was anticipated, profits being set aside instead for the purchase of the adjoining Fontenoy claim, for which the company is negotiating.

EAST KOOTENAY.

It is proposed to install a plant at the St. Eugene, Moyie, to treat the slimes and tailings from the mill, and a new appliance has been devised for that purpose. It is considered that in the past a loss of values of about one and a half per cent. has been made in the tailings. To overcome this, a building 250 x 25 feet has been erected at the lake shore, there being placed in the upper storey a large settling tank, through which will pass all the slimes and tailings from the mill, on to specially designed concentrating tables placed in the lower storey. It is announced that shipments at the rate of two carloads a day are to be resumed at once from the North Star mine to the Nelson smelter.

The manager of the Ptarmigan mine, at Wilmer, has received instructions to suspend operations. The Dominion group of claims near Marysville on the St. Mary's River, have been acquired by a Spokane syndicate. The property has been partially developed and contains two veins, one of galena and the other carrying gold and copper values.

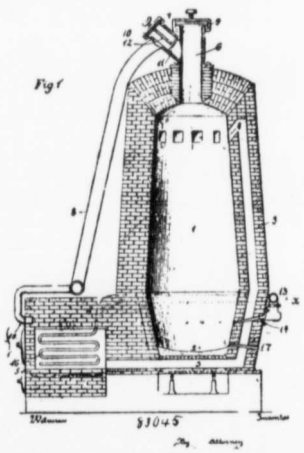
Leases have been secured on the old placer ground at Rider Bar, above the falls on Moyie River, it being proposed to thoroughly prospect the property this winter by sinking shafts, etc., with a view to installing a suitable hydraulic plant next season.

MINING AND METALLURGICAL PATENTS.

We are indebted to Mr. Rowland Brittain, patent attorney, of Vancouver, for the following report: Canadian patent No. 83,045. Ore Treatment, issued September 22nd, 1903, to Oscar Daube, Manhattan, New York.

Claim 2. In a furnace for treating ore, a coking chamber having tuyeres at the bottom thereof, and two separate openings at the top, each opening having a separate cover, substantially as described.

3. In a furnace for treating ore, a coking chamber having tuyeres at the bottom thereof, and two separate openings at the top, a fire space and means for leading gas from one of said openings to said fire space, substantially as described.



5. A vertical coking chamber, a fire box and flues leading from said box up around said coking chamber and side changing into said chamber below the level of the top of a normal charge, substantially as described.

7. In a furnace for treating ore, a vertical coking chamber and means for introducing air near the bottom thereof, in combination with a gas opening at the top of the chamber, a gas pipe connected therewith, means for opening and closing communication through said opening, with said pipe, a waste opening also at the top of the chamber, and a separate cover for said opening, substantially as described.

9. In a furnace for treating ore, a vertical chamber, tuyeres entering near the bottom of said chamber, a fire box and a lining for said box containing an air passage communicating with said tuyeres, substantially as described.

10. The method of treating finely divided ore, which consists in mixing the same with finely divided bituminous fuel, heating this mixture in a single mass away from the air, and finely subjecting the mass so produced to the combined action of high temperature and an air blast, substantially as described.

11. The method of treating finely divided ore, which consists in mixing the same with finely divided bituminous fuel, heating the mixture in a single mass away from the air leading the gases from said mass, burning said gases and finally subjecting the mass to the combined action of heat from said gases and an air blast, substantially as described.

13. The method of treating finely divided ore, which consists in mixing it with finely divided fuel, coking the mixture in one mass, then adding a suitable flux, and finally subjecting the mass and flux to the combined action of high temperature, and an air blast, substantially as described.

THE DEKEYSER ELECTRIC-CYANIDE AMALGAMATING PROCESS.

A COMPANY, the Pacific Mineral Extraction Co., Ltd., is being promoted in Vancouver, with a capital of $100,000, to acquire the Canadian rights and interests in an amalgamate process of amalgamation, utilizing electricity in conjunction with cyanide, invented by Mr. M. De Keyser. The general principle of this method of ore-treatment appears to be somewhat the same as that applied recently by Dr. Hendryx, but it is to be noted that Mr. De Keyser claims to have patented his process so long ago as November, 1900. We extract the following from a statement accompanying the prospectus:

The process is devised for the recovery of gold and silver by dredging, hydraulicing and milling.

Before describing the mechanical and chemical details of this process, it may be stated that gold and silver are found in many states of combination with other elements, such as sulphur, tellurium, arsenic, antimony, etc., and in the metallic state, in nugget form of various sizes down to the impalpable form or condition found in veins or lodes and in alluvial deposits, clean-coated or in a rusty condition; hence it is that the extraction and recovery of these precious metals is attended with many difficulties, arising partly from its many forms of combination, and partly from its variable size and rusty condition.

The ordinary cyanide process may be eminently adapted to the treatment of an ore in which the gold and silver exists in a fine state of division, while entirely unsuited to the treatment of an ore in which the gold and silver exists in a coarse state, owing to the great length of time required for its solution in cyanide.

Turning to the other—that combination of gold and silver with the base metals, such as sulphur, arsenic, antimony, etc.—they are mostly insoluble in a solution of an alkaline cyanide; nor can they be amalgamated with mercury; hence the heavy losses in gold and silver extraction when either of those processes are used separately.

In order, therefore, to treat these ores successfully they must be split up or decomposed, either by physical or chemical means, so that the gold and silver will be rendered soluble and fit for the cyanide electric amalgamation process, each class of ore requiring a somewhat different mode of preliminary treatment.

TREATMENT OF QUARTZ, SULPHIDES AND ARSENICAL ORES.

In the treatment of these gold and silver ores the ore is first roasted (if found necessary), then crushed to half-inch mesh or finer and fed into a suitable pulverizer and agitator.