

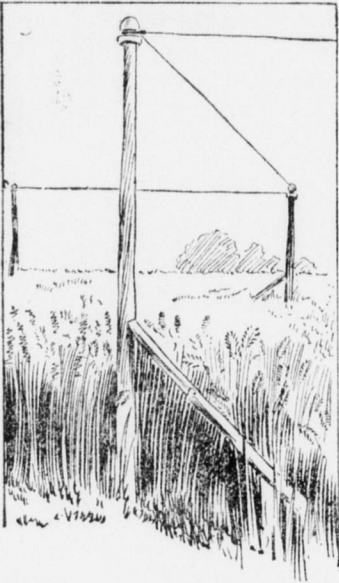
THE ELECTRICAL WORLD

ELECTRICITY AND CROPS.

Experiments Show That Current Increases the Yield.

The view that an electric discharge, applied artificially, is advantageous to plant growth has long been held. In the latter part of the eighteenth century Abbe Nollet and Abbe Bertholom studied the subject. The former found that electrified maize and mustard germinated in every case more rapidly than control plants. Modern ideas on the principle and its practical application owe much to the careful experiments of Prof. S. Lemstrom (Sweden) and the researches of the late Prof. Berthelot (France).

In recent years attempts have been made in England to ascertain the pro-



The post and insulator supporting the electrical discharging wire. The posts are placed 100 yards apart, or, roughly, about one post to the acre.

duce effect or stimulus of electricity upon growing plants by means of outdoor experiments. Foremost among such trials are those carried out by Mr. J. H. Priestley, B. S., and others in the botanical garden and laboratories of University college, Bristol, and, on a larger scale, by Mr. J. E. Newman, at Bitton, near Bristol.

The method is to stretch over the field to be treated a number of thin wires on poles, high enough for loaded wagons and all the usual farming operations to go on underneath the wires without let or hindrance. The wires



A comparison of electrified wheat with wheat grown under ordinary conditions. The electrified wheat (on right) has broader leaves and more shoots.

are supported by a few posts in long parallel spans, about 20 feet apart. The system of conductors is connected at one post with a generator supplying positive electricity at a potential of something like a hundred thousand volts, and with sufficient power to maintain a constant supply of electricity at this kind of potential.

Experiments on the effect of the overhead discharge system on the productivity of wheat (sown in 1905 and last year), showed an increase under the electrical treatment as compared with the control unelectricated plots of 30 to 40 per cent, this increase being due to better standing and filling out of ears. Moreover, it is worthy of mention that the electrified wheat sold at higher prices, baking tests indicating the production of a better baking flour.

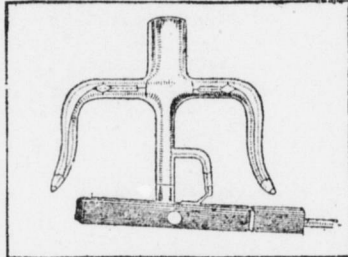
The principle was applied also to strawberries, raspberries, cucumbers, broad beans, cabbages, tomatoes, beet, and carrots as grown at the experimental nurseries, Bitton. In all cases control plots were provided, which, as far as practicable, were under identical conditions of planting and care as the electrified plots. Selecting two examples, cucumbers showed 17 per cent increase; strawberries, five year plants, 36 per cent, one year plants, 80 per cent increase.

PROTECTS X-RAY OPERATOR.

Invention of a Device Makes Use of X-Ray Machine Safe.

Through the invention of a device known as the "Cornell tube," by a professor in the Cornell University Medical college, it is believed that the death lurking in the X-ray machine can be eliminated.

As has been stated in this magazine, the danger from the X-ray has been more to the operator than to the patient. This is because oper-

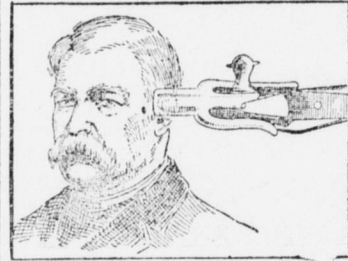


The Apparatus.

ators use it constantly, while its contact with patients is limited. So malevolent is its force that already nine well-known scientists have met death from its use, and therefore every new method of controlling it is hailed with delight by the profession.

