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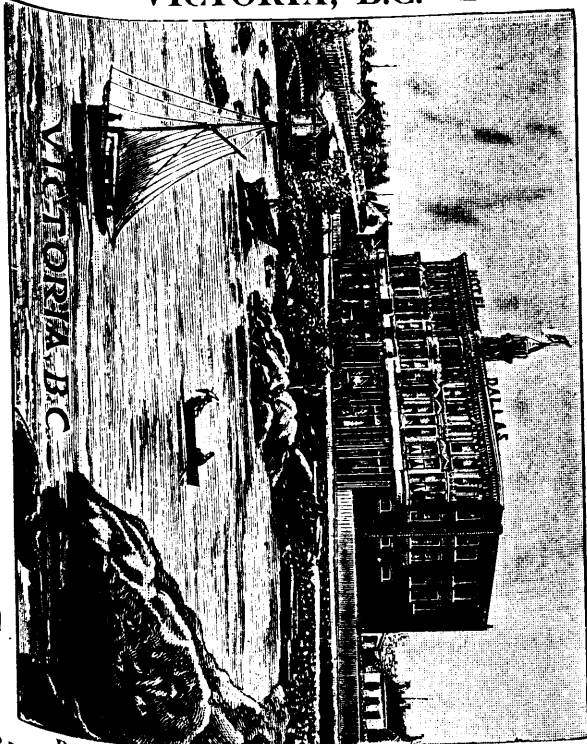
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 FOR MORESBY AND PENDER ISLANDS—Fridays at 7 o'clock.
 LEAVE NEW WESTMINSTER—For Victoria Monday at 13:15 o'clock. Thursday and Saturday at 7 o'clock.
 FOR PLUMPER PASS—Saturday at 7 o'clock.
 FOR PENDER AND MORESBY ISLANDS—Thursday at 7 o'clock.

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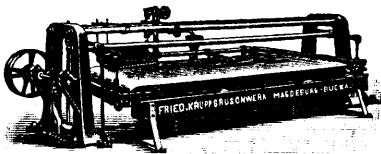
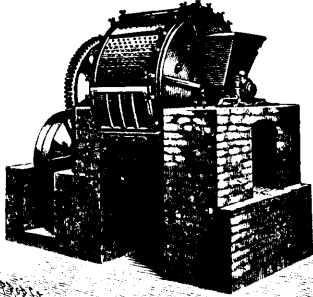
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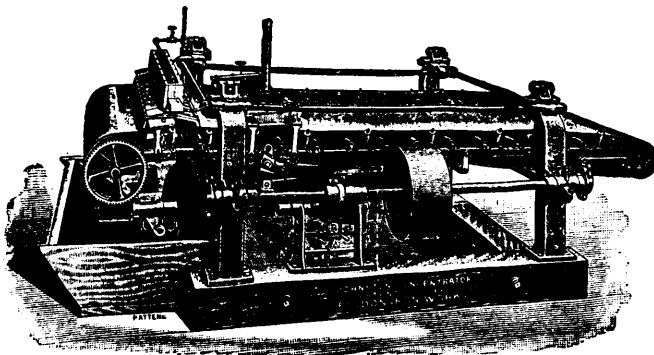
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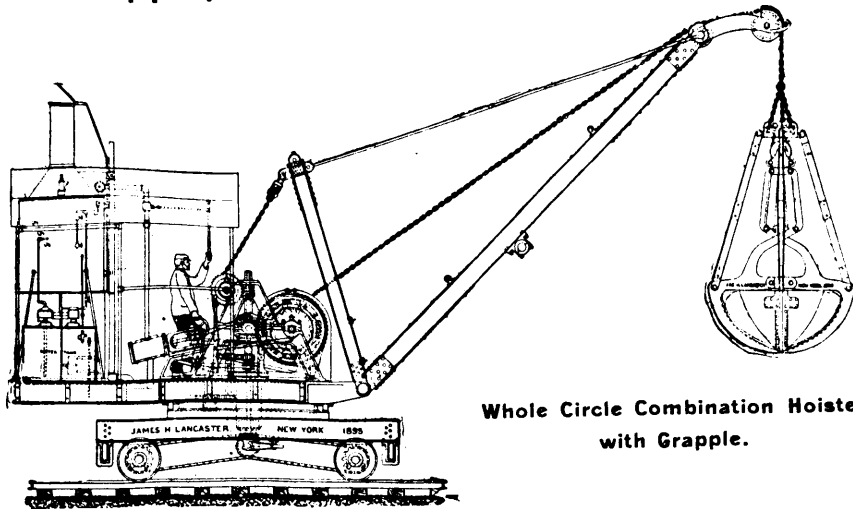
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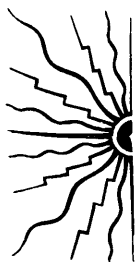
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Vol. II.

SEPTEMBER, 1896.

No. 9.

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VOL. 2.

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We have organized the following departments in connection with the B.C. MINING RECORD, with the view of forwarding the interests of our many readers, especially those living in the mining districts:

### Enquiry Department.

In connection with the B.C. MINING RECORD we have established an "Enquiry Department" for the purpose of furnishing information about the mining resources and mining industries of British Columbia to parties outside the Province who may desire to obtain the same. For this we make no charge, but, on the contrary, will only be too glad to reply to any communications addressed to

ENQUIRY DEPARTMENT,  
B.C. MINING RECORD,  
Victoria, B.C., or  
Vancouver, B.C.

### Publishing Department.

Readers of the B.C. MINING RECORD wishing to obtain any work on mining, metallurgy, geology, assaying, etc., may procure the same by addressing

PUBLISHING DEPARTMENT,  
B.C. MINING JOURNAL,  
Victoria, B.C., or  
Vancouver, B.C.

### Purchasing Department.

For the accommodation of our readers and others living in the mining districts we have opened a "Purchasing Department" in connection with the B.C. MINING RECORD. In this we will act merely as a medium between buyer and seller—we keep no stock of goods on hand. But it frequently arises that people living in the mining districts require articles which they are unable to obtain near home, and which they do not know where to purchase. If these parties will write to us, we will either inform them where the articles can be had and the price of them or we will place their order with some respectable firm. As we have an intimate knowledge of the trade, not only in the Coast cities, but also in Eastern Canada, the United States and England, parties writing us may be assured that if any article they require can be obtained we will get it for them. Where parties know the price of the article they should enclose a post office order for the amount, and we will forward the article. In such cases the express, postage or freight should be added, as we charge no commission to those ordering through us.

We will be glad to furnish descriptive catalogues, price lists, etc., of machinery and supplies from the best houses in British Columbia, Eastern Canada, United States and England, and thus put mine owners in possession of the most varied and best information to be had in that direction.

Because we make no charge for this work, parties should not hesitate to write to us. Address either of the following offices:

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### Mining Papers on File.

The following papers are kept on file at the office of the B.C. MINING RECORD, Dallas Hotel, Victoria, for the use of visitors who may wish to consult their columns:

|                                         |                    |
|-----------------------------------------|--------------------|
| The Mining Journal.....                 | London, England    |
| The Engineering and Mining Journal..... | New York           |
| The Shareholder.....                    | London, England    |
| Mining and Scientific Press.....        | San Francisco, Cal |
| Canadian Electrical News.....           | Toronto, Ont       |
| The Commercial.....                     | Winnipeg, Man      |
| Mine and Quarry.....                    | Chicago, Ill       |
| Pacific Coast Bullion.....              | Los Angeles, Cal   |
| Canada Lumberman.....                   | Toronto, Ont       |
| Monetary Times.....                     | " "                |
| Western Mining World.....               | Butte, Montana     |
| Spokane Miner.....                      | Spokane, Wash      |
| Inland Sentinel.....                    | Kamloops, B.C      |
| The Golden Era.....                     | Golden, B.C        |
| The Prospector.....                     | Rossland, B.C      |
| The Ledge.....                          | New Denver, B.C    |
| The Kootenaiian.....                    | Kaslo, B.C         |
| B.C. Mining Journal.....                | Ashcroft, B.C      |
| The Advance.....                        | Midway, B.C        |
| The Miner.....                          | Nelson, B.C        |
| The News.....                           | Vernon, B.C        |

|                     |                   |
|---------------------|-------------------|
| Rossland Miner..... | Rossland, B.C.    |
| The Prospector..... | Fort Steele, B.C. |
| The Province.....   | Victoria, B.C.    |

### Agents.

The following firms will receive subscriptions for the B.C. MINING RECORD, at \$1.00 per annum, and single copies may be had of them at 10 cents each:

|                                       |                    |
|---------------------------------------|--------------------|
| GORDON & GOTCH, ST. BRIDE STREET..... | LONDON, ENG        |
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| Gilker & Wells.....                   | Revelstoke, "      |
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| J. E. McCarthy.....                   | " "                |
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| Cann & Co.....                        | Golden, "          |
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| Windsor Hotel.....                    | Montreal, Que      |
| K. T. Takahashi.....                  | " "                |
| P. Murphy.....                        | " "                |

### EDITORIAL NOTES.

UNSCRUPULOUS speculators, aided by brokers, under cloak of obtaining money for the development of mines in British Columbia, are filling their own pockets at the expense of the unwary investor and the reputation of this province.

The columns of eastern newspapers are being filled with huge advertisements setting forth in glowing language the various prospectuses of companies formed ostensibly to develop and operate mines, but really to put money into the pockets of the promoters.

We now warn investors, especially those who

cannot afford to lose the money put into such schemes, that there is at the present time a dead set being made by a certain class of men who know how to manipulate stocks and stock companies to rob the public at the expense of this province.

The worst feature in the game being played is the fact that men in high positions are allowing their names to be used in connection with it, and indeed it is understood that some of them are directly interested in certain of the schemes being floated.

The ordinary investor, on seeing the names of influential and reputable men on a prospectus, is apt to place confidence in it and invest his money where, we fear, in some cases, he will lose every dollar of it.

At this time we speak only in general terms without individualizing, in the hope that the warning we give may induce people to investigate well before trusting their money into the hands of unscrupulous speculators.

It is our intention, however, and we are having the necessary data prepared for the purpose, to give a full list of all companies incorporated in connection with British Columbia mines, showing the capital of each, and, as far as possible, the condition of the companies, not only in regard to their stocks, but also as to the claims or properties they profess to own or operate.

This information, which we hope to have ready for the next issue of the *British Columbia Mining Record*, may be in some instances a revelation to a number of persons who have already placed their money in ventures on the strength of the glowing representations of company promoters.

It is time that a stop should be put to such speculative ventures and the sharks who are preying on the public crushed out. It is, moreover, the duty of the Government to step in and protect, as far as the law will allow, innocent investors.

British Columbia requires capital to develop its immense mineral treasures, but what we object to is that of the millions of dollars being capitalized for the ostensible purpose of working the mines in this province, only a small fraction of the money is likely to be employed for that purpose. The bulk of the cash will go into the pockets of company promoters and stock gamblers and the development of our mines will be starved.

We do not object to the owners of a claim getting a good sum for it, nor is it improper that parties who take the trouble of forming companies for the purpose of raising capital should receive a reasonable remuneration for their services. But of the capital raised the bulk of it should only be used in developing and operating the property of the company. As it is now in most cases only a small sum is forthcoming for practical purposes, the greater part of the stock being reserved to gamble with.

Here we in British Columbia have hundreds, aye thousands, of valuable claims lying idle only because the money is not forthcoming to develop them. Yet in the face of this millions of dollars (the greater part of which will never see this province) are being subscribed to work our mines.

Companies should not be allowed to incorporate for a larger sum than actually necessary to carry out the work for which they are formed, giving them, however, a fairly wide berth in this respect. They should be compelled to set forth in detail how it is intended to use the money, and if it should be found necessary to increase their capital afterwards they can do so.

The idea of incorporating a company with two or three million dollars to work a mere hole in the ground is absurd, and evidently done for the purpose of allowing the promoters the opportunity to manipulate the stock afterwards to their own advantage and at the expense of the public.

Gambling in mining stocks after the mine is in actual operation and producing cannot well be prevented any more than it can be in railway or other shares. But placing shares, originally represented by no real value and by false representations, on the market to entrap unwary investors should be frowned upon and discouraged.

There is this much to be said for the proper investment of capital in British Columbia mines. The latter are, as a rule, *bona fide*, some being extremely valuable, others moderately so, but very few of a fake nature. What is wanted at this time is chiefly the introduction of capital for development purposes. But it does not require two or three millions of dollars to develop a prospect. When it becomes a mine its value may certainly go into millions, and according to its value stock may properly be issued for dividend paying purposes. In the issue of that stock, however, the

small investor as well as the great should share in the benefit. As it is now in many cases the mere promoters, with little to lose, get the plums and the real investors, who put up the money to develop the property, are left out in the cold, or, if the prospect should turn out to be worthless, they are the sole losers.

Moreover, it should be made a punishable offence to set forth in a prospectus anything of a misleading nature. Prospectuses should contain facts only, and not the opinions (probably paid for) of every Tom, Dick or Harry. In the case of a mine or claim the reports of professional men should only be given, and they should be made professionally responsible for the accuracy of any statements made by them. There is no document that should be hedged around or guarded by law more than a prospectus, for on the strength of its representations thousands of dollars belonging to innocent people may be lost.

If, however, it is plainly stated in a prospectus that a certain sum of money is required to develop a prospect or claim, the company in the first instance should be incorporated for sufficient to accomplish that purpose, with power to increase when necessary. In such a case people who invest will know exactly the risk they run and the chances before them of making a profitable investment.

This would probably lead to a large number of small companies at the start, many of whom would develop into very large concerns, but the result would be that development work would be spread over a larger area than at present and a larger number of producing mines would spring into existence than are now doing.

We are in favour of pushing development and crushing mere speculation. If companies with large capital were formed for the purpose of developing numerous claims it would, of course, answer the purpose as well, if not better, than the formation of the smaller concerns, so long as the money was actually used in development work. We care not how it is done so long as mining in this province is not made a scapegoat by the unprincipled company promoter or mere speculator and the capital we require so much diverted into the pockets of these unscrupulous men.

We have called attention on more than one occasion to the desirability of compelling incorporated mining companies to publish at regular intervals statements showing their actual condition for the information and guidance of the investing public.



At the present moment it is next to impossible to ascertain any particulars of the mining companies doing business in this province, and investment in their shares is a case of "going it blind."

In this connection there is a feeling in some quarters that in a few cases dividends are being paid from capital, and not from earnings, the object being to effect a sale of the property as a dividend-paying concern. If this is so it should be guarded against, or it will lead to much litigation in the future. Dividends should be paid from earnings alone, and the publication of the condition of the company, showing earnings and expenses, would prevent anything contrary to this being done.

The wealth of mineral resources in British Columbia is rapidly becoming known. That we have untold riches awaiting development is now beyond question. All that is required is the introduction of capital to develop the mines. It is the duty of every man having the welfare of the province at heart to see that capital so necessary for development purposes is not diverted into improper channels merely to enrich a few speculators and leave the mining industry starved for want of money to keep it alive. Believing this, the *Mining Record* will continue to champion the cause of the miner and condemn the course of unscrupulous speculators. In saying this, however, we do not allude to the middlemen who are endeavouring to legitimately interest capital in the purchase of claims. Nor do we allude to the brokers who are honourably following their calling. The men we refer to constitute a different class entirely, who unless checked will ere long bring disaster to our mining interests, and indeed to the whole province.

New mineral deposits are being found in almost every direction throughout British Columbia. From north and south, east and west, come reports of new finds, until it seems as if the whole province was one great bed of mineral. Men will make fortunes, others will lose them; companies will prosper when honestly managed, companies will go with a crash when conducted by unprincipled men; prospectors will make great strikes, others will fail; prosperity and adversity will go hand-in-hand through our mining camps, but British Columbia through it all will steadily forge ahead, and the day is not far distant when it will be acknowledged as the greatest mining country in the world.

We have devoted this issue largely to biographical sketches of men intimately connected with the growth of the province. Their lives tell the story of development, and will give a better idea of its

history than all the descriptive articles that could be written on the subject. We intend to continue from time to time this feature of the paper.

Before another issue of the *Record* appears the second of Mr. Carlyle's reports on the mines of British Columbia will have been published. It will be read with interest, and we trust the Provincial Government will issue a sufficiently large edition of these reports to supply the demand.

There is every indication that the Crow's Nest Pass Railway will be built at an early day. No time should be lost in commencing construction and pushing it to completion. It will revolutionize the mining interests of Kootenay and aid the advancement of the province generally.

### Field Testing of Minerals.

BY W. HAMILTON MERRITT, F.G.S., A.R.S.M.

**E**XTRACT from a lecture on "Field Testing of Minerals" before Ontario Land Surveyors, given by Mr. W. Hamilton Merritt. As will be recognized, the lecture was taken by a stenographer and not in the nature of a prepared paper. We give the part relating to testing gold ores, which, both in method and apparatus, has a considerable amount of originality, and, we understand, is used with great success and satisfaction by the prospectors in the gold fields of western Ontario:

While it cannot be denied that a knowledge of common minerals, and the means of testing them in the field, is desirable, yet it is possible to go to the other extreme, and think we can rely on very imperfect tests under disadvantageous surroundings to take the place of the chemist and the assayer. That is essentially a mistake. Where it is possible to bring any samples to be assayed or tested by the chemist and the assayer it is always desirable to do so. I may say that, with one exception, the assayer's tests, as usually made, are naturally superior to those you can make in the field, while both tests are extremely desirable. The one exception is the test for gold, the reason being that in an assayer's fire test he gets all the contents of the ore without discriminating between the free milling gold and gold which is not extracted by mercury, but which requires some more expensive operations, such as smelting, chlorination, cyanide treatment, etc., while you can make a field test which will give you practically just the same test as a mill test, if you do it carefully. "Old timers" are generally satisfied with the pan test. They do not bother with the refractory portion of the ore at all. If they cannot get a good showing with their pan they probably drop the prospect and go on to something else. Some more enterprising prospectors will roast or calcine the ore in a sort of iron ladle and then pan it.

Now, as an example of a field test of gold, applicable to either alluvial or quartz, we will take an auriferous quartz. Sampling is the first con-



SIR CHARLES ROSS, BART.

sideration. Nowhere have so many mistakes and regrets arisen as through improper sampling. Fair sampling of any deposit, not only of gold, but of any other deposit, is a fundamental preliminary of immense importance. Bringing in little pieces, and getting an assay (of course the assay will show you what the specimen contains) will give no clue as to whether you can get hundreds or thousands of tons of it, which is the ultimate object of mining. This will remain distinctly to be proved, and therefore unless there is a certain amount of sampling done on the spot there will be difficulty in obtaining a proper result. Especially is that the case in gold ores, which being of such high value a very little piece will throw an assay one way or the other tremendously. It is always better to get as much as one can and make a heap on a level place and divide it up by quartering it down, or making channels through it and taking some out of the four remaining segments. It does not require much discrimination to get a fair sample, and then break the pieces to somewhat similar size and get another sample, and again break smaller and get another, until it is quartered down to a reasonable bulk. Now, in the case of gold ore, we will take two pounds of it, when we have got a fair sample in the manner indicated.

For this test we use two ordinary miner's pans kept for that purpose. The pan you use for panning for free gold never should have any mercury put into it. Then we must have a balance. We are supposed to be in the field of course. It is very difficult now to get one of these cheap spring balances, because they are prohibited by law. Still, if you can get hold of one it will be serviceable. These could weigh two pounds of quartz. If you cannot get anything better you certainly need not be at a loss while you can get one of these book or paper balances that cost about thirty cents and which weigh up to twelve ounces. With that balance you can easily weigh out a couple of pounds, and it will also weigh out your ounce of mercury. After you have weighed out your rock in the first place, the two pounds, you pound it up to pulp in a mortar. I am describing an outfit with which you can carry on this test, and arrive at the result that I am coming to, and which you can take away anywhere. The mortar costs about ninety cents to a dollar, a small mortar. Larger mortars are naturally preferable, but weight, as you well know, is a matter of consideration when you have to "pack" your outfit. Then you get the sieve for fifty cents to sieve the pulp with. In sieving it you should be very careful to notice whether there is any free gold left on your sieve. After you have sieved the pulp you put the final part on a piece of paper, and with your magnet you take out the iron, and then with your glass you can easily see the free gold. If there is any free gold you probably will put it in a little porcelain thimble (or in a saucer), with a little nitric acid to clean it. You then throw it in with the rest of your pulp. When you have sieved your pulp and got your two pounds in the pan you then weigh out one ounce of mercury with your little scales, in a porcelain, or bent paper thimble suspended by thread.

The cheapest and best carrier of any kind of liquid is made by the Patent Lightest Weight

United States Mail Case Company. These cases are lined with cork and are very light and convenient. You can put any liquid in them and can even throw them about without danger of breaking. The mercury can be carried in one of these cases. You weigh out your ounce of mercury, and then you throw it in with the pulp, or, what is still better, you put a little metallic sodium, to the amount of a small pea, in the mercury. Sodium also is a good thing to have with you in panning when you want to collect the globules afterwards if they are at all scattered, or even if the mercury is somewhat floured. After you have heated the mercury in a porcelain dish, or saucer, you add the sodium and then you throw the resulting sodium amalgam into the pulp in your pan and stir the pulp around with the mercury for about an hour, preferably with a wooden pestle. The use of a porcelain mortar and pestle is sometimes advocated, but that is awkward for taking in the field, and at all events it gives a grinding effect, whereas we have already ground and sieved the pulp and really have it as fine as a mill would get it. All you want to arrive at in a test is about what you would get in the mill, so after you have stirred the pulp around for about an hour with the wooden pestle you pan off the pulp into another pan, because you want to get the concentrates in order to know what amount of concentrates there is in the ore as well as the free milling property of the ore. If possible, sink the second pan in a tub, or in a shallow, still pool and pan over it and into it.

You therefore pan off the concentrates and tailings and get all the mercury back; pan it a couple of times to make sure you have got all your mercury; then you pan for the concentrates and get your concentrates. So you have got the concentrates and the mercury, and the pulp or tailings has been panned away.

Then comes the question of retorting the mercury. Of course cheapness is the main thing for a prospector's method, so the outfit must not cost more than is absolutely necessary. You may therefore use ordinary Russian sheet-iron and get it bent up into a little cup, which will cost about ten cents, and you can unbend it open again afterwards, if you like. If you are anxious to save your mercury in the field you can do so if you take a good sized potato and hollow it out and use it to cover the little retort; all the mercury will then be caught in the potato and you get your little gold button, or gold sponge, left in the bottom of the retort. With your pen-knife you very easily scrape it loose and you empty it out. Then you take a little assay lead (or pure sheet lead) and melt it with the gold sponge on charcoal. A little clay-holder, which costs twenty-five cents, can be used with prepared charcoal buttons. The other side of the holder is for scorifying capsules. A charging spoon is a handy thing to have. The gold and lead are mixed together in the spoon and then you carefully pour into the charcoal cavity and fuse together the gold and the lead. Now you have got the bullion in with the lead button, by means of your blow-pipe and candle. You then mix some borax and a little soda and fuse them with the lead button to purify it. Next you put a little bone ash in the other side of the clay-holder, or in a clay pipe; shape it with the head of

an iron bolt, and then you cupel the lead button and get your gold bead.

The great point is in the cost of a balance. Balances costing \$130 and all that sort of thing simply makes a prospector sick when you mention it. It fairly paralyzes him; he loses heart and hope of anything in the future. But where you have got a \$3 balance, it makes a good deal of difference. Every one of these beads I am exhibiting have been weighed on this \$3 balance, which weighs to five grains and is divided into a tenth of a grain. If two pounds of ore are taken, every grain of gold we get gives a result of approximately two ounces of bullion to the ton of ore. A tenth of a grain is two-tenths, or one-fifth, of an ounce to a ton. If the bullion is \$18 bullion, one grain means \$36 to the ton. One little division is a tenth of that, that is \$3.60. With this balance you can quite easily weigh to half of that. Therefore you can with no difficulty get the result of a gold ore running \$1.50 to \$2 a ton free milling with this balance, by using the two pounds of ore, and it is far better to use two pounds for a result than to use an assay ton (29.16 grammes). Therefore, in many respects, this field test is superior in its results to a fire assay. When you can get an ore down to \$1.50 to \$2 a ton, and up as high as you like of course, it is very satisfactory. On the other hand, here is the case of a large button from an ore that showed \$174.50 in free gold, a very rich ore which nearly exhausted the balance in weighing, four and three-tenths grains in the balance.

You have got the concentrates; you weigh them easily on the letter-weight balance by tying them in thin paper and suspending them by a thread. Having ascertained the number of ounces, or the decimal of an ounce, which they weigh, divide that amount into thirty-two (number of ounces in two pounds) and thus you get the proportion of the concentrates to the ore. Therefore you see how many tons of ore it takes to make a ton of concentrates. So that finally you have your free gold and you know how many tons of rock you have got to mill to get a ton of concentrates, which is about all many prospectors are very keen to know.

As regards the value of the concentrates. Roughly in the field you may say you can roast the concentrates and either pan them directly, or, if you have two pounds, you can treat them as above described for free gold. Or take two to three grains of raw concentrates, roast, then mix with litharge, soda and borax, cupel the resulting lead button, and if you get any gold at all, which you can see, it is worth making an assay of.

But you can do still better. You can go a step further and use a little outfit which is very portable, namely, a Fletcher's furnace and a little crucible. The furnace has got a hole on the side and you blow in and smelt any thing in it, and then use a capsule for your scorification, if you prefer to reduce the lead button in that way before cupellation.

Take the case of some concentrates for illustration. They are roasted and three grains taken and smelted in the little furnace. Then you get a lead button which is cupled down and after parting, re-melting in lead foil and again cupelling, you obtain a little button of pure gold, which

you measure on the Platner's scale. You will see it better as a rule if you use a magnifying glass. Suppose it opposite the figure 6 on the scale. A table in Fletcher's little book gives you the number of grains of gold there are in the concentrates to the ton of ore, viz., 1.95 ounces, so that finally now you have got the free gold and the gold in the concentrates, and you have got the number of tons of ore to make a ton of concentrates.

As an illustration of a high grade free milling ore we have got \$163.40, or something like that, per ton from the ore, free milling, and a yield of \$38 to the ton of concentrates. By the amount of concentrates we get, it shows that it takes forty-two tons of ore to make a ton of concentrates. Therefore, a ton of this ore yields about ninety cents to the ton in concentrates and \$163.40 in free gold. You find all this out with this outfit, which is quite portable. It weighs only some nineteen or twenty pounds, including eleven or twelve pounds for mortar and pestle.

Naturally the more refractory the gold ore is the more valuable this test is. An assayer may give \$50 a ton to a ton of ore. When you come to mill it perhaps it is all refractory and you cannot get out anything at all. If you had made this test in the field, for instance, and you find out it is all refractory, and you cannot get the gold by mercury, it entirely alters your whole base of calculation about the ore. It costs quite a different sum to treat.

Silver ore is very much easier to test by the blow-pipe. Any galena that is found should be tested for silver, because you may say, in most instances, the only value there is in the lead is in the silver associated with it. At least you get the lead to the good, as it were, and it is safer not to reckon on any value except the silver, unless, of course, the galena is needed to mix with dry ores in a smelter.

Now, we mix fluxes according to the class of ore. There are different charges given in the little manual by Fletcher. The book costs about \$1.30, and is a very excellent work, published by Wiley & Co., of New York.

As an example, take an argentiferous galena. We mix three grains with a certain amount of nitre and carbonates of soda and then fuse them in the little furnace. It gets to white heat and readily fuses all down. Then the next thing after we have got it reduced is to take out the lead bead by breaking the little crucible. You lose less silver in scorifying than you do in cupellation. So that next we scorify the lead button down smaller. All you need do is to put one of the little capsules in the clay holder, blow on the lead, and gradually it oxidizes down. The little silver-lead button breaks out perfectly clean. The lead button is then cupelled in the bowl of a clay-pipe on some bone ash.

