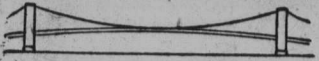


SCIENCE AND PROGRESS.

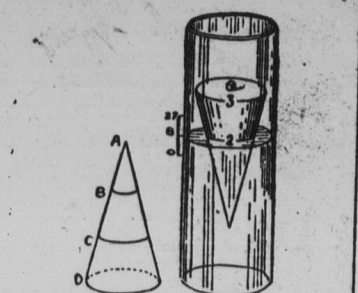
INTERESTING PARAGRAPHS CULLED FROM VARIOUS FIELDS.

Invention and Discovery—Geo. H. H. Writes
About the Brooklyn Bridge—A Simple Scientific Lesson With the Cone as the Illustration.

One of the noblest bridges in the world is the structure which unites New York and Brooklyn. A curious fact in regard to it, and to every other bridge of the suspension type, is that, were its design turned upside down, the outline would indicate a capital plan for an old-fashioned arched bridge. The strength of the steel in the cables spanning the East River is employed to hold up a burden hanging beneath them. The lines along which the metal is most effectively disposed for this duty are substantially the reverse of the lines most suitable were the load not beneath the steel, but above it. As in the case of the Brooklyn Bridge, so with other familiar objects. We are apt to think of them only in the single aspect in which we usually see them. We forget that the rule according to which they



were built or made work both ways, so that were these familiar things but looked at in the reverse they might be quite as interesting or useful.

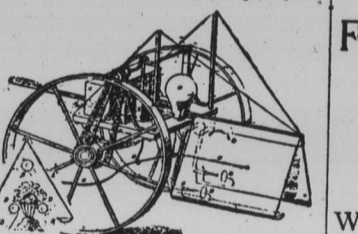


Ask the next schoolboy you meet to draw for you the outline of a cone. His sketch will give you the figure resting very naturally on its base. Were you next to ask him how an apparatus for extracting cube root could be put together he would very probably shake his head and fall to thinking about highly complicated cogwheels and levers. And yet a simple cone has only to be immersed in a cylindrical jar half full of water to extract cube root with precision. It must, however, be inverted; and, that the water may rise as much as possible the jar should be only a trifle wider than the base of the cone, and the cone should be tall and slender.

A cone increases in contents as the cube of its height—hardly any fact in Euclid is more familiar. A D in the figure has twenty-seven times and A C eight times the contents of A B. Inverted and immersed in water, displacement increases in exactly the same ratio. Had the cone been seen as often with its apex downward as in its ordinary position, this little invention would have been given to the schools long ago, and not, as is the case, only the other day.—Geo. H. H., in New York Sun.

A Hint to Canadian Inventors.
A potato spraying machine is figured in the Mark Lane Express that may suggest ideas to Canadian inventors and manufacturers. It is so generally necessary to spray potatoes with the Bordeaux mixture and some poison added, so as to both prevent blight and kill bugs, that a machine to do several rows at a time is needed. It should also be adopted for similar use on tomatoes and other crops. The larger cut outlines the machine: A, hood for passing over rows of potatoes to confine the mist-like spray, and thereby prevent waste of the mixture; B B B, discs for arresting the forced, sharp streams, and dispersing them as mist; C C C, nozzles for discharging the streams from the force-pump tubes; D, air chamber for causing the streams to be uniform or constant, and not fitful; E, pump; F, chain for driving pump; G, re-

servoir or tank for carrying a supply of the mixture; H H H, separator and elevator, in the form of a suspended curved steel rod or saline of wood, for dividing and raising fallen stems to an erect position, and guiding them through the hood over or clear of the lower discs. The small figure in the left-hand corner is a section of the hood; B B, troughs for catching in the hood the spray condensed there, which would otherwise fly to waste; C C C, the spray of mist as generated, and showing that about one-fifth of the mixture is utilized by impinging on the potato leaves and stems, and the four-fifths strike the hood for condensation and recovery.



Why Bicycles Are So Dear.
The question why the high-grade bicycle costs so much—a sum beyond the means of the ordinary wage-earner—is often asked. The Iron Age gives some interesting information in answer. In the first place the bicycle must be made on the interchangeable principle, so that a missing or broken part can be supplied by the factory at once. All of such parts undergo a rigid system of inspection, being submitted to the severe strains which they must stand while the machine is in use. Main parts, like the sprocket wheel, hubs, bearings, etc., are gauged, the allowance for variation being one-quarter of a thousandth. A variation in excess of this throws the piece out. The method of "straining" the wheel is thus described: "The outer ends of the spokes are threaded in order to enter the hardened brass nipple, the cap of which is, of course, on the outer side of the rim. The boy who strings the wheel up merely tightens the nipples sufficiently to hold the parts together. After this the wheel goes to an expert workman, who tightens the spokes, bringing them all under the desired tension. The wheel is then mounted on an axle and turned, a piece of chalk held near the rim serving to indicate any irregularity. To correct such defects and make the wheel perfectly true, the nipples are tightened or loosened. This is a simple matter, and yet one requiring great judgment. The bracing of the joints and the making of the felloe or iron to receive the rubber tire are also operations requiring the greatest precision and delicacy of handling. In short, there is no part of the modern bicycle that can be made factory-fashion.

