

bringing from five to eight dollars a pound. When the distilleries were first established the farmers were paid \$1.50 per ton for birch brush, but now they receive \$3 a ton. As the brush frequently has to be carted a long distance over rough country roads to the mills, the farmers do not consider their pay too large. Of late years other oils on the market have reduced the demand for birch oil so that the manufacturers receive less for their products. As the result of this some mills are paying much less than the regulation \$3 a ton for brush.

A few farmers near the mills have planted their woodlands with birch trees, and where the haul is short they make a good living. But as only about 600 pounds can be carried on a one-horse wagon, it follows that there is little money in the work when the brush must be carried seven or eight miles. Among the mountains of Connecticut there are large patches of birch woods that seem to be free to any one, and many poor people go there to gather the birch brush for the market. But their work is irregular and at starvation rates. It takes them all day to gather one load and cart it to the factory, for which they get 91 cents.

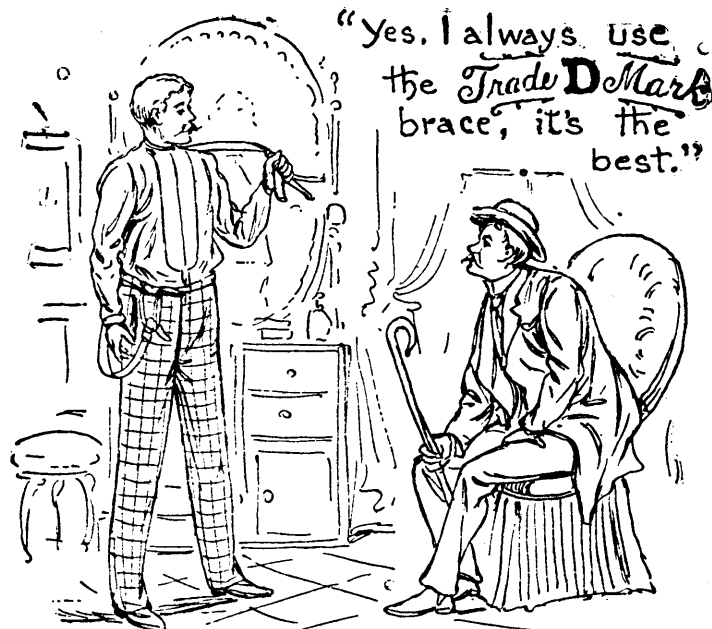
There is no reason why the farmers should not co-operate in manufacturing the birch oil themselves. The work is of the simplest kind, and a plant costs very little. A distillery is never anything more than a rough, old frame building, much less expensive than the farmers' barns. The machinery inside is equally inexpensive. The work of making the oil is as follows: The birch twigs are cut into even lengths of five inches, and then thrown into water tight tanks with copper bottoms. A coil of steam pipes is arranged in the bottom, and three feet of water poured in. The tops are hermetically sealed, and steam is then turned on. The water is kept boiling for six hours. Into the side of each boiling tank a steam pipe is inserted and runs in the form of a worm into a barrel of cold water. Cold water is flowing continually into this barrel. The steam rising from the boiling birch twigs passes through this pipe, and is condensed in the worm, while the oil drops from the end of the pipe into a small receiving jar or pail. As the oil drips down it is a dull brown, and it must be clarified until it is a very light green. The oil is no longer clarified by chemical processes, but by simply spreading a heavy woolen blanket over the wood inside the tank. In a properly-constructed mill the oil now drips out pure and ready for market. This oil will always bring \$3 a pound, and sometimes much more, and one ton of birch yields four pounds of oil. Surely farmers ought to be bright enough to construct a mill of this character, and make their own oil at a big profit.

#### The First Three-Phase Plant in Canada.

The town of St. Hyacinthe, Que., at which place is located the first three-phase plant installed in Canada, is on the Portland line of the Grand Trunk Railroad about thirty-five miles from Montreal. A branch line of the Canadian Pacific also reaches the town, and a new line of railway called the United Counties passes through it, connecting it with the town of Sorel on the west and Iberville on the south. The population, at present about 11,000, is rapidly increasing. A fine water power on the Yamaska River is utilized to operate the

Granite Mills owned by Feodore Boas & Co., manufacturers of woolen goods, and several other factories.

There has been for some time, however, a demand for more power than was available in the town itself, and in the Fall of 1893 the transmission of power from the Rapid Plat, 4 1/2 miles below the city, was first discussed. In February, 1894, this power was acquired by Mr. A.M. Morin, and in April of that year a company, called La Com-



"Yes, I always use the Trade Mark brace, it's the best."

MANUFACTURED BY THE  
**DOMINION SUSPENDER CO.**  
CANADA— NIAGARA FALLS. UNITED STATES.

**FRICION BOARD** **FRICION BOARD** **FRICION BOARD**  
Manufactured by **Dominion Leather Board Co.,**

— MONTREAL —

**Proprietors Sault Au Reclot Paper Mills.**  
**ROOFING, SHEATHING AND FLOORING FELTS.**

## FETHERSTONHAUGH & CO.

Patent Barristers and Solicitors

Electrical and Mechanical Experts and Draughtsmen

Cable Address "Invention, Toronto."

Telephone: 589

**PATENTS** Procured in Canada and all Foreign Countries

Head Office: Canadian Bank of Commerce Bldg., TORONTO

Established 1884 with Twenty Years' Professional Experience in Canada, England and Germany.

**A. HARVEY, C.E.**

**PATENT ATTORNEY**

Ottawa, Canada

Offices: Rooms 33 and 34 Central Chambers

Address: Postal Box 1071

TELEPHONE

Send for Circular 48a "How to Obtain a Patent."

WHEN WERE

YOUR

**Boilers**

LAST

INSPECTED.

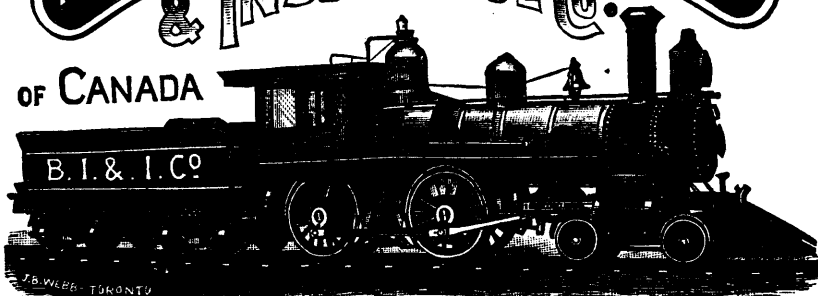
CONSULTING ENGINEERS:  
**G. C. ROBB, Chief Engineer**  
**A. FRASER, Secretary-Treasurer**

**JOHN L. BLAIKIE Esq.**  
PRES.

**EW. RATHBUN Esq.**  
VICE-PRES.

**THE BOILER INSPECTION & INSURANCE CO.**

OF CANADA



Head Office: TORONTO

ARE YOU  
SURE

THEY ARE

**SAFE**

AND

IN GOOD

CONDITION?