A small silver button is obtained as the result. Place the silver button on the Platner's scale and see how many ounces to the ton it goes. By a table in Fletcher's book we see the button gives a result of 54.26 ounces to the ton of galena.

#### COST AND DETAILED DESCRIPTION OF APPARATUS.

The panning outfit catalogued below, including sufficient supplies of reagents, etc., for an ordinary prospecting trip, will cost about \$7.50.

1. Glass-stoppered bottle containing strong nitric acid. (This can be carried in a "patent lightest-weight liquid mailing case.")
2. Two gold pans.
3. Mercury, about one pound.
4. "Travellers' letter and parcel balance" hand scale, weighing 0.25 to 12 ounces, for weighing mercury and pulp; cost, 30 cents.
5. Balance, hand-scale with sliding weight, very sensitive, from 0.1 to 5 grains; cost \$3. (To be obtained from Sergeant & Co., Chicago, Ill.)
6. Small Russia sheet-iron retort, and sheet of Russia iron one foot square (with hole for retort in centre) for supporting the retort.
7. Small porcelain dish or tumbler.
8. Iron mortar and pestle; cost, 90 cents.
9. Brass wire 60-mesh sieve; cost 60 cents.
10. A little sodium carried in naphtha, in a wide-mouthed bottle, in a "patent lightest weight liquid mail case."
11. Wooden pestle.
12. Sheet or shot-lead (pure, if possible).
13. Borax.
14. Soda.
15. Blowpipe, cost, 25 cents.
16. Bone-ash.
17. Clay pipe for cupelling.
18. Charcoal.
19. Candles.
20. Pure silver foil.
21. Glazed waterproof sheeting for mixing cloth, one yard square, and wide (varnishing brush).

For quantitative determination of value of concentrates by measurement with Plattner's ivory scale (cost \$3), a sufficient outfit, including the scale, can be obtained for \$5, if the prospector makes his own little anvil, pestle and guard and pincers, and gets a small cheap hammer. He will need in addition (included in the \$5) only a Fletcher blowpipe furnace, clay crucibles and capsules, a spirit-lamp and some litharge.

For qualitative work, a prospector's simple blowpipe outfit might comprise:

1. Knife.
2. Magnifying Glass.
3. Blowpipe.
4. Charcoal.
5. Candle.
6. Old scissors.
7. Pincers.
8. Steel anvil,  $\frac{1}{2}$  by  $1\frac{1}{2}$  by 2 inches.
9. Pestle and guard.
10. Small hammer.
11. Magnet.
12. Borax.
13. Soda.
14. Litharge.
15. Bone-ash.
16. Clay pipe for cupel.
17. Round-headed bolt for making cupels.

To which may be added platinum wire, spirit lamp, microcosmic salt, cobalt nitrate, three-cornered file and glass-tubing.

The total cost need not greatly exceed \$1. Therefore, for the entire panning, qualitative and quantitative field outfit for purposes above indicated, the cost need not exceed \$14, and with it the prospector, or, indeed, the mining engineer, can with practice obtain in most cases valuable information in the field concerning the ores of the precious metals.

Weight of Apparatus.—The weight of complete outfit, including the panning, qualitative and quantitative outfits (avoiding duplications in above lists), may be about:

|                                       |            |         |
|---------------------------------------|------------|---------|
| Two pans.....                         | 3 lbs.     | 12 ozs. |
| Mortar and pestle.....                | 11         | ..      |
| Remaining articles, including mercury | 5          | 4       |
| and other ingredients.....            | 5          | ..      |
| Total weight.....                     | 20 pounds. |         |

**Leading Citizens of Ashcroft.**

JOHN G. COLLINS.

MR. COLLINS, of the firm of Collins & Haddock, in Ashcroft, has had a varied experience during the past twenty-five years. Born in Jackson County, Tenn., on 3rd December, 1853, he left home

when he was eighteen years old, and landing in Eastern Texas, went to work for a Captain Lennox, until he managed to save about \$200. He then went to Fort Griffin and became a buffalo hunter and Indian trader, living amongst the Indians for about two years. At that time Gen. Hancock was conducting his famous expedition, and Mr. Collins becoming connected with it as a scout led a life of extreme danger while in the service. On one occasion he was captured by the Comanches and kept a bound captive during a night, expecting torture and death in the morning. But the old chief of the tribe fortunately recognized him as a friend, Mr. Collins having aided him on several occasions, and ordered his release.

From a scout the subject of our sketch became a miner and worked in the Superstitious Mountains of Arizona until he became the possessor of a quartz mine which he sold for \$2,500. He then removed to Tombstone and assisted in the erection of the third cabin in that wonderful town. Restless and ever seeking new fields of excitement, Mr. Collins did not remain long in Tombstone but returned to Texas where he became a stage driver when the calling was one needing great courage as well as skill. At one time while driving the stage from Waco to Fort Griffin with \$92,000 of government money on board an attempt was made by three desperate road agents to stop him. But Mr. Collins, although alone, succeeded in getting away from the robbers at the expense of an ugly shot wound in the neck and another in the shoulder.

The next move was to Galveston, Texas, from which place he went to Melbourne, Australia, but his experience in the mines there was not satisfactory so he returned to America, landing in San Francisco.

Mr. Collins now made his way to British Columbia and arriving in Yale packed his blankets to Barkerville, then to Bonaparte, and back to Keithley Creek, prospecting, hunting and trapping. He traversed the South Forks and Clear Water country and one day arrived at Soda Creek in bad condition, clothes in rags and boots worn out.

Going to a Mr. Dunlevy, who was a perfect stranger to him, he asked for a loan of \$25.00 and was accommodated without hesitation. Cariboo men are noted for their liberality and hospitality. That same night Mr. Collins' partner won \$150 at poker, and not only paid back Mr. Dunlevy's loan but bought an outfit with the balance.

From here Mr. Collins returned to Keithley Creek and had several months of bad luck, during which he became involved in debt. This was the turning point, however, for by working on the government trail he managed to save enough to pay what he owed and at the same time go into the cattle trade. This latter took him to Alberta, N.W.T., where he sold his ranch for \$13,000 and with the proceeds returned to British Columbia.

He now paid his first visit in twenty-one years to Tennessee and from there came to Ashcroft, where he soon afterwards entered into his present large and important business—a business which tends greatly to aid development in the Cariboo district. The large stock of horses owned by Collins & Haddock are kept fully occupied in con-

ducting men into the interior and forwarding supplies for the mines. Our great mining districts are being built up by just such hardy, fearless men as John G. Collins.

W. B. BAILEY, ESQ.

**MR. BAILEY**, who is a member of the largest overland forwarding firm in British Columbia, with headquarters at Ashcroft, was born in San Francisco on the 14th of February, 1859. He is therefore comparatively a young man. When he came to British Columbia he entered the employment of Oppenheimer Bros. and remained with them till 1882, when he struck out for himself. The Canadian Pacific Railway was then building, and Mr. Bailey followed the line of construction opening stores in succession at Lytton, Savona and Spence's Bridge. In 1888 he moved to Ashcroft and entered into business with Mr. Harvey as general merchant. In 1894 Mr. Gladwin, who did the bulk of the forwarding business, died, and Messrs Harvey, Bailey & Co. undertook to carry it on.

Some idea of the extent of the vast business done by this firm may be gathered from the fact that they have on an average seventy-five teams constantly on the road. Each of these teams are drawn by six or twelve horses and carry from 9,000 to 18,000 pounds. They go as far as 290 miles inland, and in some cases have carried single pieces of machinery weighing as high as 14,000 pounds.

In addition to the teams Messrs. Harvey, Bailey & Co. send out large pack trains composed of mules, each animal carrying on his back as much as 400 pounds and a whole train conveying from 9,000 to 15,000 pounds.

This immense forwarding business is going on week in and week out all the year, and the following is a list of the points served: 150 Mile House, Soda Creek, Quesnelle, Stanley, Barkerville, Forks Quesnelle, Horsefly, Williams' Lake, Chilcote, Keithley Creek, Dog Creek, and pack trains are sent by the firm as far as Peace River, a distance of over 500 miles.

Such is a brief outline of a firm whose operations constitute one of the chief factors in the development of the great Cariboo country.

JOHN J. MACKAY, ESQ.

**MR. MACKAY** is a Nova Scotian, born in Pictou County. In 1881 he came to British Columbia and settled in Ashcroft during its earliest days. In 1883 he became connected with the British Columbia Express Co., Ltd., as agent and book-keeper, a position which he holds at the present time. Added to this he is now a notary public and postmaster. The British Columbia Express Company does the mail carrying and passenger transportation throughout Cariboo and Lilloet districts. It was established in the early sixties and has carried colonies of passengers and carloads of gold, weathered every storm and is now in a better position than ever before for doing a heavy business. There are stations in suitable places all along its lines with relays of four and six horses, and the company runs coaches that are not only comfortable but rarely break down. Careful, experienced, courteous drivers are employed, its policy being to do good service and receive a reasonable consider-

ation therefor. In early days and up until the completion of the Canadian Pacific Railway this company's lines extended to the Coast and there connected with Wells Fargo & Co.'s express, thence reaching to all parts of the world.

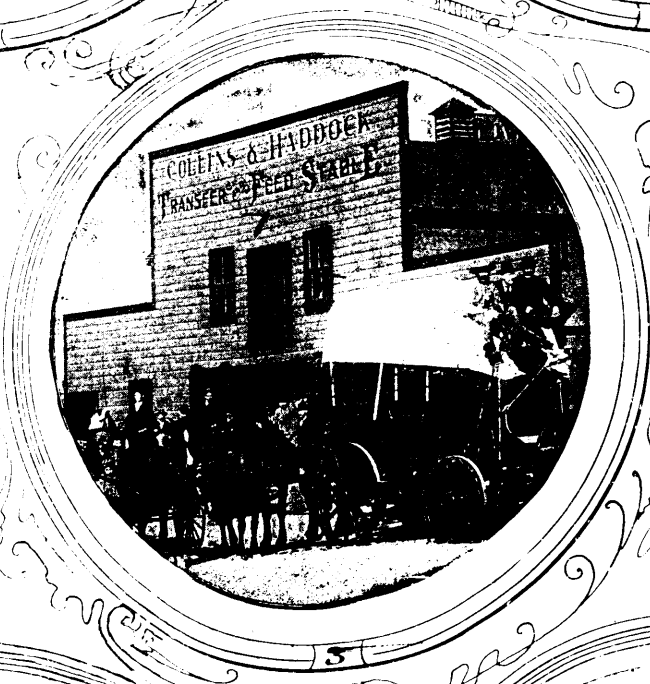
Since the advent of the Dominion Express Company operating over the Canadian Pacific Railway connections are made at Ashcroft for mails, passengers and express to all points in the East. The British Columbia Express Company operates stages in the three districts of Yale, Lilloet and Cariboo, and although this business may appear at first to be a simple matter, still when we look into it more closely, the various climates, the various conditions—wheels, sleighs and wheels, sleighs again on the same trip, horses smooth shod one day, sharp shod the next—the long distances, great expense, and the success attained, we no more wonder why Mr. S. Tingley, the efficient manager, or his employees, never hesitate a moment in rain, storm or sunshine, day or night, early or late. As we travel along the C.P.R. between Yale and the Fraser River crossing at Cisco, we can get a pretty fair idea of staging in British Columbia by examining the old wagon road on the opposite side of the river—a portion of the route covered for many years by this stage company before the C.P.R. was built. There is now some three hundred miles of this road left, not counting branches, over which the British Columbia Express Company still runs stages.

Mr. Mackay is one of the original promoters, a life member and at present secretary of the Inland Agricultural Association of British Columbia, the first agricultural association established in the great interior of the province.

He has been a member of the school board and secretary since its formation, and is superintendent of the Union Sunday school of Ashcroft as well as one of the trustees and managers and secretary-treasurer of Zion Presbyterian church. Mr. Mackay is an ardent well-wisher in regard to Ashcroft and all British Columbia.

FRANK STEWART REYNOLDS, ESQ.

**THE** subject of this sketch, Mr. F. S. Reynolds, undoubtedly yields a great influence in the mining regions tributary to Ashcroft. Born in Fond du Lac County, Wisconsin, on the 1st of May, 1853, he is in the prime of life. By profession a doctor of medicine he has abandoned, at least for the time being, the life of a physician and taken to literature and mining. Mr. Reynolds was educated in Wisconsin and his first start was as a school teacher. He next took a course of medical study and graduated at Rush College in February, 1876. He then practiced medicine at Hartford, Wisconsin, until the spring of 1886, when he came West to Tacoma, from which place he moved to Alaska. Here he entered into mining and on locating the Silver Queen mine he organized a company of which he became general manager for operating the property. A mill was built at a cost of \$25,000 and other improvements made when the depression in silver came in 1891, and caused the works to be shut down. They are now being worked successfully, but in the meantime Mr. Reynolds moved to Loomistown, Okanagan County,



**LEADING CITIZENS OF ASHCROFT.**

1. FRANK STEWART REYNOLDS.      2. W. B. BAILEY.      3. STABLE OF COLLINS & HADDOCK.  
4. ISAAC LEHMAN.      5. J. J. MACKAY.



Washington, and again took up the practice of medicine, being appointed county physician, a position which he held for two years. At the same time Mr. Reynolds became interested in mines and finally was induced by the accounts from Cariboo to move there. This occurred in the spring of 1894 and he at once took a hand in on the Quesnelle River, becoming one of the organizers of the Quesnelle River Hydraulic Gold Mining Company, which was afterwards sold to J. Barnett McLaren and associates. Mr. Reynolds then returned to Wisconsin, but in March, 1895, came again to Cariboo, locating in Ashcroft, where he established the *British Columbia Mining Journal*.

This journal, although devoted in a large measure to the interests of Cariboo, has yet the best of opportunities for giving reliable information about the other mining districts of British Columbia. It is a well edited and reliable paper, and it is intended before long to enlarge its scope by adding new machinery and plant to its already well-equipped office. It is also the intention of Mr. Reynolds to establish another paper shortly at some point in Cariboo to be run in conjunction with the *Journal*.

Mr. Reynolds is largely interested in mines, having exceptional advantages in that line. He was one of the owners of the Beaver Mouth properties which have lately been transferred to a large English company and which will be worked on an extensive scale next spring. He is also one of the principal promoters of the Lightning Creek Gold Gravel & Drainage Company, for which a special bill was passed at the last meeting of the Provincial Legislature.

Although Mr. Reynolds' position is one of much influence we are happy to say it is for the good inasmuch as it is for the development of Golden Cariboo.

ISAAC LEHMAN, ESQ.

MR. LEHMAN is one of Ashcroft's earliest residents. He came to British Columbia from Markham, Ontario, when Ashcroft possessed but few houses. He has since that time, however, identified himself with every important move or commendable scheme for the advancement of the town and one of the latest of these is a system of water works which he is at present busy perfecting. The water under Mr. Lehman's plan is being pumped up from the Thompson River and the supply can therefore be increased as required by the introduction of more powerful machinery. The difficulties and expense attending the carrying out of this enterprise is perhaps not fully realized by the people of Ashcroft. It means a supply of the purest water, protection from fire and if desirable, turning the waste spots into a veritable garden. It means the lining of the streets with shade trees where none are to be seen now. It is an enterprise which should have the hearty support of every man and woman in Ashcroft, and Mr. Lehman for his energy and persistence in carrying out his scheme deserves to occupy a large place in the affections of its citizens.

The subject of our sketch has been a member of the school board for many years and is a prominent member of the Masonic, Odd Fellows and Good

Templar societies, and holds several positions of honour and trust in the town.

Mrs. Lehman is a worthy helpmate to her husband and has endeared herself to many by her untiring efforts in matters of a religious, musical and social nature.

As a pioneer and citizen, Mr. Lehman has the proud distinction of possessing the general respect and confidence of the people of Ashcroft, a distinction which Mrs. Lehman shares equally with her husband.

### Co-operative Mining.

(Continued.)

IN the last issue of the *Mining Record* I dwelt at some length on the general principles of co-operation, recommending their consideration in connection with mining development. This issue I desire to make a more particular application.

There is perhaps no more important aspect of the whole mining question than the utilization to its fullest extent of our own capital, because, as was previously pointed out, it means, if mining is to be profitable at all, that the profits shall remain in the country and be distributed at home instead of being sent to Great Britain or elsewhere in the form of interest and dividends. I think it is perfectly obvious that in so far as we can efficiently develop the mines without the aid of foreign capital we are so much the better off.

The too predominant idea at the present time is to make a profit in one of the following ways: To acquire a claim for the purpose of selling it again at a large advance; to promote a company by methods of brokerage; to buy shares in a company that give promise of appreciating in value; to develop a claim after purchase sufficiently to determine its value as the basis of exploiting the money market. These are all legitimate and orthodox business methods, but they are not mining in the true sense. In other words, they are recognized forms of speculation. Any man, however, who adopts any one or all of them cannot be said to be engaged in mining any more than the man who buys a farm in order that he may sell it again at a higher price is a farmer. The benefit to the community at large arises out of, not the business transactions of the character referred to, but the actual industry itself. The one depends ultimately upon interesting and obtaining outside capital, without which speculation could not be made a success. The other involves the employment of labour and means the production of wealth. It follows that the more profit is made in the preliminary process of promotion the less are the fruits of the industry; or, to make it plainer, the mine, which costs a million dollars will not return as large a dividend per share as if it had cost half a million. There is a margin of profit not accruing from the working of the mine, which means a more general distribution of the wealth produced, but from speculation which limits it to the promoters, comparatively a few persons. The benefits in the latter case are not so widespread.

I am not deprecating the promotion of companies or the introduction of outside capital where



necessary. My argument is, however, that where development can be carried on by turning available labour into capital, that where, in other words, we can do the same work without soliciting outside capital, the benefits of the community are that much greater. A great deal can be accomplished in the latter direction by the co-operation of labour.

The co-operation of labourers in developing a mine for themselves would mean, where practicable, a distribution of ownership and the wealth produced among a much greater number of persons, and the profits from the industry itself would be much greater. For instance, the province would be infinitely better off if there were ten thousand miners in Kootenay owning and operating a certain number of mines than if they were hired for wages by British or American capital in the hands of only one hundred persons. The prosperity of a nation is gauged, not by the amount of money amassed, owned or controlled in it, but by its distribution, or, if I may be permitted to express it in that way, by the well-to-do-ness of the individual units of the nation. I need not refer again to the Mormon colony of Utah to illustrate the benefits of small ownership and industrial independence. In that instance, they are conspicuous, unquestionable and remarkable. I will take France. When, by the vicissitudes of warfare and the follies and extravagances of government and nobility it had been reduced to starvation, its coffers depleted, the country devastated and forced even to pay tribute to a foreign nation as the price of nationality, its peasant proprietors, over-burdened as they were, by their industry, saved the nation and the nation's honour, and brought back prosperity in a way that is unparalleled in modern history. If the United States, which has attracted more capital than any other nation in the world and has exhibited probably the greatest expansion in the same time, were to-day to find itself in a similar plight it could not recover as France did because it is owned, I was was going to say body and bones, by foreign capital, from which nothing but wholesale repudiation could untraumatise it.

The principle of ownership and personal interest applies to other industries as well as farming. It is true that one man with his family cannot work a mine—that you cannot have little mines as you have small farms. But there can be small proprietary interests, and the question is, can co-operation, by which this alone is possible, be made practicable? Undoubtedly it can to a very appreciable degree.

The danger to be foreseen from the present tendency and from the experience of other countries is that our mines will eventually fall under the control of a few large syndicates directed from the money centres and that the large population necessary and incident to their operation will be mainly labourers, whose interest will be their daily wage, and that dictated as it always is by the exigencies of the labour market, with the ominous and almost inevitable strikes and lock-outs looming up in the distance as a menace to society and the best interests of mining and miners. It is possible that human wisdom cannot always avoid what it can foresee. Few, however, will question the statement

that it would be better, if it could have been brought about, that the millions arising out of the Standard Oil trust should be divided among those who helped to produce them than in the hands of a few like the Rockfellers, estimable and enterprising as these gentlemen may be.

There is no suggestion of socialism in these remarks. Such men are entitled to all they legitimately obtain by speculation or otherwise. They are not necessarily thieves and robbers for having acquired their millions and no system can be devised to regulate individual efforts so as to prevent it. It would be infinitely better, however, if the accumulation of great fortunes in the hands of few people did not come about; and the antidote to this lies in the co-operation of labour to accomplish what alone is possible nowadays by large expenditure of money. In no field are the opportunities for either combination of capital or labour so extensive as in mining.

There are possibly 15,000 people in Kootenay, of which a large percentage are prospectors. Very few, comparatively speaking, are engaged in the actual work of mining or mining development. An immense amount of energy and effort and money are being dissipated in finding prospects of which there are one out of hundreds that may become mines, and in other forms of speculation, which, if concentrated on good prospects, would produce wonderful results.

In every camp there are men who, in addition to being able to wield the pick and shovel, are carpenters and blacksmiths and mechanical engineers. There are always assayers and mining engineers and good, practical mining men of experience. If fifty such men should pool their resources, small and large, and work in their various capabilities in developing one or more mineral claims the necessity for large capital would not exist, and each would become an owner and a sharer in the profits. Co-operation would be possible on the strictly business basis of a joint stock company. Say a development company were stocked for \$100,000, each man could subscribe for a certain number of shares to be paid for in labour at a certain allowance per day according to the value of his labour or services. Probably fifty men in a camp picked up indiscriminately would average \$100 apiece with which to buy treasury stock. That would purchase necessary supplies and pay preliminary expenses. It must always be remembered that the price of labour is in mining the great factor of expense.

As to the necessity for further capital, all depends upon the character of the mine. Many claims, especially in the Slocan, would doubtless ship ore and pay from the start. Others might require expensive machinery and appliances, and in that event, as pointed out in the previous issue, the facilities for obtaining the co-operation of capitalists would be many times greater when the *bona fides* were established by the labour of the owners themselves.

Capitalists are only too willing to accept such substantial proofs in preference to what is set forth in the glib prospectus. It is hardly necessary to give absolute details of a co-operative company. They are such as suggest themselves to

the mind of any business man or financier. It should not be a loose arrangement, but a strictly financial and joint stock concern, in which every consideration has account taken of it—the value of the claim, as a claim, the special services of manager, foreman, engineer, the cash for expenses outside of labour, etc., etc. The rules should be those governing labour in any private firm and strictly enforced, and the management should be supreme within its jurisdiction. The evils incident to co-operation, reference to which was made in last issue, can all be easily avoided by the exercise of business prudence and common sense, as in any successful joint stock company.

The possibilities of co-operation of men of limited means in developing mining properties may be judged by contrast with any one of the companies now formed or being formed for a similar purpose. The treasury stock, which varies according to the capitalization, is sold at one to fifteen and twenty-five cents per share, ten cents, however, being a good average. The amounts realized for development purposes vary from \$5,000 to \$50,000, the greater part of which, as remarked previously, is spent for labour. If these sums be sufficient to determine the value of a mine for the purpose of selling out to a syndicate of capitalists, then, apart altogether from every other consideration, miners with but little money can do the work themselves much more advantageously and the profits of promotion and the money made by the appreciation in values are all their own. Accepting the representations of mining prospectuses, the estimates of cost in which are usually prepared by mining engineers, or should be, it is absolutely clear that if the hundreds and thousands of men in the Kootenay district will go to work on the principle of co-operation they do not require so very much capital after all.

We all remember the old story about the farmer who invited all his relatives to come and help him to cut his crop and then with his family of sons sat down to wait for them, instead of going to work and doing it for themselves. We are very much in the position of that farmer in British Columbia. We are waiting for the big capitalist to come along to do for us what, if it ever occurred to us, we could do for ourselves.

There is a number of methods of co-operation by which, according to the circumstances and conditions in each case, mining claims could be worked advantageously, and the evident destiny of this province attended to without mortgaging its resources wholly to outsiders who to us, at the present state, bear the seductive and insinuating name of "capitalists."

### Prominent Men of Kamloops.

JAMES MCINTOSH, ESQ.

THE town of Kamloops probably owes its existence to-day to Mr. McIntosh, who, having taken up a pre-emption, engaged Mr. (now Lieut.-Governor) Dewdney in 1874 to survey the townsite. Mr. McIntosh, who was born in Ottawa on the 19th of August, 1842, came to British Columbia when he was twenty years of age and immediately entered

into mining on the famous Williams' Creek where he remained till 1864, when he went to Leach River on Vancouver Island.

Here he remained till 1866 and then moved to where Kamloops stands to-day. He worked on the first steamer built by the Hudson's Bay Company and afterwards entered the service under Capt. Moffatt. In 1868 he, in company with a Mr. Fortune, built the first mill at Tranquille after which he took up the pre-emption already mentioned.

The next undertaking of Mr. McIntosh was the erection of a large grist and saw mill. Mr. Andrew Mara was associated with him in this enterprise, which was carried on as the Shuswap Milling Company, and one of the first orders they received was for 5,000 barrels of flour required by Onderdonk in his contract on the Canadian Pacific Railway. Mr. McIntosh now went on improving his townsite by the erection of buildings and other improvements amongst which may be mentioned a system of water works. About this time the Canadian Pacific Railway Company were locating their stations, and on Mr. McIntosh refusing to give them a grant of land for the purpose a syndicate composed of Messrs. Mara, Pooley, Earle, Ward and others was formed and a new townsite laid out adjoining that of Mr. McIntosh's. This syndicate gave the C.P.R. the land required, and thus it happens that the railway station is situated at such a distance from the original townsite.

The railway company were given running powers through the old town, but this is of no advantage to the residents, as trains do not stop except at the station some distance away.

The Old Men's Home was erected in the town and the Dominion and Provincial Governments established offices in it, and now it is fast becoming an important centre. In the meantime Mr. McIntosh has encouraged and aided several enterprises and is generally looked upon as the father of the town. He was led in the first instance to lay out the townsite from the fact that the location seemed to be an admirable one at the junction of two rivers and at one time there were three steamers, the *Peerless*, *Kamloops* and *Skuzzi*, plying there. The railway has, however, taken the place of the steamer, and all three boats are now abandoned.

Mr. McIntosh is president of the Kamloops Board of Trade and Pioneer society, and is held in high esteem by the residents of the town in which his interests are still bound up to a very considerable extent.

R. H. LEE, ESQ.

THE incorporation of Kamloops was a step which so far has resulted most beneficially to the town, and one of the most active workers in bringing it about was Mr. R. H. Lee, the present Mayor. Mr. Lee was born in Portsmouth, Ohio, on the 31st of December, 1859, and moved to Kamloops in 1884. Previous to that he held important positions as civil engineer on the Union Pacific, Northern Pacific and other railways in the United States. It was he who surveyed the syndicate townsite near the railway station, and as Councillor and Mayor was largely instrumental in organizing the present water works and electric systems in Kamloops. Mr. Lee is now serving his third term as Mayor.

having been elected by acclamation in 1894, 1895 and 1896, and there is probably no more popular man in the town. His administration has been markedly successful, which may be judged by the fact that the water works is paying a profit over working expenses of \$125 per month and the electric system when complete is expected to pay at least \$100 more.

The town council of Kamloops consists of the Mayor and six Aldermen, the latter being Messrs. Dr. Furrer, R. E. Smith, J. S. Smith, Geo. Munroe, M. P. Gordon and J. J. Carment, and the finances are in a most satisfactory state, the rate of taxation being not over six mills. It has a fine fire alarm system and one of the most efficient fire brigades in the province. The latter is composed altogether of volunteers under Chief Murray, and the record of the department under his able management is not excelled by any paid brigade in British Columbia. The water works give a pressure of 175 pounds, so that fire protection in Kamloops is well provided for.

