. During this summer the hills within sight of Kaslo on both sides of the lake have been visited by prospectors and a number of promising claims have been located. This summer also the old steam launch *Idaho* worked her way up the Duncan River into Howser Lake, and now makes regular runs from Duncan City, at the foot of the lake, to the log jam 20 miles up the upper Duncan, carrying prospectors and their supplies. An enterprising firm furthermore promises to build a steamer to navigate the lower river between the two lakes, but whether this experiment will prove successful or not, it is certain that the time has gone by when efficient means of transportation can be neglected, and if the river proves unfit for navigation rails or wires will have to be laid or strung to carry down the valuable ore, of which there is certainly an abundant quantity now lying on the dumps, from this section.

After staying over night at Kaslo, I took the S.S. *International*, owned by the International Trading & Navigation Company, to Nelson. Both as regards comfort and service this boat is a very long way behind what you get on the C.P.R. vessels. After waiting for two or more hours before breakfast was announced (you board the boat at 5:30 a.m.), passengers, I found, were obliged to twiddle their thumbs on an average period of twenty minutes between the time when they gave their order to the waiter and the time when it was filled. That sort of thing would not be tolerated on a C.P.R. steamer. The scenery on Kootenay Lake is very similar, and therefore as beautiful, as that on Lake Slocan. Picturesquely situated Ainsworth and the Pilot Bay smelter (of which people are asking the reason for its present idleness) are the chief points of interest.

There are three ways of approaching Nelson, all of them beautiful. By the Columbia and Kootenay Railway, after gazing at the magnificent torrents of the Kootenay River, the eye is charmed by the gradually unfolding view of the still lake lying at the foot of its precipitous mountain, with Nelson on its other bank rising tier by tier from the waters edge. The Nelson & Fort Sheppard train brings the traveller helter skelter down from the summit between the Salmon River and Cottonwood Lake, and rushing round a corner suddenly shows him the town and lake lying hundreds of feet below him. But by far the most beautiful view is afforded by the route I took, by steamer from Kaslo. The approach to Nelson is then by the West Arm, an outlet of Kootenay Lake, a splendid water way 20 miles from Balfour. It appears to end in a *cul de sac* of mountains, but as a matter of fact the river disappears round a rocky point to the right and the view afforded is simply a semi-circle of mountains, with Nelson lying in the centre at the mouth of a valley. Behind it rises Morning Mountain, on which is the Athabasca Mine, and round its shoulders is Poorman. To the left, across a canyon rises Toad Mountain, its bush-clad flanks barred by a straight broad clearing, along which leads the tramway to the Silver King, 5,000 feet above. Over all towers Mount Dawson, and the craggy peak of Mount Atkins, nearly 8,000 feet high. By whichever route you come, the eye is at once attracted by the tall chimney of the smelter standing on a prominent bluff and pouring forth clouds of yellow smoke. Several large buildings in the town itself also stand up well in view, giving the idea of what Nelson really is, an important town. Among these buildings is the Court House, the Phair Hotel, the new Lake View and Grand Central Hotels, and a large new hotel not yet completed, close to the Court House. Peeping out of the brush about the town in every direction are snug looking villas and several handsome residences, affording proof that people are making their homes in Nelson.

Moreover, business is looking up wonderfully in the town, thanks largely to the policy of the present capable municipal government. In mining matters too there is a decided stir. A new furnace is to be built for the Hall Mines smelter, and it is contemplated to use the 120-ton furnace for lead smelting purposes, and the C.P.R. recently built a spur track into the reverberatory room here to facilitate shipments of matte. The ore from the Athabasca mine recently treated at the Nelson smelter gave the very satisfactory return of \$100 to the ton, and a number of other fine prospects under development on Toad mountain will also be shipping soon. At the head of Hall creek a ten-stamp mill was lately installed on the Fern mine, and the runs were so successful that the company owning the property decided to increase forthwith the number of stamps to twenty. Enough ore has already been blocked out in the Fern to keep a 20-stamp mill running for two years. A large force of men are at work on a group of claims on Give-Out creek. In fact, in all the camps surrounding Nelson there is

a marked activity. Since the beginning of this year Nelson's population has increased at least 100 per cent., so that there are now possibly quite 4,000 people living in the town, Nelson, it is well predicted, is destined to become at no distant day the great smelting centre of the province.

On the way to Robson the beautiful falls and rapids of the Kootenay river are noteworthy, and several times during the journey I regretted that I had not burdened myself with a kodak. From Robson you again transfer from train to steamer, and after a somewhat interesting run down the Columbia you arrive at Trail in time for lunch.

Trail, like all other up-country towns, has grown considerably since last spring, but the improvements are not so marked as in other instances. It will always be a matter of astonishment to me why the present site was built on, necessitating the elevation of buildings on piles, whereas there is a fine tract of level bench land, now owned by Mr. Heinze, overlooking the town near by. Of my visit to the smelter I hope to give an account shortly.

The journey from Trail to Rossland by the Columbian & Western would doubtless, under different conditions, be pleasurable. But the stuffiness (not to mention the palpable grime) of the little poky and generally crowded first-class (?) carriage (there's only one) precludes any possibility of enjoyment or comfort. Even the company's private car which, by the way, I was informed was once the property of the immortal Brigham Young—used only on state occasions—has a dilapidated, shabby-genteel appearance. Nevertheless, Mr. Heinze is deserving of all due credit for his enterprise in building this road which, however, I was very glad to learn had long since repaid the original outlay, and returned a big profit besides. It is of necessity, on account of the tremendous rise, a slow journey this, and it takes the little engine fully an hour to pull its load up the something like twelve miles of steep mountain road. But at length Rossland is reached and the train pulls up at the station in the midst of a snow storm (Oct. 14). Even under these depressing conditions it is at once apparent that here is a busy town, and the last six months have brought a very noticeable change in its appearance. One misses that massive hillock (200 feet long by 60 feet wide) that used to block up Columbia avenue, and the historic Sour Dough Alley has also now become a reminiscence. Local self-government is obviously the only healthful method to adopt in the case of our provincial mining towns, once a certain stage of development has been reached; and despite the fact that all has not been smooth sailing in matters municipal since Rossland was incorporated last April, results on the whole have been satisfactory. Well-graded streets, sidewalks laid down in all main thoroughfares, an excellent sewerage system, and a fire department equipped with modern appliances, is an excellent civic record for six months, and striking in view of one's recollection of the town with its muddy streets and unsavory odours of only last spring. Despite moreover, the depression following the unnatural boom in the early part of the year in Rossland stocks, building operations were by no means suspended this summer either in the business or residential quarters of the town, and substantial blocks have lately been erected and others are in course of building. Plans have also already been prepared for a large town hall and new commodious school buildings. But very prosperous days are in store for Rossland when the C. P. R. road, the construction of which is now assured, is extended from Robson.