Under the old system of employing the ray, the end of the instrument from which the force is discharged was held several inches from the portion of the patient's body to be operated upon. As the rays do not travel straight ahead after leaving the point of discharge, but spread out in every direction like the ripples expanding from a pebble thrown into water, the operator was sure to receive some of its force no matter where standing.

With the new device, says Popular Mechanics, which consists of a tube made of heavy lead glass, the air space formerly permitted between the apparatus and the patient is done away with. No rays can escape from it save through a flint glass window at the end, and as this corresponds in size to the lesion to be treated the rays go straight to the point where they are to do their work. They operate on the diseased tissues alone and harm neither operator nor patient.



The Apparatus in Use.

When the tube is brought into direct contact with the patient, only the ionizing effect of the X-ray is exerted on the tissues, and this effect is claimed to be all that is required to accomplish the desired results.

LIGHTNING RODS.

A Comparison of the Value of Those Made from Steel and Copper.

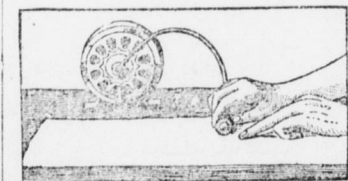
The choice of lightning rod material should be between copper and steel. The smokestacks of the United States government power plants are all rod with copper, which better resists the acid in smoke. Copper is superior to steel in carrying electricity, but the thunderbolt is an oscillating current, moving to and fro perhaps a million times in a second, like a bent spring when it is released. Steel, having but one-seventh the conductivity of copper, damps out the oscillations better and is not so likely to melt. The fusing of a steel rod is a rare accident, as it will carry to earth a thunderbolt that melts it.

Steel rods are star-shaped and copper ones are made in strands in order that they may have a large surface. For the ordinary farm building the galvanized steel star-shaped rod is ample, but where the expense is justified by the value of the building the same rod, copper-covered, is desirable.

POWER-DRIVEN ERASER.

A New Device for Use in Large Draughting Rooms.

An electric motor-driven eraser is a new device adapted for use in a



A Motor Eraser.

draughting room. It is far superior to the hand eraser, as it will make absolutely clean erasures owing to the high rate of speed at which the eraser wheel revolves, says Popular Electricity. The eraser wheel is driven with a flexible shaft by a small motor, which is easily moved from table to table in the draughting room. A flexible cord with a plug is provided for attaching to any incandescent lamp socket.

It Reminded Him.

"My boy," said Popley, "it should be your ambition to carve your name some day upon the temple of fame."
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THE SAFE WAY TO BUY PAINT.

Property owners will save a deal of trouble and expense in keeping their buildings properly painted, if they know how to protect themselves against misrepresentation and adulteration in paint materials. There's one sure and safe guide to a pure and thoroughly dependable White Lead—that's the "Dutch Boy Painter" trade mark which the National Lead Company, the largest makers of genuine White Lead, place on every package of their product. This company sends a simple and sure little outfit for testing white lead, and a valuable paint book, free, to all who write for it. Their address is Woodbridge Bldg., New York City.

Considerate.

Borem—She wasn't at home when I called, so I left my card—
Miss Pepprey—Yes, she was telling me she considered it so thoughtful of you.
Borem—To leave my card?
Miss Pepprey—No; to call when she wasn't at home.

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.
F. J. CHENEY & CO., Toledo, O. We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out all obligations made by his firm.
WALDRING, KIRKMAN & MARVIN, Wholesale Druggists, Toledo, O. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials sent free. Price 75 cents per bottle. Sold by all Druggists. Take Hall's Family Pills for constipation.

Too Hard to Answer.

"Look here, my friend," said a traveling man to the hotel clerk, "I want to ask you something."
"What is it?"
"Why is it that you people always holler 'front' whenever you want a bell boy?"
"Why do we holler 'front'? Why, because—er—simply because it's—
"Look here, young feller, do you want to know more about this business than I do?"

The Sign of Power.

