

to have been let to the Dominion Bridge Co., of Montreal.—The Board of Works have awarded contracts as follows: wire spikes, Peter Bertram, \$2.91 per keg; lumber, Robert Thomson & Co., \$12.97 per thousand feet.

OTTAWA, ONT.—The contract for the construction of 47 miles of the Ottawa, Arnprior and Parry Sound railway has been awarded to E. F. Farquhar, of Toronto. The amount of the contract is said to be about \$450,000. It is probable Mr. Farquhar will sublet the contract for bridges and culverts along the line.

#### NEW COMPANIES.

WOODSTOCK, ONT.—The new Barnes Bicycle Co., applying for incorporation; capital \$25,000; to manufacture the new Barnes wheel.

ROSSLAND, B. C.—Great Western Mining Co., capital, \$1,000,000; promoters, John M. Burke, Chas. E. Barr, H. M. Stephens and others.

HAMILTON, ONT.—Doherty Process Co., applying for incorporation; capital, \$125,000. Promoters, Adam Zimmerman, P. D. Crerar, M. A. Hunting, J. M. Gibson, J. Muir, and Alexander Campbell.

OTTAWA, ONT.—Ottawa Graphite Co., asking incorporation; capital, \$200,000. The parties interested are Messrs. Geo. P. Brophy, C. E., S. H. Fleming, C. E., J. B. Brophy, C. E., J. W. McRae and Hector McRae.

MONTREAL, QUE.—A company is seeking incorporation as the Taylor Co., Ltd., to take over the business of J. & H. Taylor, iron merchants and manufacturers, Montreal. The company is composed of John M. Taylor, and Philip S. Rose., of Montreal, George A. McLean, of Pittsburg and Wm. H. Beatty and George Gooderham, of Toronto.—The International Dredging & Construction Co., applying for incorporation; capital stock \$100,000; applicants, Nicholas K. Connolly, Quebec; James Swift, Kingston; John Connor, St. John, N. B.; Michael Connolly, Montreal; and Felix Carbray, Quebec.—Standard Gas Co., applying for incorporation; capital, \$100,000. Applicants, Robert Beckerdike, G. N. Ducharme, F. J. Freese, and others.

#### BUSINESS NOTES.

Benjamin Files, painter, Enterprise, Ont., has sold out.

Jacob Randall, painter, Ottawa, Ont., has assigned to W. A. Cole.

Hill & Forbes, wholesale paints, Montreal, are dissolving partnership.

Joly & Gaucher will do business as contractors in Montreal under that style.

Theobald & Co., painters, etc., Union, B. C., have dissolved, G. H. Scott retiring.

E. A. Spencer, builder, Rossland, B. C. is reported to have left the country; assets, nil; liabilities about \$4,000.

Dunlop & Heriot, architects, have dissolved partnership. Mr. Dunlop will continue to do business alone under the same style.

Barry & Ross, sub-contractors for the stony Creek section of the T. H. and B. railway, have entered suit against Good and Company and Engineer Wingate for \$10,000 damages for withholding the final estimate of work done.

The assets of the estate of Wm. Clendinning & Son, Montreal, were sold last week. The whole property, with the exception of the St. Anne's property was taken over by the Bank du Peuple. The total price realized was \$199,550.

Five cent telegrams are to be tried in Italy. The government is also trying to have the tariff with other European countries reduced.