A trial survey line has meanwhile been run, starting from the lower townsite (owned by the Montreal syndicate) round the spur of the Paris Belle and following the windings of the mountains on the north side of the upper Trail Creek valley to a point about 800 feet below the Columbia & Kootenay Mine on the mountain of that name. On the 12th of last month this line was continued across Rock and Stony Creeks to Murphy Creek, whence the location had previously been decided as far as Sullivan Creek. Between Sullivan Creek and Robson the survey party have only recently completed their labours. Here the road will run on the same terrace on the right bank of the Columbia River as the newly built Columbia & Western line, and so close to the latter in places that it actually infringes on Mr. Heinze's right of way. It is proposed that on the completion of the trial surveys, the present party, numbering eighteen men, will camp for the winter at a point midway between Rossland and Murphy valley and complete the work of location. It will thus be seen that according to the surveys it is not the intention of the C.P.R. to go within four miles of Trail, and that as the distance between Rossland and Trail, as the crow flies, is barely five miles, with a difference in altitude of 2,300 feet, and the distance between Rossland and Murphy Creek is nearly fifteen miles, the proposed C.P.R. line neither coming so high up the mountain at Rossland, nor as far down as the Columbia, Murphy Creek being 300 feet or so above the river, the difference in

gradient will be much in favour of the C.P.R. as compared with those of competing roads now constructed, and as a consequence transportation rates may be proportionately reduced. Before leaving Rossland I visited the great Le Roi and other mines. I was anxious to go down to the lower workings of the Le Roi, and gave my reasons that I wanted to tell people that I had done so, but a friend who was with me reminded me of the story of Sidney Smith and the coal mine, whereby it was demonstrated that it is preferable to "say" you have been down a mine than actually to go in order to say. At the Le Roi about two hundred and fifty men are at present employed, but this force will be largely increased when conditions admit of the treatment of the lower grade ores. In fact, this is what all the mines of the camp are waiting for to-day, and with cheap transportation and smelting facilities Rossland will enjoy palmy days indeed.

THE STOCK MARKET.

THE market for B. C. mining shares is improving and the demand appears to be for stocks in those mines which are being actively developed. There has been a great demand during October for Monte Cristo and the price has advanced from 8 cents two months ago to 20 cents to-day. The resumption of work on the Poorman has created a demand for Poorman shares and many enquiries have been recently received for Deer Park shares owing to the report that work is about to be commenced again on the Deer Park mine.

Tin Horn shares have been in very great request, but brokers have been unable to fill the orders as the prices bid for the stock have been only from 50 to 60 cents per share whereas the price asked by those willing to sell is \$1 and upwards with very few offerings. The Tin Horn stamp mill is expected to be in operation by the end of October.

There has been an active demand for Golden Cache shares at \$1.80 with few shares now left on the market. The 10-stamp mill has commenced work and great results are looked forward to from the clean up sometime in November.

The shares of the Excelsior—immediately adjoining the Golden Cache—have just been put on the market and are going well at 30 cents per share.

The Van Anda mine, on Texada Island, has made two separate shipments of ore to Swansea in Great Britain—one of 200 tons and another of 50 tons—during the month of October and the mine is reported to be looking better than it ever did before.

The Consolidated Alberni mine, on Vancouver Island, shipped 11½ tons of ore to Tacoma a week or two ago which went \$41 per ton. This mine is looking better than ever and the management report that they have 1000 tons of ore on the dump. It is their intention to dispose of sufficient Treasury shares @ 20 cents per share to enable them to erect a 10-stamp mill on their valuable property at Alberni. They claim that the mine could be made a dividend payer inside one month from the commencement of the 10-stamp mill. By those who have examined the mine recently Alberni Consolidated shares are looked upon as a splendid buy @ 20 cents. A year ago these shares reached 45 cents per share and they fell when work was stopped, but active development is now going on and these shares are again coming into favor.

A SUGGESTION.

TO THE EDITOR:—As a subscriber to your paper allow me to suggest that a rough map of British Columbia would be a very useful addition to it for such readers as myself, who are not well up in the geography of the country.

It need only be a sketch showing most of the principal mining centres, which could be put in by name, or could be indicated by numbers and the names given in an alphabetical list at the side of the map. I would suggest that the map occupy two pages of the paper, and of course appear in every issue.

I have the MINING RECORD forwarded to me as I travel about, and I often regret that I am ignorant where the places are that some of the articles are addressed from.

HARVEY HADDEN,
Junior Carlton Club.

London, S.W.

[We are much indebted to our correspondent for his suggestion. The RECORD has a large circulation in Great Britain and no doubt a map such as proposed would be useful to our readers there. In this belief we hope to publish, beginning with next month's issue, two maps of the province, one of which will show the mining divisions.—ED.]

Shipping Mines.

From January 1st to October 24th, inclusive, the shipments of ore from mines at Rossland to smelters were as follows:

MINE.	TONS.
Le Roi	47,127
War Eagle.....	6,698
Columbia & Kootenay.....	2,390
Iron Mask.....	2,754
Jumbo.....	91
Josie.....	385
Cliff.....	1,97
Centre Star.....	959
Red Mountain.....	56
O. K.*.....	172
Evening Star.....	39
Giant.....	21
I. X. L.....	12
Velvet.....	10
Little Joe.....	15
Total.....	61,462

***Concentrates.**

From January 14 to June 19, inclusive, the ore milled in the camp was as follows:

MINE.	TONS.
O. K.....	2,472
I. X. L.....	230
Total.....	2,702

The shipments of ore from Sandon from August 1st to October 14th, inclusive, 1897, were as follows:—

	TONS.
Slocan Star.....	1,475
Ruth.....	2,215
Payne.....	3,257½
Idaho Mines.....	426
Noble Five.....	4,963¼
Reco.....	260
American Boy.....	29
Slocan Boy.....	45
Wonderful.....	14
Ajax.....	14½
Majestic.....	12
Freddie Lee.....	16
Mt. Adams.....	15
Miscellaneous.....	8
Total.....	8,283¾

Mine Dividends Paid.