Here is located the Old Men's Home and both the Dominion and Provincial Governments have offices in the town. It is a noted health resort and if the Government would aid the establishment of a sanitarium it would undoubtedly draw people from all parts of the continent.

Elsewhere will be found an account of rich mineral deposits having been found in the neighbourhood of the town so that the prospects of Kamloops becoming an important mining as well as agricultural centre is most encouraging and to no one more than Mr. Lee is the present prosperity of the place due.

J. B. LATREMOUILLE, ESQ.

**M**R. LATREMOUILLE'S career in British Columbia is an instance of what a man possessed of pluck and energy can do in the province. In 1890 he came to Kamloops from Ottawa and on his arrival found himself entirely out of money. He started working at once and in a short time was able to do a little trading on his own account. He then opened an hotel and about that time discovered a coal mine on the North River. To work this he organized a joint stock company and shipped out a good many tons of coal from the mine. But more capital and better means of transportation were needed to work the property with success, and therefore the company closed down and operations at the mine ceased.

With capital to work it, Mr. Latremouille is confident that the property is a valuable one. Being near the line of railway and close to so many points requiring coal it would seem as if it was a good opportunity for the investment of capital. From coal mining Mr. Latremouille now turned his attention to brick making, his yard being about ten miles from Kamloops. Some 250,000 bricks were made, most of which were used in the town and out of which Mr. Latremouille built an hotel and several stores, which he still owns.

He then went into the agricultural implement business and has to-day unbounded faith in the prospects for farming and ranching in the country around Kamloops. His intention therefore at present is to extend his operations in that line. But

mining always had an attraction for Mr. Latremouille, and now, in company with others, he is working a placer mine with rich gravel about twelve miles distant at the Forks of Tranquille Creek. A dam and flume three-quarters of a mile long have been built which gives them 3,000 inches of water, and with this there is every prospect of their reaping rich returns this fall. Thus in less than six years from when he started without money, Mr. Latremouille has succeeded in becoming a man of independent means, and no one is more respected than he in Kamloops.

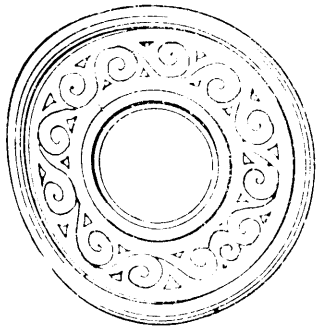
B. WEHRFRITZ, ESQ.



**O**NE of the largest industries at present in Kamloops is the Imperial Brewery, of which the subject of our sketch is the proprietor. Mr. Wehrfritz belongs to a family of brewers and from early age has been engaged in that vocation. Born in Montabaur, Germany, on the 21st of February, 1850, he remained in that country and part of the time conducted a brewery at Bingen-on-the-Rhine until he removed to Paris shortly before the breaking out of the Franco-German war. During that stirring time he was obliged to leave France and succeeded in getting away from Paris just before the siege of that city. He then came to America and worked at his calling in St. Louis, Salt Lake City, Arizona and other parts of the United States, finally establishing himself in Okanagan County, Washington. From there he was driven out by the floods and with but little capital established his present flourishing business in the face of many difficulties. The output of the brewery is about 4,000 barrels per year, part of which is shipped into the Kootenay. A malt house is also being erected and Mr. Wehrfritz is bringing out a quantity of the best seed to be distributed amongst the farmers around Kamloops so that they may supply the malt house with barley. This alone will keep about \$20,000 annually in circulation in the district which now goes out to purchase foreign malt. The hops for the brewery come from Lord Aberdeen's Coldstream ranch. Thus this enterprise is of local importance to the district.

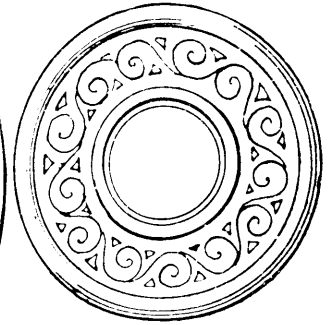
Recently a very complete aerated water plant has been added to the establishment and altogether the enterprise is one worthy of Kamloops and of the enterprising man who established it. Mr. Wehrfritz is looked upon as one of Kamloops' most prominent citizens and deservedly so.

GEORGE STEWART, ESQ.

**W**HEN about twenty years of age Mr. Stewart came from Aberdeen, his birthplace, to British Columbia and made his way to Cache Creek, where he entered into the business of teaming from Yale to Cariboo. Many a trip was made by him, driving twelve mules to the team and carrying immense loads. At that time there was no railway and most of the inland transportation was done by teams, the firm of Kimball & Gladwin, of Yale being the chief forwarders, with whom Mr. Stewart did nearly all his business. For seventeen years he carried on teaming, and when the railway reached Ashcroft he gave it up and went to Nicola Lake, where he was engaged for six years with the Devil's Lake Cattle Company. The



  
**KAMLOOPS**  
 FIRST TOWNSITE SURVEY, 1874.  
 INCORPORATED 1894.  
 POPULATION 1,600.      WATER WORKS.  
 ELECTRIC LIGHT.  
 PROVINCIAL GOVERNMENT OFFICES.  
 OLD MEN'S HOME.      DIVISIONAL STATION C.P.R.  
 A NOTED HEALTH RESORT.  




**PROMINENT MEN OF KAMLOOPS.**

1. JAMES MCINTOSH.  
2. J. B. LATREMOUILLE.

4. B. WEHRFRITZ.  
5. GEO. STUART.

long experience with the teamsters and others on the road and the opportunity which presented itself induced Mr. Stewart to start a harness shop at the lake. This he has carried on ever since, and in February, 1896, he opened an establishment in the same line at Kamloops. He now carries on business in both places and still does a large trade with his old friends and others on the Cariboo road. Mr. Stewart is a typical pioneer of British Columbia, and although in the early days he had to endure much toil and hardships in the course of his calling, he is a hale and hearty man to-day. Like most old-timers in Cariboo he is whole-souled and generous and a great favourite with the people of Kamloops.

### *Mineral Discoveries in Kamloops.*

**K**AMLOOPS is experiencing a genuine mining excitement. It has been caused by the discovery of gold ore on Coal Hill, about four or five miles to the south of the city. The first location was made by Louis Victor Bennet on the 3rd of August last. This location was not recorded, and it was re-located by Robert Buchanan, on behalf of a number of citizens for whom he has been doing prospecting work for some time past. He staked out two claims and on one of them two men were put to work, and it was not long before they struck a mineral lode which, when it became generally known, caused a regular mining fever. The outcropping was followed down, and at a depth of ten feet there was laid bare a most promising prospect. Wentworth Wood made an assay of the rock, and found that it contained over \$40 in gold, besides a large percentage of copper.

The country rock on Coal Hill is a green diorite similar to that found in the famous Rossland or Red Mountain district. The ore itself shows iron and copper pyrites, and presents a very pretty appearance.

No sooner did it become known that a discovery of importance had been made than scores of people were out scouring the hill, and as a result a large number of claims have been staked. Samples of the ore were forwarded for assay to Pellew-Harvey at Vancouver, who reported thirty-eight per cent. copper and \$2.25 in gold. The samples sent were not those expected to show much gold, but the return is most satisfactory. It means that the ore has a value of about \$80 per ton.

On several of the claims surrounding those made by Mr. Buchanan good prospects have been found, and the work of prospecting is going on most satisfactorily. Every day brings in fresh evidences of the prevalence of valuable mineral lodes in the locality named. James Blair has a claim on which some work has been done, and the showing is capital.

Robert Lyons brought in some specimens of ore from a location about a mile west of that first made by Mr. Buchanan, and there was a fresh stampede of people in that direction. Many new locations have since been made—indeed the whole country thereabout has been staked out, and the prospectors are pushing their way further south,

east and west. The area of the mineral-bearing rock seems to be enlarging as further investigations are made, and public interest in the finds is being increased accordingly.

Mr. Buchanan has for some time kept a force of men steadily engaged in his prospect hole on the Python claim on Coal Hill. The ore vein maintains a steady thickness and the character of the ore shows practically no change as greater depth is reached. The assays so far made give returns of remarkable evenness. The ore dump is daily swelling in dimensions, and it will not be long before enough will be obtained to make a trial shipment to the smelter at Trail or Everett. The face of the cutting in the hole presents a very pretty appearance, the brilliant patches of iron and copper pyrites mingling with the bright blue of the copper stain. Mr. Buchanan expresses himself as highly satisfied with the progress of the work, and estimates that the amount of ore taken out as they go along will fully compensate for the cost—that is, he is in pay rock.

W. Thomas Newman, the well-known metallurgist, of Toronto, author of "Hidden Mines, and How to Find Them," has made a pretty thorough examination of the various claims on Coal Hill, and is so well impressed with them that he has acquired an interest in several, and states that as soon as he can get possession of just what he wants he will put a considerable force of men at work and make such a test of them as will convince him as to what their value is. He says that at present no one can possibly judge of the depth of these leads, but they look so well as to fully justify the expenditure of money on them.

Robert Lyons' prospect tunnel has been pushed in some distance and is looking fine. This claim lies comparatively close to the foot of the hill, and locations have been made several deep all round it, and on each of them there are good indications of mineral in considerable quantities. The ore does not seem to differ much in appearance, it being substantially the same in all the claims.

James Blair has his prospect hole down into the solid rock, and is highly pleased with the appearance of things. The result of all this is that about thirty-six mining claims have been staked out around Kamloops at this time of writing.

Prof. Newman has done some experimenting at the furnace with the ore, and pronounces it to be a perfect self-fluxer, one of the easiest ores to smelt he has ever seen. One sample of matte he produced went a little over 1 to 4 of the crude ore, and contained on assay sixty per cent. of copper and \$16.50 in gold. As a whole, the mining situation on Coal Hill looks excellent. Of course, so far, not enough of development has been done to determine the probable extent of the leads, but the prospects are decidedly encouraging, and justify to a large extent the rosy dreams of the owners of the claims. A number of men experienced in mining have visited Mr. Buchanan's claim and without exception they pronounce it to be of exceptional merit, ranking fully with any showing made in the Rossland camp at a similar period of development.

*Men of Revelstoke.*

J. D. SIBBALD, ESQ.

A LARGE number of those engaged in developing the mining industry in British Columbia are men who have had much experience as miners in other lands. Mr. Sibbald, who is now a resident of Revelstoke, holding the important position of president of the Board of Trade in that rising town, was for ten years extensively engaged in mining in Arizona. Born in Ontario near Lake Simcoe on the 5th of August, 1846, he, while quite a young man, went to California in 1872 and settled for a short time in Los Angeles. From there he made the overland trip across the Colorado Desert to Yuma, Arizona, where he engaged in mining and became superintendent of the Castle Dome Mining & Smelting Company.

His experience in Arizona did not, however, prove satisfactory, and in 1882 he returned to Canada and settled in Regina, N.W.T., where he remained for twelve years. He became a member of the first town council of the capital of the Territories and also of the Board of Trade when it was established in that city. Mr. Sibbald was the original promoter of the Western Milling Company and for a number of years managed its affairs. In 1892 he came to British Columbia and went into business at Revelstoke where he has identified himself prominently with the interests of the town. It was he who was mainly instrumental in organizing the Revelstoke Board of Trade, of which he is still president. In this connection it may be interesting as a record of the town to give the names of the first council of the Board of Trade. They were:

President—J. D. Sibbald.

Vice-President—H. M. Coursier.

Members—Messrs. A. M. Brown, Dr. McLean, H. J. Brown, F. D. Wells, John Abrahamson, T. L. Haig, Wm. Cowan, J. I. Woodrow, J. W. Bail, and

Secretary—C. E. Shaw.

Mr. Sibbald is now associated with Mr. Pease under the name of Sibbald & Pease in carrying on a large general commission business.

W. M. BROWN, ESQ.,

IS an Englishman, having been born in Yorkshire in 1838. When only four years of age he came to Wisconsin, where he received his education. When twenty-two years old Mr. Brown crossed the plains with a party when the overland trip was one of extreme danger. Only the month previous the Indians along the route had massacred a large number of white settlers, and although Mr. Brown's party did not suffer from an attack they were in constant dread of one. On a certain occasion they bought three horses from the Indians which were afterwards claimed by their owners in Oregon. The Indians had stolen them. On the way a cattle train was met with and the two parties joined until they reached Southern Oregon. There the cattle train went north and a few days afterwards the Indians stampeded the whole herd.

Mr. Brown now settled in Rogue River Valley and remained there for three years, coming to Brit

ish Columbia in 1862. He entered Lillooet by the old Fort Douglas route and remaining there that winter went to Cariboo in the spring of 1863.

He was, however, unfortunate, making nothing there, although he prospected the country for two years. Had he been willing to work for wages during that time he could have earned \$10 per day.

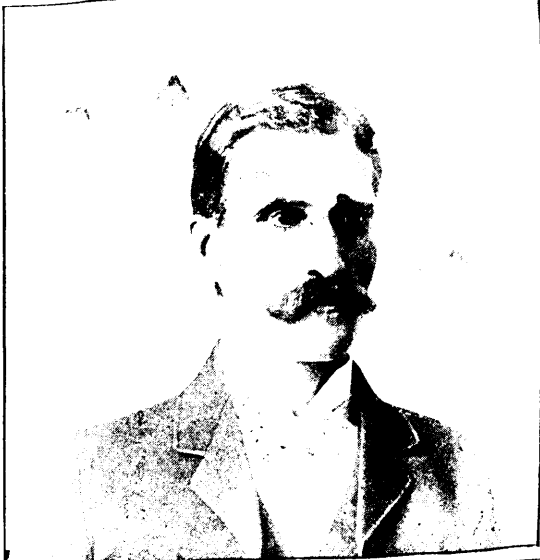
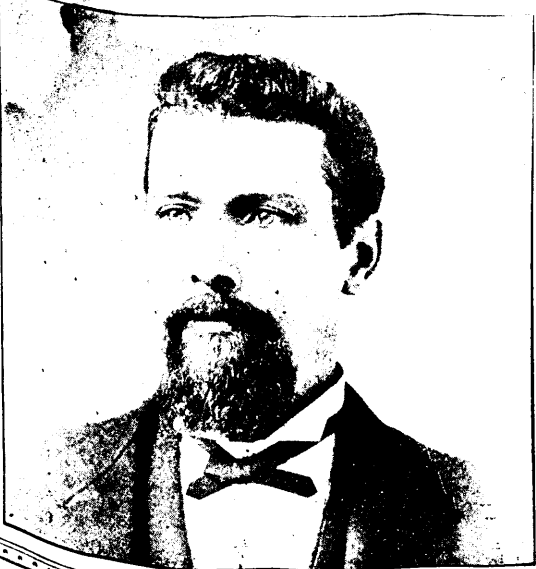
In the fall of 1864 Mr. Brown returned to Lillooet and taking up a ranch remained there till 1882 during which time he was returned for three terms as representative in the Provincial Legislature for that district. He then resided in Clinton for a time and from there moved to Revelstoke in 1885. He has been a resident of the town ever since, and many a prospector and miner has been tided over a winter by him until they could resume work. He also is interested with Mr. Wells and others in the McCulloch Creek mine, and in addition to this owns a valuable property called the St. Leon Hot Springs on Arrow Lake. The medicinal properties of these springs have been tested and found to be most beneficial. For two years baths have been in operation there and the place is destined to become a favourite spot for tourists and invalids. An hotel will shortly be built at the lake from which the springs are two miles distant.

DR. E. H. S. McLEAN.

DR. McLEAN, although young in years is old in experience. Born in Brockville, Ont., on the 18th of May, 1871, he spent most of his boyhood days in Toronto. He studied at Queen's University, Kingston, where he took the degree of M.D. and C.M. in 1891, and also carried off honours in histology. From college he went to New York and took a turn in the colleges and hospitals at the Post Graduate and Polyclinic. He went through a very thorough course in medicine and surgery. His first practice was in Calgary, N.W.T., where he remained a year and on the outbreak of smallpox in British Columbia was offered and accepted the position of medical inspector for the eastern half of the province. The duties connected with this position brought him frequently to Revelstoke where he finally settled in 1892 and immediately opened a drug establishment in conjunction with his practice. Soon after settling in Revelstoke he was appointed health officer for West Kootenay and in 1894 was selected as coroner for the district in which he lives.

During the construction of the Arrowhead branch of the C.P.R. he acted as medical officer in charge of the men and when the smallpox epidemic occurred in Revelstoke out of fifteen patients attended by him he only lost one.

Dr. McLean is thoroughly a public spirited man and takes a great interest in the public matters of the town in which he is located. He is a member of the council of the Board of Trade, president of the local boards of the Equitable and Provincial Building and Loan Associations and also a director of the Revelstoke Printing and Publishing Co. In the spring of 1894 he married the daughter of W. L. Hamilton, inspector of inland revenue, Belleville, Ont., and although still a young man has done much to forward the interests of the rising town of Revelstoke.



**MEN OF REVELSTOKE.**

1. DR. F. H. S. MCLEAN.

2. F. B. WELLS.  
5. WM. BROWN.

3. J. D. SIBBALD.  
6. J. ABRAHAMSON.

4. H. A. BROWN.



H. A. BROWN, ESQ.

**MR. BROWN** is from Dalry, Scotland, where he was born on the 31st of December, 1858, and when twenty years of age came to Canada. His father during his life was respected by many and at his death was mourned by a large circle of friends. A publisher of note, he was not only the keeper and compiler of the National Greyhound Stud Book, but he also at various times acted as a courser reporter of *Bell's Life Field*, the *Glasgow Herald*, and other papers. Mr. Brown's brother, David K., was also a well-known and bright newspaper man, having been during his lifetime connected with the *Winnipeg Sun* and afterwards with the *Times*. His last letter as correspondent of the *New York Telegram* was largely copied and was a masterpiece of descriptive power. Mr. H. A. Brown is justly proud of his family connection. On coming to Canada he settled in Winnipeg and in addition to his regular business became largely interested in mining at the Lake of the Woods, he and his brother being directors of the George Heenan Mining Company.

From Winnipeg Mr. Brown went to Duluth, Minnesota, where he took part in the public works of that city, and after a year spent in the United States he removed to British Columbia, taking up his residence for a time in Victoria.

In 1889 he came to Revelstoke and entered the service of the C.P.R. but in eighteen months struck out once more for himself. He erected an hotel, which he is now enlarging, near the station and when finished it will be one of the most complete in the Kootenay district. Handsomely furnished and fitted with all the latest improvements it will fill a much needed want in Revelstoke.

Mr. Brown is at present vice-president of the Board of Trade. He originated the Revelstoke Gun Club and was captain of the team that recently won and brought back the Revelstoke challenge cup from Donald.

Ever since he came to Revelstoke he has been more or less connected with all the public improvements going on and is one of the most enterprising men at present in Revelstoke.

F. B. WELLS, ESQ.

It is remarkable the number of prominent men, merchants and others in British Columbia who first came to the country in connection with the construction of the Canadian Pacific Railway. Mr. Wells, the subject of this sketch, is a case in point. Coming to Canada in 1883, he worked in one position or another on the C.P.R. from Medicine Hat to Calgary where he had the misfortune to break his leg. This necessitated his going to Winnipeg, from which place he went in 1886 to South Antlers, about sixty miles from the line of railway, and there took up ranching. He did not continue long at this and then moved to Revelstoke, where he took a position on the C.P.R. and worked two years for the company. In 1889 Mr. Wells became associated with Mr. Gilkers and with him bought out the business of T. A. W. Gordon, succeeding that gentleman as postmaster. Shortly afterwards he was appointed to the charge of the first post office at Nelson, where he and Mr. Gilkers had already opened

a store. At that time there were only two or three buildings in Nelson, and when Mr. Wells in company with Mr. Fletcher, the post office inspector, went to open the office there they travelled in Captain Anderson's small steamer *Marion* from Revelstoke to Sproat's Landing, from which place they went on horseback to Nelson. Mr. Wells soon resigned the postmastership of Nelson in favour of Mr. Gilkers, who ever since has acted in that capacity, while Mr. Wells took charge at Revelstoke. The two partners have therefore been running the mail service (except what came in from the South) of the whole Kootenay district, Revelstoke and Nelson being the two chief distributing points. The firm of Gilker & Wells also opened a store at Pilot Bay and do a large business in and around the places where their stores are situated.

Mr. Wells is also interested in mining, being a shareholder in the McCulloch Creek mine in the Big Bend, which has been worked since 1849. Twenty-two hundred feet of tunnelling has been driven into this property, much of the work having been done by the old-time miners. The present proprietors are running a fresh and more direct tunnel so as to strike bed rock. It is expected that this work will be finished in about a month when the owners look forward to a satisfactory return.

Mr. Wells is a native of England, born in London in 1859, and when twenty-four years of age came to Canada for the first time. He has grown with the country and has been remarkably successful in his undertakings.

J. ABRAHAMSON, ESQ.

**MR. ABRAHAMSON** was born in Sweden in 1855 and went to Chicago in 1880. From there he moved to Canada in 1882 and took a contract on the C.P.R. when it was building. He continued the construction work till the road reached Revelstoke, when he left the railroad and entered into business there. At that time there were only a few log cabins in the place, but in the following spring quite a number of houses were erected. Then came the fire of the 7th of May, 1885, caused by bush fires, which swept two-thirds of the town out of existence. The burnt district was, however, rapidly rebuilt and in a few months was in a better condition than ever. The town now continued to grow for three years, when another disastrous fire visited it.

In 1886 the C.P.R. wanted land for a station and yards but as A. S. Farwell had obtained a crown grant for 1,175 acres, including the townsite, they declined to purchase from him, holding that his lands were in the railway belt. This threw the matter into a conflict between the Dominion and Provincial authorities which has been going on ever since. In the meantime the railway company took up land about a mile from the original townsite and built their station there. This was a blow to Revelstoke, as a number of people left owing to the land dispute and went to other places to settle. In spite of this, however, the town has grown and it is destined undoubtedly to become one of the chief mining centres in the Kootenay, especially as geographically it is the northern door of the district.

Mr. Abrahamson in addition to his large hotel business and other interests owns, in company with



his brother, one-fourth of the townsite of Trout Lake City, a rising place. Here he has 160 acres and is owner of no less than eight mining claims. Mr. Abrahamson is one of the most successful business men in Revelstoke.

### *The Law in Respect to Incorporation of Mining Companies.*

THE several acts Dominion and Provincial under which mining companies are being incorporated requires changing in some important respects. In the first place, no company should be allowed to incorporate until they are able to show a clear title, perfect in every particular, to the property on which they claim incorporation. It is well known that several companies recently incorporated for millions cannot show a clear title to the mines they profess to own. People have invested their money in these companies and it is quite possible that in some cases the investment will prove to be unremunerative if not a total loss. The law should be so framed as to prevent mere company promoters from thus taking in and fleecing innocent investors.

In issuing a prospectus it should be made a punishable offence for the promoters of companies to state therein anything but ascertained facts.—facts of an indisputable character and anything in the shape of an opinion as to the value of the property should be eliminated unless it comes from a duly qualified professional man who will be held professionally responsible for any statement he allows to be published over his signature.

The question of liability for the full par value of shares issued at a discount as fully paid up and non-assessable should be settled once and for all so that a party buying treasury stock in a company may know where he stands.

The whole law should be framed with the view of thoroughly protecting investors from the wiles and devices of unscrupulous speculators.

Another and most important point is that all mining companies incorporated in the State of Washington or elsewhere outside the Dominion and doing business in any Canadian province should be made to conform to the laws of Canada in every respect. These foreign companies operating here should be so hedged round for the protection of investors in Canada as to make it impossible for them to take any advantage of their being incorporated under a foreign law. They should be made to stand on a line with any company incorporated in Canada, with penalties for an infringement of the laws of this country. More than this, the law should be made retrospective in the case of any companies already doing business here under the laws of the State of Washington, no matter whether they have registered under the Foreign Companies' Act or not.

Unless something is done at once in the direction we have indicated there will be widespread losses throughout Canada by innocent investors induced to put their money into mining companies by unscrupulous sharks. *Bona fide* companies have nothing to fear from the ordeal we recommend. It is only the fake concerns that will suffer—concerns which should never see daylight.

The Dominion and Provincial Governments owe

it to the public to take this matter up without delay and protect people from being robbed of their money. British Columbia with its immense mineral wealth does not wish to be made a football of by unscrupulous speculators. Investment in our mines if properly made cannot fail to be remunerative.

### *Rossland and Its Builders.*

ROSS THOMPSON ESQ.

IN the last issue of the *Record* we gave an outline of the career of the "Father of Trail." We now have the pleasure of recording that of the "Father of Rossland." Mr. Ross Thompson is yet a man in the prime of life, being only thirty years of age (in appearance looking much younger), but in that short time he has succeeded as few men succeed in this world.

Born in Bruce County, Ontario, on the 29th of January, 1866, he left home with his parents in 1872 and settled in Manitoba at Portage la Prairie. Eight years afterwards Mr. Thompson struck out for himself and went into ranching at High River near Calgary, where he remained till 1887, when he moved to British Columbia. He next went to Idaho, but on hearing of gold discoveries in Kootenay, he came to where Rossland stands to-day. He took up some prospects and becoming convinced of the great future ahead of the camp, made up his mind that a town would grow somewhere in the midst of it. He therefore resolved to be first in the field, and for that purpose took up a pre-emption of 160 acres. In 1894 he had a townsite surveyed, but immediately encountered the strongest sort of opposition from parties who were interested in locating a town where it would benefit themselves. As soon as Mr. Thompson placed lots on the market every effort was made by these parties to prevent people from buying and in consequence he had to sacrifice a good deal of property to offset these attempts to injure him. It was not till March, 1895, that Rossland may be said to have taken its real start, many people previous to that being doubtful as to whether it would ever become the town of the camp. A party of men from Nelson, however, set the ball rolling by purchasing \$10,000 worth of property at one time from Mr. Thompson. Other buyers quickly followed and the mines in the neighbourhood as development went on having demonstrated the exceeding richness of the camp, real estate in Rossland increased rapidly in value and the town grew with amazing rapidity. Although it was given out that other townsites would be placed in the market in order to injure Ross Thompson's interests none materialized and people began to see that Rossland was the coming city.

One fine day, without any notice being given and to the surprise of the residents of the town the Bank of British North America opened a branch office on Columbia Avenue. By the next boat in came Mr. Buchanan, of the Bank of Montreal, he having been notified of the step taken by the Bank of British North America, and opened a small office. Thus in less than a week two of the largest banks in Canada had branches in the town and before long others will follow as business increases—which it is likely to do very rapidly.



ROSS THOMPSON.

Mr. Thompson is still the largest holder of real estate in the town and in addition is heavily interested in mines.

Rossland, which is named after him, will ever be a monument to his pluck, energy and foresight as the founder of it.

OLIVER DURANT, ESQ.

**B**ORN in Buffalo, New York, in 1837, Mr. Durant at an early age went with his parents to Ohio from which place in 1856 he pushed on to the frontier, visiting Missouri, Colorado, and finally in 1865, Montana, where he engaged in mining. In Missouri he was married at St. Joseph to a lady from Virginia, and at the present time his home is in Culpeper County, of that State, although he himself is attending at present to his mining interests at Rossland. Mr. Durant was interested during 1865 in mining at Utah, but returned in 1878 to Colorado where he took part in the early days of Leadville. His experience as a practical mining man has been very great and widespread, he having been in New and in part of Old Mexico, Arizona and other mining countries.

