

The Vaccination of Land.

Some of the most extraordinary agricultural experiments ever undertaken, considered both practically and scientifically, are described in *Le Genie Civil*. Every one who has ever owned a lawn knows that to plough the ground at intervals, and raise a crop of certain vegetables, improves the subsequent growth of grass; and a drive through the suburbs of any large city will show lawns undergoing this treatment, sometimes with a crop of potatoes, sometimes with beans, according to the notions of the owners, or their gardeners. The process by which this alternation of crops improves the soil has never been very clearly explained. Most people suppose that the repeated digging up of the earth, to plant the potatoes and harvest the crop, is the secret of the success of the treatment, but chemists have fancied for many years that, in such rotations of crops, one set of plants might have the power of absorbing nitrogen from the atmosphere and conveying it to the soil. With this idea, a long series of experiments was carried out fifty years ago, by the greatest chemists in Europe, who analyzed various plants, the air in which they grew and the soil, before they were planted, during their growth, and afterward, and came to the unanimous conclusion that the absorption and storage of nitrogen by growing plants was an impossibility.

For all this, farmers continued to observe that certain plants, particularly of the leguminous tribe, such as clover, lucerne, sainfoin, and some others, instead of exhausting the soil, seemed to enrich it, so that, even after the leaves and stems had been cut and carried away, the roots alone, left in the ground, sensibly increased its fertility. Analysis showed that these roots contained a considerable quantity of nitrogen. If, according to Boussingault, Lawes, Gilbert and others, it was impossible that this nitrogen should be derived from the atmosphere, it must be drawn from nitrogenous matters in the soil. The inference would be, in this case, that nitrogenous manures would be beneficial to crops requiring so much nitrogen for their growth; yet it is well known to farmers that these plants not only derive no benefit from nitrogenous fertilizers, but are injured by them, while, although through the nitrogen contained in their roots they improve the soil greatly for succeeding crops of other plants, they injure it for themselves; and leguminous crops, cultivated too long in the same ground, become sickly. It was not until a few years ago that science and observation were reconciled, by the persistent investigations of MM. Hellriegel and Willfarth, who demonstrated beyond question that the leguminosæ do, in growing, absorb large quantities of nitrogen from the air, but with the singular condition that the absorption of nitrogen begins only with the appearance of a diseased state, which is marked by the development of tubercles, about the size of a millet seed, on the roots, and is, apparently, caused by minute animals, which are always found in the tubercles, and seem to give the plant the nitrogen-absorbing power. Further investigations showed that the young, healthy plants lived on the nitrogen already contained in the soil, and that it was not until this was exhausted, and the plants began to suffer, that the nitrogen-absorbing excretae made their appearance; and proved, also, that the tiny inhabitants of the tubercles were, as a rule, confined to one species of plant, the acacia microbe, for example, refusing to live on the bean, or the clover microbe on the lentil.

It is evident that a plant capable of absorbing nitrogen, which is a costly as well as indispensable adjunct to farming, and of storing it up in the soil for its master's profit, is a valuable possession; and, as only diseased plants have that property, it is obvious that it is desirable to spread the nitrogen-storing disease. With this view, several skillful farmers in France and Germany have, within the past two or three years, been trying experiments, by "vaccinating," as they say, fields of leguminous plants, by sprinkling them with earth in which tuberculous plants have been growing, or water in which they have been soaked; and the results have been extraordinary. Analysis has shown that a single crop of tuberculous leguminosæ, if the tops are ploughed in, adds to the soil from five to twelve thousand pounds of nitrogen, worth from eighteen to forty-five dollars, to the acre; and even when the tops are cut and carried away, there is enough nitrogen left in the roots to insure a good crop of cereals on the same ground the next season, without other fertilizer. In 1890, a tract of old, peaty soil was "vaccinated" with a ton and a half to the acre of earth from a diseased field. Besides this, five hundred and twenty pounds to the acre of scorie from a dephosphorating furnace were spread over the ground, and about a thousand pounds to the acre of kainite, but very little nitrogenous manure. The tract was then sown with clover, which produced nearly three tons of hay to the acre. The next year, a virgin