The dates and amounts of dividends paid by the Le Roi mine are as follows:—

October 2, 1895.....	\$25,000	February 26, 1897.....	\$25,000
February 6, 1896.....	50,000	March 29, 1897.....	25,000
March 4, 1896.....	25,000	April 30, 1897.....	25,000
May 15, 1896.....	50,000	May 29, 1897.....	25,000
June 10, 1896.....	25,000	June 30, 1897.....	25,000
July 15, 1896.....	25,000	July 3, 1897.....	25,000
October 22, 1896.....	25,000	July 20, 1897.....	25,000
December 3, 1896.....	25,000	August 3, 1897.....	50,000
January 6, 1897.....	25,000	September 7, 1897.....	50,000
January 27, 1897.....	25,000	September 30, 1897.....	50,000
Total.....	\$625,000		

Bullion and Matte, South Kootenay,

	TONS.	APPROXIMATE VALUE.
Total to October 23.....	4,926	\$737,360
Total for September.....	4,604	714,225
Total for August.....	5,070	675,189
Total for July.....	4,139	543,832
Total for June.....	3,464	483,885
Total for May.....	2,995	397,797
Total for April.....	3,764	433,234
Total for March.....	5,822	677,681
Total for February.....	5,201	562,853
Total for January.....	4,543	675,506
Total v a Revel toke to September 30.....		686,424
Total so far for 1897.....	45,398	6,627,159

PUBLICATIONS.

“NOTES on Lead and Copper Smelting and Copper Converting,” by Hiram W. Hixon: The Scientific Publishing Co., New York; 8vo., cloth; price, \$3.00. This work is a very valuable contribution to metallurgical literature, and will be read by every metallurgist who is interested in lead and copper smelting with pleasure and profit. The author gained a knowledge of the subject he treats by practical experience, covering a period of ten years, at three large American smelting works, where he held positions of responsibility. Space limitations unfortunately do not permit of a comprehensive review of the book in this issue, but we hope to refer to it again. Following is the table of contents: Copper matte smelting; the calculation of furnace charges; the design of spouts, settlers and jackets; blowing-in and barring-down a furnace; handling blast furnace slag; the design of lead blast furnaces; lead slags and losses in lead smelting; and copper converting at Anaconda. As an appendix there are given the specifications of the present Anaconda plant, and the drawings from which it was constructed. These plates, of which there are eighteen, are exceedingly well engraved, and show dimensions on the drawings themselves. With their aid any engineer could easily prepare working drawings for the construction of a copper-converting plant.

We have been favoured with a copy of No. 1, Vol. 1, of the *Skaguay News*, the first issue of which was published on the 15th of October. The paper, which is a four-column, six-page demi-octavo, is in many ways a creditable production, and a credit to “the newest and liveliest town in the United States.” (We were under the impression, by the way, that Skaguay, or Skaguay as the *News* spells it, was within the limits of disputed territory.) The paper informs us, among other things, that Skaguay has a population of 2,000 inhabitants, and that “the publisher of the *News* has been a resident of the town for ten days, and during that time has not witnessed a disturbance of any kind, nor seen a drunken man on the streets.” He continues: “We now know, from personal experience, that the tales of woe sent out by disgruntled persons and given ready publication in the coast papers, are fabrications pure and simple. Skaguay is as orderly a town as there is in the United States, regardless of the fact that it has sprung into existence almost in a day, so to speak.” An editorial article, dealing with the White Pass, advocates, as is natural, the route as the best, but thus concludes: “This question of securing easy communication with the great interior, through American territory seems to us to be one which concerns every patriotic American. The Canadian and British Columbia Governments, alive to the importance of the subject, are bending their energies to open up a trail *via* the Stickeen River and Lake Teslin. This will, if a feasible route be found, open up a new country and add to the volume of trade of British Columbia cities as outfitting points, and the Pacific Coast cities of the United States will suffer in loss of trade and the prestige, as commercial points, that they now enjoy. We say that the great bulk of the travel to the Yukon must in the future either go by way of the Stickeen River through Canadian territory, or to Skaguay and thence to Lake Bennett.”

TO MINING INVESTORS!

Why buy stocks? When you can get an undivided interest in a partly developed property that will no doubt make a mine, for a few hundred dollars.

These interests are offered to enable the owners to carry on development.

Our British Columbia laws fully protect purchasers of fractional interests, so that there is no chance of being frozen out.

I also have groups, partly developed, for large companies. I make it a point to personally inspect properties, and handle nothing but the best.

Copy of Mining Laws forwarded for 30 cents.

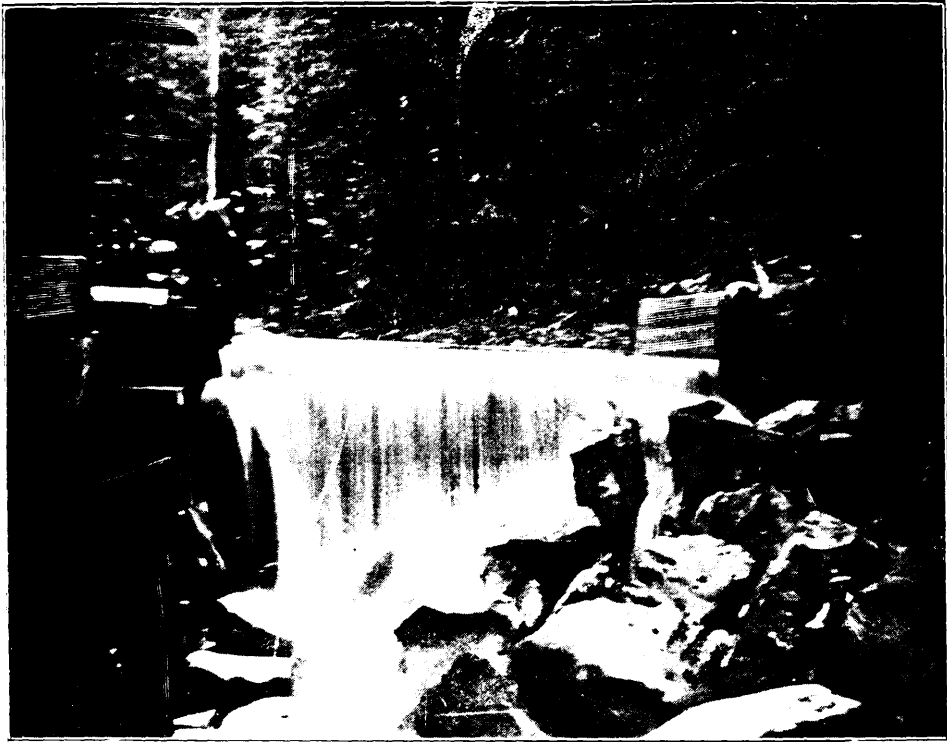
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Bank references furnished.