In 1885 he moved to Montana and from there to the Cour d' Alene in Idaho, where he mined considerably and then came on to Trail Creek in November, 1890. At that time he was called upon to give his opinion in regard to the Le Roi mine. It appears that Mr. Geo. M. Foster and Colonel W. M. Redpath met Mr. Topping at Colville, who showed them specimens from the Le Roi, and they suggested that he should accompany them to Spokane for the purpose of consulting with Mr. Durant. This he agreed to, and accordingly a consultation was held and Mr. Durant being impressed with the description given by Mr. Topping advised that a bond should be given on the property for six months so as to allow of a test being made. A bond was given at the rate of \$30,000 with the condition that \$3,000 worth of work should be done on the claim.

Mr. Durant then went to Trail Creek and put several men to work under Mr. Kelly, who started sinking the same shaft from which the mine is worked at the present day. Mr. Durant found Mr. Topping's description to be verified by the test thus made and before the expiration of the six months advised his colleague to take up the bond. This they did and he then became general manager of the mine, a position which he retained for over a year. He stayed long enough to demonstrate the truth of the predictions he had made concerning the property and only severed his connection with it to attend to interests of his own.

He and A. H. Tarbet then took hold of the Centre Star and Idaho and worked on these mines until the panic of 1893, when they closed down for a time. In July, 1895, they formed the Centre Star Mining and Smelting Company, incorporated under the laws of Montana with head office at Butte, Montana. The capital of the company is \$500,000 in 500,000 shares of \$1 each, the directors being P. A. Largey, president; Geoffrey Lavelle, vice-president, and Messrs. W. G. Benham and T. M. Hodgens respectively secretary and treasurer. Mr. Durant is general manager and A. H. Tarbet metallurgist.

This company is busy developing their mine with

the view of reducing their ore themselves in the near future by the erection of a smelter in the neighbourhood of the property. Already they have over 2,500 feet of work done in shafts and tunnels and in fact have a great mine only awaiting certain conditions to make it one of the greatest producers in the camp.

Sir Charles Ross who recently became a large shareholder in this company, will at the next annual meeting be elected a director.

There is no doubt but that the favourable advice given by Mr. Durant to Messrs. Foster and Redpath to treat with Mr. Topping was the means of opening up the great camp of Trail Creek, as otherwise the great Le Roi might have remained like the Lily May, undeveloped or untouched for years.

J. KIRKUP, ESQ.

**"JACK KIRKUP"** as he is familiarly known throughout the length and breadth of Kootenay, is one of the most prominent characters connected with the development of the district. To his individual courage and skill is largely due the fact that the mining camps of British Columbia are the most peaceful and law-abiding of any in the world. His wonderful tact and judgment has on numerous occasions prevented bloodshed and disorder, and to-day his single word, the influence of his presence as chief of police in Rossland is sufficient to command the most thorough respect for law and order throughout the town.

Born in the village of Kempville, Ontario, on March 13th, 1855, Mr. Kirkup in 1876 went to Winnipeg, Manitoba, but the following year moved on to British Columbia. In 1878 he tried his hand at mining in Cassiar but without much success. He then took a position on the police force of Victoria, remaining on it till the spring of 1881, when he entered the service of the Government as a member of the Provincial force. His headquarters were first at Yale, then Savona, and finally Revelstoke, following the construction of the C.P.R. For nine years his office was at Revelstoke, although his duties called him almost continually on the road. It was at this time that he became famous as the "Sheriff of Kootenay," a name which became a terror to gamblers, whiskey peddlers and toughs along the line of construction. Many a story is told of "Jack Kirkup" in those days; of his wonderful skill and courage in dealing with desperate characters, and strange though it may appear, in all those encounters although he carried a gun he never used it. Standing six feet three inches in height with the chest and neck and limbs of a giant and weighing over three hundred pounds, a blow from his fist or the strength of his mighty arm was sufficient to subdue the most refractory. Quick as lightning, no one seemed to care to draw a gun on Jack Kirkup, knowing that it would be useless to try and get the "head on him." So it came about that after that "Jack's" word was recognized as law and was respected accordingly. Moreover, although a determined man who was known to always mean what he said, he had such a fund of imperturbable good nature that even the worst character on the road had a good word to say for the "Sheriff."

In a short sketch such as this it is impossible to

give any of the many interesting incidents connected with Mr. Kirkup's career, but sufficient has been said to show the great influence for good exerted by him at a most trying time in the history of the province.

In 1895 Mr. Kirkup removed to Rossland, having been appointed to the position of Recorder. He also retained his position with the Provincial Police and has acted as chief constable of the town ever since he came to it. His force consists of one day and one night officer, and the citizens of Rossland in addition provide a night watchman. With these Mr. Kirkup has succeeded in keeping peace and order; drunken men are seldom seen on the streets, fights are a rarity, and any man arriving in town with a revolver on his person is soon discovered and quietly told to hide it away in his valise or bury it, as guns are unnecessary articles in Rossland. Probably the fame of "Jack Kirkup" as a man of action when necessary and his reputation for "unbroken word" has had much to do with this state of affairs. Mr. Kirkup himself modestly says the secret of his success is unknown to him except that he has a way of his own for keeping order. The strangest part of all is that Rossland has undoubtedly been visited at different times by the roughest of characters, but they have never shown their hand. There is not a variety theatre, dance hall or gambling den public or private in the whole town, and there is not likely to be any while "Jack Kirkup" reigns.

In conclusion it may be said that Mr. Kirkup is not only an efficient officer but popular with all classes and fulfills the duties of Recorder with satisfaction to the community generally.

W. M. NEWTON, ESQ.

**M**R., or as he is styled by many, "Judge Newton," is one of the best known men in British Columbia. Born in Worcester, England, on the 28th of January, 1839, he was for twenty years in the service of the War Department, retiring finally on half pay. He afterwards took an active part in the establishment of the Auxiliary Army and Navy Stores in London, one of the most popular institutions in the great metropolis, with a very large class who derive benefit from them.

In 1889 some people in Victoria having bequeathed a large amount from estates in Yorkshire Mr. Newton was appointed one of the trustees in connection therewith and visited British Columbia for the first time.

He was so delighted with the country that he decided to remain in it and immediately entered into business arrangements of an important character with parties in Victoria. His new interests and duties were largely connected with landed estates in Port Crescent, Sumas, Wash., and other localities, and finally in 1892 he moved to Pilot Bay, where he had the management of the town-site at that place as well as at Sayward. This was his first introduction into Kootenay and when in February of the following year he was appointed a peace commissioner he found himself a very busy man indeed.

In 1894 Mr. Newton came to Rossland when there were only three log houses in the place and ever since he has been intimately connected with its growth. On him has developed the onerous duties of a magistrate—duties which he has dis-

charged faithfully and efficiently, commanding thereby the respect of all classes. It is owing to this that he is known widely as "Judge Newton."

He is president of the Rossland Ratepayers' Association, a body of men who stand in the place of a town council until incorporation can be effected. When that takes place Mr. Newton, should he wish for it, will doubtless be selected for the position of mayor.

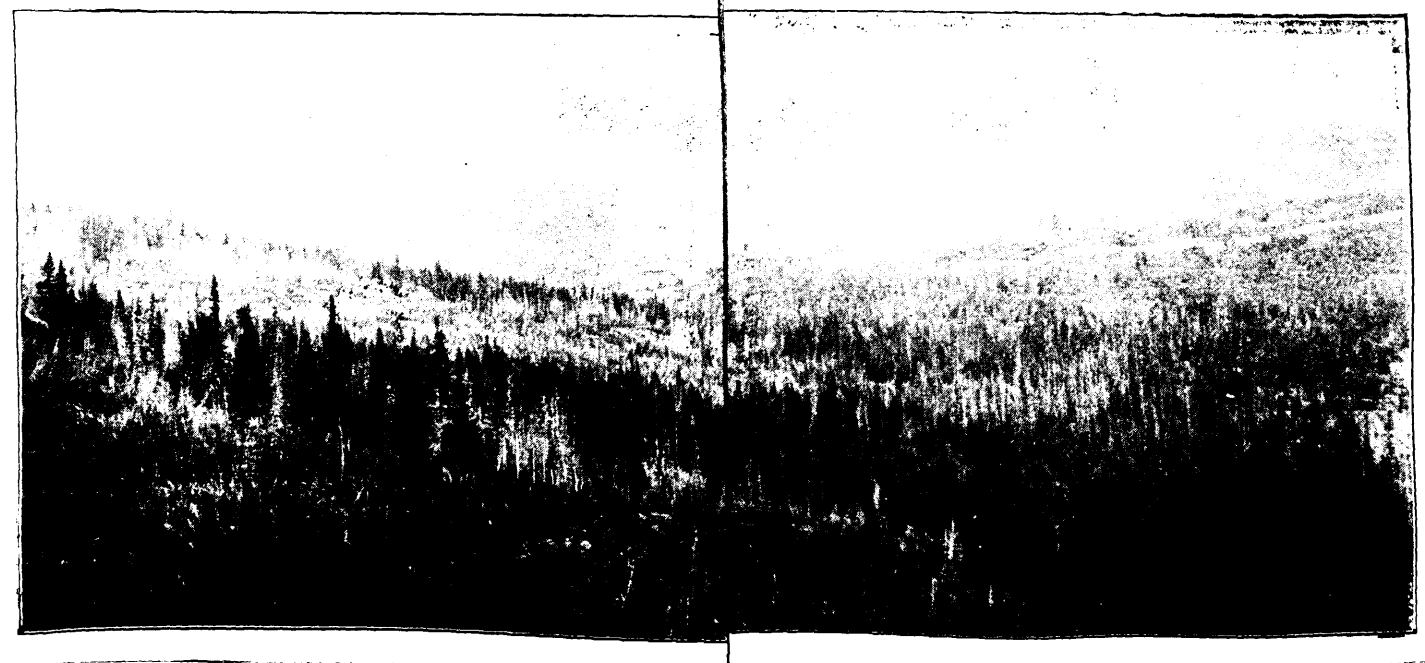
When Mr. Newton first came to Rossland the bondholders of the War Eagle mine were expected to take up their bond and the impression was that they would make a success of it, but it was not until the beginning of 1895 that the great possibilities of the camp began to dawn upon the public. Since then the progress in every direction has been wonderful. Mr. Newton, seeing what was coming, acquired some of the best properties in the town and became interested in a number of mining ventures. He is president of the Union Gold Mining Company and treasurer of the Mugwump, which bids fair to become a great property. He is also in correspondence with a syndicate of wealthy men in England which has been formed for the purpose of developing British Columbia mines and expects shortly the arrival in Rossland of one of the trustees and an expert to look over the camp. There is probably no one in Rossland who has greater faith in the future of the town and few have done more for its advancement than "Judge Newton."

JOHN J. MOYNAHAN, ESQ.

**B**ORN in Detroit, Michigan, on the 3rd of March, 1847, Mr. Moynahan has been engaged in mining since he was ten years of age. In 1865 he came to the Coast and since then his experience has extended over a very wide field. He mined in Southern California, Mexico, and owned some good mines in Nevada. He also worked for the Milwaukee Mining Company at Cour d'Alene and during 1894 and 1895 had some experience in the Slovan district. He then moved to Rossland and at one time had charge of the following mines looking after the development work—the Columbia and Kootenay, Iron Horse, Monte Christo, Enterprise and Le Belle, a pretty good charge for one man. He then went to Spokane, from which place he undertook to manage a mine in Montana for a couple of months.

On the 10th of December, 1895, he became superintendent of the Le Roi, and from the time he took charge it has proved itself to be a great dividend payer. In less than a year it has paid to its shareholders \$200,000 and the prospects are that it will go on paying large profits for years to come. Of the 75,000 tons contracted with the Trail smelter to be smelted about 50,000 or more tons remain to be shipped, and as the work proceeds the ore body improves. The shaft is four to sixty feet wide. The shaft is 500 feet and tunnelling has been extensively carried on.

The success of the Le Roi is largely due to the good management of Mr. Moynahan, who has been a successful miner on his own behalf. At one time he cleared over \$100,000 but on being persuaded into speculating in shares in California his riches, like those of many another man, took wings to themselves in a very short time. Hale and hearty



1. WM. NEWTON.

2. ROBERT HUNTER.

3. J. B. MCARTHUR.  
S. R. J. BEALEY.

ROSSLAND AND  
ITS BUILDERS.

4. J. KIRKUP.  
5. STREET SCENE, ROSSLAND.

6. BIRD'S EYE VIEW OF ROSSLAND.  
10. JAS. CLARK.

7. JOSIE MINE, ROSSLAND.  
11. OLIVER DURANT.

and a thoroughly practical man, Mr. Moynahan has still a bright prospect ahead of him. He may well be proud as he is of the grand mine of which he is superintendent and which has done much to make the camp around Rossland famous.

ROBERT J. BEALEY, ESQ.

**B**ORN in New Zealand in 1855, Mr. Bealey received his education in England. In 1891 he came to British Columbia and the next year moved into the Kootenay and finally settled in Rossland in December, 1894.

Soon after his arrival he accepted the agency of the townsite and has been connected more or less ever since in the development of the town. In November, 1895, he formed the company of the R. J. Bailey Co., Ltd., which took over his large real estate and insurance business. The company opened offices at Trail and Nelson, Mr. G. R. Maden being manager of the former and Mr. G. W. Richardson of the latter. The directors are R. J. Bealey, president; R. N. Bealey, vice-president, and G. W. Richardson, secretary. Until the banks came to Rossland they did the most of the banking of the town, and still conduct a large business of this nature at Trail. They represent the Phoenix of London, England; the Liverpool, London & Globe and New York Life Insurance Companies, besides others, and carry on a large conveyancing and general agency.

No one man has been more prominently connected with the development and growth of Rossland and Trail than R. J. Bealey.

ROBERT HUNTER, ESQ.

**A**LTHOUGH comparatively a young man, Mr. Hunter is the junior member of the largest mercantile firm in Rossland. Born in Woodstock, Ontario, on the 3rd of May, 1872, he soon after leaving school went to St. Paul, Minn., and entered a wholesale house in that city. In 1891 Mr. Hunter came West and engaged in business in Okanagan, Washington, where he in company with many others suffered loss through the floods. He then came to Rossland.

At the time when Mr. Hunter first started business at Rossland the town was estimated to have a population of between 300 and 400, and there were about twelve houses in it. This was in the spring of 1895, but from that time the place grew rapidly and with it the business of Hunter Bros., of which the subject of our sketch is the junior member. Mr. Hunter and his brother started in a small way at Rossland, but in a little over a year trade has increased so rapidly that the firm of Hunter Bros. now carry an average stock of \$35,000 and are quickly developing an important wholesale business with the mines. It is the intention of Hunter Bros. to shortly close their branch at Coullé City and concentrate their trade at Rossland. The firm occupy commodious premises, employing no less than eleven men and it is the intention to build large warehouses near the track of the Red Mountain Railway as soon as it enters the city so as to enable them the better to handle car load lots, much of their business being done in that way, which necessitates increased warehouse accommodation.

Hunter Bros. cater principally to the mining trade and carry a stock of supplies of every de-

scription in that line as well as general merchandise of all kinds.

The two brothers being both young men and full of energy the prospect of their building up an immense establishment is very bright, especially when the outlook of the great mining camp in which they are operating is considered.

J. B. MCARTHUR, Q.C.

**M**R. McARTHUR was born in Middlesex, Ontario, on the 25th of November, 1849, and received part of his education under the tuition of Hon. Geo. W. Ross. He afterwards completed a course at the Middlesex Seminary and finally matriculated at Osgoode Hall in November, 1868.

In 1873 Mr. McArthur was called to the bar and practiced in Toronto as a member of the firm of Crowther, Tilt & McArthur. On the retirement of Mr. Crowther, Hon. Mr. Mulock, now Postmaster-General of Canada, entered the firm in his place, and it now became Mulock, Tilt, McArthur & Crowther, the latter being the son of the former senior partner.

In 1882 Mr. McArthur removed to Winnipeg and became associated with Hugh J. Macdonald and the Tupper brothers in the profession of the law. He was appointed a Q.C. in September, 1884, and afterwards went to Minneapolis, where he remained for five years, after which he moved to British Columbia and settled in Kaslo during the spring of 1893. Two years afterwards he took up his residence in Rossland when Columbia Avenue could boast of only four houses. There were a few shacks in and back of the town, most of which have given way since then to larger buildings.

Since his coming to Rossland Mr. McArthur has devoted himself more to mining than to the practice of his profession, and he is now one of the leading men of the town in that direction.

He is president and general manager of the Rambler and Cariboo Consolidated Gold and Silver Mining Company, and in this connection received probably the largest fee a lawyer ever received in Canada. The claim of the Rambler being in dispute Mr. McArthur fought the battle of his clients for eighteen months and the suit was compromised and the claims consolidated. For this he received a quarter interest in the company, which is capitalized at \$1,000,000, and as the shares are at par Mr. McArthur's fee amounted practically to a quarter of a million dollars.

He is also president of the Monita Gold Mining Co., capitalized at \$750,000, the property being next to the War Eagle. He and John R. Cook control this company. Mr. McArthur has also large mining interests, amongst which may be mentioned the Pilgrim claim. It will thus be seen that the subject of our sketch is not only one of the foremost men in Rossland but also one of the most successful in the camp.

JAMES CLARK, ESQ.

**M**R. CLARK is an Irishman, born in Tipperary, in December, 1850. In 1868 he came to America, landing in New York and for upwards of seven years was occupied in mining on several important works. As he says himself he was raised a miner from boyhood up. In 1875 he came to the Coast and mined extensively in Nevada, Utah, Virginia City and other districts, and in



1877 went to Butte, Montana, when it was in the infancy of its development. There he had charge of several important mines until he removed to Idaho where he filled some responsible positions as a mining superintendent.

From Idaho he came to Rossland in 1894 and at once took charge of the War Eagle, a property which is becoming more and more valuable as work progresses.

The ore from the War Eagle is being shipped to the smelter at Trail, Great Falls and Helena, Montana. The mine is worked by tunnel in conjunction with the Iron Mask and there are altogether over 3,000 feet of this in both these properties. The War Eagle has been bonded now four times, the last occasion being for \$1,000,000 to an English syndicate. But as the workings have uncovered a new and most valuable body of ore it is not likely that a million dollars will again tempt the owner, Mr. Patrick Clark, to part with the property. Mr. Patrick Clark is a brother of the superintendent, the subject of this sketch, and is one of the most widely known and respected mining men on the Coast. The War Eagle with the Le Roi has been the means of bringing the Trail Creek camp into prominence, and the successful working of the mine is due largely to the good management of Jas. Clark.

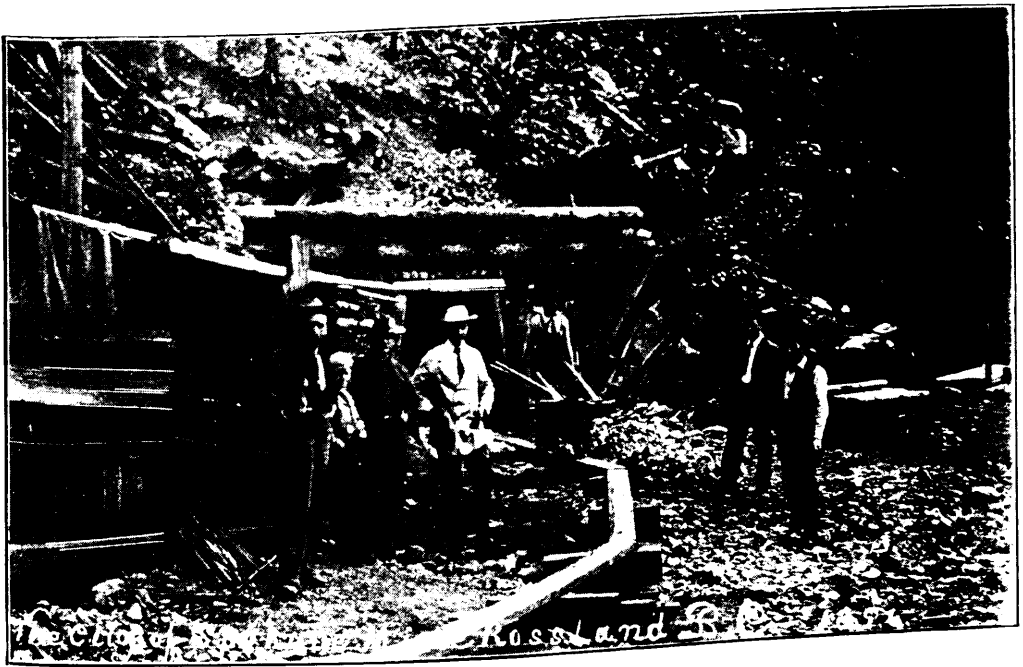
#### Rossland Notes.

WE understand that a large number of the treasury shares of the California have been sold in Toronto and other points in the East. The claim is now being prospected with a diamond drill under the direction of Mr. Loring, who is in temporary charge of the property and who will without doubt do his best to open it up in an effective and economical manner. It would be interesting to know whether he will derive much assistance in his exploratory work from the sketch of the claim which has recently occupied such a conspicuous position in the advertising columns of certain eastern papers. Those of your readers who have had the privilege of seeing this interesting plan of the California will recollect that the promoters were able to show no less than four remarkably large and clearly defined "ore veins" running in at one end and out at the other end of the claim. One might almost have thought that the possession of such accurate information as to the position of their "ore veins" would have enabled the management to dispense with the assistance of a diamond drill, though of course in most cases where the exact location of one "ore vein" (not to speak of "four") is a matter of investigation and conjecture the use of an instrument of this kind is likely to be of much service. At this moment we are, unfortunately, unable to lay hands on the above mentioned sketch of the California and cannot remember exactly from what sources the four objects resembling "chain cables" or "sea serpents," but marked on the chart as "ore veins," have their rise. It is safe, however, to guess that one of them springs from the Le Roi, another from the War Eagle, and as the Crown Point is now a shipping mine and is only some three and a-half to four miles distant in a straight line, it may be that the

bountiful dispenser of all good gifts has opened the eyes of the promoters of the California and shown them as in a vision the Crown Point ore chute heading straight ahead for the Californian Land of Promise. In the future we shall hope to have some extremely interesting and instructive figures from the directors of the California as to the merits of their four "ore veins," comparative statistics as to their values in gold, silver and copper, the hardness of the rock, economy of working and all sorts of other points. But this is looking too far ahead. In the meantime it will tax all the capacities of all the veins and all the directors to work up to the payment of a dividend on a capitalization of \$2,500,000, i.e., \$625,000 per ore "vein."

The mention above of diamond drills reminds us that several of these are now, or have been recently at work in the camp; in addition to that on the California there are two on Monte Cristo Mountain—one on the Iron Horse and another on the Great Western—and we have heard one or two other claims mentioned where they are likely to be employed before long.

Things in Rossland are still very lively; the interest and curiosity that the outside world have begun to show about the camp appearing to increase and not diminish. The town is full to overflowing with visitors from all quarters whose natural desire to see all that is to be seen appears to be gratified by the mine owners and managers with cheerfulness and alacrity. In fact a word of praise and recognition is due to these gentlemen for the almost invariable courtesy displayed by them towards the visiting public. We of course by no means intend to imply that the casual traveler or even the zealous newspaper man can wander at his own free will through the lower levels of the Le Roi or the tunnels of the War Eagle or Centre Star, but even to those innermost mysteries access can be obtained by those furnished with the proper introductions. Nothing definite is known yet as to whether the War Eagle option is to be taken up or not, but it is to be hoped that a decision on this important point will be arrived at and made public before long. A similar state of uncertainty exists with regard to the Iron Mask and Virginia, which are said to be also under bond. Fortunately this has not prevented their owners from proceeding with development work in a most vigorous manner. On the Iron Mask a hoisting plant has been recently erected about eighty yards above the engine house of the Centre Star mine, and the new building prepared for its reception adds to the already busy appearance of Centre Star Gulch. New buildings have also been completed on the City of Spokane claim and a small compressor plant of three drills is now at work. It may be mentioned here that the introduction of machinery which is admittedly an absolute necessity in this camp is going on apace. In addition to the twelve or fifteen claims which already have machinery installed we hear that a number of others have determined to follow suit, among them the Lily May, the Homestake and the Crown Point. The Monte Cristo and the Columbia and Kootenay are now at work on the erection of their machinery, the



CITY OF SPOKANE MINE, ROSSLAND.



PARTY OF PROSPECTORS STARTING OUT.



plant on the latter property being a very powerful and complete one, consisting of thirty drills.

A certain number of claims in this camp have from the beginning attracted more than the average amount of attention to themselves; some, as for instance, the War Eagle and Le Roi, and to a lesser extent the Josie and Crown Point on account of their superior merits; others, as the Homestake, Robert E. Lee and Nest Egg, on account of the extraordinary entanglements into which their owners, promoters, etc., have succeeded in twisting them. In the case of the Homestake we understand that the meshes have one by one been unravelled and that the claim is now clear and free to work out its destiny. The unfortunate Nest Egg on the other hand still rests under the suspicion of being a more or less addled egg. Some short time back the announcement was triumphantly made that the title had been finally and definitely cleared up, and that the Nest Egg would now at last have a chance of proving its merits. We were all well pleased at this, as the chapter of accidents in this case has been a long one, and we wished to hear no more of the Nest Egg and its embarrassments. But, alas, we now learn that the evil star is still in the ascendant and that a new squabble has broken out, with reference to the final payment for the claim. To put the matter briefly, we gather that one side tendered a certain sum in full and final payment of the property, which the representatives of the other side refused to receive. So the curtain has risen again and the monotonous performance continues to drag wearily along. In the meantime treasury stock has been sold in Toronto and elsewhere at twenty-five cents per share on the strength of a glowing and enthusiastic prospectus. Here again another difficulty has arisen. The Toronto public after buying the said treasury stock at twenty-five cents, have learned that the Nest Egg stock was selling elsewhere at twelve and a-half cents, and out of the mouth of their spokesman, the *Toronto Star*, have declared that gold mining is one thing and wild-cattling is another, from which we gather that they fear lest the Nest Egg may prove not a gold mine but a wild cat to them.

It may be mentioned in passing that Palo Alto stock has been sold in Toronto on something of the same terms. Now this is a very unfortunate and discreditable affair from every point of view. As long as the Nest Egg mine was content to addle only itself the general public had possibly no right to complain. But when in process of addling itself it threatens to disseminate the same disease all through the camp, and to throw discredit on the good faith of honourable men and sound properties it is time to look around for a remedy. In the first place we find that treasury shares of the Nest Egg have been sold publicly though the owners have as yet no clear title to their claim. How would it be if the Legislature were to enact that for the future no treasury shares shall be sold until a property has been surveyed and Crown granted? The cost of doing this would not amount to more than \$1,000 on the outside, which would not be a very heavy tax to place on the shoulders of the promoters in return for the privilege of

placing their treasury stock on the market. It will probably be maintained that such an alteration in the law as this would discourage mining enterprise, but inasmuch as it would encourage mining investors, what was lost on one side would be more than counterbalanced by the gain on the other. In the second place it should further be enacted that no treasury stock in any property should be sold until the said property was fully and finally paid for, and the title free of all adverse and encumbrances, vested in the names of a trustee or trustees. The wisdom of our legislators would no doubt be able to improve and supplement these humble suggestions, which are offered as trifling contributions to a cause which all of us have at heart—the building up of a sound and honourable mining industry.

We are more than half inclined to believe that most of the troubles which have as yet arisen here are due, not to any deliberate intention to defraud, but to ignorance, misunderstandings and a sort of Micawber-like calculation that something would turn up in good time to straighten out all difficulties.