It is the greatest manifestation of power to be calm. It is easy to be active. Let the reins go, and the horses will drag you down. Anyone can do that; but he who can stop the plunging horses is the strong man. Which requires the greater strength—letting go, or restraining? The calm man is not the man who is dull. You must not mistake calmness for dullness or laziness. . . . Activity is the manifestation of the lower strength, calmness of the superior strength.—Swami Vivekananda.

Marine Insurance.

Marine insurance is the oldest kind of modern insurance. Its principles were first employed in the fourteenth century by the merchants of Barcelona, in Spain, when that city was the capital of the kingdom of Catalonia and when its hardy mariners were second to none in the world. About the same time, and also at Barcelona, the famous code of maritime laws known as the "consulado del mar" was promulgated, which is the foundation of the present shipping laws of every country.

When the Minister Scored.

A country clergyman, while recently advocating the support of a charitable object, prefaced the circulation of the plate with the following address: "From the great sympathy I have witnessed in your countenances, there is only one thing I am afraid of—that some of you may feel inclined to give too much. Now, it is my duty to inform you that justice should always be a prime virtue to generosity; therefore, I wish to have it thoroughly understood that no person will think of putting anything on the plate who cannot pay his debts." The result was an overflowing collection.

"THE PALE GIRL."

Did Not Know Coffee Was the Cause.

In cold weather some people think a cup of hot coffee good to help keep warm. So it is—for a short time but the drug—caffeine—acts on the heart to weaken the circulation and the reaction is to cause more chilliness.

There is a hot wholesome drink which a Dak. girl found after a time, makes the blood warm and the heart strong.

She says: "Having lived for five years in N. Dak., I have used considerable coffee owing to the cold climate. As a result I had a dull headache regularly, suffered from indigestion, and had no 'life' in me.
"I was known as 'the pale girl,' and people thought I was just weakly. After a time I had heart trouble and became very nervous, never knew what it was to be real well. Took medicine but it never seemed to do any good."
"Since being married my husband and I both have thought coffee was harming us and we would quit, only to begin again, although we felt it was the same as poison to us."
"Then we got some Postum. Well, the effect was really wonderful. My complexion is clear now, headache gone, and I have a great deal of energy I had never known while drinking coffee."
"I haven't been troubled with indigestion since using Postum, am not nervous, and need no medicine. We have a little girl and boy who both love Postum and thrive on it and Grape-Nuts."
"There's a Reason."
Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

IN THE OLD MILITIA DAYS.



"Captain, you will appear on the parade ground with your company at ten o'clock for inspection."
"Sorry, colonel, but you'll have to postpone it till to-morrow! I promised my wife that she could use the cannon to-day for a churn!"

EYESIGHT WAS IN DANGER.

From Terrible Eczema—Baby's Head a Mass of Itching Rash and Sores—Disease Cured by Cuticura.

"Our little girl was two months old when she got a rash on her face and within five days her face and head were all one sore. We used different remedies but it got worse instead of better and we thought she would turn blind and that her ears would fall off. She suffered terribly, and would scratch until the blood came. This went on until she was five months old, then I had her under our family doctor's care, but she continued to grow worse. He said it was eczema. When she was seven months old I started to use the Cuticura Remedies and in two months our baby was a different girl. You could not see a sign of a sore and she was as fat as a newborn baby. She has not had a sign of the eczema since. Mrs. H. F. Budke, LeSueur, Minn., Apr. 15 and May 2, '07."

More Dignified.

"Good night, you precious lamb!" said the mother, with the liberty one sometimes takes, even with one's son, at bedtime.
"Mother," said the small boy beseechingly, "if you must call me something, wouldn't you just as soon call me a billygoat?"—Youth's Companion.

DISTEMPER

In all its forms among all ages of horses, as well as dogs, cured and others in the same stable prevented from having the disease with SPOHN'S DISTEMPER CURE. Every bottle guaranteed. Over 500,000 bottles sold last year, \$5.00 and \$1.00. Any good druggist, or send to manufacturers. Agents wanted. Write for free book. Spohn Medical Co., Spec. Contagious Diseases, Goshen, Ind.

Platonic love is a good deal like the gun we didn't know was loaded.—Smart Set.

