

HARRIS, HEENAN & Co.

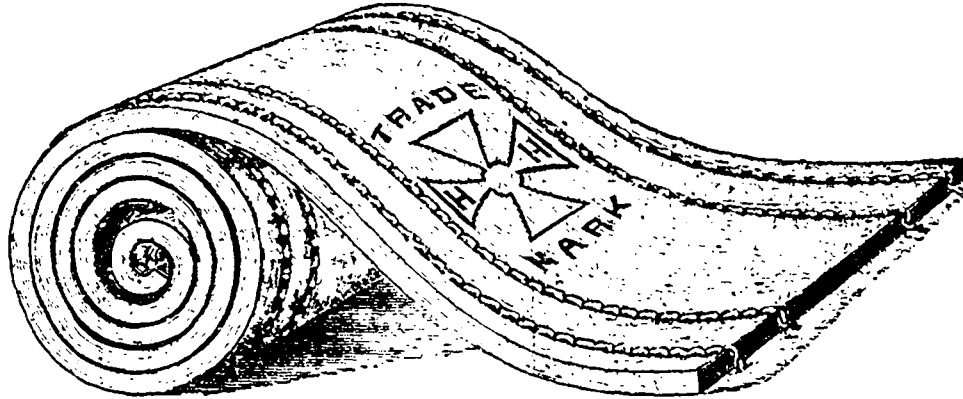
124 AND 126 QUEEN STREET,

MONTREAL.

Patent Stitched—Steam Power Pressure Stretched—Oak Tanned

TESTIMONIAL.
Ira Gould & Sons, City Mills,
Nov. 13th, 1884.

Dear Sirs:—Your Patent Sewed Belt has been in use in our City Mills for some time. We are thoroughly convinced of its superiority over any other belt. American or Canadian. We have used in an experience of over 5 years. It stretches so little, and gives so little trouble, that compared with riveted belting, the sewed belt saves double its price in time and labor saved. We heartily recommend it to manufacturers as the cheapest and most satisfactory belt in the market.
Yours respectfully,
W. C. BUSHALL,
Foreman City Flour Mills.



TESTIMONIAL.
PICK, BERRY & Co., CANAL HORSE SHOE AND
NAIL WORKS, Montreal, 15th Nov. 1884.
Messrs Harris, Heenan & Co., Montreal.
I have pleasure in recommending the belting manufactured by Messrs Harris, Heenan & Co. of this city. After thoroughly testing it, I find it greatly superior to any belting that has come under my notice and fully equal to all they claim for it, and certainly without an equal for cross or double belting.
CHAS. R. ELLACOTT,
Supt. H. S. & H. N. Dept.

LEATHER BELTING!

*The Best, therefore the Cheapest, Belt in the market.
Replaces, when used, all others.
More Pliable and Durable, especially at the splices.*

*Stretches but little, always retains its original width.
Superior for Cross or Double Belts.
Runs straight and true, does not start at the laps.*

Single equals medium double.

25 per cent Stronger, 33½ More Lasting, and 12½ Heavier, than any other Leather Belt.

THE TEETH OF FRICTION.

In well constructed gear wheels, or gears with teeth in perfect mesh, there is but very little of that crowding action that tends to set the wheels apart or increase their distance between centres. In fact, they can be made to draw the wheels together by leaving the faces of the teeth of the driver as well as the flanks of the driven wheel of greater length than the remaining portion of the gear teeth; but in the teeth of friction this irregularity in construction is entirely done away with. They are not laid out in any regular order, and are of varying lengths without any regard to the pitch line or the shape of the gear teeth. The cycloidal forms and involute curves are entirely left out of the calculation; in fact, they are so flat that to keep their working surfaces in contact, and to hold them in mesh while the teeth are engaging with each other, requires a greater force than they are capable of driving. Besides, the teeth are liable to strike end to end as to fall within the spaces between them, and however they may strike, they are as likely to crowd each other forward or backward, producing a slip or a creep in the different portions of the surface of contact; and should this working surface remain at rest for a moment, these interlacing and irregularly arranged depressions and markings that form the teeth of friction settle into their places and increase their clinging power—as may be noticed in the starting force of friction—till they are thrown out of place in the sliding of one of these frictional surfaces upon the other. A locomotive weighing forty tons represents the forces with which these teeth crowd apart or are held in contact when a draft of ten tons is obtained, to be used in drawing the train, and are the means by which the drivers cling to the rail and friction wheel that transmit the power, not by gear girth, but by the teeth of friction. *Industrial World.*

OVERLOADED ENGINES.

There is a heavy responsibility resting somewhere on this overloaded engine business. There must be a halt called somehow and somewhere. It might as well be to day as after more lives are sacrificed, and the only way to know where we are is to ascertain carefully. There is no sort of use in risking human life—not only one, but dozens or hundreds in some cases—within reach of an engine that is liable to let go on account of having been overloaded, and perhaps scatter the fly-wheel all over the place, to say nothing of breaking off large steam pipes and scalding people. The judges tell us that diligence must be exercised on the part of the owner and proprietor of all these apparatus, and until that is done to the satisfaction of the court, then a responsibility exists, and it is a serious one in case of loss of life. In fact, the law is very plain on this point, very simple, and entirely too comprehensive for those who seek to evade it by supposing or ignoring. The cases in question will be anxiously watched by all manufacturers and users of steam power.—*Manufacturers' Gazette.*

Roofing Board.

The Paper Trade Journal says:—A board for roofing purposes is made from pulp made up of wood fibre, asbestos fibre, or any other mineral fibre, and suitable clay, in the proportion of six-tenths, three-tenths, and one-tenth respectively, which pulp is thoroughly mixed together and is then formed into sheets or boards by rolls or in a press, and is then dried. When thoroughly dried, and either before or after the boards are applied to roofing or other purposes, they are coated or saturated with asbestos, asphaltum, or any other fibre or water-proof paint. By this combination of ingredients the boards will be pliant and will not readily split or break, and at the same time will be practically fire-proof.

I had a Dreadful Cough.

and raised a considerable amount of blood and matter; besides, I was very thin, and so weak I could scarcely go about the house. This was the case of a man with consumption arising from liver complaint. He recovered his health completely by the use of Dr. Pierce's "Golden Medical Discovery." Thousands of others bear similar testimony.

• • • Delicate diseases, affecting male or female, however induced, speedily and permanently cured. Illustrated book three letter stamps. Consultation free. World's Dispensary Medical Association, Buffalo, N. Y.

McCOLL BROS. & Co. TORONTO

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Machine and Illuminating Oils.

Our Celebrated "Lardine" Brand

Is Unexcelled by any other Machine Oil on the Market.

MILL MEN WILL SAVE MONEY!

*By using "LARDINE." Wears equal to Castor Oil
and ONLY COSTS HALF THE PRICE.*

CYLINDER And other Oils, all of splendid quality always in Stock. Prices, etc., on application to

McCOLL BROS. & Co., Toronto.

H. WILLIAMS, SLATE & GRAVEL ROOFER

MANUFACTURER OF AND DEALER IN

Tarred Felt, Roofing Pitch, Sheathing and Building Papers, Carpet and Rosined Waterproof Paper, Ready Roofing, &c. All orders promptly attended to at LOW PRICES.

H. WILLIAMS,
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