Turning from this important but somewhat gloomy subject to brighter themes, we may mention that Red Mountain continues to maintain and increase its already high reputation. On the west slope of the mountain a very fine surface showing has been found on the Coxey, a claim of which more will probably be heard in the future. It lies in good company, near the Jumbo, Giant and Mountain View. On the east slope the Red Mountain claim, the Mabel, owned by the Ohio syndicate, who are also proprietors of the Enterprise on Monte Christo Mountain, and the Mugwump are all showing up well. The latter claim in particular, the property of some Seattle gentleman, has solid ore of good grade to show at a depth of about twenty feet. Treasury stock in this company has been selling readily at ten cents and has been now advanced to twelve and a-half cents. From the Deer Park Mountain to the south and west of Red Mountain comes the report of a fine showing on a hitherto unknown claim, the Young America, situated near the Grand Prize and the Deer Park claims. The development of this quarter of the camp will of course be much accelerated as soon as the Red Mountain Railroad from Northport is completed. Work is being pushed ahead vigorously and without entering into the region of prophecy—a risky matter where railroads are concerned—we may hope to see the line finished in the course of the next two months. Among other properties which we should imagine will at once avail themselves of railroad facilities will be the Jumbo, the owners of which have prepared themselves in advance by building a really fine wagon road from their claim to a point about one and a-half miles from Rossland where the new railroad passes through the San Francisco claim. A great deal of work has been put in on the Jumbo with most encouraging results. Not only is there an immense body of iron but the ledge has been crosscut at several points, and in some places ore of high value has been found. At one point in particular an ore chute of

twenty feet in width running from \$20 upwards in gold has been opened out and everything points to the Jumbo proving a most valuable and productive property.

A word of praise should be accorded to the improvements that are being made in Rossland on all sides. The grading of Columbia Avenue, an expensive and troublesome job, is proceeding apace and the street is rapidly losing its unpleasantly bumpy and eruptive appearance. New buildings are being constructed on lots that six months ago seemed hopelessly out in the country and the erection of several neat and well-built private houses which is now proceeding, proves that some of us have determined to make ourselves as comfortable as the conditions of the race for gold will permit.

### *Railroads into Rossland.*

**T**HE completion of the Columbia & Red Mountain Railway will mark an era in the progressive camp of Rossland. It will still further stimulate development, and not interfere with the Columbia & Western, the pioneer railway in the camp. There will be enough tonnage to keep both roads running to their fullest capacity. The new road will lessen somewhat the cost of transportation, as it will have the advantage of transporting the ore to smelters direct.

Mr. Heinze will, for the present, use the transportation afforded by the boats on the Columbia River, and thus connect with both the Canadian Pacific and the Nelson & Fort Sheppard railways.

The Columbia & Red Mountain Railway will undoubtedly be completed within the time specified, and by October 1st be in Rossland ready to transport ore. The transfer boat at Northport has been launched, the work of stretching the wire being completed, and this will facilitate the handling of material and supplies.

The Columbia & Western is still going on with the surveys in the country west from Rossland to Penticton. The people to be benefited by this road confidently expect it to be completed by next summer. If the reports that surveys are being made from Robson to Trail are true, it will give Mr. Heinze direct connection with Nelson over the Columbia & Kootenay Railway. In this connection it may be well to say that there is a strong bid being made by the Hall mines smelter for the ores of Rossland, and in some instances a much better figure has been offered for the ore than has been made by the other smelter.

### *Sir Charles Ross, Bart.*

**S**IR CHARLES ROSS, BART., of Balmagowan, Ross-shire, and Bonnington in Lanarkshire, was educated at Eton and Trinity. He married in 1893 Winnifred Florence, daughter of Alexander Berens, Esq., of Castle Mead, Windsor.

Sir Charles Ross, as might have been expected from the name he bears, has devoted a considerable portion of his time to shooting and athletics, in both of which he has made himself a considerable reputation, having amongst other things rowed in the Cambridge boat in 1894, but like many other Englishmen his devotion to sport has

eventually led him to more important enterprises in our colonies. In 1895 he made his first appearance in Kootenay, then just on the eve of the Rossland mining development. Since then he has been intimately connected with the growth of this and neighbouring camps, which owe something to his push and foresight. Putting aside those habits of leisure natural in a man of his stamp, he has personally visited almost all the camps in this section of the country and has been instrumental in the introduction of English capital and in the formation of several of our strongest mining combinations. The subject of our sketch is in partnership with Mr. Durant, of the Centre Star, and is probably better posted on mining in British Columbia than any other of our foreign capitalists.

### *Six Hints to Investors in Mining Shares.*

**F**IRST.—As matters stand at present, place no reliance whatsoever on the statements made in the prospectus of any mining company. Until something is done to compel promoters to tell the truth in such documents you cannot depend upon them.

Second.—Do not be induced to invest in a company by seeing the names of prominent men in the list of directors or amongst the trustees. It is unfortunately the case that the names of men in high position are sometimes used as a bait to catch the unwary. It is also unfortunately the case that men prominent in business circles are not always sufficiently careful in allowing their names to appear in prospectuses.

Third.—There are three kinds of investments in which to place your money. First, there is the shipping or producing mine; second, the developed mine with every prospect of being an immediate shipper, and third, the mere claim or prospect with little development work done or possibly none at all.

To invest your money in the last mentioned is largely a speculative venture. The second on the list is a fairly safe investment, and the first named with ordinary care should turn out profitable as things are just now. Much, of course, depends on the management, and it will happen sometimes that a mine will give out, but these are risks which all investors have to take.

Fourth.—When investing in a shipping mine there should be no difficulty in arriving at a conclusion by careful enquiry. The price at which you can buy the stock of course has to be considered. But as to the rise or fall in the price of the shares you have to take chances like everybody else. The output of the mine largely regulates this. When investing in a probable shipper the same careful enquiry should first be made as in the previous case before investing. The position of the mine and its facilities for shipping are important considerations in conjunction with the quality and extent as far as can be ascertained of the ore. The company's officials should be able to give reliable information on such points—get it in writing if possible. With regard to the mere claim or prospect comes the greatest difficulty to the investor; at the same time it may turn out to be the most profitable investment of all. It may at the same time turn out to be a dead loss, which, how-

ever, is seldom the case so far as British Columbia mines are concerned. The loss, if any, is generally caused by the rascality of company promoters. Wherever you see a company with nothing but a mere claim or claims partly developed or wholly undeveloped capitalized at a large sum of money running, say into the millions, have a care how you buy shares in it. It is a pure speculation to do so and one not of the safest kind.

Fifth.—If you buy treasury or promoters' stock at a heavy discount remember that although you may buy it as fully paid up and non-assessable stock, there is no certainty but that you may be called upon some day to pay up the full par value of the shares should the company go into liquidation. As a speculation men may invest in such shares. As a pure investment of money no reliability can be placed in them.

Sixth.—In judging of a mine or mere claim the investor will do well not to place reliance in the reports published in newspapers or given over the signature of non-professional men. Such reports are not to be depended upon, because in the one case they are too often over-coloured and in the other they emanate from interested parties or those who have been paid for giving an opinion. The report of a reputable professional mining engineer or expert should be taken and if a favourable opinion of this kind cannot be produced keep your money in your pocket if you wish to preserve it. Above all when dealing through a mining broker make sure in the first place that he is thoroughly reliable in every respect. If you deal through an honest and experienced broker it is perhaps the greatest safeguard an investor can have.

### The Dividend-Paying and Shipping Mines of Trail.

At the present time there are only two mines in Trail Creek which may properly be called dividend-paying. These are the Le Roi and War Eagle, but from the outlook the number will be increased very considerably next season.

There are just now twelve mines that may be termed shippers—some of these have already shipped, and others have the ore ready for shipment just as soon as transportation facilities are afforded. The names of these twelve mines are as follows: Le Roi, War Eagle, Iron Mask, O. K., Cliff, Josie, Poorman, Crown Point, Nickle Plate, Kootenay and Columbia, Centre Star and Jumbo.

Ten mines are on the list as probable shippers early next season. A few of them may be able to ship this fall. They are the City of Spokane, Virginia, Evening Star, Silverine, May Flower, Lilly May, Commander, Enterprise, Iron Horse and Monte Christo. But development is going on in the camp so rapidly that it is quite possible other mines will soon have to be added to the list of shippers at an early day.

It is simply astonishing the amount of development that is going on everywhere throughout the camp. To publish a list of the claims on which work to the extent of from \$500 to \$3,000 has already been done would take up several pages of this journal. To publish a list of the claims staked off around Rossland would fill the pages of a single issue of the Record. Numbers of these claims will develop into valuable mines; others will prove

worthless, but out of this cleaning-up process the neighbourhood of Rossland will in a year or two become a perfect hive of working mines sufficient to support a very large population indeed.

It is not very difficult then for the investor to find out by careful enquiry whether the proposition in which he is asked to buy shares has anything to commend it beyond that of being a mere prospect.

### Prominent Men of Trail.

F. HANNA, ESQ.

THE name of F. Hanna is so intimately connected with the growth of Trail that a sketch of his experience as a pioneer will prove most interesting to our readers. Born in Illinois on the 7th of October, 1859, he found his way westward and finally settled in Nelson in 1888, when there were only about six cabins in the place. At that time there were two small steamers plying on Kootenay Lake to Bonner's Ferry and other points. One was named the *Surprise*, owned by Dick Fry, and the other the *Galena*, owned by the Blue Bell Mining Company. But overland the only mode of transportation was by trail, and soon after settling in Nelson Mr. Hanna had a noteworthy experience of this mode of travelling. Having his family with him he undertook to drive in some cattle so as to have a supply of milk. He accordingly drove two cows and a calf all the way through the dense bush from Colville, Washington, and landed them at Nelson in good condition. This was the first lot of cattle ever brought into the district.

In 1890 Mr. Hanna moved his household to where Trail stands to-day and in doing so used twenty pack animals for the purpose as far as Robson, where he took the steamer *Lytton* on the second trip made by her on the Columbia. On his arrival at Trail he found only one tent erected on the spot and he lost no time in providing more suitable accommodation for himself and family. Rafting a quantity of rough lumber from Revelstoke he soon had a building 24x50, two stories high, erected with an addition of 22x30 attached to it. This was the first building in Trail, and was opened by Topping & Hanna as an hotel. Another hotel was erected soon afterwards by Mr. Poulton quickly followed by a store built by Wm. Simpson and afterwards sold to Oscar Soderberg, who rented it to Stewart & Lynch, general merchants. A log cabin was then erected by Mr. Pryor and this was the extent of the town from 1890 to 1895. A road was built in 1893 but in 1895 the erection of the Heinze smelter and the construction of the railway to Rossland gave the town such an impetus that to-day, counting cabins and other small houses, Mr. Hanna estimates that there are between 600 and 700 buildings in Trail.

A sawmill with a capacity of 20,000 feet was also erected in 1895 and cannot supply the demand for lumber, which is imported largely from other points.

In 1893 Mr. Hanna wrote to the C.P.R. and to the Galt Railway Company, pointing out the necessity for a narrow-gauge railway, but it was left to Mr. Heinze to build the road. Yet, strange to say, the rails and rolling stock now used on the

Columbia & Western were those at one time used by the Galt Railway when it was a narrow-gauge. The Columbia & Western has more than it can do with its present equipment, and two more locomotives and some cars are now on the way, which will add much to its facilities for transacting business.

Mr. Hanna sold out his interest in hotel and real estate in May, 1896, and since then has devoted himself to the investment in Trail of his ample means. He has erected some fine buildings, and no one has more confidence in the place than he. He is of opinion that refineries as well as smelters must centre at Trail, and that it will be a great supply and manufacturing centre. Undoubtedly he is right, and the Columbia & Western Railway by making large improvements on the water front in the way of wharves are determined to make it a great shipping point. Mr. Hanna may well feel proud of the share he has taken in building up Trail.

THOS. WILSON, ESQ.

**MR. WILSON** was born in Norway on the 15th of January, 1869, and is therefore only twenty-seven years of age, but he has succeeded in becoming the leading member of one of the largest firms in the Trail Creek district. On his first arrival in America he settled in Eagle Grove, Iowa, remaining there one year, and then went to Montana. Here he engaged in railway work on the road between Missoula and Mullen. He next entered into mercantile business at Demersville and followed construction of the railway, supplying the men with goods.

When the Spokane & Northern Railway was building Mr. Wilson moved to Boundary City and there established a store, which he still runs. In January, 1895, he started the first store in Trail, a building only 18x26, but by the following October he erected the fine building in which he is now doing business. His trade is largely with prospectors and supplying the mines, and as Trail grew his local business grew with it. In March, 1895, he established a branch in Rossland, so that his firm is probably the largest supply depot in the whole Trail Creek district.

Mr. Wilson has seen Trail grow from a couple of houses to its present size of nearly 700 buildings.

Dealing in general merchandise of all kinds and mining supplies it is not unlikely that Mr. Wilson in the near future, as Trail is the great supply mart of the district, will be the first to open a wholesale house in the town, as he was the first in retail.

S. P. PETERSEN, ESQ.

**I**n a new country there is no class of men who have more power for good or evil than those who conduct the hotels. A well-kept hotel will attract travel to a town, will induce people to stay in it, and may ultimately be the indirect means of causing people to become permanent settlers. Travellers will go by a place where there is poor accommodation, while on the other hand, where they are certain of comfortable quarters and hospitable entertainment they are almost sure to stop over. The hotel of a place is therefore either a detriment or a direct benefit to it, according as it is managed. We preface our present sketch with

these remarks, for Trail is particularly fortunate in this respect.

Mr. S. F. Petersen, the proprietor of the Crown Point Hotel, is one of Trail's first citizens. Born in Denmark on the 18th of December, 1863, he came to St. Paul, Minn., in 1883. From that time he had a varied experience, having been connected more or less with railway construction work on the C.P.R. and Great Northern Railways until in 1895 he moved to Trail. He at once bought the property on which the Crown Point Hotel now stands in 1895. By October 1st he had the hotel partly opened, and by November he had it in full running order. To those who know Trail the Crown Point is a familiar name, one of the best mines as well as one of the best hotels being so named.

When Mr. Petersen opened his hotel the steamer *Lytton* made regular trips between Revelstoke and Northport. Since then the river journey has been shortened to Arrowhead and the fine steamer *Nakusp* makes tri-weekly trips to Trail, connecting with the *Lytton* for Northport. Next season there will be a daily boat between Arrowhead and Trail.

The Crown Point Hotel is well situated near the steamboat landing and railway station and from its broad balcony running three-quarters round the house a splendid view of the river, the surrounding mountains, the smelter, and up the valley can be obtained. The house itself is large and commodious, having forty-eight beautifully furnished bedrooms and certainly the finest dining-room in the Kootenay district.

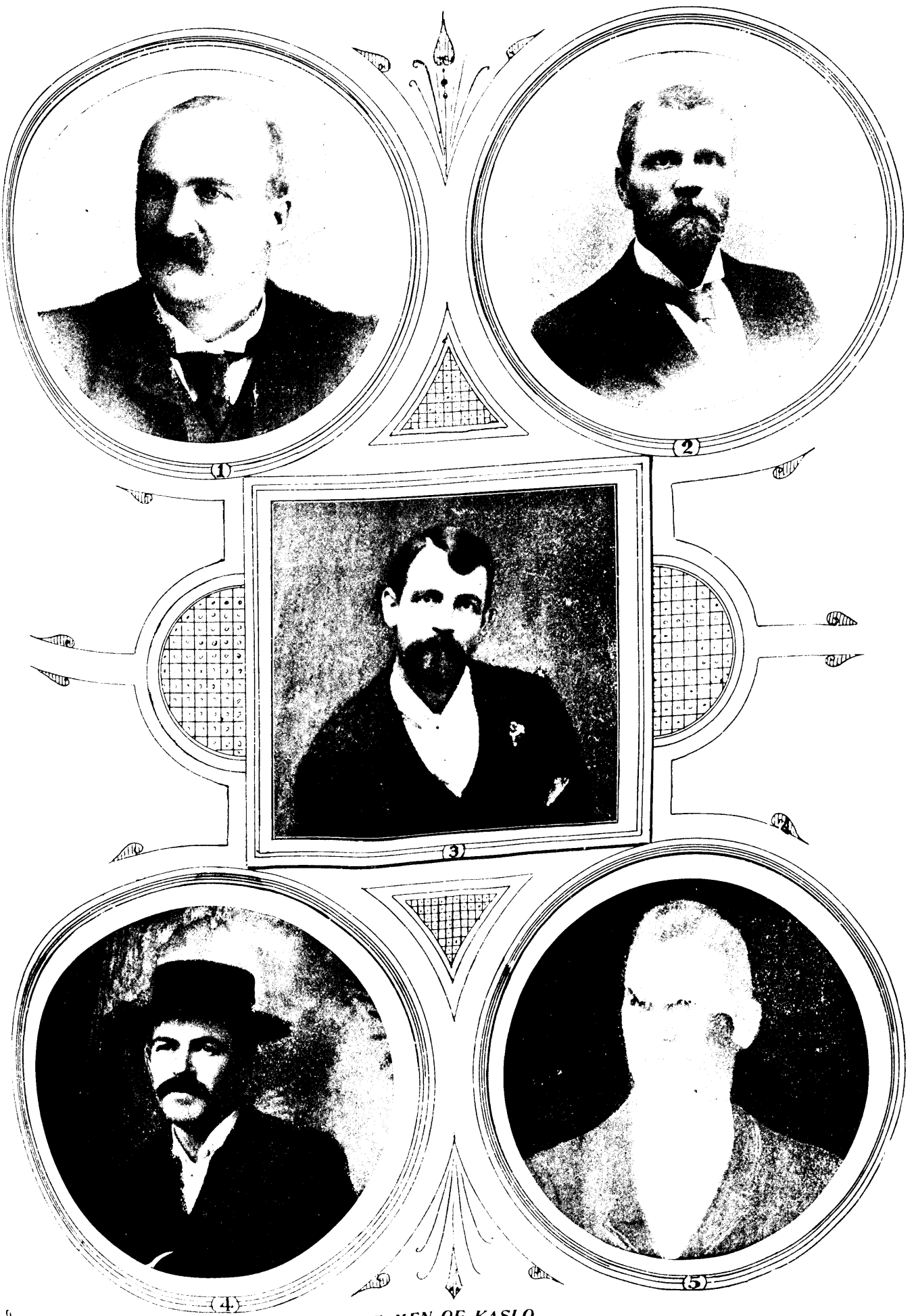
Only recently Mr. Petersen has doubled the size of the hotel by building a large addition, and as well as the handsomely furnished parlors upstairs has comfortable reading and sitting rooms on the ground floor. Trail is only about a year old, but it has in the Crown Point an hotel that would be creditable to any town. In conclusion it may be added that in the fall of 1895 Mr. Petersen was joined by his two brothers, Julius and John P., who have been largely instrumental in the success of the house.

T. W. COLEMAN, ESQ.

**MR. COLEMAN**, in company with Mr. McAnally, combines mining with a very flourishing drug business in Trail. They are interested in a number of mines and have many opportunities to obtain reliable information in regard to mining properties not only in the vicinity of their own town but also in other districts.

Mr. Coleman was born in Stayner, County of Simcoe, Ontario, on the 24th of May 1857, and after a course of study passed his examination before the Ontario College of Pharmacy in 1875, receiving at the same time full marks in dispensing. He then commenced business in Stayner and remained there until 1890, when he went to Toronto. He left the Queen City in 1892, finding the drug business somewhat overdone there and accepted the management of a store in Alberta where he resided until the spring of 1896, when he came to British Columbia.

He visited Nelson, Rossland and other places before deciding where he would settle, and finally chose Trail as having, in his opinion, the best prospects ahead of it. There is every reason to expect that Trail will become a great supply mart



**THE MEN OF KASLO.**

- 1. G. T. STONE.
- 2. G. O. BUCHANAN.
- 3. R. F. GREEN, MAYOR OF KASLO.
- 4. GEO. T. KANE.
- 5. DAVID W. KING.

for the mines as well as a manufacturing point, and Mr. Coleman showed good judgment in his choice of a location.

His firm is now largely interested in the M. Farley mine, which is situated right above the town, a little below and to the left of the now famous Sovereign. He and his associates have sunk a shaft twenty feet deep with good indications. The ledges are so wide that even if the ore turned out to be low grade it would be a good property, and the shipping facilities are excellent, it being possible to shoot the ore down direct from the mine to the railway track.

He and Mr. McAnally have a number of claims at Salmon River and Waterloo, and they are in a good position to deal with mining propositions, having a local man engaged to examine carefully all claims offered to them.

Mr. Coleman and his partner have excellent opportunities to give information about mines to those who may wish to communicate with them.

WM. McMILLAN, ESQ.

THAT Trail will become a large manufacturing point is evidenced by the facts contained in the following sketch of Mr. Wm. McMillan. After serving his apprenticeship in Canada he went to New York and became an employée of the Worthington Pump Works, of Brooklyn, and a mechanic in other large concerns. He then formed a connection with the Ingersoll Rock Drill Company, who sent him to Montreal to superintend their works there. In the course of this service Mr. McMillan gained a large amount of experience as a machinist in almost every branch of the trade, and finally determined to strike out for himself.

In company with Mr. Tower, the foreman of the Ingersoll Rock Drill Company at Montreal, and Mr. Burrell, he formed the Mac Machine Company, and opened large shops at Belleville. This company soon after its formation ranked as one of the first machine firms in Canada.

Last winter their attention was drawn to an advertisement which appeared in the *Canadian Manufacturer* to the effect that if any machine firm in the East would have enterprise enough to pay a visit to the Kootenay they would see that there was a splendid opening there for practical men who would open shops for the repair of mining machinery. It was in fact a plea from the Kootenay for some one to assist the mining industry of the country by affording facilities for repairing machinery which then had to be sent East for that purpose at much expense, loss of time and trouble.

Mr. McMillan and his colleagues on seeing this advertisement resolved to go and see for themselves. He and Mr. Burrell accordingly took a holiday of two months last winter and spent the time thoroughly inspecting the matter. The result of the trip was that the Mac Machine Company decided to erect shops at Trail as the most convenient for their purpose.

The townspeople at once agreed to give them a plot of ground for carrying on the shop, and today the building 30x60, two stories in height, is erected. The machinery is almost in place and will shortly be running. It consists of lathes, planers, drill presses, emery wheels and all the smaller tools necessary in the business.

Mr. W. McMillan will superintend the shops at

Trail. Mr. Tower is in charge at Belleville, and Mr. Burrell, who is secretary-treasurer of the company, looks after the financial end.

The establishment of these works at Trail means much for the mining industry of the province. It means that all sorts of repairs to compressors, pumps, stationary engines, drills and general mining machinery can now be done right in the midst of the mining districts without having to send away East at heavy expense and troublesome loss of time as heretofore.

The Mac Machine Company deserve every encouragement and praise for the steps they have taken, and if we mistake not the mining men of British Columbia know how to appreciate such enterprise, which will prove to be a great boon to the work of development now in hand, especially in the Trail Creek and Slocan, as well as other districts.

### Mines Around Trail.

AT Trail contracts have been let in the Sovereign for 100 feet of tunnel and forty feet of shafting to be concluded within six weeks. This mine is spoken of by Mr. Topping as being a second Le Roi. There are two parallel veins about 100 feet apart, each of great width and good assay value. The Debs, lying directly west of the Sovereign, shows the same two strong veins and though there is no development to speak of yet the owners find good assays.

At the Red Point claim, supposed to be on the same vein or veins, a diamond drill is working merrily, and we hope in our next to have some interesting items from this work. As the crow flies the Sovereign is but three-quarters of a mile southerly from Trail, the Red Point being about one and a-half miles. A new find was made last Friday on the Alice claim, which is situated about three-quarters of a mile westerly from Trail. The men working uncovered eight feet of copper-iron that runs \$15 per ton in the precious metals with five per cent. copper.

There is a fine showing with good assays on the British Chief group on Beaver Creek, near Meadows. Four parallel veins about 150 feet apart, showing ore bodies ranging from two and a-half to four and a-half feet in width, have been found with an average assay of \$20 per ton, not counting copper or lead. The owners are working four men and assays are improving with depth. This is one of the bonanza finds of the season.

### French Creek in the Big Bend Country.

GOLD was discovered in British Columbia in 1858 on the Fraser River, above New Westminster causing wild excitement and a great "rush" of prospectors. San Francisco was nearly depopulated by the exodus, and it has been estimated that one-sixth of the voters of California went to these new fields. Gold was traced up the Fraser River to Cariboo, and was also discovered on the Peace River 250 miles further north. A sort of subsidiary or secondary "stampede" was occasioned later by the discovery of gold in the Cassiar district about 800 miles north of Victoria. This set on foot the so-called "Stickeen River rush." The aurifer-

ous deposits discovered by these pioneers along the Fraser, Quesnelle and Horsefly Rivers, and in the Big Bend, Yale, Lillooet, Cariboo, and other districts are now pronounced by competent authorities to be the most extensive and richest known. Notwithstanding the almost prohibitive difficulties these early miners had to contend with, they secured by working shallow diggings, rim rock and drifting process, about \$45,000,000, of which French Creek alone contributed over \$1,500,000, as shown by official reports. At that time they were obliged to pack their supplies through trackless forests and jungles from Walla Walla and other points distant 500 to 700 miles. Necessary supplies commanded the prices in vogue in the early days in California, picks and shovels, \$10 each; ham, 60 cents a pound; flour, \$40 a sack, etc.

Only the rich gravel along the rim rock and that easily obtained in shallow places near the water could be worked by them at a profit, except that some was obtained by "drifting" along the bed rock under the creek, but this latter method was additionally expensive by reason of the timbering required and the extra handling and hoisting the gravel, so that it could only be pursued at that time in places where the ground would yield at least \$20 per cubic yard.

Taking as an example French Creek, a tributary of Gold Stream, in the Big Bend country, about sixty-five miles north of Revelstoke. It has been tested in the most thorough and satisfactory manner, namely, by miners working on it for the profits they could win in handling the gravel by the most primitive methods with rocker pan, short hand sluice, pick and shovel. The work already done and the large amount of gold heretofore taken from the banks and the Creek bottom, by men operating with hydraulic plants and under the greatest disadvantages, are proof conclusive of the high values in the gravel. That it is a rich hydraulic proposition is self-evident when men working by hand and mining a yard or two of gravel per day per man, can make day wages and money besides, as they have been doing on this creek for several years. The French Creek Mining Company operating here will have two thousand miner's inches of water under a 300-foot head, as is intended to be used by this company at its first opening, with seven or eight men to run and it will wash as much gravel per twenty-four hours as would be washed by 4,000 men employing the hand methods heretofore in vogue on the property, and instead of costing \$20 per cubic yard to drift out and wash the gravel as it did in the early sixties, of \$6 or \$7 per cubic yard for drifting and washing as at present by hand, it would be done for three or four cents per cubic yard by the hydraulic process.

Last season and prior thereto two miners drove a tunnel about 1,100 feet in length along the bed rock from the rim rock on the bank of the creek westerly. This tunnel is from six to twelve feet in width, about five feet in height, and several small chambers have been taken out along the sides. This work was done by the miners for the money they could make in drifting out and washing the gravel. Their method was to push the

gravel out of the tunnel on a tram cart, dump it down the bank to the creek side, and then shovel it into the sluice by hand. It is difficult gravel to drift, as it requires very strong and careful timbering, there being from fifty feet to 100 feet of loose round gravel above them to be sustained. The stones and boulders naturally encountered near the bed rock were moved, blasted and otherwise disposed of by them in the tunnel, necessarily at much expense and labour. It is calculated that they must have secured at least \$7.00 per cubic yard to have paid them their expenses and day wages. They made their wages and expenses and money besides, and this notwithstanding the fact that they were using a very short ill-constructed sluice with steep grade in which it is hardly probable they saved over sixty-five per cent. of the gold. The sluice was about twenty-five feet long, while to do good work it should not be less than 200 feet in length. With a sluice properly constructed, not one per cent. of the gold would be lost.