If Your Feet Ache or Burn get a 25c package of Allen's Foot-Powder. It gives quick relief. Two million packages sold yearly.

The only way some people know is the other way.



More proof that Lydia E. Pinkham's Vegetable Compound saves woman from surgical operations.

Mrs. S. A. Williams, of Gardiner, Maine, writes: "I was a great sufferer from female troubles, and Lydia E. Pinkham's Vegetable Compound restored me to health in three months, after my physician declared that an operation was absolutely necessary."

Mrs. Alvina Spurling, of 154 Cleybourne Ave., Chicago, Ill., writes: "I suffered from female troubles, a tumor and much inflammation. Two of the best doctors in Chicago decided that an operation was necessary to save my life. Lydia E. Pinkham's Vegetable Compound entirely cured me without an operation."

FACTS FOR SICK WOMEN.

For thirty years Lydia E. Pinkham's Vegetable Compound, made from roots and herbs, has been the standard remedy for female ills, and has positively cured thousands of women who have been troubled with displacements, inflammation, ulceration, fibroid tumors, irregularities, periodic pains, backache, that bearing-down feeling, flatulency, indigestion, dizziness, or nervous prostration. Why don't you try it?
Mrs. Pinkham invites all sick women to write her for advice. She has guided thousands to health. Address, Lynn, Mass.

SICK HEADACHE

Positively cured by these Little Pills.
CARTER'S LITTLE LIVER PILLS.
They also relieve Distress from Dyspepsia, Indigestion and Too Hearty Eating. A perfect remedy for Dizziness, Nausea, Headache, and Biliousness. Bad Taste in the Mouth, Coated Tongue, Pain in the Side, TORPID LIVER. They regulate the Bowels. Purely Vegetable.
SMALL PILL. SMALL DOSE. SMALL PRICE.
Genuine Must Bear Fac-Simile Signature
CARTER'S LITTLE LIVER PILLS.
REFUSE SUBSTITUTES.

PLANT TRAMP BY INSTINCT.

California Cactus Blows Around the Desert for Months.

Curious among vegetable growths and one which is seldom seen of men is the rootless cactus of the California desert, says the Technical World. This plant, a round, compact growth, rolls about the level floor of the desert for some eight or nine months of the year, tossed hither and yon by the winds which blow with fierceness over all of California's sand flat during those months.

At the coming of the rains, or rather the cloudbursts, which sweep the desert in its springtime, this cactus takes root wherever it happens to have been dropped by the last wind of which it was the plaything and immediately begins to put out all around it small shoots, which in turn become cacti, exactly like the parent plant.

These young growths increase in size rapidly, sucking the moisture both from the parent plant and from the surrounding earth. The roots do not penetrate the soil deeply, but spread often over a circle whose radius is not less than ten feet. These roots, too, are small, but practically innumerable, and they get every bit of moisture and plant food to be had in the territory they cover.

An Artist's Generosity.

The famous painter Corot and his sister were joint owners of some house property in the Faubourg Poissonniere. One day one of the tenants—a tailor—came to Corot and said he could not pay his rent.

"What can I do for you?" asked Corot. "I cannot intercede for you with my sister, because I am not on good terms with my family." (As a matter of fact, Corot was regarded as a "failure" by his family.) "However," he added, "here is the money to pay the rent, only don't let anyone know I have given it to you."

The tailor after this used to return periodically when his rent was due and obtain the money from Corot, who remarked on one occasion, "I appear to be very generous, but I am not, because I get half of it back from my sister as my share of the rent."

SO LOGICAL.



Mrs. Sparker—Do you think she really prefers a horse to the motor car?
Mrs. Tyre—Well, any one must admit that a horse is more becoming to a woman with such hay-colored hair!

It Came Off.

The fair barber was in the greatest danger when the heroic rescuer seized her by the hair. It came off. Puffs and coils and waves and rats it strewed the shuddering sea.
For a moment the rescuer was dazed.
Then he grasped the tiny knob of real hair that remained on the lady's head and drew her into shallow water.
Did she thank him for saving her life?
She didn't.—Cleveland Plain Dealer.

The Real Test.