The East Huron Gazette.

Published every Thursday

The Newsiest Local Paper in North Huron.

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Gorrie, Ont.,

A splendid staff of able correspondents in every part of this section.

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On the most reasonable Terms.

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J. W. GREEN,
Editor.

Notice to Gentlemen!

GREAT CLEARING SALE!

OF

Hard and Soft Felt Hats! Black and Colored,

At 50 cents Each.

A few more of those STRAW HATS left

At 25c.

Call Early and make your Choice.

Best Bargains Ever Offered in Gorrie.

W. S. BEAN,

Montreal House,

Gorrie.

Auction Sale

OF VALUABLE
Furniture Factory,
And Planing Mill and Machinery Connected Therewith,
In the Village of Wroxeter,
In the County of Huron.

THERE will be sold on

SATURDAY, THE 20TH DAY OF AUGUST, 1892.

At One o'clock in the afternoon, At the GOFTON HOUSE in the Village of Wroxeter, by virtue of powers of sale contained in a certain mortgage, which will be produced at the sale, the following property: Lot 18, on the west side of Gibson Street, in the said Village of Wroxeter, containing one fourth of an acre, more or less. The following improvements are said to be erected on the premises: Planing Mill, a Frame Furniture Factory and sundry machinery.

Terms:—50 per cent. of the purchase money to be paid down on the day of sale. For balance terms will be made known at the sale. For further particulars apply to JONES BROTHERS & MACKENZIE, Solicitors, Toronto Street, Toronto. Or to WM. LAURIE, Esq., Wroxeter.

Voters' List, 1892.

MUNICIPALITY OF THE VILLAGE OF WROXETER, COUNTY OF HURON.

NOTICE is hereby given that I have transmitted or delivered to the persons mentioned in sections 5 and 6 of the Ontario Voters' List Act, 1892, the copies required by said sections to be transmitted or delivered of the List, made pursuant to said Act, of all persons appearing by the last revised Assessment Roll of the said Municipality to be entitled to vote in the said Legislative Assembly and at Municipal Elections; and that said list was first posted up at my office at Wroxeter, on the 6th day of August, 1892, and remains there for inspection. Electors are called upon to examine the said list, and if any omissions or any other errors are found therein to take immediate proceedings to have the said errors corrected according to law. JOSEPH COWAN, Clerk. Dated at Wroxeter, this 6th day of August, 1892.

Fordwich Roller Mills.

WILSON BROS., Props.

First-class Manitoba Wheat Flour manufactured and always kept in Stock and sold in any quantities.

FLOUR.....per cwt. \$2 25 to \$2 50
BRAN.....per ton. 14 00
SHORTS.....per ton. 16 00

Special attention given to GRISTING, which is done on the shortest possible notice.

Highest Price Paid for Grain.

The mill is fitted throughout with the very best roller process machinery and appliances and we are confident of being able to give perfect satisfaction.

PATRONAGE SOLICITED.
WILSON BROS.

Fordwich Drug Store

A SPENCE, M. D.,
Proprietor.

J. C. BELL,
Manager.

— A FULL LINE OF —

Drugs and Druggists' Supplies,

Stationery and Fancy Goods,

WALL PAPER

In endless variety and at every price.

W. C. HAZLEWOOD

City Boot and Shoe Store,

WROXETER

A Neat Walking Boot

Is not only a comfort to the wearer but a pleasure to every one who admires a pretty foot. We have them—the boots, we mean. And they are cheap.

Our stock of Ladies and gents' slippers is unusually large and choice. See them.

A splendid assortment of Ladies' wear of all kinds is now displayed on our shelves.

GENTS' can be supplied in any line.

Heavy kip and calf and the lighter Oxford, Dongolas, Wankenphasts, etc.

Don't go past the City Boot and Shoe Store for the most satisfying article at most reasonable price.

WOOL WANTED.

Listowel Woollen Factory.

Highest Prices Paid. Cash or Trade.

Largest Wool Market in Ontario.

Everybody come and see our tremendous big stock in all kinds of woollen goods which we offer at bottom prices for cash or in exchange for wool.

New and Fresh Stock,

We have never been so well fitted and equipped for a wool season's business as at the present one, and have never felt so completely confident of our ability to serve you with the best of goods at bottom prices. A specially attractive feature of our new lines of Flannels, strictly NEW STYLES, far surpasses any wool season yet.

FINE WOOL SCOTCH SKIRTINGS

(Something new offered to the trade.) We are the only woollen factory in Canada that make this line of goods and offer them for one-half the price you pay in the city of Glasgow.

WARNING

We wish to warn the farmers not to be deceived by shoddy peddlers going through the country selling unseasoned goods. We have no pedlars handling our goods and they can only be bought by dealing direct at the factory.

Roll Carding, Spinning and Manufacturing, Tweeds, Flannels, Blankets, &c.

Thanking our numerous customers for their past favors, would beg to say come and bring your neighbor to see our stock, as you will be highly pleased to see goods so low in price. You will find us ready to give the most prompt and careful attention to all.

B. F. BROOK & SON.