The large amounts of gold taken from insignificant quantities of gravel, speak volumes for the richness of this ground.

In view of these actual results of continued and successful workings of the ground, it would seem almost idle to make panning tests. But while on the ground last season Mr. Charles A. Guernsey, George J. Atkins, and C. T. Kenan, now respectively the treasurer, president, vice-president and general manager of the French Creek Mining Company, tested twenty pans of gravel taken from various places on the property with the following results:

| No.                                                        | Gold per pan in grammes | Gold per yd. 100 pans to yard. | Gold per yd. in ounces. | Val. per yd. at \$18.50 pr. ounce. |
|------------------------------------------------------------|-------------------------|--------------------------------|-------------------------|------------------------------------|
| 1. Near bedrock in tunnel.....                             | 2,1402                  | 214.02                         | 7.13                    | \$131 90                           |
| 2. Thirty feet above bedrock, near boarding house.....     | 1,4605                  | 146.05                         | 4.86                    | 89 91                              |
| 3. In bedrock tunnel.....                                  | .3220                   | 32.20                          | 1.07                    | 31 45                              |
| 4. Near bedrock.....                                       | .8630                   | 86.30                          | 2.87                    | 53 09                              |
| 5. S. pit in tunnel near bedrock.....                      | .5990                   | 59.90                          | 2.00                    | 37 00                              |
| 6. Pit near house.....                                     | .8922                   | 89.22                          | 2.97                    | 55 00                              |
| 7. Fifteen feet above bedrock, about seventy colours.....  | .8612                   | 86.12                          | 2.87                    | 53 15                              |
| 8. Near surface, lower end of ground.....                  | .2506                   | 25.06                          | .83                     | 15 25                              |
| 9. Tunnel, twenty-five colours.....                        | .2660                   | 26.60                          | .88                     | 16 28                              |
| 10. Near corner cabin, eleven colours.....                 | .1470                   | 14.70                          | .49                     | 9 07                               |
| 11. Lower end ground, eight feet from surface.....         | .1548                   | 15.48                          | .51                     | 9 43                               |
| 12. Four feet below surface West tunnel, five colours..... | .0638                   | 6.38                           | .21                     | 3 88                               |
| 13. Near surface.....                                      | .0400                   | 4.00                           | .13                     | 2 40                               |
| 14. From tunnel near river.....                            | .0530                   | 5.30                           | .17                     | 3 14                               |
| 15. Near grass roots, five colours.....                    | .0144                   | 1.44                           | .05                     | 91                                 |
| 16. Pit by trail, lower end surface.....                   | .0820                   | 8.20                           | .27                     | 4 99                               |
|                                                            |                         |                                |                         | \$516 95                           |
| 17. Near grass roots.....                                  | .0000                   |                                |                         |                                    |
| 18. Loose dirt S. side tunnel.....                         | .0000                   |                                |                         |                                    |
| 19. Near grass roots.....                                  | .0000                   |                                |                         |                                    |
| 20. Thirty feet above bedrock.....                         | .0000                   |                                |                         |                                    |
|                                                            |                         | 25.84                          | av'ge per cubic yard.   |                                    |

It is not unusual to find pans running nothing on ground containing such coarse gold. The aver-



age value indicated by these pannings is enormous.

Seven pans were taken from near bed rock.

Six pans from points intermediate between bed rock and surface.

Seven pans from near surface.

The above value per yard as indicated by the pannings, is based upon the customary estimate of 100 pans per cubic yard. We are inclined to cut this estimate down by allowing seventy pans to the yard instead of 100, and also to allow a reduction to say, fifteen per cent. for space occupied in the gravel bank by larger stones and boulders than would be washed in a pan. We will also allow a reduction of twelve and a-half per cent. on account of pans numbered 1 and 2, which were extraordinarily high and might not be encountered in washing the next twenty pans. And on account of the number of pans taken near bed rock, and the fact of the whole number of pans averaging so high, will allow of twelve and a-half per cent. further reduction for safety, or in other words, make a reduction in the aggregate of seventy per cent. from the nominal yield indicated by these pannings. This would still leave us an indicated yield of \$7.75 per cubic yard, which is very much after the "bonanza" order. Such a yield has only been exceeded by some of the richest "diggings" of the early days in the Western United States, such for example as Alder Gulch, Gold Creek and Last Chance Gulch, which are said to have produced respectively \$30,000,000, \$24,000,000 and \$80,000,000. Thirty-four claims in the province of Olekminsk, Russia, according to official reports, produced 687,000 cubic yards, yielding \$8.66 per cubic yard. The following table shows the yield of the leading hydraulic placer mines in California:

| Name of mine.            | Location.     | Cubic yds. washed. | Yield pr. cub. yd. |
|--------------------------|---------------|--------------------|--------------------|
| Gold Run District.....   | Placer County | 43,000,000         | \$0.048            |
| North Bloomfield Co..... | Nevada        | 40,321,630         | .125               |
| American.....            | "             | 5,171,834          | .24                |
| Manzanita.....           | "             | 5,780,000          | .26                |
| French Corral.....       | "             | 4,200,000          | .415               |
| McCarty's.....           | "             | 3,000,000          | .043               |
| French Hill.....         | Stanislaus    | 1,020,347          | .155               |
| New Kelley.....          | "             | 1,000,000          | .064               |

The largest yields for large bodies of gravel are found in Russia, though the deposits are usually shallow and spread over a large area. The mines of Yenseis Circuit, Russia, are reported to have contained over 85,000,000 cubic yards, averaging \$2,549 per cubic yard, (See "Treatise on Hydraulic Mining," August J. Bowie, Table L, II), and a number of other mines in that country have, according to official reports, made yields of from \$2 to \$5 per cubic yard, but for a much less number of yards.

On taking into careful consideration the history of the creek, the small amount of gravel that has been moved, and the large amount of gold that has been taken from it; and taking into consideration also the general reputation of the ground among miners who are acquainted with it, and making careful panning tests, and reckoning that the values in the gravel decrease much faster from bottom towards the top than all the tests and

workings would indicate, and making all due allowance for all unforeseen contingencies which might develop in the course of working, any reasonable business man would certainly have every reason to expect an average yield of at least \$2 per cubic yard for the whole body of gravel, with all probabilities in favour of a higher yield.

The supply of water is such that it leaves nothing to be desired. French Creek runs fully 15,000 miner's inches during the working season. A peculiarly valuable feature of these streams in the Selkirk Mountains of British Columbia, from a placer miner's standpoint, is that they run high through the summer months, and placer working season, having their low stage in mid-winter, when they freeze. This is readily accounted for by the vast bodies of snow and great glaciers found on the higher peaks, which gradually melting during the summer months, fill the mountain streams in the valleys with water.

There is much more water than it would be practicable to use through the hydraulic giants, but a small part of the surplus could be advantageously utilized by carrying it in ground sluices over the bank to assist in flushing the gravel into and through the main sluice after it has been torn down by the giants.

The creek is a mountain torrent running "white water," and of course such a fall affords an excellent grade for sluices and renders it necessary to bring the water by ditch and flume only a short distance to obtain the requisite hydraulic pressure.

The bed rock of the bench on which the gravel bank rests is from thirty to sixty feet above the creek at different places along the property, thus affording an excellent dump for the tailings, the strength of the current in the creek being also amply sufficient to carry away the debris.

There is an abundance of timber adjacent for all purposes required in working the mines.

### The Nelson Smelter.

A FEW minutes' conversation with Mr. Paul Johnson will convince anyone that he is a thoroughly practical man. His twenty-five years' experience in various parts of the world places him in the front rank as a mining engineer and expert in the treatment of ores. Born in Sweden on the 23rd of February, 1857, he studied at the University of Lund, and having passed his examination at the Royal School of Mining at Stockholm he graduated in 1881 as a mining engineer. His first experience was at the Falun Copper Works in Sweden, which treated the ores of the famous mine of the same name. The Falun copper mine is one of the oldest in the world, having been worked for upwards of one thousand years. Mr. Johnson next went to the United States and was engaged for two years in the Oxford Copper Works, of New York. He then returned to Sweden and built the Helsingborgs Copper Works, which he managed for five years. At the end of that time the Swedish Government sent him to England and Germany to inspect the copper works in those countries with the view of studying their methods, and reporting any discoveries made in the art of smelting. Mr. John-



son was gone three months on this errand and reported very fully on what he saw. He then made an engagement to go to South America and there managed several gold mines and gold mills in the Argentine Republic for La Compania Industrial. At that time South America was in a disturbed condition, and Mr. Johnson thought it prudent to leave. Accordingly he returned to the United States and became in 1891 the superintendent of the Ely copper mine and works in Vermont. From there he accepted the position of assistant superintendent at El Paso for the Kansas City Smelting & Refining Company, the largest smelting works in the world. In a short time he was promoted to be superintendent at Argentine, Kansas, (the head works) for the same company, and he remained as such for two years. He then had an offer to go to Utah, where he built a lead smelter at Leamington and managed it for twelve months.

From Leamington Mr. Johnson came to Nelson in 1895, and in October of that year started to build the smelter, with which he has been connected ever since. On the 14th of January, 1896, they blew in the furnace, and from that time smelting has been carried on almost continuously, the only interruptions being the difficulty on a few occasions of getting sufficient ore on account of some little trouble with the tramway. Notwithstanding these slight stoppages the smelter has smelted approximately about 22,000 tons of ore to date, producing 3,500,000 pounds of matte, containing 475,000 ounces of silver, 200 ounces of gold and 1,700,000 pounds of copper, in which is included some custom work. It is satisfactory to note and a tribute to Mr. Johnson's good management that there never has been any difficulty experienced with the smelter since it started.

It is now the intention of the company to extend the capacity of the smelter and to add certain new features to it. At present the capacity is about 134 tons per day. This will be increased by 200 tons, so that with the addition to the works the smelter will be able to treat between 300 and 400 tons daily. More than this, the extension will be so arranged that if necessary the works can be increased to a capacity of from 800 to 1,000 tons per day. The new blast furnace to smelt 200 tons daily will be ready about November or December of this year.

Besides this a calcining and two reverberatory furnaces will be erected. This will permit of working the present product of matte running about fifty per cent. copper and 280 ounces of silver into what will produce ninety-six or ninety-seven per cent. of copper and 550 ounces of silver, thus saving half the cost of freight and refining charges in the East.

The Nelson smelter will probably undertake custom work next summer on a more extensive scale than at present, and the furnaces are so constructed that they can be, if desired, adapted to lead smelting.

The Nelson smelter is constructed with a view to economical working. This has been accomplished by the adoption of the gravity principle, and the result is that where it is usual to count one man to each ton of ore smelted, the average at the Nelson smelter is one-fifth of a man. The slag is carried off by running water instead of having to

be hauled and dumped by man power over the bank.

In connection with the improvements about to be made, an immense brick stack will be built 175 feet high and seven feet wide inside at the top, so as to accommodate, if necessary, a smelter with a daily capacity of 1,000 tons.

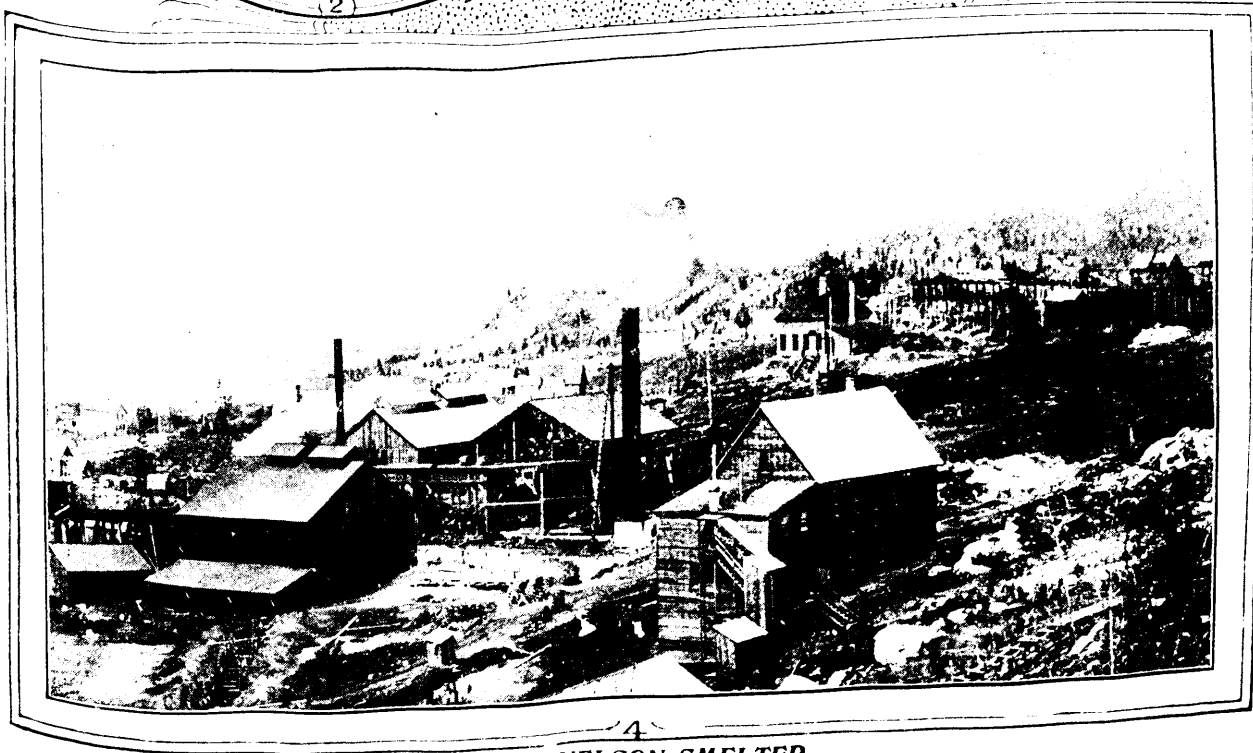
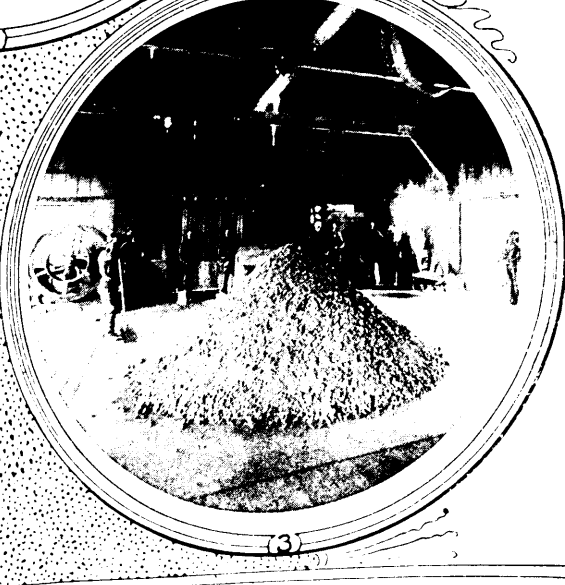
As already stated, it is the intention of the company to do custom work next summer, and the building of the Red Mountain road from Rossland to Northport, where connection will be made by rail with Nelson, will greatly facilitate the hauling of Trail Creek ores to the Nelson smelter. The building of the Crow's Nest Pass Railway will also be a decided advantage, as it will cheapen the cost of fuel. This is an important item, as it will mean a reduction of fully thirty per cent. of the cost of smelting. In addition to this the central position of Nelson and the fact that the ores in its neighbourhood are found to flux well with the ores of Trail Creek and other points, will tend to make Nelson a great smelting point in the future.

#### *Mining Around Nelson.*

AT the Silver King the replacement of the old by a new machinery is causing temporary confusion and consequently the amount of ore sent down to the smelter at Nelson has been smaller than usual and of inferior quality. Anything had to go, and the result is decreased returns. To this may be attributed, partly, the fall in the price of shares, which now stand at \$11. It is possible that the decline may be also partly due to the efforts of "bears" in London, who have been harping on the silver string and putting the copper ore as much as possible into the background. Whatever there was in Hall mine shares to make them worth \$15 a couple of months ago is there still, and indeed the determination of the company to largely increase its smelting plant, and the actual commencement of the erection of the new apparatus should have a hardening tendency. The new plant will consist of a large water-jacket furnace, a reverberatory furnace, and a refining plant with all the necessary boilers, blowers, etc. The machinery has been ordered from the Western Iron Works at Butte.

There are two new districts in the neighbourhood of Nelson which are attracting a great deal of attention. These are Waterloo Camp and the North Fork of Salmon River. The former lies just to the eastward of the junction of the Kootenay and Columbia rivers. The latter is only divided from it by a high range of mountains of no great breadth.

At Waterloo, or in its neighbourhood the Lil-looet, Fraser River & Cariboo Gold Fields, Ltd., has acquired bonds over large groups of claims, known as the Apache, Waterloo and Aaron. On the latter some thirty men are at work. Another English company—the Kootenay Gold Fields Syndicate—has also some claims upon Champion Creek, which is in almost the same country. Very little work has been done on these claims as yet, but investigation and development is being rapidly pushed ahead, so that in a short time it will be known whether the promise made by the enormous surface showings is likely to be realized. The



4  
**THE NELSON SMELTER.**

1. PAUL JOHNSON,

2 AND 3. INTERIOR VIEWS OF NELSON SMELTER.

4. THE NELSON SMELTER.

croppings consist of oxidized iron-stained rock so common in this country, and so distinctive of the rich veins of Trail Creek. But although all the best veins so far have been found under this iron capping, it does not necessarily follow that every iron capping covers a paying lead. Should, however, luck be with the workers, the camp will prove exceedingly rich, as the ore bodies are of enormous size.

The North Fork of the Salmon River leaves the main stream some thirty miles from Nelson. The Salmon rises in the country to the south and east of Nelson and after affording a suitable route for the Nelson & Fort Sheppard Railway falls into the Pend d' Oreille, which, in its turn, falls into the Columbia. The North Fork runs about parallel with the railway, so that the claims which are at its head are probably not more than four or five miles from the line, though about twelve from where the railway crosses it. Here a good hotel has been erected by Mark Gilliam, and a trail leads eight miles up the stream to Carey's Camp. From here, the distance to the higher claims, upon which the great strike has been made, is about four miles with a trail part of the way.

The strike was made on the White Horse group and consists of bornite ore, assaying 332 ounces in silver, 24 per cent. copper and \$13.80 in gold. These claims are under bond to a New York syndicate for \$75,000. This rich find, coming close on the heels of other discoveries of mineral on the same creek, has naturally attracted a number of prospectors, and the hills around perfectly swarm with men.

Other claims are the Iron Cliff, belonging to Spokane people; the Arnold, which has a thirty-foot shaft in pay ore all the way; it assays thirty ounces in silver, nine per cent. in copper, and twenty-five per cent. of lead, with from \$10 to \$20 in gold. The Ben Hassan and Maud E. are the property of a Spokane company. The Victoria and Alberta are under bond to Colorado capitalists, and the Ontario is bonded to a Portland syndicate.

It is two years since the first prospectors, Messrs. Coulton and Carey, went up the creek, and they apparently only went up about eight miles.

The Pilot Bay smelter is at present idle, but rumour has it that it will be started again shortly under new auspices, and that its plant will be very considerably enlarged to enable it to deal in custom work. The saving of freight should be sufficient to enable it to command a large business. The output from the Slocan this season promises to be very large. The Kaslo & Slocan Railway has already brought down 5,000 tons of ore this year, and judging by the preparations going on at the Noble Five, Ruecan, Payne, Whitewater, Washington, Ruth, and others, the narrow-gauge line will be kept as busy as it can be. Many of these mines are shipping now, but they will all increase their output, and there are at least twenty others, tributary to the Kaslo line, that will ship this winter.

The customs returns for the port of Nelson for August show that the amount of ore, matte, and bullion shipped during last August was valued at \$265,507. This is the largest month this year except February, during which month the Pilot Bay smelter was running. The returns for the corre-

sponding month last year amounted only to \$95,962.

### The Men of Kaslo.

R. F. GREEN, ESQ.

THE first as well as the present mayor of Kaslo was born in Peterboro, in November, 1861. At the age of twenty-one Mr. Green became connected with construction on the C.P.R. and remained at that work till 1885, when in company with his brother, S. H. Green, he entered into business at Revelstoke. From there the two brothers moved to Illecillewaet and opened a general store, their trade being largely with the mines and miners of the district. The next move was to Sproat's Landing, where they remained during 1889 and 1890, and at the same time opened a store in Ainsworth.

In January, 1892, Mr. Green and his brother started a branch establishment at Kaslo when there were only two buildings of any importance in the place besides the one erected by themselves. Mr. R. F. Green spent a good deal of his time in Kaslo during 1893 and in the following year removed there altogether with his family.

His brother S. H. was appointed the first postmaster, and since then the Post Office has been kept in their building. When Kaslo was incorporated Mr. R. F. Green was brought out as a candidate for mayor and elected, defeating Mr. Geo. T. Kane. The next year he was defeated by Mr. Kane, and in 1895 Mr. Kane, C.E., was elected by acclamation. In 1896 Mr. R. F. Green was again selected by the people as their chief magistrate.

The record of Kaslo since incorporation is a most satisfactory one. Not only has the town no bonded indebtedness, but in July, of this year, the financial statement showed a surplus of \$8,969.44. Bonds for the construction of water works have practically been floated, but up to the time of writing no money has been received for them, and consequently no bonds issued.

From receipts of city taxes alone the corporation have built sidewalks, graded streets, erected public buildings and maintained a police force. In addition to this Kaslo has spent considerable money in cribbing the river bank to guard against danger from future floods. Yet in the face of all this expenditure the city tax is only one and a-half per cent., and there is a surplus over liabilities, as we have shown.

Although Mr. R. F. Green has taken a very active part in municipal affairs he has, in company with his brother, succeeded in building up a very large business, principally with prospectors and mine owners. No one stands higher or enjoys the respect of all classes in the town more than its present mayor.

GEO. T. KANE, ESQ.

IT may be said that Kaslo owes its existence to Mr. Kane. It was he who took up the land upon which it is built and in company with others had the townsite surveyed. Born in Oxford County, Ontario, on the 3rd of January, 1862, he first came to British Columbia in 1887. The Waterous Engine Works Company, of Brantford, were sending the machinery for a saw mill to be erected on Canal Flats at the head waters of the Columbia,

one mile distant from Kootenay River, and Mr. Kane was sent in charge. The following spring he returned to the same place with supplies and machinery for the Kootenay Valley Company, and the mill which was erected cut 1,500,000 feet of lumber for the canal. On the latter being completed Mr. Kane paid a visit to Kootenay Lake and stopped a short time on the spot where Kaslo stands to-day.

The following year, while travelling for Nicholles & Renouf, the agents of the Waterous Company, he sold a mill to Joshua Davies and next spring engaged to erect it. In anticipation of the erection of this mill Mr. Kane, in 1888, cruised around the lake looking for a suitable site, and took up 640 acres of land, 320 being at Kaslo and 320 at Pilot Bay. Joshua Davies, however, in 1890 chose the latter place for the mill, and the land there was taken up in his name. But Mr. Kane, sooner than let the Kaslo land revert to the Government, took it up in his own name. The following spring he organized the Kaslo-Kootenay Land Company, having entered into an agreement with Messrs. Irving and Hayward, of Victoria, for that purpose, and during the summer they had the townsite surveyed by John Keen, C.E. Just previous to this the Jardine mineral group was located near by and this created a demand for lots in the newly surveyed town. That same season two well-known prospectors, Eli Carpenter and John Seaton, went out from Nelson, and after having been lost in the mountains the greater part of the summer, managed to come out at Kaslo. They had with them some splendid specimens of galena, which, on being assayed at Ainsworth, proved to be very rich in silver.

The result of this was that Eli Carpenter headed a band of prospectors to go to where the discovery had been made by way of Slocan. John Seaton, on hearing of this, organized another party and went in by Kaslo. There was much conjecture at the time whether either party would reach its destination, owing to the snow on the mountains. The Seaton party, however, got in several days ahead of the other, and when Carpenter and his band arrived they found the whole mountain staked off, the famous Noble Five group being amongst the claims then taken up.

Prospectors now crowded into the district, and as a result Kaslo grew quickly. The Kaslo-Kootenay Land Company sold lots rapidly at from \$50 to \$75 each, and the same winter they applied for a charter for a railway. Mr. Kane, however, had nothing to do with this, as he retired from the company for reasons of his own, taking about 100 acres of city property in lieu of his stock.

Kaslo now went ahead with great rapidity till the fire and flood of 1894 almost swept the town out of existence. Mr. Kane's fine residence was carried away by the flood, his family having a narrow escape from being taken with it.

On the 14th of September, 1893, Kaslo was incorporated and Mr. Kane ran for mayor, being defeated by Mr. Green. The following year, however, he was elected to the position, but since then has taken no active part in municipal affairs. It may be added that Mr. Kane, who still owns large interests in Kaslo, has the same unbounded faith in the

future of the town as he had when instrumental in having it staked off as a townsite.

G. O. BUCHANAN, ESQ.

MR. BUCHANAN, the pioneer saw mill owner of the Kootenay, is a descendant of the U. E. Loyalists, tracing back to no less than eight families of these who came from New York and settled on the St. John River, New Brunswick. He, however, was reared in Nova Scotia and came to Fort Garry, Manitoba, in the spring of 1878. For eight years he was more or less connected with the construction of the C.P.R., and during that time he took up a homestead and pre-emption of 320 acres near Griswold, which he holds still.

In the spring of 1886 Mr. Buchanan came to British Columbia and worked for the C.P.R. until he bought out the saw mill belonging to McDermott & Ross, snowshed contractors, who wished to dispose of it on leaving. The mill was moved to several points and kept in operation by Mr. Buchanan until in the spring of 1888 he made a trip to Toad Mountain, when he sold out and moved to Kootenay Lake.

He there started the first saw mill of the district at the outlet of the lake, about fifteen miles above Nelson, and was the first one in those parts to erect a house built of sawn lumber. In 1889 he staked off a timber limit which included what afterwards became the townsite of Kaslo, and three years afterwards removed his saw mill (which he greatly enlarged) to where it now stands. In the spring of 1892 Kaslo began to grow, and from May, 1892, to May, 1893, there was a boom in real estate. The fall in silver, financial depression and the disappointment at the delay in building the railway caused a collapse, and to this was added the almost total destruction of the town by fire and flood in 1894. Mr. Buchanan alone lost about \$20,000 by these reverses. Kaslo then remained quiet and little progress was made for some time, but gradually a substantial growth took place, and to-day the town is in a better condition than it ever was, with a bright prospect before it. The losses of 1894 have been cleared off and insolvents weeded out. The town is now on a firm basis and with its steady growth the business of Mr. Buchanan's saw mill has grown to large proportions. The capacity is 30,000 feet per day, 10,000 of which passes through the planing mill, which Mr. Buchanan also owns. In connection with the mill, but under separate proprietorship, is a sash and door factory, so that Kaslo has every facility for the erection of buildings close at hand.

Mr. Buchanan ships lumber in every direction and has difficulty in keeping up with the demand. He has great faith in Kaslo, which as the basis of over sixty paying mines, and many others to be developed, must grow to be a large town. He is an enthusiastic gardener and florist, and at the time the writer called on him had no less than one hundred different varieties of plants in bloom. In this connection it is noteworthy as showing the interest Kasloites take in their town to state that they have established an arbor day, the result of which will be in a few years that Kaslo, like Victoria and Nelson, will nestle in the midst of a wealth of foliage.

O. T. STONE, ESQ.

**B**ORN in New Brunswick, Colonel Stone, as he is familiarly known in Kaslo, came to British Columbia in 1890, and for two years resided on the Coast. In 1892 he came to Kaslo when the town was just starting to go ahead. He at once accepted the agency of the Kaslo-Kootenay Land Company, which he has managed ever since, so that he has had much to do with the real estate question in Kaslo.