"Poor fellow, he died in poverty," said a man of a person lately deceased.
"That isn't anything," exclaimed a seedy bystander. "Dying in poverty is no hardship; it's living in poverty that puts the thumbscrews on a fellow."



Send For Free Catalogue

"How to Make Money Selling Goldfish." Makes business lively around your store when everything else fails. BIG profits and QUICK returns. Full line of aquarium supplies. Write to-day.

AUBURNDALE GOLDFISH COMPANY
51 North Peoria Street, CHICAGO, ILL.

ROSEBUD GOVERNMENT LANDS

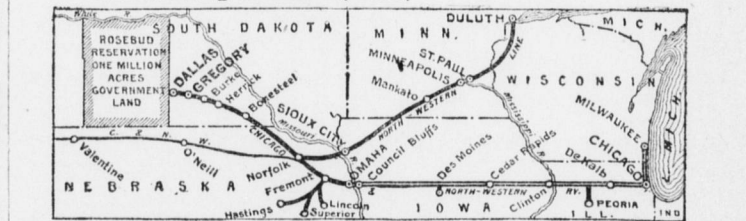
BEST REACHED FROM DALLAS

Dallas and Gregory, S. D., are reached only by the Chicago & North Western Railway.

They are the only towns on the reservation border.

Dallas and Gregory are the main registering points.

President Roosevelt has designated Dallas for the final drawing October 19, 1908.



The Chicago & North Western Ry. is the only all-rail route to the reservation.

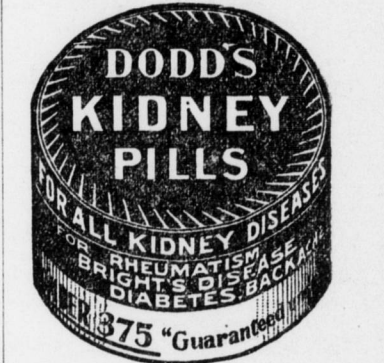
A million acres of fertile agricultural and grazing land in the great Missouri Valley Corn Belt is to be opened to Homesteaders October 5 to 17, 1908.

For information about how to get a homestead with details regarding rates, train schedules, address



W. B. KNISKERN
Pass'r Traffic Mgr., C. & N. W. Ry.
Chicago, Ill.

Undaunted by Blindness.
Prof. E. D. Campbell, director of the chemical laboratories in the University of Michigan, lost his sight 18 years ago through an accident. In spite of his affliction he has taken a high place in education and has made original researches of much value, especially in the chemistry of iron and cement.
They say angels wear very few clothes; the modern fashions ought to make women more like angels, in looks at least.



TOWER'S FISH BRAND
The cleanest, lightest, and most comfortable SLICKER at the same time cheapest in the end because it wears longest.
\$3.00 Everywhere
Every garment guaranteed water-proof. Catalog free.

THE DUTCH BOY PAINTER STANDS FOR PAINT QUALITY
IT IS FOUND ONLY ON PURE WHITE LEAD
MADE BY THE OLD DUTCH PROCESS

KNOWN SINCE 1836 AS RELIABLE
PLANTEN'S C & C OR BLACK CAPSULES
SUPERIOR REMEDY FOR URINARY DISCHARGES Etc.
DRUGGISTS OR BY MAIL ON RECEIPT OF 50c.
P. PLANTEN & SON 95 HENRY ST. BROOKLYN, N.Y.

PARKER'S HAIR BALSAM
Cleanses and beautifies the hair. Promotes and luxuriates growth. Never Falls to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 5c. and 25c. at Druggists.

Douglas, Ariz., Offers You an Opportunity to make money. Richest copper, gold and silver mining district known. Million acres fertile farming land free. Delightful climate all the time. Pure water plentiful. Merchants, jobbers, manufacturers, farmers, investors, needed. Address: Dept. C Chamber of Commerce, Douglas, Arizona.

DEFIANCE STARCH—16 ounces to the package—other starches only 12 ounces—same price. "DEFIANCE" IS SUPERIOR QUALITY.

PATENTS Watson E. Coleman, Wash. D.C., looks free. Highest references. Best results.
Thompson's Eye Water
A. N. K.—C (1908—38) 2248.