

there is a great deal said in various quarters on the evils of re-staking, that is, you stake your friend's claim and he stakes yours to get out of doing the assessment for the year, and the more claims and friends and partners you have in the combination the more years can be bridged over, and this practice can very easily be carried on from year to year at an expense of \$2.50 per claim for recording fees provided they (the claims) are of no known value, but let once the discovery be made that there is anything valuable on any of these claims they are just as likely as not to be staked by some other prospector. Now while this means revenue to the Government, it must be borne in mind, that most likely development work would reveal the fact that ninety out of one hundred of these claims are not worth the recording fee, or the owners would not run the risk of losing them. However, as a partial antidote against the evil complained of I would suggest that the recording fee in the first instance be materially increased, while the fees for recording assessment work be reduced or altogether abolished. Another suggestion that I would make is that as the law now allows a man a square claim of 1,500 feet by 1,500 feet it should be amended to read as in the land laws, all lines must be run north and south, east and west. A map of a survey would not then look so much like a "patch-work quilt" as you may see by the map I enclose with its numerous three-cornered fractions. Another way in which a prospector might be materially assisted and which I would strongly advocate would be the establishment at some central point of a reliable assay office where he could send his ore and have it assayed for a nominal fee, the present rates being altogether too high as compared with charges made at other mining points, in fact it is a question whether the establishment of a small government mill to treat ore in ton lots would not be an excellent move in the interests of the country where the formation is so different and varied that some unexpensive way of determining the actual values contained in the various mineral lodes of the camp would be a tremendous boon."

More wild-cat staking has perhaps been carried on at Alberni than in any other mining district of the province. Mr. Arthur E. Waterhouse, writing from that place, opines that "it is generally conceded by all the more thoughtful and experienced prospectors that some steps should be taken to check the reckless staking of mineral claims in the Alberni district, for although it is necessary, of course, that every encouragement should be given to those engaging in the search for mineral lodes,

OPINIONS
FROM
ALBERNI.

the existing law is open to abuse, and admits of a condition of affairs that instead of benefitting the country retards its development. It is possible to-day—indeed it is actually done—for one man to tie up large areas of mineral ground and by a little manoeuvring cheat the provisions of the Mineral Act and thereby escape the performance of the annual work legally required on each claim staked by him." Mr. Waterhouse goes on to describe the detrimental effect in the Alberni district of "promiscuous" staking in the course of a lengthy but interesting letter. However opinion may differ upon the advisability of the measure proposed by Mr. Carlyle to check the tendency on the part of a certain class of prospectors to stake off large tracts of land supposed to be mineral

bearing and to hold them without attempting to open up or discover the value of their finds, it is nevertheless clear that the mining community of the province as a whole deprecate the practice and recognize the necessity that has arisen for legislative interference in the matter. While we hardly think it likely that the Government this session will propose to make such radical amendments to the Mineral Act as Mr. Carlyle has suggested, they cannot but realize the importance of introducing a measure to minimize the evil he has shown as existing. A law not allowing a second record of a claim to be made unless the assessment work had been performed, and the imposition of a heavy fine in cases where claims had been staked and not recorded would be at any rate a step in the right direction.

HYDRAULIC MINING IN CARIBOO.

[BY G. O. LEASK.]

AMONGST the latest methods of gravel mining to be applied in Cariboo is that of hydraulic gravel elevating. Perhaps the most complete equipment of this kind so far erected is that put up by P. H. Campbell, M.E., for the Cariboo Gold Fields, Ltd., operating on the meadows of Williams Creek.

The first work to be done was the construction of a drainage tunnel to carry off the surplus water; this alone was a heavy undertaking, occupying as it did three years' time and costing \$100,000. At the same time ditches for the conveyance of water from the reservoirs to the river were being dug. Over 12,000 feet of welded wrought-iron pipe, 18 to 24 inches in diameter and one-quarter of an inch in thickness, and weighing over 600,000 pounds, were shipped direct from England to Ashcroft on the C.P.R., thence by waggon and sleigh, a distance of nearly 300 miles, to the mine, at a cost of over \$80,000.

The company has two of the latest improved hydraulic gravel elevators invented by Mr. Campbell and made by Parks & Lacy, of San Francisco, in position at the mine, with pipe lines connected, with sluices, and everything in readiness to commence operations early in the spring. The accompanying cut shows the plant as erected.

The two main pipes that supply the elevators are each 4,000 feet long, the joints all being leaded; the pressure is 600 feet, which will give an efficient head of about 240 pounds to the square inch at the nozzles. The gravel will be elevated eighty-eight feet vertical height, and discharged into sluices four feet in width, paved with eight-inch blocks and having three per cent. grade.

Twenty-five hundred inches of water will be required to operate the plant; its capacity will be about 5,000 cubic yards of gravel every twenty-four hours. To place the elevator in position inclines were sunk over the head of the drainage tunnel to bed-rock; here stations were made for the elevators which were placed in position, connections made and the plant is ready for water.

The principle of the hydraulic elevator is simple indeed. At the outlet end of a tail race or sluice box, of ordinary pattern, but much more substantially built, sits a heavy cylindrical casting, protected by a heavy wrought-iron lining; in the casing is an opening to the floor of the box to admit the gravel and water; through an aperture in the floor of the box, inside the casting is the nozzle connected with the