The members of the Kaslo-Kootenay Land Company are Messrs. Alex. Ewen, John Hendry, J. G. Munn and Robert Irving, and a notable example of liberality on the part of these gentlemen is worthy of mention. Before the railway was built the people of Kaslo and mining men in the vicinity being unable to obtain assistance from the government resolved to build first a trail and then a wagon road into the heart of the Slocan. To aid this project the Kaslo-Kootenay Land Company contributed \$10,000 after having already expended \$6,629 on the trail. The road cost altogether from \$33,000 to \$35,000, and although the government promised to refund \$5,000 of this, it was never done. The provincial authorities, however, spent some money in keeping the work in repair. It is said that some \$6,000 or \$7,000 still stands as a liability, which in fairness the government ought to pay as the road was really a work which it should have undertaken.

Mr. Stone, during his residence in Kaslo has taken more or less an active part in all improvements going on. He, like many others, suffered by the fire and lost heavily by the flood, but in spite of all he has stood by Kaslo, and no one to-day has a firmer belief in the brightness of its future than he.

DAVID W. KING, ESQ.

**E**DITOR and proprietor of the Kaslo *Kootenaiian*, one of the brightest and most independent journals published in the mining districts of British Columbia. Mr. King, although a young man, having been born at Cedar Rapids, Iowa, on the 24th of October, 1864, has had a wide experience as a newspaper man. His family comes of old Virginia stock and were pioneers in Iowa, having settled in that state in 1832. While still a boy Mr. King accompanied his father to Dodge City, Kansas, and later to Texas and Old Mexico, where for several years he lived the exciting life of a cowboy, undergoing many thrilling experiences on the south west plains with Indians. He has written many interesting reminiscences of his hairbreadth escapes, etc., which, however, he has never committed to the care of a publisher—more's the pity. His tales, founded on fact, would, if published, rival the wildest stories of Owen Wister. On being urged by his friends to give to the world his numerous characteristic western sketches, his invariable reply has been "I have no desire to tempt the people to revive the old custom of lynching offenders."

Mr. King received a common school education at Dodge City and afterwards became a compositor on the old Fowler City *Graphic*. He then became a member of the press in Kansas, and in 1888 removed to the State of Washington. He founded the *Tekoa Globe*, which became an influential jour-

nal. He next started the Pullman *Graphic*, which did not succeed, upon which he moved to Spokane in 1894 and took a position on the Spokane *Outburst*, and later on the *Times*. From this he went to Olympia, and during the exciting senatorial contest there in 1895 took charge as editor of the *Daily Olympian*. While at Olympia Mr. King wrote "The Conspiracy," a political sarcasm based on incidents in the senatorial fight, which caused quite a sensation.

In the spring of 1895 Mr. King took editorial charge of the Spokane *Daily Times* until August, when he came to Kaslo. In May, 1896, he bought the Kaslo *Claim* from R. Lowery, which he changed to the *Kootenaiian*, a paper well and favourably known throughout the length and breadth of British Columbia.

Mr. King has done much through his paper and by personal efforts to advance the interests of Kaslo and the great mining camps surrounding it. Fearless in his utterances, ever ready to denounce what he considers wrong, he has made the *Kootenaiian* both feared and respected. At the same time he has a reputation for fairness, and so long as he remains at the head of the paper Kaslo will not only have a powerful advocate of its claims, but in Mr. David W. King a true friend and earnest worker.

### The Slocan Country.

BY RANDALL H. KEMP.

**T**HE first mineral discoveries made in that region of country lying between Kootenay and Slocan lakes was in the year 1891. Previous to that time, however, hardy prospectors had pushed their way up Kaslo River as far as Bear and Fish lakes on the summit, and, in a measure, had searched for mineral wealth on the adjacent mountain sides. No finds of importance were ever reported by these early day wanderers. Parties had also traversed up the Slocan River in canoes and explored the shores of Slocan Lake. As none of these pioneers brought back any evidences of mineral wealth existing in the country, naturally prospectors and others considered it barren. In 1890 John (Lardo) McDonald and John Allen, while hunting and trapping on what is known as Blue Ridge Creek, ten miles west of Kaslo, found and located the Trapper, Beaver and other claims in what was afterwards called the Jardine camp. But little was known of the value of these claims until August, 1891, when Andrew Jardine paid them a visit and returned to Ainsworth, on Kootenay Lake, with some samples assayed about one hundred and seventy one ounces in silver. Quite a number of prospectors were on the lake at the time and all were eager for new excitement. Soon the hills of Kaslo slope were swarming with men searching for surface indications of the hidden treasures far down in the bowels of mother earth. It remained for John L. Seaton and Eli Carpenter to make the first discoveries on the Slocan slope. On September 2nd they found and located the Payne. They secured samples of the galena, and, in due course of time, returned to Ainsworth. Both appeared to pay so little attention to the find, the Kaslo River excitement having died out, that it was some days before the ore was tested. When it became known that the ore was

exceptionally high grade both in silver and lead, the wildest excitement prevailed and a genuine old-fashioned mining stampede was the result. J. G. McGuigan, W. M. and J. J. Hennessy and Frank Flint secured the services of J. L. Seaton as guide and these five made a rush for the new eldorado. They located a number of claims around the Payne, and were on the return trip, when on September 28, they walked upon the croppings of the Bonanza King and World's Fair claims of the Noble Five group. All these claims were staked on that date. Eli Carpenter and a companion thought to reach the scene of the discoveries sooner by way of the Slocan River and lake, but found on their arrival that everything of value in the neighbourhood had been located. The return of the Noble Five crowd to Ainsworth and the result of the astonishingly high assays of their samples intensified the excitement until it became in reality a craze. The winter's snows were beginning to fall in the mountains, yet this, nor the fact that the entire country was an unbroken wilderness, and that provisions, bedding, tools, etc., had to be packed upon their backs, did not serve to dampen the ardour of the tireless searchers after the newly discovered fountains of wealth. Before the first of January, 1892, one hundred and forty claims were located and recorded. S. S. Bailey, the first representative of capital to visit the district, examined and purchased the Payne group within one month after it was located, and is the principal owner of that valuable and productive property to this day.

The question of trails to the mines at once arose in the public mind, and the festive townsite promoter was soon on hand.

The business men of Nelson immediately began the construction of a trail up the Slocan River and in a month had it completed to a point where boats could be laden and rowed to the mouth of Carpenter Creek, where the town of New Denver is now located. The government started a trail up Kaslo River but it was only completed four or five miles when work was suspended on account of the appropriation giving out. It was, however, extended six or seven miles further by the parties owning the townsite of Kaslo, and completed in the spring to Bear Lake. With the advent of warm weather and the disappearance of snow, in the spring of 1892, prospectors, miners and capitalists began to flock into the district. On account of the season being backward many left discouraged and spoke in no manner encouragingly about the future of the country. A trail was built that spring from Nakusp, on Upper Arrow Lake, to the head of Slocan Lake, and during the summer trails were built connecting with the principal mines, so that the matter of getting in supplies by pack train was comparatively easy.

Development work soon proved the existence of such quantities of high grade ore that better means of transportation became a necessity. Ore was being shipped from the Freddy Lee, Dardanelles and other mines. The citizens of Kaslo by wonderful energy and united effort pledged the sum of \$20,000 to construct a wagon road from that town on Kootenay Lake to the summit at Bear Lake. The work was commenced the latter part of September and by December sleighs were running

as far as Three Forks and on up the south fork of Carpenter Creek to the mouth of Cody Creek.

The Nakusp & Slocan Railway was commenced in July, 1893, and finally completed to Three Forks in October, 1894.

The hull of the steamer *W. Hunter* was built of whip-sawed lumber on Slocan Lake early in the spring of 1892, but on account of the failure of the company from whom the machinery was ordered, the boat was not ready for business until late in the fall. Since that time, however, she has been in continuous service, and is a great convenience to mine owners and others in the vicinity of Slocan Lake.

The Kaslo & Slocan Railway is now completed and running daily trains from Kaslo to Sandon, and large shipments of ore are being made by this road.

#### LOCATION OF DISTRICT.

The Slocan sub-division of West Kootenay district embraces both sides of the dividing ridge of the Selkirk Mountains between Kootenay and Slocan Lakes. On the west side, or in Slocan mining district proper, the recording office is at New Denver, Alex Sproat, recorder. On the east slope in Ainsworth recording district, the office is at Kaslo, and John Keen is recorder.

To reach the district from any point touched by the Canadian Pacific Railway, it is necessary to leave that road at Revelstoke, thence proceed down the Columbia River by the Revelstoke & Arrow Lake Railway to the head of upper Arrow Lake, thence by steamer to Nakusp and by rail on the Nakusp & Slocan Railway to any desired point. Should the traveller desire to visit any place on Slocan Lake the steamer connects with all trains at Roseberry.

From the United States there is the choice of two routes. The Great Northern connects with steamers on the upper Kootenay River, touching at Kaslo, and the Kaslo & Slocan Railway takes the traveller into the heart of the Slocan country.

From Spokane the Spokane & Northern and Nelson & Fort Sheppard is taken to Nelson, thence by steamer to Kaslo.

#### GEOLOGICAL FORMATION.

One of the most difficult features of the country to describe, without the aid of a chart, is the geological formation in which the many mineralized veins occur; but it is made up mainly of argillaceous slate and different forms of lime, cut at various angles by eruptive dykes. The mineralized portion of the district is about twenty miles in length and twelve miles in breadth, although isolated claims have been struck outside this area, as will appear further on. The general trend of the formation is northerly and southerly, dipping to the southwest at different angles. As a rule the strongest veins cut the formation obliquely, clearing any obstrusive dykes of porphyry, serpentine, or other material, thus demonstrating to all practical minds that they are true fissures beyond doubt and carry their valuable metalliferous contents to great depths. The formation of the country and the gangue matter or vein filling is quite soft, all mining being done by the single handed method. To the south and west the district is



**LEADING MEN OF TRAIL.**

1. WM. McMILLAN.    2. THOS. WILSON.    3. F. HANNA.    4. T. W. COLEMAN.    5. S. F. PETERSEN.



bordered by granite formation, on the east by schistose, and on the north by trachyte.

### Notes from New Denver.

**M**INING prospects in the Slocan are looking as promising as ever; the larger mines are continually increasing their forces and concentrators and tramways are running full swing. The chief thing lacking is a local smelter, and the sooner one is in operation to treat the ores at home instead of sending them across the line, the better for all concerned.

There is talk of establishing a concentrator and sampling works at Kaslo, both of which, the latter in particular, are badly needed.

As things are at present the shippers have absolutely no reliable check on the smelter returns and in many cases they are unaware even of the chemical contents of their ore, never having had a complete analysis. Many of them may be carrying other metals than silver and lead for aught they know. It always pays for large or moderate shippers to know exactly of what their ore is composed, as not only can they better check the returns, but they can also approximate the smelting charges beforehand.

One of the chief mining features of the month has been the bonding of the Mount Adams group of claims, situated a little above Sandon, to Philadelphia parties for \$110,000. This is one of the largest deals which the country has seen, and congratulations are due to Capt. Adams, of Montreal, the principal owner.

The Enterprise recently made its initial shipment of two carloads, and although the returns are not yet to hand it is expected to average fully 200 ounces. Work on the wagon road to the mine is being actively prosecuted, and when completed we may expect to see the Enterprise in the list of permanent shippers.

The mine is showing up exceedingly well, a dangerous fault having been encountered successfully in the lower tunnel. Stopping is about to commence and a larger force of men employed. Mr. Finch does not appear to have been so fortunate with the other property which he has under bond in the same neighbourhood, the Arlington. By all accounts the lead in the shaft at a depth of fifty feet is not looking so well as formerly, and doubt is expressed as to whether or not the bond will ultimately be taken up.

Work has been suspended for some time, and unless arrangements are come to shortly the bond will be allowed to lapse.

The Two Friends continues to look well under the able management of Capt. Woods; the ore appears to change in character with depth, the galena being replaced largely by argentiferous zinc blende which, however, assays well. Litigation with respect to the original ownership of the claim is now in course of decision at Nelson.

Frank Anderson is claiming an eighth interest from C. Murphy, who, according to his statement, was a partner of Murphy's at the time the location was made.

Work is being commenced in right earnest on the Boundary group under the supervision of R. C. Campbell-Johnston. This group, although exhibit-

ing an entirely different character of ore, is said to be located on a continuation of the Enterprise vein and bids fair to rival that property in richness. It is stocked by a Vancouver company, and should prove a paying proposition.

It is reported that the Crusader deal has fallen through. This property was under bond to C. T. Dunbar for \$50,000, but the price was evidently considered too high for the limited development done, and the payments were allowed to lapse.

The properties on the Galena Farm which have been awaiting a purchaser so long, have at length been bonded for \$65,000 on a six months' cash basis by C. W. Callaghan, representing English capital. The principal claim, the Currie, on which the greater amount of work has been done, has a shaft down seventy feet, cutting through the ledge, from which cross-cuts have been freely driven to expose the ore more thoroughly. The galena is low grade but immense in quantity, and with proper management should easily repay all that has been spent on it.

The 300,000 shares of Noble Five stock placed on the market at twenty-five cents have been freely purchased in St. Paul and Minneapolis, and work on the new tramway and concentrator will be commenced forthwith. The concentrator is to have a capacity of 120 tons daily and is expected to be in running order by the beginning of next year.

The California, situated about three miles east of New Denver, is being actively developed by six men. From nine to twelve feet of high grade galena have been uncovered and over a car load of shipping ore is now on the dump.

This is the nearest property of any consequence to the town and its success is a matter of great importance to the citizens.

The government is waking up slightly to its responsibilities in these regions; various trails are being repaired and extended, but the large revenue derived from this district must not be altogether overlooked. More than \$3,000 was collected at the recording office here last month and a very few hundred expended.

Good trails are absolutely necessary in order to enable the prospector and others to open up the country effectually and the sooner the government recognizes this and acts in a more liberal spirit in this respect the larger revenue will it receive.

HOWARD WEST.

### Trail Creek Mining District.

(From the Report of Mr. A. Carlyle, Provincial Mineralogist.)

#### EARLY HISTORY.

**E**ARLY in the sixties the placer mines on Wild Horse, Findlay, and other creeks in East Kootenay, having been discovered, resulting in the rush there of miners, and the constant demand for supplies, as there was no means of communication between the coast and this district, except through the United States, with vexatious delays at the Customs, Mr. E. Dewdney, now the Hon. the Lieutenant-Governor of British Columbia, was instructed to survey and construct a trail entirely within British territory, through the southern part of the province, as a passage to the north had been proved to be not feasible. In 1865 this trail, since known as the Dewdney Trail, was finished, and in its course it passed about one mile south of the



present town of Rossland on its way down Trail Creek to the Columbia River. Hence a means of ingress was given to this region, and indications show that early prospectors were attracted to the iron-stained cappings that have now attained such importance and value, as a five-foot hole on the Le Roi and other openings testify, but the low grade surface rock discouraged them, while the means of getting such ore to smelting centres seemed quite out of reach. However, in 1889, Joseph Bourjouis located the first claim, the Lily May, near the Dewdney Trail, which in 1890 was recorded by J. Bordau. In this year J. Bourjouis located the Centre Star and the War Eagle, while the Virginia and Idaho were staked by J. Morris, his partner. They also discovered the Le Roi but forbidden by law to stake more than one claim on the same vein, this piece of ground became the property of Mr. E. S. Topping by his simply paying the expense of recording.

In November, 1890, Mr. Topping met at Colville two Spokane attorneys, Mr. George Foster and Col. Wm. Redpath, showed them samples of Le Roi ore, and offered to sell one-half interest in the claim for \$30,000. These gentlemen became interested in this property, went to Mr. Oliver Durant, a gentleman of long mining experience in the West, in whose judgment they had full confidence, and he, also impressed with the ore, finally secured a working bond on sixteen-thirtieths of the property for six months, with the proviso that during that time he should spend \$3,000 on the claim. Although he knew good mining men had condemned the ore deposits of this region as of altogether too low a grade, Mr. Durant came up at once, examined the claim, taking from a shallow cut of sixteen feet long across solid sulphides careful samples that returned as high as \$60 in gold, at the same time visiting the Enterprise, Centre Star, Idaho, Virginia, War Eagle, and Josie. Satisfied with the showings, E. J. Kelly was left in charge of the sinking of a shaft, from which during the winter weekly samples were forwarded, with great difficulty, to Marcus, Wash., by trail down Trail Creek and the Columbia, samples that assayed from traces of gold up to \$472. In the spring of 1891, after many vicissitudes, ten tons of picked, pure sulphide ore from the bottom of the thirty-five foot shaft, where the vein was fully nine feet wide, were packed out to the Columbia and shipped to the Colorado smelting works at Butte, when the excellent return of \$84.40 per ton was given as the value of the ore, or three ounces of silver per ton, 5.21 per cent. copper, and about four ounces of gold. The bond was then taken up, and in the course of time the remaining fourteen-thirtieths were sold by Mr. Topping to some of the present owners. The Le Roi Gold Mining Company was then formed, and about 70,000 shares of the treasury stock sold at a small figure.

For over a year Mr. Durant had charge of the work, contending with many obstacles, insisting on the continuance of development as he pertinaciously believed in the ultimate conversion of this prospect into a valuable mine, but finally he decided to sell out his interest to the others, and with Mr. A. Tarbet bought the Centre Star and Idaho, upon which nearly 900 feet of work was done at a cost of \$25,000, work that was the main support of this

little camp. But the need of roads was pressing, no advance could be made, and again through the efforts of Mr. Durant, a trail and then a road were built up the East Fork of Sheep Creek from Northport by the business people of that place, and Captain Fitzstubs, Gold Commissioner for West Kootenay, ordering the construction of a road up Trail Creek from the Columbia, the conditions of the camp were at once made much more favourable. With the coming of the financial crisis of 1893, Mr. Durant, whose unceasing and determined efforts had overcome many difficulties and disappointments, and demonstrated that the properties he had so faithfully worked at, were good, was forced to suspend operations until 1895, when he resumed work on the Centre Star, now organized into a stock company.

In the winter of 1893-94, the Le Roi that had shut down upon the expenditure of the proceeds from the sale of the treasury stock, was able to ship by sleighs over the Trail Creek road, the ore that had accumulated upon the dump, and this netting a good profit, active mining operations were begun, and the fast increasing ore shipments, as detailed elsewhere, bringing handsome returns to those who had pluckily stuck to this claim, the Le Roi was fairly launched upon its successful career as a rich dividend-paying mine. In the meanwhile Mr. J. A. Finch and Mr. P. Clark had been attracted to the camp, Mr. Finch getting a bond on the War Eagle, which he relinquished after expending several thousands of dollars prospecting; after which, Mr. Clark, who had thrown up his bond on the Josie, obtained one on the War Eagle. In the work hitherto done on this property, a large shute of low grade pyrrhotite, averaging \$14 to \$16 in gold to the ton, had been more or less explored, but on going further west a few hundred feet, by trenching, the top of a splendid body of good ore, averaging two and one-quarter ounces in gold, nearly 100 feet long and eight to twelve feet wide, was uncovered, and this mine took its place among the best in the camp, paying shortly afterwards its first dividend, February 1st, 1895, of \$32,500.

Another strong factor in the rapid progress of the camp is the connection with it of Mr. Heinze and Mr. D. C. Corbin, president of the Spokane Falls & Northern Railway. Mr. Heinze, the head of a smelting works in Butte, Mon., sent in two men to go over the ground, with the result, after much negotiating, that he made a contract with the management of the Le Roi mine that they should supply him with 37,500 tons of ore in the dump, which he would pay for after the shipment and sampling of each lot, deducting \$11 per ton for freight and treatment charges; and also 37,500 tons on which the charges should be at the lowest rates obtainable in the open market. With this amount of ore contracted for, a land grant from the Provincial Government and a bonus of \$1 per ton smelted from the Dominion Government, Mr. Heinze erected the Trail Smelter and built the tramway from the smelter to the mine. Mr. Corbin, who has extended his road from Northport to Nelson, supplied also with a provincial charter and land grant, is pushing his road up Sheep Creek from the south to Rossland. Thus constantly as the conditions improve where by the cost of mining, shipping and treating the ore are materially lessened, does the limit decrease

at which the ore ceases to be profitable and much more of the lower grade ore now in sight is made available.

## THE ORE DEPOSITS.

Mr. R. G. McConnell, of the Geological Survey of Canada, after a short visit in 1894, reported\* the country about Rossland to be "an area of eruptive rock, mostly diorite and uralite porphyrite cut by many dykes," but as no complete geological survey has yet been made, nor any reported lithological study, only a very general description can now be attempted. The main mass of all the country rock is evidently diorite, although it presents many different gradations in composition and structure, varying from a fine-grained aphanitic rock with very little hornblende at one extreme to nearly massive hornblende at the other, often showing mica and pyroxene. Much of it looks like a basic syenite and samples have been taken for microscopical examination and later report, but the main point of interest is the fact that these ore bodies or veins traverse the diorite, although cores from the hanging and foot walls of the Le Roi shute will be examined as well as samples from either side of the Centre Star ore shute so well defined in the cliff running up Centre Star Gulch, to ascertain whether these samples are all one class of rock or two. In going over this region the variations are seen to be very marked, in some places the rock being stratified as if of sedimentary origin, but in all probability a more or less altered eruptive. Porphyry dykes from one foot up to sixty and eighty feet wide traverse the country, many with a north and south strike, but with no apparent dislocation of the veins which they cut through; indeed, at six such points of intersection the ore seemed to be concentrated, and even to follow along the dykes for some distance, but this must be made clear by further underground work. A careful geological survey will reveal very interesting facts relative to the formation of these ore deposits.

In this Rossland ore, much prospect work has shown clearly that there is a large system of lines of fracture with an east by west and north-east by south-west trend, and a persistent northerly dip, along which more or less ore has concentrated, either as bodies of solid sulphides or sulphides scattered through the country rock. Some of these fissures can apparently be traced through several 1-500-foot claims, and along them are the large ore shutes now being mined or developed, the maximum width of pay ore so far being about thirty-five feet, and maximum length 310 feet. Many of these fissures have been or are now being prospected, and in many instances with surface indications of the most unfavourable character, the improvement has been very marked in the increase of the amount of ore and its value, and the great probability that more rich ore shutes will be found by following these fissures has made all such property valuable, and is deciding the commencement of extensive exploratory work. Again, large shutes of low grade ore, mostly the coarse grained magnetic iron pyrites or pyrrhotite, assaying from traces to \$6 to \$8 in gold, have been found and are being explored for better grade ore and so far with some success,

\* Summary Report of the Geological Survey of Canada for 1894-5.

but development, except on a few claims, has hardly yet begun and so far only the shutes that have been exposed at the surface are being worked and it is yet impossible to foretell how much extensive underground mining will be rewarded. Further details as to the ore bodies will be given in the description below of some of the mines.

The surface of these ore shutes is covered with the typical iron capping, or reddish brown sintery mass, and experience enables the prospector to distinguish between disintegrating sulphides, and barren diorite heavily iron-stained by the oxidizing of the bisulfates or the iron pyrites nearly always present in this rock. Although it is difficult to prospect such rock which may be much iron-stained but with no vein whatever in the vicinity, nearly all work is done along one wall and the ore appears to follow along one wall, where the rock is not too full of fissures that disguise true conditions, but it is doubtful if more than one wall ever really exists, although a parallelism of lines of fracture may for a short distance seem to prove the contrary. Wherever the ore is found to consist of almost pure sulphides, it will be found lying along and parallel to such a wall, after which ore is disseminated more or less through the enclosing rock, often following small fissures that in some cases form small veins of good ore that run for a considerable distance away from the main deposit. In all the mines the ground is faulted, thus dislocating the ore deposits and stringers and complicating the search; but these slips will be better understood as work progresses, although much development work will have to be done by driving steadily ahead along the general course of the veins and cross-cutting, for the good rule of following the ore is seldom possible for any distance by reason of these dislocations.

## THE ORES.

The ores at Rossland, with the exceptional free-milling gold quartz of the O. K. Mine, may be divided into three classes:

(a.) Those large deposits of coarse-grained massive pyrrhotite, locally known as the "iron ore," in which very little or no value in gold is carried.

(b.) The ore found in many claims on the south belt, as the Lily May, Homestake, Mayflower, Curlew, Gopher, R. E. Lee, etc., in which the sulphides are not pyrrhotite but iron pyrites and marcasite (white iron), with in some of these mines much arsenopyrite and also zinc blende and even galena, in which case the silver value exceeds the gold, and the percentage of copper is very small or nothing.

(c.) The typical ore of the camp as sold by the Le Roi, War Eagle, Iron Mask, or Josie, is divided into first-class and second-class. The first-class consists of nearly massive fine grained pyrrhotite and copper pyrites, sometimes with a little magnetite, or mispickel, with more or less quartz and calcite. In this class of ore, as got from the lowest workings of the Le Roi, the amount of quartz is much higher, the smelting returns giving 41 to 52.8 per cent. silica, and 20.6 to 26.8 per cent. FeO., but this is proving the best ore in the mine, the average smelter returns were on 1,200 tons, 2.6 oz. of gold, 1.8 oz. of silver, and 2.5 per cent. of copper, or \$53.05 (not deducting freight and transportation) net, per ton, while some shipments went as high as 4.06 oz. in gold.

The second-class ore, and the bulk of the ore of the camp shipped, will be most probably of this character and value, is a diorite with a comparatively small percentage of these sulphides, but the value is still very good; 1,800 tons of Le Roi, second class, yielded by smelter returns, an average of 1.34 oz. of gold, 1.4 oz. of silver, and 1.6 per cent. copper, or \$27.97 net, per ton. Mr. Bellinger, of the Trail Smelter, kindly gave the average analysis of this ore to be FeO. 22 per cent., SiO<sub>2</sub> 42.5 per cent., CaO. 7. per cent., MgO. 3. per cent., Al<sub>2</sub>O<sub>3</sub> 18 per cent.; copper, 1.5 per cent., S. 6 per cent.

#### TREATMENT.

The destiny of the mining operations of this part of the province will depend, to a very great extent, upon the means of transportation, and then upon the cost of metallurgical treatment, for a large amount of low grade ore is promised, and the possibility of treating such ores at a low figure to leave a fair margin of profit must attract the best endeavours of the metallurgist. The ores containing a high percentage of sulphides will be very desirable, and should command the lowest smelting charges, but in all probability the great bulk of the Trail Creek ores will be of the mixed class, or diorite with a comparatively small proportion of sulphides, and hence a low percentage of copper, while again the amount of arsenic, abundant in some of the ore, will be an important element. This ore has now been shipped to many of the American smelters, such as at Tacoma and Everett, Washington, and Great Falls, West Helena, and Butte, Montana, and now much will be smelted at the new works at Trail, to be described.\* The erection of smelters at Rossland in the immediate vicinity of the mines, is being seriously contemplated, but it is yet too early to make any definite statement. The cost of freight and treatment is now about \$10 to \$14 per ton, when 95 per cent. of the assay value of the gold and silver is paid for, and 1.3 is deducted from the percentage of copper present.

Of course the possibility of other processes being suitable to such ores is being tested, such as the cyanide and chlorination processes, and the result will be awaited with much interest as some such process may prove very successful, and advancements should be deferred until the conclusive experiments have been completed.

#### Eastern Victims.

IT is gratifying to note that the mining papers of British Columbia, with very few exceptions, are in accord with the stand taken by the *Record* against unscrupulous company promoters and speculators.