peaty soil was treated with half a ton to the acre of sand, from a field which had borne a crop of "serradelle," a small leguminous plant, unknown to us. The sand was harrowed in. No other manure of any kind was put on. The ground was sown with winter rye. In May, thirty-five pounds to the acre of serradelle seed was sown among the rye. The rye produced a good crop, and, after the harvest, the serradelle, which had absorbed and fixed about sixty pounds to the acre of atmospheric nitrogen, was ploughed in, as green manure. The next year, the land was planted with potatoes, and similar potatoes were planted in neighboring fields, which had not had the new treatment, but were simply enriched with barnyard manure. At the harvest, the yield from the vaccinated fields, which had received no other manure, was from twenty-eight to sixty-two per cent. greater than from the manured fields, according to the variety planted. The most surprising result from the treatment appears, however, to have been obtained in Prussia, where a tract newly brought under cultivation was divided, and part vaccinated with earth from a lupin field. The whole was then sown with lupins; and the yield from the vaccinated portion was five and one-half times as great as that from the other portion, for equal areas.—*American Architect*.

Cured His Colic.

A few nights ago, on a train coming east on the Michigan Central road, the porter of a sleeping car aroused half a dozen of the male sleepers to ask if they had anything to cure a case of colic. A drummer for a city hardware house fumbled around in his coat and finally said:

"Here's a box of soda mints which may help him. He can use the whole box and be hanged to him, for he's no business to have colic!"

Nothing farther was heard of the case until morning, when a strapping young man, with a far West look to his hair, came into the sleeper with the mint box in his hand and inquired for the drummer and said:

"Took 'em all but one and they smashed my colic right in the eye. How much to pay?"

"Nothing, sir. I'm only too glad to have been of service to you."

When the other had gone the drummer opened the box, and we saw his hair trying to climb up.

"Great Scott, boys, but what do you think?" he gasped.

"What is it?"

"I gave him the wrong box, and he's swallowed eleven bone collar buttons."—*Detroit Free Press*.

To His Best Knowledge.

A lawyer was cross questioning a negro witness in one of the justice courts the other day, and was getting along fairly well until he asked the witness what his occupation was.

"I se er carpenter, sah."

"What kind of a carpenter?"

"They calls me a jack-leg carpenter, sah."

"What is a jack-leg carpenter?"

"He is a carpenter who is not a first-class carpenter, sah."

"Well, explain more fully what you understand a jack-leg carpenter to be," insisted the lawyer.

"Boss, I declar' I dunno how ter 'plain any mo' except to say hit am jes de same diffince between you an' er first-class lawyer."

The negro was one of the old-fashioned kind, and did not mean to be insolent or impudent, but had just decided in his own mind that the lawyer asking the question was not a first-class lawyer.

It is needless to say the questions ceased at once.—*Macon Telegraph*.

Brown—What tobacco do you smoke most of now. Bunker—Other fellows'.

Mrs. Hicks—Are you sure that you married me for myself alone?

Hicks—Of course. Having your mother to live with us was not strictly an idea of mine.

In connection with the Chinese oath a story is told of a representative of the Middle Kingdom who once appeared to give evidence at Bow street. He was politely consulted as to the method in which he would prefer to be sworn.

"Oh," said he, with a breadth of outlook not common in Sir John Bridge's court, "Kill 'im cock, break 'im plate, smell 'im book, all samey."

An animated discussion, punctuated with objurgation, recently took place in a town council in the north. Finally one of the disputants gave the other the lie direct. The latter made a plunge at him, and as the pair came to grips, the first exclaimed: "I reiterate that you are a liar."

Whereupon the other remarked: "Oh, it that's the case I accept the apology. If a man says he reiterates, that is all any gentleman can ask." Accordingly he relaxed his hold, and is still unable to account for the roars of laughter which greeted his observation.—*London Globe*.

MILLINERY MILLINERY

WALL PAPER WALL PAPER

At the Lowest Prices.

WINDOW PAPER

FANCY GOODS

MATERIALS FOR FANCY WORK

TOYS IN GREAT VARIETY

STAMPING DONE

Eggs Taken in Exchange.