British Columbia Manager
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GEORGE D. SCOTT,

42 Fort Street, - - - Victoria, B.C.



THE CATARACT HYDRAULIC MINE, ALBERNI, B.C.



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Royal Canadian Packing Co., (Salmon, Lumber)
Clondyke Transport Company
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A.B.C. Code, 4th Edition. Cable Address, "Winter."

864 Yates St., VICTORIA, B.C.

Mining Stocks.

Prepared by A. W. More & Co., Mining Brokers, Victoria, B.C., Sep. 18, '97

Company.	Capital.	Par Value.	Price.
TRAIL CREEK.			
Big Three.....	\$3,500,000	\$1	\$ 10
Bruce.....	1,000,000	1	10
Butte.....	1,000,000	1	02
Caledonia Con.....	500,000	1	05
California.....	2,500,000	1	15
Camp Bird.....	1,000,000	1	05
Celtic Queen.....	750,000	1	06
Centre Star.....	500,000	1	
Colonna.....	1,000,000	1	25
Commander.....	500,000	1	18
Deer Park.....	1,000,000	1	12
Delaware.....	1,000,000	1	12
Eastern Star.....	500,000	1	20
Enterprise.....	1,000,000	1	20
Evening Star.....	1,000,000	1	11
Georgia.....	1,000,000	1	15
Gertrude.....	500,000	1	15
Golden Drip.....	500,000	1	15
Great Western.....	1,000,000	1	10
Hattie Brown.....	1,000,000	1	10
High Ore.....	500,000	1	05
Imperial.....	1,000,000	1	10
Iron Horse.....	1,000,000	1	20
Iron Mask.....	500,000	1	35
I.X.L.....	1,000,000	5	10
Josie.....	700,000	1	32
Jumbo.....	500,000	1	70
Kootenay-London.....	1,000,000	1	10
Le Roi.....	2,500,000	1	9 00
Lilly May.....	1,000,000	1	20
Mabel.....	1,000,000	1	15
Mayflower.....	1,000,000	1	11
Monita.....	750,000	1	19
Monte Cristo.....	1,000,000	1	20
Morning Star.....	1,000,000	1	04
Nest Egg-Firefly.....	1,000,000	1	05
Northern Belle.....	1,000,000	1	10
Novelty.....	1,000,000	1	09
Palo Alto.....	1,000,000	1	05
Phoenix.....	500,000	1	12
Poorman.....	500,000	1	10
Red Mountain View.....	1,000,000	1	11
Rosland, Red Mountain.....	1,000,000	1	22
St. Elmo.....	1,000,000	1	06
St. Paul.....	1,000,000	1	12 1/2
Silverine.....	500,000	1	06
Southern Cross & W. Con.....	500,000	1	20
Virginia.....	500,000	1	11
War Eagle Consolidated.....	2,000,000	1	1 00
West Le Roi.....	500,000	1	20
White Bear.....	2,000,000	1	19
AINSWORTH, NELSON AND SLOCAN.			
American Boy.....	1,000,000	1	15
Fern Gold.....	2,000,000	0 25	70
Ibex of Slocan.....	300,000	0 25	2 1/2
Arlington.....	1,000,000	1	13
Argo.....	100,000	0 10	10
Athabasca.....	1,000,000	1	50
Black Hills.....	100,000	0 10	10
Buffalo of Slocan.....	150,000	0 25	25
Bondholder.....	1,000,000	1	04
Alamo.....	500,000	1	
Canadian M. M. and S. Co.....	2,000,000	1	07 1/2
Cumberland.....	500,000	10	
Dardanelles.....	1,000,000	1	16
Dellie.....	750,000	1	12
Eldon.....	1,000,000	1	05
Elise.....	1,000,000	1	05
Ellen.....	1,000,000	1	07 1/2
Elkhorn.....	1,000,000	1	10
Exchequer.....	1,000,000	1	10
Goodenough.....	800,000	1	25
Gibson.....	650,000	1	17 1/2
Grey Eagle.....	750,000	1	
Hall Mines.....	300,000	£1	9 50
Idler.....	1,000,000	1	12 1/2
London.....	150,000	25	25
Minnesota.....	1,000,000	1	
Nelson-Poorman.....	250,000	0 25	25
Northern Light.....	250,000	1	16 1/2
Noble Five Con.....	1,200,000	1	25
Ottawa and Ivanhoe.....	1,000,000	1	12 1/2
Phoenix Consolidated.....	1,000,000	1	07
Rambler Con.....	1,000,000	1	45
Reco.....	1,000,000	1	1 75
Slocan-Reciprocity.....	1,000,000	1	06
Slocan Star.....	500,000	50	2 50

