up the gold from the bottom of the South Fork river, eight miles of which it controls. It is expected that all of this will be worked out before the lake overflows the dam erected to hold it back.

But the attack on the auriferous deposits of Horse Fly and Quesnelle Forks represents only one side of the base of "Old Baldy," the supposed source of Cariboo's golden wealth. On all the creeks taking their rise in it—Keithley, Snowshoe, Cunningham, Harvey, Willow, William, Grouse, Antler, Goose, Lightning and other water courses equally familiar to old-timers—new efforts on a correspondingly large scale to those named are being instituted. The Cariboo Gold Fields and Exploration Company, organized in London, with a capital of £1,000,000, have purchased nearly all the old claims on the famous William Creek at Barkerville, in the Cariboo district, and have expended several hundred thousand dollars in bringing up a bedrock drain tunnel to relieve the deep gravel claims of the water that caused the former owners to quit work. The old channel of Antler Creek, for which unremitting search has been made for over 35 years, is claimed to have been discovered at a remote point from the present stream, and extensive operations for working the dead river channel are being made. A Canadian company with a capital of $2,000,000, has taken up 20 miles or more of Lightning Creek from its junction with Cottonwood, intending to hydraulic it.

A Seattle and New York company has been organized by Colonel Fishback, in which the Goulds are said to be represented, with a capital of $5,000,000, to work 20 miles of the bed of the Quesnelle River. A French syndicate and a Montreal syndicate, the latter with a capital of $2,500,000, $500,000 of which is to go at once into reservoir and ditch construction, are also operating at Quesnelle River. These are only a few of the big companies with large capital that have recently entered this old-time and supposed "petered out" mining district. Even the beds of the Fraser and the Quesnelle, which cannot be reached by pick, shovel or hydraulic monitor, are being attacked by dredges in hopes of winning the golden contents of their sands. The Cariboo miner of 30 years ago looks on and marvels.

JAPANESE SECRET ALLOYS.

THE following is the composition, according to the *Iron Industry Gazette*, of a number of Japanese alloys, hitherto kept a close secret, and now revealed by workmen engaged in making them :—The "shadko" is an alloy of copper and from one to ten per cent. of gold. The objects are placed in a mordant of sulphate of copper alum and verdigris until they have assumed the coppered or blue-black hue of sword sheathe and decorative articles. Gui-shi-bu-ichi is a copper alloy with 30 or 50 per cent. of silver of the well-known gray color. "Makume" is a compound of several alloys. About 30 plates or foils of gold, "shadko," copper, silver and the last-mentioned alloy are soldered together, holes are made, the plate hammered out and put in the mordant.

The finest Japanese brass, "sinchu," consists of 10 parts copper and 5 of zinc. Bell metals, "karakane," are made of 10 parts of copper, 4 tin, ½ iron, 1½ zinc, the copper being melted first, and the other metals added in the above order.

In replying to Advertisements in this paper, mention The Canadian Miner.

METRIC CONVERSION TABLE.

THE following metric conversion table, which has been compiled by C. W. Hunt, could be with advantage pasted by engineers in their note books :

Millimeters multiplied by .03937 equals inches.

Millimeters divided by 25.4 equals inches.

Centimeters multiplied by .3937 equals inches.

Centimeters divided by 2.54 equals inches.

Meters equals 39.37 inches. (Act of U.S. Congress.)

Meters multiplied by 3.281 equals feet.

Meters multiplied by 1.094 equals yards.

Kilometers multiplied by .621 equals miles.

Kilometers divided by 1.0093 equals miles.

Kilometers multiplied by 3280.7 equals feet.

Square millimeters multiplied by .0155 equals square inches.

Square millimeters divided by 645.1 equals square inches.

Square centimeters multiplied by .155 equals square inches.

Square centimeters divided by 6.451 equals square inches.

Square meters multiplied by 10.764 equals square feet.

Square kilometers multiplied by 247.1 equals acres.

Hectares multiplied by 2.471 equals acres.

Cubic centimeters divided by 16.383 equals cubic inches.

Cubic centimeters divided by 3.69 equals fluid drachms (U.S.P.).

Cubic centimeters divided by 29.57 equals fluid ounces (U.S.P.).

Cubic meters multiplied by 35.315 equals cubic feet.

Cubic meters multiplied by 1.308 equals cubic yards.

Cubic meters multiplied by 264.2 equals gallons (231 cubic inches).