MRS. HEELEY.

MONEY TO LOAN.

I have recently had a considerable, though limited, sum of money placed with me for loaning on farms at

Five and a-half per cent.

Parties wishing to borrow on these terms should not delay to make application. Large amounts of funds, at slightly higher rates, according to security. In most cases solicitor work is done at my office, insuring speed and moderate expenses.

Allan S. Macdonell,
Barrister &c., Lindsay.

LINDSAY

Marble Works.

R. CHAMBERS

is prepared to furnish the people of Lindsay and surrounding country with

MONUMENTS AND HEADSTONES,
both Marble and Granite.

Estimates promptly given on all kinds of cemetery work.

Marble Table Tops, Wash Tops, Mantel Pieces, etc., a specialty.

WORKS—In rear of the market on Cambridge street, opposite Matthews' parking house.

Being a practical workman all should see his designs and compare prices before purchasing elsewhere.

ROBT. CHAMBERS.

North of the Town Hall

PATENTS TRADE MARKS COPYRIGHTS.

CAN I OBTAIN A PATENT? For a prompt answer and an honest opinion, write to MUNN & CO., who have had nearly fifty years' experience in the patent business. Communications strictly confidential. A Handbook of information concerning Patents and how to obtain them sent free. Also a catalogue of mechanical and scientific books sent free.

Patents taken through Munn & Co. receive special notice in the Scientific American, and thus are brought widely before the public without cost to the inventor. This splendid paper, issued weekly, elegantly illustrated, has by far the largest circulation of any scientific work in the world. \$3 a year. Sample copies sent free.

Building Edition, monthly, \$5 a year. Single copies, 25 cents. Every number contains beautiful plates, in colors, and photographs of new houses, with plans, enabling builders to show the latest designs and secure contracts. Address

MUNN & CO., NEW YORK, 361 BROADWAY.

David Chambers,

General Blacksmith,

Francis-st., Fenelon Falls

Blacksmithing in all its different branches done on short notice and at the lowest living prices. Particular attention paid to horse-shoeing. Give me a call and I will guarantee satisfaction. 45-ly.

HARNESS

....SADDLES....

....TRUNKS....

....VALISES....

—AT—

JOHN BERRY'S

....KENT-ST.,....

....LINDSAY....

EVERYTHING BELONGING TO THE SADDLERY AND HARNESS TRADE CONSTANTLY KEPT IN STOCK.

REPAIRING

DONE ON SHORTEST NOTICE.

WHY

GO TO LINDSAY WHEN YOU CAN DO BETTER BY DEALING AT HOME ?

I AM OFFERING A FIRST-CLASS

TOP BUGGY

GUARANTEED BEST GRADE THROUGHOUT, WITH THE LATEST IMPROVEMENTS, FOR THE LOW PRICE OF

\$75.00.

ITS DURABILITY TURNS INFERIOR MAKES "ABOUT FACE" TO THE REAR. INSPECTION INVITED.

NEXT DOOR TO KNOX'S BLACK-SMITH SHOP, FENELON FALLS.

S. S. GAINER.

KERR & Co. NEW CASH STORE,

OPPOSITE BENSON HOUSE, LINDSAY.

New Fall and Winter Jackets,

New Dress Goods,

New Underwear for Ladies and Children,

New Trimming Braids,

New Corsets and Gloves,

New Frillings and Ties,

New Handkerchiefs,

New Flannels and Flannelettes,

New Towellings,

Cottons and Shirtings,

Gentlemen's Furnishings Complete.