COMPANY.	Capital.	Par Value.	Price.
Santa Marie.....	\$1,000,000	\$1	\$ 05
Sheriff.....	1,000,000	1	24
Silver Band.....	250,000	0 25	12 1/2
Slocan Queen.....	1,000,000	1	10
Star.....	1,000,000	1	05
St. Keverne.....	1,000,000	1	06
Sunshine.....	500,000	10	
Two Friends.....	240,000	30	20
Washington.....	1,000,000	1	25
Wonderful.....	1,000,000	1	07
LARDEAU.			
Consolidated Sable Creek Mining Co.....	1,500,000	1	10
TEXADA ISLAND.			
Texada Proprietary.....	250,000	25	25
Van Anda.....	5,000,000	1	06
Victoria-Texada.....	150,000	0 25	25
Texada Kirk Lake.....	600,000	1	1 00
Raven.....	1,000,000	1	10
Gold Bar.....	100,000	0 10	10
VANCOUVER ISLAND.			
Alberni Mountain Rose.....	250,000	1	05 1/2
Consolidated Alberni.....	500,000	1	20
Mineral Creek.....	500,000	1	05 1/2
Mineral Hill.....	750,000	1	10
Quadra.....	500,000	1	05
CARIBOO.			
Cariboo Gold Fields Ld.....	£100,000		
Cariboo Hydraulic.....	300,000		
Horsefly Hydraulic.....	200,000		
Horsefly Gold Mining Co.....	1,000,000	10	4 50
Cariboo M. & D. Co.....	300,000	1	25
Golden River Quesnelle.....	£350,000	£1	2 50
Vic oria Hydraulic.....	300,000	1	85
LILLOOET DISTRICT.			
Golden Cache.....	500,000	1	1 80
Alpha Bell.....	500,000	1	55
Carvoosh Creek Mines.....	500,000	1	50
Lillooet Gold Reefs.....	200,000	25	25
Excelsior.....	500,000	1	30
FAIRVIEW CAMP.			
Tin Horn.....	200,000	0 25	1 00
Winchester.....	2 0,000	0 25	25
BOUNDARY.			
Old Ironsides.....	1,000,000	1	10
Golden Crown.....	2,000,000	1	20
Boundary Creek M. & M. Co.....	1,500,000	1	10
CAMP MCKINNEY.			
Cariboo.....	800,000	1	55

† Dividends declared to date are as follows: Le Roi, \$600,000; War Eagle, \$217,500; Cariboo, \$172,000; Slocan Star, \$400,000; Reco, \$150,000; Rambler Cariboo, \$40,000; Idaho, \$152,000. Alamo, Cumberland, Noble Five and Goodenough have also paid dividends.
The Le Roi has declared a dividend of \$25,000 since last return and the Slocan Star \$50,000.

Agents.

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20 Years in American Camps 4 Years in British Columbia
J. F. BLEDSOE, M.E.
Reports, Maps, Plans and Estimates
ALBERNI, B.C.

LONDON REGISTERED COMPANIES.

NAME OF COMPANY.	When Regd.	Authrsd. Capital.	Amount Issued.	Nom Val	Address of London Office.	Name of Secretary.
Adams British Columbia Company.....	1897	£100,000	£	£ 1	28 Gracechurch Street.....	A. G. Beeston.
Big Valley Creek, Cariboo.....	1896	125,000	16,291	1	6 Great St. Helens, E.C.....	J. Foster.
British Columbia Corporation.....	1891	300,000	117,190	10	70 Basinghall Street.....	J. S. Green.
British Columbia Development Assoctn..	1895	20,000	19,900	1	45 Broad Street Avenue.....	W. Townsend.
British Columbia Financial Trust.....	1897	250,000	85,000	1	Blomfield House, E.C.....	P. J. Hays.
British Columbia Land Invest. Agency...	1887	110,000	104,000	1	.....	.....
British Columbia Mining.....	1896	20,000	.....	10	Suffolk House, Cannon Street	F. Buckley.
British Columbia Syndicate.....	1895	2,000	.....	1	30-1 St. Swithin's Lane.....	J. A. Wilkie,
B.C. Dev. Syndicate.....	1897	30,000	10,000	1	16 St. Helen's Place.....	A. Davidson.
British Kootenay Syndicate.....	1895	10,000	8,000	1	20 Bucklersbury.....	W. Hollick.
British Columbia Purchase Syndicate.....	1894	8,000	5,000	..	14 Old Jewry.....	.....
Canadian Pacific Exploration.....	1897	500,000	375,000	1	88 Cannon Street.....	H. B. Cheslyn Callow.
Cariboo Goldfields.....	1894	100,000	70,000	1	6 and 8 Eastcheap.....	W. B. Brough.
Cariboo Reefs.....	1895	20,000	16,760	1	36 Walbrook.....	W. Boyle.
Corinth Mines, Limited.....	1895	100,000	100,000	1	16 George St., Mansion House	James W. Clark.
Cottonwood (E. C.) Alluvial Mining.....	1896	65,000	.....	1	55-6 Bishopgate Street.....	J. Williams.
Dominion Mining Development & Agency	1897	100,000	.....	1	6 Gt. Winchester Street, E.C.	W. Smith.
East Kootenay Exploration Syndicate...	1892	67,500	67,500	1	358 Mansion House Chhrs.....	F. J. Warner.
Fraser River Mines.....	1895	10,000	.....	5	9 Gracechurch Street.....	W. Pears.
Galena Mines, West Kootenay.....	1896	550,000	525,000	1	20 Threadneedle Street.....	P. F. Dietz.
Globe Venture Syndicate, Kootenay.....	1897	100,000	.....	1	34 Old Broad Street.....	W. H. Allen.
Golden River, Quesnelle.....	1896	350,000	.....	1	6 Great St. Helens.....	.....
Goldfields of British Columbia.....	1897	600,000	60,000	1	16 Copthall Avenue.....	F. C. Hole.
Hall Mines.....	1893	300,000	275,000	1	Leadenhall Buildings.....	T. Ramsay.
Invicta Mines, East Kootenay.....	1895	100,000	95,600	1	25 Abchurch Lane.....	F. J. Warner.
International Development of B.C.....	1897	300,000	50,000	..	31 Lombard Street.....	E. M. Crawley.
Klondyke M'ng, Tr'd'ng & Transport Corp	1897	250,000	200,000	1	.....	.....
Kootenay (B.C.) Mining Syndicate.....	1897	10,000	10,000	1	22 Fenchurch Street.....	.....
Kootenay Promotion Syndicate.....	1896	200	200	1	9 and 10 King Street.....	W. Cooper.
Kootenay Ore Company.....	1896	25,000	2,500	10	2 Suffolk Lane, Cannon Street	T. Stuart.
Kootenay and Cariboo Syndicate.....	1896	5,000	.....	1	.....	.....
Kootenay Development.....	1897	10,000	.....	1	22 Fenchurch Street.....	A. Kennedy.
Kootenay Goldfields Syndicate.....	1896	20,000	.....	1	39 Lombard Street.....	.....
Lillooet, Fraser, and Cariboo Goldfields..	1895	300,000	250,000	1	1 and 2 Gt. Winchester Street	E. A. Bennett.
London and British Columbia Goldfields..	1896	200,000	100,000	1	3 Laurence Pountney Hill.....	E. R. Tasman.
London and Vancouver Finance, &c.....	1897	100,250	.....	1	.....	.....
New Fraser River.....	1897	75,000	.....	1	23 Leadenhall Street.....	W. A. Stearns.
New Goldfields of British Columbia.....	1897	250,000	44,790	1	23 Leadenhall Street.....	W. A. Stearns.
New Vancouver Coal Mining and Land..	1889	215,000	.....	1	12 Old Jewry Chambers.....	J. Ramsden.
Pioneer Devel. and Exp. of B.C.....	1896	150,000	100,000	..	9 and 10 King Street.....	W. Cooper.
Quesnelle and Cariboo G. Flds., &c., Synd	1895	12,000	.....	50	Hart's Head Ch., Sheffield....	H. Cawwood.
Quesnelle River Mining.....	1897	55,000	.....	1	.....	.....
Revelstoke Mining.....	1889	40,000	3,552	10	27 Clement's Lane.....	.....
Vancouver & British Columbia Gen. Expl.	1896	25,000	25,000	1	20 Threadneedle Street.....	P. F. Dietz.
Waverley Mine.....	1897	100,000	.....	1	16 Copthall Avenue.....	R. S. Williams.