#### HOW TO MAKE THIRTY-TWO KINDS OF SOLDER.

1. Plumber's solder, lead 2 parts, tin 1 part.
2. Tinman's solder, lead 1 part, tin 1 part.
3. Zinc solder, tin 1 part, lead 1 to 3 parts.
4. Pewter solder, lead 1 part, bismuth 1 to 2 parts.
5. Spelter solder, equal parts copper and zinc.
6. Pewterers soft solder, bismuth 2, lead 4, tin 3 parts.
7. Another, bismuth 1, lead 1, tin 2 parts.
8. Another pewter solder, tin 2 parts, lead 1 part.
9. Glazier's solder, tin 3 parts, lead 1 part.
10. Solder for copper, copper 10 parts, zinc 9 parts.
11. Yellow solder for brass or copper, copper 32 pounds, zinc 29 pounds, tin 1 pound.
12. Brass solder, copper 61.25 parts, zinc 38.75 parts.
13. Brass solder, yellow and easily fusible, copper 45, zinc 55 parts.
14. Brass solder, white, copper 57.41 parts, tin 14.60 parts, zinc 27.99 parts.
15. Another solder for copper, tin 2 parts, lead 1 part. When the copper is thick, heat it by a naked fire, if thin use a tinned copper tool. Use muriate or chloride of zinc as a flux. The same solder will do for iron, cast iron or steel: if the pieces are thick, heat by a naked fire or immerse in the solder.
16. Black solder, copper, 2, zinc 3, tin 2 parts.
17. Another, sheet brass 20 pounds, tin 6 pounds, zinc 1 pound.
18. Cold brazing without fire or lamp, fluoric acid 1 ounce, oxy muriatic acid 1 ounce, mix in a lead bottle. Put a chalk mark each side where you want to braze. This mixture will keep about six months in one bottle.
19. Cold soldering without fire or lamp, bismuth  $\frac{1}{4}$  ounce, quicksilver  $\frac{1}{4}$  ounce, block tin filings 1 ounce, spirit salt one ounce, all mixed together.
20. To solder iron or steel or either to brass, tin 3 parts, copper  $39\frac{1}{2}$  parts, zinc  $7\frac{1}{2}$  parts. When applied in a molten state it will unite metals first named to each other.
21. Plumber's solder, bismuth 1, lead 5, tin 3 parts.
22. White solder for raised Britannia ware, tin 100 pounds, hardening 8 pounds antimony 8 pounds.
23. Hardening for Britannia, to be mixed separately from the other ingredients, copper 2 pounds, tin 1 pound.
24. Best soft solder for cast Britannia ware, tin 8 pounds, lead 5 pounds.
25. Bismuth solder, tin 1, lead 3, bismuth 3 parts.
26. Solder for brass that will stand hammering, brass 48.26 parts, zinc 17.41 parts, silver 4.33 parts, add a little chloride

of potassium to your borax for a flux. 27. Solder for steel joints, silver 19 parts, copper 1 part, brass 2 parts; melt all together. 28. Hard solder, copper 2 parts, zinc 1 part; melt together. 29. Solder for brass, copper 3 parts, zinc 1 part, with borax. 30. Solder for copper, brass 6 parts, zinc 1 part: melt all together well and pour out to cool. 31. Solder for platina, gold with borax. 32. Solder for iron. The best solder for iron is good tough brass with little borax.

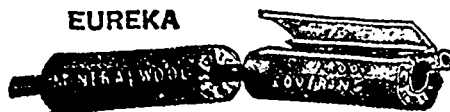
In soldering, the surfaces to be joined are made perfectly smooth and clean, and then covered with sal ammoniac, resin or other flux; the solder is then applied, being melted on and smoothed over by a tin soldering iron. In soldering fluid, take 2 ounces muriatic acid, add zinc till bubbles cease to rise, add  $\frac{1}{2}$  teaspoonful of sal ammoniac.

#### USEFUL HINTS.

PAINT FOR WATER TANKS.—Oxide of iron paint, mixed with boiled linseed oil, is the only suitable paint for water tanks, wood or iron. For iron tanks there should be not less than two coats, the first well dried before the second is put on. Use no turpentine. For wooden tanks a coat of boiled oil should be put on before the paint, and well dried. Water standing in galvanized iron tanks becomes impregnated with and tastes of zinc, and is poisonous. Such tanks should be painted with the oxide of iron paint.—Decorators' Gazette.

For the harbour works at Bremen, Mr. Neukirch has made use of his process of forcing powdered cement into the sand, which may be under water, by means of compressed air. A pipe,  $1\frac{1}{2}$  inches in diameter, perforated at its lower end, is driven several yards into the sand, withdrawn if any greater obstacle should be met with, and replaced. The pipe communicates with a cylinder for compressed air (which is heated before passing into the tube), and, through a side branch with the cement chamber. Sand charged with about one-fifth of its mass of cement occupies a smaller volume than before. According to Le Genie Civil, Mr. Chemin has by the same process refixed a length of about 150 yards of a sewer, which had gradually sunk in loose sand.

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