As an instance of this we clip the following from the *Kootenaian*, published at Kaslo:

"So long as there are people in the world there will be fools, and so long as there are fools there will be knaves to take advantage of them. Notwithstanding column upon column of advice and warning sounded by some of the honest papers of Toronto and Eastern Canada, notwithstanding the denunciation of various schemes, which have gone

\* A description of the Trail Smelter will appear in the October issue of the MINING RECORD.

from this country to unsophisticated Easterners, hundreds are being victimized to-day by schemes which on their face are wildcats of the wildest sort and the rankest kind of rank deceptions.

"The August number of that excellent journal, the *British Columbia Mining Record*, called attention to the California Gold Mining Company, a typical wildcat in that it is based upon an undeveloped claim, the value of which has not been established, and which may prove upon development to be absolutely worthless. Grossly misleading statements abound in the prospectus and the investor is led to believe that he is putting his money into a sure thing, when in fact he is taking the most desperate chances. On these grounds the *Record* rightly denounced the California.

"The *Kootenaian* has before it the prospectuses of the Hill Top Gold Mining Company and the Grand Prize Mining Company, two very similar propositions now being worked, both by the same parties, in the latest and most scientific boom plan at Toronto. They are in the hands at Toronto of entirely inexperienced men who have never seen the country, yet who in print personally vouch for the richness of the property, etc. The names of well known men, some of them men of repute, are used in the list of officers, but nowhere in either prospectus is there proof that the properties are worth a dollar. Several leads are claimed, but neither claim has been developed, and so far as can be learned from the prospectus of the Grand Prize there has never been an assay of ore from the property. This leads to the natural conclusion that there is no ore as yet discovered on the property. Yet without ore, without development, without anything but fifty acres of mountain side, this million dollar concern represents to the country that the Grand Prize will soon be a great dividend payer.

"The Hill Top prospectus claims two leads, but says the ore is not rich enough to ship; it goes on, however, and makes the gross misstatement that the average of four feet of the No. 2 ore on an adjoining claim (name not given) is \$64.20, and ore No. 1, \$114.00. This, too, is to become a great dividend payer at once.

"The *Kootenaian* has no other object than to point out that these two propositions are pure gambles and not legitimate mining ventures as they are represented as being. They should be shown up in their true colours to the end that poor people, who can ill afford to lose their hard earned dollars, may know exactly what they are putting them into. There are other parallel cases—the Palo Alto and the Nest Egg are two of them. These latter, we are glad to see, have been shown up by an esteemed exchange, the *Toronto Star*."

#### HAPPENINGS AT THE MINES.

##### ALBERNI.

SOME splendid quartz from the Ace of Spades was sent down on the *Tees* to Mr. Henry Saunders. It is from the shaft on the mine which has now reached a depth of twenty-five feet.

On the Alberni claim on Mineral Hill the bottom of the shaft has now been tapped by the upraise from the tunnel and the ore is found to be just as good as ever, samples brought down showing free gold plainly visible to the naked eye.

On the Champion, close by, and owned by George Brown and G. A. Kirk, an open cut is being run that shows the lead to be thirty feet wide with a very rich pay streak of free milling ore.

The Mineral Hill Mining Company have run in a cut on the Northern Light, which adjoins the Missing Link, and is a continuation of the Alberni vein. The ore is of the same rich character as the Alberni.

The Mountain Rose on Mineral Hill has a tunnel in over thirty feet.

Capt. Salmon is having a tunnel driven on the IXL, which lies on the east side of the hill, and the Pacific Consolidated Company have let a contract to run a tunnel in on the Minerva Casad and Happy Day mines. The Happy Day ledge can be traced 3,000 feet and is five to fifteen feet wide on top. The tunnel is to be run 400 feet below on the hillside.

At the Duke of York hydraulic claim on China Creek the gravel in the creek bed where the new set of sluices have been laid prospects well, though it will be a month yet before the best gravel in that part is reached.

#### CARIBOO.

Thomas Rablin, who has been working for nearly a year on a drift mine on Lovett Creek, a tributary of Lightning Creek, has the drift in nearly 400 feet and the indications are good that when bedrock is reached pay will be found as it has in all the creeks in the immediate vicinity.

On the Bonaparte River about sixteen miles north of Ashcroft four hundred acres have been located for mining purposes by an English syndicate which was referred to some weeks ago as doing some prospecting in that section.

Mr. R. J. Brigham, for the past two seasons superintendent of the Victoria mine at Quesnelle Forks, who is considered by mining men as one of the best hydraulic miners in this or any other country, says the Victoria is beyond doubt a valuable mine.

It is reported that the Cinnabar Mining Company at Savona's Ferry has ordered a complete plant from San Francisco, and will manufacture quicksilver on a large scale.

The Major Dupont party, consisting of Messrs. Dupont, Hunter, Bell, Harvey and Nickson, left Thursday morning for Quesnelle Forks to finally decide the details and begin operations on the dam across the foot of Quesnelle Lake for the purpose of reservoiring the water of the lake and thereby drying the bed of the river from Quesnelle Lake to the forks of the river, a distance of about ten miles. Mr. Joseph Hunter, M.P.P., who is an engineer of experience and reputation, will have charge of the work. Mr. H. P. Bell will be consulting engineer.

A contract for forwarding the pipes for the Cariboo Gold Fields Company has been completed and they will be freighted by team to Soda Creek and by steamer to Quesnelle. Several teams are already loaded. The total weight of the pipe is 640,000 pounds, and the total distance from Ashcroft to deliver the same is 280 miles.

The Rablin company on Lovett Creek is doing good work. The tunnel is now in over 350 feet with pure slum in the face, except in the bottom,

which is a little coarser, indicating the approach of gravel which will probably go to the bedrock.

#### DEER PARK.

Capt. Fitzstubs has in the Queen of the West a fine showing. There is probably six feet of ore at the surface, which assays \$19.

On Cayuse Creek, four miles from the townsite of Deer Park (north-east) there are several locations showing large bodies of ore running from \$4 to \$16 at the surface.

Across the lake two miles from the townsite there are large bodies of iron and copper sulphide ore carrying value from a trace to \$17, and only a hole from one to five feet deep.

The Genoa, owned by Bostwick, Spellman, Lowe and Hendee, has a showing of a five foot ledge assaying \$11. The Standard, owned by Hughes & Co., runs \$19 at the surface. The Tralite, owned by Johnson & Co., runs \$9.50 four feet down.

#### EAST KOOTENAY.

A number of prospectors are working the old placer diggings on Weaver Creek. A new strike of gold quartz is reported on it.

There is a large number of men at work on the Moyea group of mines. The St. Eugene has nearly 4,000 tons of ore on the dump. The Moyea has lately struck a large body of galena, and the Lake Shore has also some galena in sight. In the near future this will make a large silver-lead camp.

The ledge on David Griffith's property at Bull River is about seven feet in width and has well defined walls. The ledge matter is well mineralized and assays give the following returns: Gold, \$7; silver, 16 ounces; 33 per cent. copper, and a large percentage of lead.

Last summer Mr. John Sherwood discovered a ledge of gold quartz on Perry Creek and made two locations. Since then there have been twenty-two locations made on what is now called the gold belt. The pioneer locations are the Red Mountain, Badger, Last Chance and Perry Creek. The lead on the above claims is five feet wide. The ore is free milling, six assays giving the following returns: \$56, \$75, \$80, \$150, and \$200 in gold. There are three separate ledges running through the mineral belt, all carrying the same ledge matter. The owners, John Sherwood and E. J. Holley, will sink 160 feet, and if the ledge matter at that depth is as good as on the surface, a tunnel 1,200 feet will be run from Perry Creek to tap the ledge at a depth of 1,000 feet. There will be quite a camp on Perry Creek, as the owners of the different claims intend to work and develop their properties during the coming winter.

#### KAMLOOPS.

The force of men at work on the Python claim on Coal Hill has been increased, and the work in the shaft that is being sunk is proceeding more briskly. The hole will soon be down thirty feet, and as progress is made the character of the ore seems constantly to improve. An assay from the bottom of the shaft this week gives 27 per cent. of copper and between \$1 and \$2 in gold.

On the Iron Mask Mr. Newman has set three or four men to work, and intends on his return from the south to put on three shifts in order to determine as speedily as possible the extent and character of the property. He is sanguine of showing up

a real mine. The vein is apparently between thirty and forty feet wide. Reports have come in of promising locations made on Cherry Creek. Specimens of ore croppings show a rock very similar to that found on Coal Hill.

## LILLOOET.

On the Golden Eagle the last reports are that in the end of the thirty-foot drift a solid body of ore showing freely is in sight. So far it is believed no ledge in America has made a better showing than has this, and if the showing continues as it now is the worth of this mine will be put up in the millions.

## MIDWAY.

Upon good authority it is reported that a very rich sluete of ore has been discovered upon the Volcanic claim on the north fork of the Kettle River, owned by the New Olive Mining Company. The ore has only just been broken into, so that the size of the ore body has not yet been ascertained but the character of the ore is everything that could be desired, as besides its gold value, it is freely impregnated with native copper.

Old hands at the business claim that the finest chance exists for a good hydraulic claim upon Rock Creek, but just exactly at what point it is hard to get them to divulge. Many of them have prospected the benches for miles along the creek, and no doubt are thoroughly conversant with the quality of gravel contained therein. The fact that many thousands of dollars have been taken from the bed and bars of the creek in the past, and men have worked upon it even to the present time, lends colour to the supposition that good hydraulic ground does really exist that in the near future may yet be worked.

## REVELSTOKE.

J. C. Montgomery reports that the find of asbestos on Keystone Mountain is one of the greatest things he has seen in all his mining experience. The lead is about 1,000 feet wide and can be followed three miles. The asbestos is of a remarkably good character, and Keystone Mountain, where this magnificent find is, will become noted in the near future.

The Dunvegan boys have their trail in good shape for packing, and about forty tons of ore, valued at \$100 per ton, are now on the siding.

The Horne-Payne Company are having cut the right of way for their tramway from the track to their tunnel on the Maple Leaf-Lanark mines. At the tunnel mouth they are grading out a double track for over 1,000 feet, which will all be shedded over. The same company are putting in a new truss over the Illecillewaet river and grading and clearing ground for a concentrator and saw mill.

## SALMON RIVER.

The head waters of the creek are high up in the divide which separates them from the waters of the creeks which flow down into the Columbia and Kootenay Rivers. These mountains are lofty and extremely rugged, but they simply swarm with prospectors, who have been attracted by the recent strike of rich bornite ore. This was found on the White Horse group and samples assay 332 ounces in silver, 24 per cent. copper and \$13.80 in gold. It is of course too early as yet to know how much importance to attach to this discovery, but the

district is highly mineralized throughout, and if only a fraction of this wealth is found in the ore it will be the foundation of one of the best mining camps in the district.

The Arnold, which is situated near the summit of Donaldson Mountain, has a shaft down thirty-five feet. On the surface this was strictly a galena proposition, averaging about \$18 in value, but it is carrying more in copper and gold with depth. In the bottom of the shaft the values average about \$35 a ton.

The Mersey, in which Mr. Gilliam is interested, is opened in five different places along the vein for a distance of about 1,200 feet. These openings show from two to five feet of iron-copper sulphide which assays from a trace to \$11 in gold and five to twelve ounces in silver.

## SLOCAN.

E. J. Field, resident manager of the Wonderful mine, announces that he will make one more shipment from the Wonderful, after which the ore will be held till the price of lead and silver advances. Shipments from the Wonderful up to date have netted the company \$15,000, so that it is not obliged to ship. All the Wonderful ore shipped by the present company has been secured by sluicing.

On all hands an advance is expected on ore after the presidential elections. Several of the leading mining men of the Slocan are of the opinion that mining companies could make money by holding shipments over. With the Slocan properties it is not a question of shipping with a profit at present figures. It is merely a matter of calculation as to the probable future of the market. Companies operating with limited capital may be obliged to ship, but several of the heaviest producers can easily tide over the uncertain months without shipping.

Very little has been heard of late of the Idaho mine below Three Forks. A year or two ago it was considered one of the biggest mines in the Slocan country and was more talked of than any other mine, except, perhaps, the Slocan Star. Of late the newspapers have had little to say about it, though it has worked continuously, paying handsome dividends, and in the last thirty days the mine has shipped ten cars of concentrates and two cars of crude ore, the smelter returns on which exceeded \$26,000.

The Wills group, which is situated above the Slocan Star, and is owned by the Minnesota Silver Company, reports a strike in their No. 3 tunnel. This gives a depth of 310 feet and is a very good evidence of the improvement of our mines with depth. This property is owned principally by Humphreys, Yawkey and Farrell.

## TEXADA ISLAND

A number of very fine specimens of free milling quartz from the Van Anda mine on Texada Island have been brought down by the *Joan*. In one of these a piece of gold three-quarters of an inch long and nearly half as thick was imbedded. Large extensions in the work of the Van Anda are anticipated.

## WATERLOO.

The Lillooet and Fraser River people are working between twenty-five and thirty men, principally on the Aaron group.

Hon. D. W. Higgins, with Messrs. Corsan, Monteith and Crawford, have been examining the mines in the Waterloo district. Mr. Higgins is interested in the Charleston. Iron King and Josie and is pleased with the showing. Men are at work developing the Charleston.

THE OMENICA DISTRICT.

Captain Black and party, in the interests of the Omenica Consolidated Hydraulic Mining Company, arrived at Hazleton *en route* to Omenica, on August 17th, after an uneventful trip from Victoria.

They will now proceed with all possible haste to Omenica, where operations will be begun at once.

Fourteen miners are at work on Lowe Creek, a tributary of the Skeena, which is 100 miles from its mouth.

They report little pay, but like most miners expect to "strike it rich."

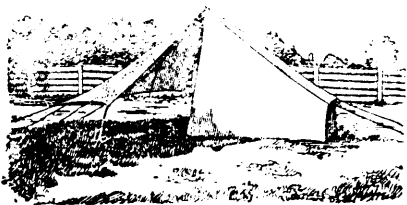
THE ATHABASCA GROUP.

We are informed that arrangements have been made with a party of capitalists to acquire and incorporate the "Athabasca" group of free milling gold claims on Toad Mountain, about three miles from Nelson. The property consists of four claims, upon which there are four distinct ledges. Assays have run \$96, \$207, \$320, \$446, and much higher, to the ton, and there are seven tons on the dump that will average \$300 to the ton.

Note.

We have been requested by Messrs. MacFarlane & Co., of Vancouver, B.C., to state that they are not agents for the National Ore & Reduction Co. of St. Louis, and that the name of the firm was placed on the circulars of the St. Louis company without authority.

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 Public Assayer—H. Carmichael.

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|                             |                  |
|-----------------------------|------------------|
| DISTRICT.                   | OFFICE.          |
| NANAIMO.—M. Bray            | Nanaimo          |
| NEW WESTMINSTER.—D. Robson  | New Westminster  |
| EAST KOOTENAY.—J. Stirret   | Donald           |
| F. C. Lang                  | Golden           |
| G. Goldie                   | Windermere       |
| C. M. Edwards               | Fort Steele      |
| M. Phillips                 | Tobacco Plains   |
| WEST KOOTENAY.—J. D. Graham | Revelstoke       |
| Corry Minhennick            | Lardeau          |
| A. Sproat                   | New Denver       |
| John Keen                   | Kaslo            |
| W. J. Goepel                | Nelson           |
| J. Kirkup                   | Rossland         |
| J. C. Rykert                | Rykert's         |
| T. Taylor                   | Trout Lake       |
| R. J. Scott                 | Illecillewaet    |
| CARIBOO.—W. Stephenson      | Quessnelle Forks |
| J. Bowron                   | Barkerville      |

|                              |               |
|------------------------------|---------------|
| YALE.—W. Dodd.....           | Yale          |
| L. Norris.....               | Vernon        |
| C. A. R. Lambly.....         | Osoyoos       |
| W. McMynn.....               | Midway        |
| H. Hunter.....               | Granite Creek |
| G. C. Tunstall.....          | Kamloops      |
| LILLOOET.—C. A. Phair.....   | Lillooet      |
| F. Soues.....                | Olinton       |
| CASSIAR.—Ezra Evans.....     | Manson Creek  |
| Jas. Porter.....             | Omineca       |
| ALBERNI.—Thos. Fletcher..... | Alberni       |
| VICTORIA.—W. S. Gore.....    | Victoria      |

### Gold Commissioners.

For the Province.—W. S. Gore.  
 Alberni.—Thos. Fletcher, Alberni.  
 Cariboo.—John Bowren, Richfield.  
 Cassiar District.—James Porter, Laketon, Cassiar.  
 Lillooet District.—Frederick Soues, Clinton.  
 East Kootenay District.—J. F. Armstrong, Donald.  
 West Kootenay District.—N. Fitzstubbis, Nelson.  
 West Kootenay District.—J. D. Graham, Revelstoke.  
 Yale District.—Chas. Lambly, Osoyoos; G. C. Tunstall, Kamloops.

### Assayers in the Province of British Columbia.

Public Assayer, H. Carmichael, Victoria.  
 W. Pellew Harvey, Vancouver.  
 J. A. MacFarlane, Vancouver.  
 Robbins & Long, Rossland.  
 C. M. Wilson, Sandon.  
 Hill & Co., Sandon.  
 Wm. J. Trethewey, Kaslo.

### Mining Centres in British Columbia

—AND—

### HOW TO REACH THEM.

#### ALBERNI.

*Alberni*.—Steamboat communication with Victoria and by stage with Nanaimo.  
*Barclay Sound*.—Forty miles from Alberni; communication by steamer with Victoria.

#### CARIBOO.

*Barkerville*.—Two hundred and eighty-five miles from Ashcroft; stage from Ashcroft. See stage lines.  
*Bonaparte*.—Six miles from Ashcroft; stage from Ashcroft.  
*Big Bar*.—Stage from Ashcroft.  
*Clinton*.—Thirty-two miles from Ashcroft station; stage from Ashcroft.

*Fort George*.—Nearest post office, Quesnelle.  
*Horseshoe*.—Nearest post office, 150 Mile House; stage from Ashcroft; change at 150-Mile House.  
*Lac La Hache*.—One hundred miles from Ashcroft on stage line from Ashcroft to Barkerville.  
*Lillooet*.—Weekly stage from Ashcroft.  
*Lightning Creek*.—Between Quesnelle and Barkerville, by stage to Stanley.

*One Hundred Mile House*.—Stage from Ashcroft.  
*One hundred and Fifty Mile House*.—Stage from Ashcroft.  
*Quesnelle*.—Two hundred and twenty-five miles from Ashcroft; stage from Ashcroft.  
*Quesnelle Forks*.—Stage road from Ashcroft.  
*Soda Creek*.—Stage from Ashcroft.  
*Stanley*.—Stage from Ashcroft.  
*Slough Creek*.—Stage from Ashcroft.  
*Tatla Lake*.—Stage from Ashcroft, changing at Soda Creek.  
*Willow River*.—Stage from Ashcroft.  
*Williams Creek*.—At Barkerville.

#### CASSIAR.

*Dease Creek*.—  
*McDame Creek*.—

#### COAL CENTRES.

*Crow's Nest Pass*.—  
*Nanaimo*.—From Victoria, all rail, 73 miles. Steamer from Vancouver.  
*Union*.—  
*Wellington*.—From Victoria, all rail, 83 miles. Steamer and rail from Vancouver.

#### EAST KOOTENAY.

*Cranbrook*.—Nearest railway station, Golden. Communication by steamer from Golden to Windermere, thence by stage.  
*Fairmont Springs*.—Nearest railway station, Golden. Steamer to Windermere, thence by stage.  
*Fort Steele*.—Steamer and road from Golden. Steamer from Jennings, Montana, G.N.R.R.  
*Galbraith Ferry*.—Steamer from Golden. Stage in winter.

*Galena*.—Nearest railway station, Golden; thence by steamer. Stage in winter.

*Golden*.—On the main line C.P.R., 475 miles from Vancouver.

*Moyie River*.—From Fort Steele, 25 miles.

*McMurdo District*.—Steamer and trail from Golden, 35 miles.

*Perry Creek*.—Steamer from Golden to Fort Steele, thence by road.

*St. Mary's*.—From Fort Steele, 20 miles trail.

*Thunder Hill*.—One hundred and fifteen miles from Golden. Steamer in summer, stage in winter.

*Windermere*.—Steamer from Golden. Stage in winter.

*Wild Horse Creek*.—From Fort Steele, two miles trail to Kootenay River.

#### WEST KOOTENAY.

*Ainsworth*.—Twenty-eight miles from Nelson and twelve from Kaslo. Steamer communication.

*Albert Canyon*.—A station on the C.P.R., 400 miles from Vancouver.

*Big Bend District*.—Fifty miles from Revelstoke by trail and boat.

*Cariboo Creek*.—Steamer from Nakusp, ten miles.

*Fort Sheppard*.—Nearest post office, Trail Creek; communication by rail and steamer from Revelstoke.

*Illecillewaet*.—On the main line C.P.R., 407 miles from Vancouver.

*Kaslo City*.—Thirty-five miles from Nelson; communication by steamer.

*Lardeau City*.—Forty miles from Revelstoke; communication by steamer.

*Lardo-Duncan*.—Steamer from Kaslo to head of lake, thence river trail 40 miles.

*Nakusp*.—North-west terminus of Nakusp & Slocan Railway, 50 miles from Revelstoke. Steamer communication from Revelstoke tri-weekly.

*Nelson*.—Thirty miles from Robson; is the eastern terminus of the Columbia & Kootenay Railway, and also on the Spokane & Northern Railroad. Steamer from Revelstoke.

*New Denver*.—Steamer from Revelstoke and rail from Nakusp; all rail from Kaslo. Distant from Revelstoke, 75 miles, from Kaslo, 28 miles.

*Pilot Bay*.—Eighteen miles from Kaslo, thence by steamer.  
*Revelstoke*.—On main line C.P.R., 379 miles from Vancouver.

*Rossland*.—Seven miles from Trail Creek by road or stage.

*Sproat's Landing*.—One hundred and sixty miles from Revelstoke, and one and a half miles from Robson.

*Springer Creek and South Slocan Camps*.—From New Denver by steamer, twenty miles.

*Sandon and Cody Creek*.—All rail from Kaslo, 29 miles. Steamer and rail from Revelstoke via Nakusp and Three Forks. Distant from Three Forks, four and a half miles.

*St. Mary's Country*.—Steamer from Kaslo or Nelson to Davie Townsite, thence trail.

*Three Forks*.—Steamer from Revelstoke to Nakusp, thence rail; from Kaslo, all rail. Distant from Revelstoke, 82 miles; from Kaslo, 24 miles.

*Trail*.—Rail from Spokane to Northport, thence steamer. All steamer from Revelstoke, or steamer and rail via Nelson. From Revelstoke, 150 miles; from Nelson, 50 miles.

*Trout Lake City*.—Steamer and stage from Revelstoke.

#### LILLOOET.

*Bridge River, Cayuse Creek, Fraser River.*

#### YALE.

*Boundary Creek*.—Nearest railway station on the S. and O. R., Okanagan Landing, thence by steamer to Pentiction and on by stage to Midway.

*Fairview Camp*.—Communication by boat from Okanagan Landing to Pentiction, thence by stage.

*Kettle River*.—Steamer from Okanagan Landing to Pentiction, thence by stage.

*Midway*.—Rail from Sicamous to Okanagan Landing, thence steamer Pentiction and on by stage.

*Okanagan Mission*.—Rail from Sicamous to Vernon, thence by stage or by steamer from Okanagan Landing to Kelowna, thence by livery.

*Osoyoos*.—Rail to Okanagan Landing, steamer to Pentiction, and thence by stage.

*Rock Creek*.—Rail to Okanagan Landing, steamer to Pentiction, and thence by stage.

*Yale*.—Nicola Lake Stage from Spence's Bridge and Kamloops, 50 miles.

Any of these points may be reached by rail from Spokane to Marcus, and thence by stage twice a week.

Mail stage leaves Pentiction for Midway every Thursday morning.



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| Mon. Wed. Fri.          | 7 p.m. De    | ARROWHEAD | Ar 11.30 a.m. Wed. Fri. Sun.     |
| " " "                   | { 11 p.m. Ar | { NAKUSP  | { De 7.30 a.m. " " "             |
| " " "                   | { 12 m. De   | {         | { Ar 6 a.m. " " "                |
| Tues. Thurs. Sat.       | { 9 a.m. Ar  | { ROBSON  | { De 8.30 p.m. Tues. Thurs. Sat. |
| " " "                   | { 12 noon De | {         | { Ar 8 p.m. " " "                |
| " " "                   | 2 p.m. Ar    | TRAIL     | De 4.30 p.m. " " "               |

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|-------------------|--------------|-------------|--------------------------------|
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|                   | { 9 a.m. Ar  | { WANETA    | { De 3 p.m. {Daily except Sun. |
|                   | { 10 a.m. Ar | { NORTHPORT | { De 1 p.m. {                  |

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|-------------------|----------------|----------|-----------------------------------|
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|                   | { 8 p.m. Ar    | { KASLO  | { De 5.30 a.m. {Daily except Sun. |

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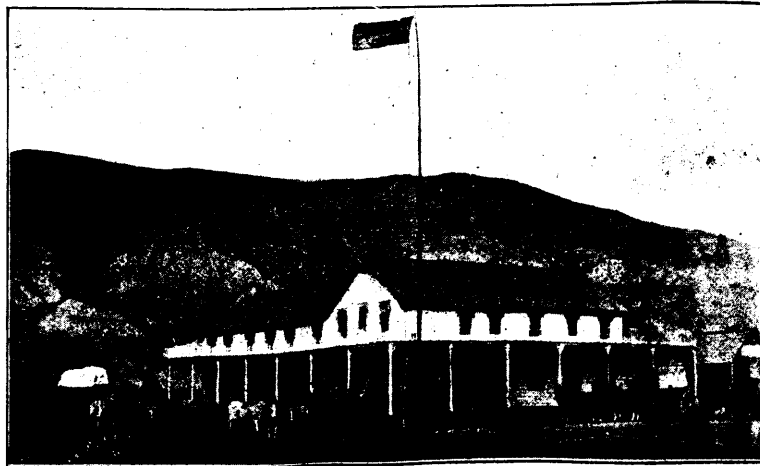
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| Going west.                               | Daily.           | Going east. |
|-------------------------------------------|------------------|-------------|
| Leave 8.00 a.m. . . . . Kaslo . . . . .   | Arrive 3.50 p.m. |             |
| " 8.36 " . . . . . South Fork . . . . .   | " 3.15 "         |             |
| " 9.36 " . . . . . Sproule's . . . . .    | " 2.15 "         |             |
| " 9.51 " . . . . . Whitewater . . . . .   | " 2.00 "         |             |
| " 10.03 " . . . . . Bear Lake . . . . .   | " 1.48 "         |             |
| " 10.18 " . . . . . McGuigan . . . . .    | " 1.33 "         |             |
| " 10.30 " . . . . . Bailey's . . . . .    | " 1.21 "         |             |
| " 10.39 " . . . . . Junction . . . . .    | " 1.12 "         |             |
| Arrive 10.50 " . . . . . Sandon . . . . . | Leave 1.00 "     |             |

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 No. 4 Passenger, daily; leaves Rossland 3 p.m. arrives Trail 4 p.m.  
 No. 6 Passenger, Sunday only; leaves Rossland 8.30 a.m., arrives Trail 9.15 a.m.  
 No. 3 Passenger, daily except Sunday; leaves Trail 10.30 a.m., arrives Rossland 11.30 a.m.  
 No. 5 Passenger, Sunday only; leaves Trail 11 a.m., arrives Rossland 11.45 a.m.  
 No. 1 Passenger, daily; leaves Trail 5 p.m., arrives Rossland 5.45 p.m.  
 All trains run on Pacific standard time. Connections at Trail with Columbia River & Kootenay Steam Navigation Co's. steamboats, Spokane Falls & Northern Ry. via Northport, Canadian Pacific Railway via Revelstoke.

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