LIST OF AGENTS CONTINUED.

W. T. Slavin.....	Kamloops, B.O	Central News Co.....	" "
Smith Bros.....	Vernon, B.C	Wm. M. Shaw & Co.....	Spokane, Wash
Wm. Parker.....	Deer Park, "	Shaw, Borden & Co.....	" "
G. B. Wells.....	Revelstoke, "	J. W. Graham & Co.....	" "
O. J. Aman.....	" "	Puget Sound News Co.....	Seattle, Wash
G. Stanley.....	Nelson, "	Lowman & Hanford.....	" "
Thompson Bros.....	" "	B. B. Rich.....	Portland, Or
G. B. Bochers.....	Kaslo, "	John Nowland & Co.....	Leadville, Col
P. Lamont & Co.....	" "		
Slocan News Co.....	Sandon, "		
F. W. Brown, Post Office.....	Trail, "		
S. B. Shaw.....	Rossland, "		
H. S. Wallace.....	" "		
M. W. Simpson.....	" "		
H. G. Parson.....	Golden, "		
P. H. Kellegher.....	Nakusp, "		
M. Skojeski.....	Sicamous, "		
Slocan News Co.....	Slocan City, "		
Linton Bros.....	" "		
W. H. Udall.....	" "		
O. F. Nelson.....	New Denver, "		
H. B. Munroe.....	Greenwood City, "		
Smith & McRae.....	" "		
Bradford & Ellis.....	Salmo, "		
Silverton News Co.....	Silverton, "		
Nelson's Drug Store.....	Chilliwack, "		
G. Wolff & Co.....	Tacoma, Wash		
Tamper Cigar Co.....	" "		
Vaughan & Morill.....	" "		

Mining Papers on File.

The following papers are kept on file at the offices of the B.O. MINING RECORD for the use of visitors who may wish to consult their columns:

Mining and Scientific Press.....	San Francisco, Cal
Mining and Electrical Review.....	" "
Pacific Electrician.....	" "
Mining and Metallurgical Journal.....	Los Angeles, Cal
Mining Herald.....	Seattle, Wash
Washington Mining Journal.....	" "
Miner and Electrician.....	Spokane, Wash
Mining.....	" "
Spokesman-Review.....	" "
North-Western Mining Facts.....	" "
Daily Call.....	Port Townsend, "
Western Mining World.....	Butte, Montana
American Adviser.....	Chicago, Ill.
Engineering and Mining Journal.....	New York

Manufacturers' Record	Baltimore, Md	B.C. Mining Journal	Ashcroft, B.C
Mining Journal	London, Eng	East Kootenay Miner	Golden, "
Shareholder	" "	Nanaimo Free Press	Nanaimo, B.O.
The Colonies and India	" "	Review	Nanaimo, "
Financial News	" "	Mining Critic	Vancouver
Canadian Gazette	" "	News-Advertiser and World	Vancouver, B.O
Chamber of Commerce Journal	" "	The Province	Victoria, "
Australian Mining Standard	Sydney, N.S.W	The Times	" "
Standard and Diggers' News	Johannesburg, South Africa	The Colonist	" "
Canadian Engineer	Toronto, Ont		
" Electrical News	" "		
Canada Miner	" "		
Industrial Canada	" "		
Canada Lumberman	" "		
Monetary Times	" "		
Toronto World	" "		
Toronto Globe	" "		
Mining Review	Ottawa		
Money and Risks	" "		
Mining News	Montreal		
Advance	Midway, B.O		
Revelstoke Herald	Revelstoke, B.C		
Rosslander	Rossland, B.C		
Rossland Miner	" "		
Evening Record	" "		
Kootenaiian	Kaslo, "		
Miner	Nelson, B.C		
The Tribune	" "		
Trail Creek News	Trail, "		
Trail Creek Miner	" "		
Boundary Creek Times	Greenwood City, "		
Slocan City News	Slocan City, "		
Slocan Pioneer	Slocan City, "		
Grand Forks Miner	Grand Forks, "		
Ledge	New Denver, "		
Golden Era	Golden, "		
Vernon News	Vernon, "		
Paystreak	Sandon, "		
Prospector	Fort Steele, "		
Inland Sentinel	Kamloops, "		
Standard	Kamloops, B.O		

Catalogues of Mining Machinery and Supplies.