Liters multiplied by 61.022 equals cubic inches. (Act of U.S. Congress.)

Liters multiplied by 33.84 equals fluid ounces (U.S.P.).

Liters multiplied by .2642 equals gallons (231 cubic inches).

Liters divided by 3.78 equals gallons (231 cubic inches).

Liters divided by 28.316 equals cubic feet.

Hectoliters multiplied by 3.531 equals cubic feet.

Hectoliters multiplied by 2.84 equals bushels (2150.42 cubic inches).

Hectoliters multiplied by .131 equals cubic yards.

Hectoliters divided by 20.42 equals gallons (231 cubic inches).

Grammes multiplied by 15.432 equals grains. (Act of U.S. Congress).

Grammes multiplied by 981 equals dynes.

Grammes (water) divided by 29.57 equals fluid ounces.

Grammes divided by 28.35 equals ounces avoirdupois.

Grammes per cubic cent. divided by 27.7 equals pounds per cubic inch.

Joule multiplied by .7373 equals foot pounds.

Kilograms multiplied by 2.2046 equals pounds.

Kilograms multiplied by 35.3 equals ounces avoirdupois.

Kilograms divided by 1102.3 equals tons (2000 pounds).

Kilograms per square cent. multiplied by 14.223 equals pounds per square inch.

Kilogrammeters multiplied by 7.233 equals foot pounds.

Kilograms per meter multiplied by .672 equals pounds per square foot.

Kilograms per cubic meter multiplied by .026 equals pounds per cubic foot.

Kilograms per cheval vapeur multiplied by 2.235 equals pounds per horse power.

Kili-watts multiplied by 1.34 equals horse power.

Watts divided by 746 equals horse power.

Watts divided by .7373 equals foot pounds per second.

Calorie multiplied by 3.968 equals B.T.U.

Cheval vapeur multiplied by .9863 equals horse power.

(Centigrade multiplied by 1.8) plus 32 equals degrees Fahrenheit.

Francs multiplied by .193 equals dollars.

Gravity, Paris, equals 980.94 cent. per second.

TESTS FOR MINERALS.

THE *Mining and Electric News* gives some tests for lead, silver, gold, copper and iron ores :

Lead and Silver.—Take a piece of the ore to be examined, powder it and pass it through a fine sieve. Take 25 grains, or thereabouts, of the powdered ore, place it on an iron spoon and roast until no smell of sulphur arises. Place the sample in an evaporating dish and add twice the quantity of nitric acid, diluted with a little water. Heat over a lamp until citrous acid fumes subside, dilute with a little more boiled rain, snow, ice or distilled water, and allow it to settle. If cloudy, the solution must be filtered. If clear, carefully pour off the solution from the sediment into a glass or test tube. Divide it into three portions in three different glasses. Add to one portion a few drops of common salt solution or muriatic acid. This will precipitate lead and silver, if any ; as a white chloride ; add the salt solution until the precipitation ceases. Pour off the solution and wash the precipitate with boiling water ; this will dissolve it, if lead, leaving the silver in the residue, pour off the solution from the precipitate and add ammonia to the precipitate, which will dissolve it, if silver. The chloride of silver, if exposed to the sunlight, turns to a darker shade of color than the chloride of lead, and in that case will not dissolve in ammonia. It should, therefore, be done quickly and under cover.

Gold.—To the original and undissolved ore add (aqua regia) one part nitric to two parts hydrochloric (muriatic) acid, to cover the ore. Digest for half an hour gently over a lamp, add water until cool, and place it in a glass or test tube. Now add a few drops of chloride of tin solution ; if gold, a purple color will be shown—"The Purple of Cassius." This, on shaking, if too much of the chloride has not been added, will disappear. Add a little sulphate of iron solution, and it will form a brown precipitate, which will not disappear on shaking.

Copper.—Add ammonia to a portion of the first solution, and, if copper is present, it will give a blue color.

Iron.—Add to another portion of the first solution a little of the ferro cyanide of potassium solution (yellow prussiate of potash). If iron is present, a deep blue color will be shown (Prussian blue).

FOR the benefit of people who have work to do about mines, we give the following item :—Fourpenny nails are 1½ inches long and 300 to the pound. Sixpenny fence nails are 2 inches and 80 to the pound. Fine threepenny nails are 1¼ inches and 760 to the pound. Twentypenny nails are 4 inches and 24 to the pound. Fiftypennies are 5½ inches and 12 weigh a pound.