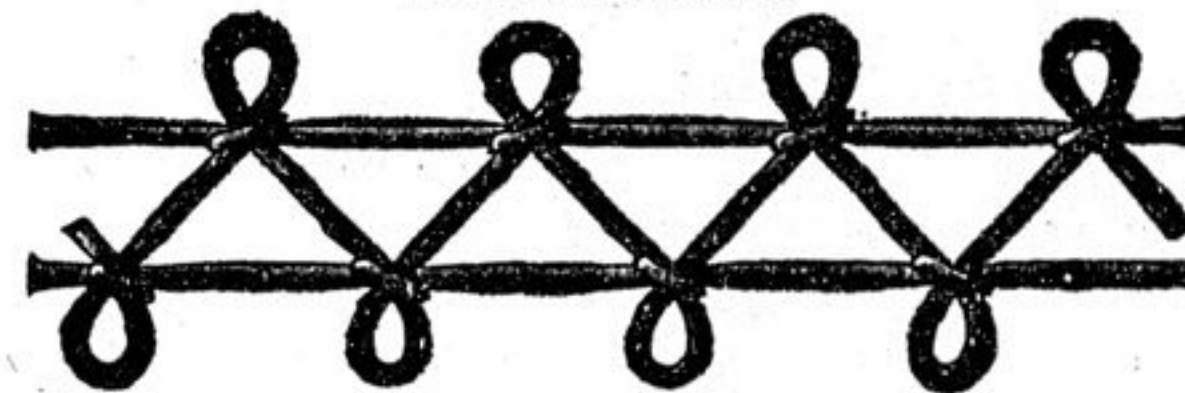
We cordially invite you to call and examine our new Fall Stock. One price to everybody.

33 KENT-ST., LINDSAY.
Opposite the Benson House.

KERR & CO.

SEASONABLE SPRING GOODS.

Pat. Nov. 19, 1899.



Above Knot is One-half Actual Size.

THE HATHAWAY PATENT FENCE WIRE,

Most Attractive in Design, and will stand a Test Breakage of 2,500 lbs.

SHOVELS, PICKS, FORKS,
FULL STOCK BUILDING HARDWARE,
PAINTS, OILS, AND WHITE LEAD,
A FULL ASSORTMENT OF TINWARE,
ALL OF WHICH WILL BE SOLD AT ROCK BOTTOM PRICES FOR CASH.

BABY CARRIAGES \$5.00 AND UP.

To the Patrons: Land Plaster \$6.00 and \$7.00 Per Ton IN CAR LOTS.

JOS. HEARD.

BACK AGAIN.

HENRY PEARCE

respectfully informs his numerous old customers and the public generally that he has returned to Fenelon Falls and resumed

The Boot and Shoe Business

in the store lately occupied by Mr. S. Nevison on the east side of Colborne street, and hopes by turning out

GOOD WORK AT LOW PRICES

to obtain a fair share of patronage.

Drop in, leave your measure and be convinced that he can do as well for you as any boot or shoemaker in the county.

REPAIRS EXECUTED

with neatness and despatch.

J. Neelands, Dentist.

Beautiful sets of Artificial Teeth inserted for \$10, \$12 and \$14, according to quality of teeth and kind of plate. Imitation gold filling inserted in artificial teeth free of charge. Gas (vitalized air) and local anesthetics used with great success for painless extraction. Visits the McArthur House, Fenelon Falls, the third Tuesday of every month. Call in the forenoon, if possible. Office in Lindsay nearly opposite the Simpson House.

NOTICE.

To the residents of Fenelon Falls.

Take notice that any person or persons removing from any village or district infected with diphtheria to Fenelon Falls will be quarantined for a period of 14 days or longer, at the discretion of the Board of Health. The citizens of Fenelon Falls who do not wish to be so inconvenienced will govern themselves accordingly.

By order of the Board of Health.
A. WILSON, M. D.,
Medical Health Officer
Fenelon Falls, Feb'y 22nd, 1893. 1-t. f.

The "Fenelon Falls Gazette"

is printed every Friday at the office, on the corner of May and Francis streets.

SUBSCRIPTION \$1 A YEAR IN ADVANCE, or one cent per week will be added as long as it remains unpaid.

Advertising Rates.

Professional or business cards, 50 cents per line per annum. Casual advertisements, 8 cents per line for the first insertion, and 2 cents per line for every subsequent insertion. Contracts by the year, half year or less, upon reasonable terms.

JOB PRINTING of all ordinary kinds executed neatly, correctly and at moderate prices.]

E. D. HAND,
Proprietor