We will be pleased to forward to any subscriber or reader catalogues and printed matter from the following firms:

- Joshua Hendy, Machine Works, San Francisco, Cal. Mining machinery of all kinds.
- The Pelton Water Wheel Co., San Francisco. Water wheels.
- John Taylor & Co., San Francisco, Cal. Mine and mill supplies, chemicals, etc.
- Canadian Rand Drill Co., Montreal and Rossland. Mining machinery.
- Fried. Krupp Grusonwerk, Magdeburg-Buckau, Germany, and Montreal, Mining and Milling Machinery of every description.
- Hamilton Powder Co., Montreal and Victoria. Explosives.
- M. Beatty & Sons, Welland. Dredgers, ditchers, etc.
- Theodor Lexow, New York. Carbons, diamond drills, etc.
- James Macbeth & Co., New York. Electric blasting supplies.
- Bradley Pulverizer Co., Boston. Griffin mill.
- Colorado Iron W'ks, Denver. Milling and smelting plants.
- Canadian General Electric Co., Electric supplies, Vancouver.
- John Boyd & Co., Machinery and Supplies, Vancouver.
- Jas. Leffel & Co., Water Wheels, Springfield, Ohio.
- Geo. W. Pennington & Sons. "
- Geo. N. Pennington & Sons. San Francisco, Cal.
- Gates Iron Works, Chicago. Mining machinery of all kinds.
- Royal Electric Co. Electric Power and Supplies, Montreal. Victoria, B.C.
- Wm. Ainsworth, Denver, Colo., Balances and Instruments.
- Hercules Gas Engine Works, San Francisco, special Mine Hoists.

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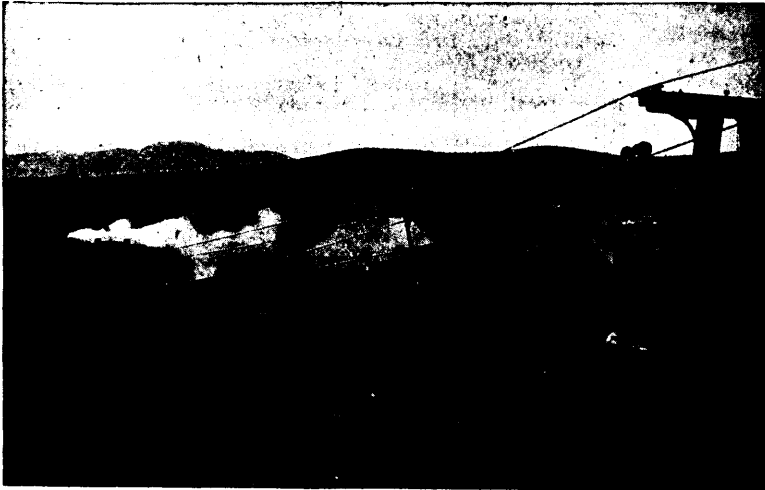
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Alaska Route.

THE Elegant Steamers CITY OF TOPEKA and QUEEN leave Victoria for Alaska May 9, 14, 24, 27, June 8, 13, 23, 28, July 8, 13, 23. Due back at Victoria May 21, 26, June 5, 10, 19, 25, July 4, 10, 19, 25, Aug. 3. The Company reserves right to change, without previous notice, steamers, sailing dates and hours of sailing.

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A. H. NOTMAN, District Passenger Agent, St. John, N.B.

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TIME SCHEDULE—In effect March 28th, 1897—Trains leave Seattle for Spokane, St. Paul and East, Rossland Nelson, Kootenay and Kettle River points, 4.00 p.m. This card subject to change without notice. Through tickets to Japan and China via the Northern Pacific Steamship Co.
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TAKE THE FINE STEAMER

City of Kingston

Speed, 18 knots. Tonnage, 1147.

8.00 a.m. Lv	M 1	...*	Victoria	110	Ar	3.45 a.m.
11.00 a.m. Lv	38	...Pt. Townsend	72	Lv	1.00 a.m.	
1.45 p.m. Lv	82	...Seattle	28	Lv	10.00 p.m.	
4.00 p.m. Ar	110	...Tacoma*	M 1	Lv	8.00 p.m.	

Steamer City of Kingston makes connection at Tacoma with Northern Pacific trains to and from points East and South.

*Daily except Sunday

E. E. BLACKWOOD, Agent,
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The only all-rail route without change of cars between Spokane, Rossland and Nelson; also between Nelson and Rossland.

DAILY EXCEPT SUNDAY.

Leave.		Arrive.
7:30 a.m.	Spokane	7:00 p.m.
10:30 a.m.	Rossland	3:25 p.m.
9:00 a.m.	Nelson	5:20 p.m.

Close connections at Nelson with steamer for Kaslo and all Kootenay Lake points.

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SEATTLE.

TRANSPORTATION COMPANIES.

Canadian Pacific Navigation Co., Ltd.

TIME TABLE NO. 23.
(Taking effect December 28th, 1896.)

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 7 o'clock during river navigation.

ISLANDS ROUTE.

Steamer "Rainbow" leaves Vancouver on Monday at 12 noon and Thursday at 10 a. m. for Texada, Shoal Bay and way landings.

NORTHERN ROUTE.

Steamships of this Company leave Victoria for Fort Simpson via Vancouver and intermediate ports on the First and Fifteenth of each month. If sufficient inducements offer, will call at points on the West Coast and Queen Charlotte Islands.

BARCLAY SOUND ROUTE.

Steamer "Willipa" leaves Victoria for Alberni and Sound ports the 10th, 20th and 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, JOHN IRVING,
General Agent. Manager.

Union Steamship Co., Ltd., B.C.

Head Office and Wharf, VANCOUVER, B.C.

NORTHERN SETTLEMENTS—SS. Comox sails from Company's wharf every Tuesday at 9 a.m. for Bowen Island, Howe Sound, Sechart, Jarvis Inlet, Froeck, Texada Island, Lund, Hernando Island, Cortez Island, Read Island, Valdez Island, Shoal Bay, Phillips Arm, Frederick Arm, Thurlow Island, Loughborough Inlet, Salmon River, Port Neville; and sails every Friday at 11 a.m. for way ports and Shoal Bay, calling at Bute Inlet every six weeks.

MOODYVILLE & NORTH VANCOUVER FERRY.

LEAVES MOODYVILLE—8, 9.15, 10.45, 12 noon, 2, 4, and 5.45 p.m.
LEAVES VANCOUVER—8.35, 10, 11.20, 1.15 p.m., 3.15, 5.15, and 6.20. Calling at North Vancouver each way, excepting the noon trip.

Freight steamers SS. Caplano, and SS. Coquitlam; capacity, 300 tons d.w.
Tugs and scows always available for towing and freighting business. Large storage accommodation on Company's wharf.

H. DARLING, Manager.

Teleph one 94. P.O. Box 77.

6 PASSENGER TRAINS 6

Each day between Trail and Rossland on the

Columbia & Western Ry.

Trains No. 2, 3, 5 and 6 do not run on Sunday.

RUNS MADE IN ONE HOUR.

- No. 6 leaves Rossland at 7 a.m., connects in the morning with steamer at Trail.
- No. 3 leaves Trail at 8:15 a.m., connects at Rossland with Red Mountain train for Spokane.
- No. 4 leaves Rossland at 11 a.m.
- No. 1 leaves Trail at 12:30 p.m., connects with C.P.R. main line steamers from the north at Trail.
- No. 2 leaves Rossland at 3 p.m., connects with C.P.R. main line steamers for the north at Trail.
- No. 6 leaves Trail at 5:45 p.m., connects with steamer Lytton at Trail.

Trail, B.C. October 1, 1897. E. P. GUTELIUS, General Supt.

The Columbia & Kootenay Steam Navigation Co., Ltd.

TIME TABLE NO. 10.
In effect June 8th, 1896.

ARROWHEAD-TRAIL ROUTE, STEAMER "NAKUSP."

South bound; read down.	North bound; read up
Mon. Wed. Fri. 7 p.m. De ARROWHEAD	Ar 11.30 a.m. Wed. Fri. Sun
" " " 11 p.m. Ar	De 7.30 a.m. " " "
" " " 12 m. De	Ar 6 a.m. " " "
Tues. Thurs. Sat. 9 a.m. Ar	De 8.30 p.m. Tues.Thurs.Sat
" " " 12 noon De	Ar 8 p.m. " " "
" " " 2 p.m. Ar	De 4.30 p.m. " " "

Connections at Arrowhead with C.P.R. to and from Revelstoke and all points east and west; at Nakusp with Nakusp & Slocan R. to and from Slocan points; at Robson with C. & K. R. to and from Nelson and Kootenay Lake points; at Trail with C. & W. R. to and from Rossland; at Trail with Str. "Trail" to and from Waneta, Northport and Spokane.

TRAIL-NORTHPORT ROUTE, STEAMER "TRAIL."

Daily except Sun. 8 a.m. De TRAIL	Ar 4.30 p.m.	Daily except Sun.
" " " 9 a.m. Ar WANETA	De 3 p.m.	" " "
" " " 10 a.m. Ar NORTHPORT	De 1 p.m.	" " "

Connections at Northport with S.F. & N.R. to and from Spokane and way points; at Trail with C. & W. R. to and from Rossland, and with Str. "Nakusp" to and from Robson, Nakusp and Revelstoke.

KOOTENAY LAKE ROUTE, STEAMER "KOKANEE."

Daily except Sun. 4.00 p.m. De NELSON	Ar 9.30 a.m.	Daily except Sun.
" " " 8 p.m. Ar KASLO	De 5.30 a.m.	" " "

Saturday, June 6th and every second Saturday following, steamer leaves Kaslo at 10 p.m. for Bonner's Ferry; returning leaves Bonner's Ferry Sun. at noon. Connections at Nelson with C. & K. R. to and from Robson, Trail, Rossland, Nakusp, Revelstoke and C.P.R. points; at Nelson with N. & F.S.R. to and from Spokane and way points; at Kaslo with K. & S. R. to and from Slocan points; at Bonner's Ferry with G.N.R.

The right is reserved to change this schedule at any time without notice. For tickets, rates, etc., apply at Company's office, Nelson.

T. ALLAN, J. W. TROUP,
SECRETARY. MANAGER, Nelson B.C.

INTERNATIONAL NAVIGATION & TRADING COMPANY, LTD.

Steamers "International" and "Alberta" on Kootenay Lake and River.

TIME CARD IN EFFECT 1st OCTOBER, 1897.

Subject to Change without Notice.

Five-Mile Point Connection with all Passenger Trains of N. & F. S. R'y. to and from Northport, Rossland and Spokane.

Tickets sold and Baggage Checked to all U.S. Points.

Leave Kaslo for Nelson and Way Points, daily except Sunday, 5.45 a.m.
Arrive Northport, 12:15 p.m.; Rossland, 3:40 p.m.; Spokane, 6 p.m.
Leave Nelson for Kaslo and Way Points, daily except Sunday, 4.45 p.m.
Leaving Spokane, 8 a.m.; Rossland, 10:30 a.m.; Northport, 1:50 p.m.

NEW SERVICE ON KOOTENAY LAKE.

Leave Nelson for Kaslo, etc., Tues., Wed., Thurs., Fri., Sat.... 8:30 a.m.
Arrive Kaslo..... 12:30 p.m.
Leave Kaslo for Nelson, etc., Mon., Tues., Wed., Thurs., Fri. 4:00 p.m.
Arrive Nelson..... 8:00 p.m.

BONNER'S FERRY AND KOOTENAY RIVER SERVICE.

* Leave Kaslo, Sat. 4 p.m.	Leave Bonner's Ferry, Sun. 1 p.m.
Arrive Boundary, Sun. 12 p.m.	Arrive Boundary, Sun. 5 p.m.
Arv Bonner's Ferry, Sun. 10:30 a.m.	" Kaslo, Sun. 10 p.m.

Close connection at Bonner's Ferry with trains East bound, leaving Spokane 7:40 a.m., and West bound, arriving Spokane 7 p.m.
*The Alberta awaits the arrival of the International before leaving for Bonner's Ferry.

GEORGE ALEXANDER,
Kaslo, B.C., 12th July, 1897. General Manager.

Kaslo & Slocan Railway.

TIME CARD.

Subject to change without notice. Trains run on Pacific standard time

Going west.	Kaslo.....	Going east.
Leave 8.00 a.m.	South Fork.....	Arrive 3.50 p.m.
" 8.36 " "	Sproule's.....	" 3.15 "
" 9.36 " "	Whitewater.....	" 2.00 "
" 10.03 " "	Bear Lake.....	" 1.48 "
" 10.18 " "	McGuigan.....	" 1.33 "
" 10.38 " "	Cody Junction.....	" 1.12 "
Arrive 10.50 "	Sandon.....	Leave 1.00 "

CODY LINE.

Leave 11.00 a.m. Sandon..... Arrive 11.45 a.m
Arrive 11.20 a.m. Cody..... Leave 11.25 a.m

ROBT. IRVING, GEO. F. COPELAND,
G. F. & F. A. Superintendent.