Testing the Effect of Atmospheric Currents on Plant Life.

PICTURESQUE EXPERIMENT IN FINLAND

Practical Demonstration of Ideas Gleaned from the Aurora Borealts\_How the Farm Will Be Arranged.

Prof. L. H. Balley of Cornell university has been asked to go to Finland to conduct a series of experiments in electrical plant growing, in conjunction with Prof. Lemstrom, of the University of Heisingfors. running of electric wires through the soil for the purpose of forcing the growth of plants by direct current stimulation. They are to be based on some pertinent observations made by Lemstrom of the effect of the aurora borealls on the plant growth of the

It is a well known fact that the plants of the north arrive at maturity in a much shorter period of time than those plan's which are grown further south. It is necessary that these plants should arrive at ma-turity very quickly, inasmuch as the summer season in the nor h is very brief, and it has always been looked upon as a wise provision of Providence that the plants were enabled to accomplish their business in life in so short a state of time. Prof. Lemstrom, however, could be assigned as the providential idea,

ELECTRICITY AS A STIMULANT subjected to normal conditions—that is, those to work atmospheric electricity had free secess. Cell, shortly afterward, reached similar results. So did Leclerc. But by for the best investigations upon the electrification of the atmosphere in reference to plant growing were those made in Finland and in France by Lemstrom, physicist in the University of Hel-singfors,

EFFECT OF THE AURORA BOREALIS. Lemstrom was first led to his inquiries. observations upon vegetation and meteorological phenomena in the high north, particularly in Flunish Lapland and Spitzbergen, characteristic traits of different varieties of the came to the conclusion that much of the rapidity of vegetation in the short eral causes. One was a kind of food on summers is due to climatic electricity. His first experiments were made in the laborations of the plant which furnished the food to the cow. He made an experiment on a small field of barley in Finland. One portion of the field was covered with small parallel wires, a meter apart and secured to porcelain in-sulators, which were accured to small posts on the margin of the field. At intervals of The experiments to be carried on have noth-ing to do with the electric light or with the a metal point, from which the current could discharge into the atmosphere. These wires were connected to the positive pole of a four-disc Hoitz machine, which supplied the current. The current was supplied from the by the animal article des red—in other words middle of June to the 1st of September, from to make the animal butter all out of grass.

Baltimore May Proposes to Dispense with the Services of the Cow. Butter without the ald of a cow is what Willard G. Day, an inventor, of Baltimore

Electricity is the chief agent Mr. Day proposes to emplay in the production of butter directly from vegetables which form the food of cattle whose milk is used in the churn.

to the cow.

Armed with these two secrets, Mr. Day began his work, which consisted in extracting and then assembling artificially the same products which are usually brought about

tector and a pair of gosgles with rubber rims which fit tightly to the head, a man may go into dense smoke and remain there for fif-

minues, according to the statement ade by the inventor. "Firemen frequently have to leave a build-

ing, not because of the fire, but on account of the smoke." he said, "and fires gain headway on that account. The protector has also been used with good success in mines where thick smoke had gathered, and in workshops where smoke cannot be excluded. The device does not add other two jails, is now in use.
These three places, two of them without

o the beauty of the person who wears it, but t may be the means of saving lives and WILL BEWARR OF WIDOWS.

After seventy-six years of hale and hearty existence and four years of widowerhood, relates the Globe-Democrat, Thomas Dowson. who began life as a carpenter apprentice in He succeeded in producing from the vegatable kingdom oils which differed very
slightly from those of the animal kingdom
Having gone this far, the next step was
to change the vegetable oil by giving it the
same chemical constitution as that possessed
by the animal article des red—in other words,
the the animal article des red—in other words,
where she lives. Forty years ago Dowson
quit the sca and came to St. Louis, where he
worked as a carpenter for four years. Then
haven to lowe with his family and acquired
haven to lowe with his family and acquired England, served in the royal navy, and then became a knollubber, is trying to let Mrs. Nellie Sweet, a St. Louis widow of 30, know that she cannot inveigle him into spending to 9 in the evening. The barley was well up when the experiment began. The harvest showed that the electric plot was over 35 per cent ahead of the remainder of the grain was improved.

"Having determined the good effects of atmospheric electricity in high latitudes, Lemstrom now carried his experiments into France. Here he treated cereals, garden of the odors of many vogetables and a self-barbon and out of grass. The secret in this part of the process Mr. Day found to concist in the fact that animal and vegetable carbohydrates strengly resemble each other. The differences which are found in oils are nearly all owing to the nitrogenous sheaths in which the globules of oil are contained. Thus to this sheath is due the tallowy smell of tallow, the mutton smell of mutton, as well as all the rank odors of many vogetables and a carpenter for four years. Then he went to lowe with his family and acquired 360 acres of land in Louisa county, around Columbus Junction. His six children grew up, married and are prosperous. Four years ago his wife died and the old gentleman lived with his children. But he grew tired of that way of living and made up his mind that he would seek a housekeeper who would in a measure fill the place of his deceased in the fact that animal and vegetable substances.

The secret in this part of the process Mr. Day found to concist in the fact that animal and vegetable carbohydrates strongly resemble when the fact that animal columbia county, around Columbus Junction. His six children grew up, married and are prosperous. Four years ago his wife died and the old gentleman lived with his children group and are prosperous. Four years ago his wife died and the old gentleman lived with his children group ago his wife died and the place of his deceased when the went to lowe with his familia and excellent places. The would columbus Junction. His six children group and vegetable and the place of his deceased when the went to lowe with his familia and excellent places. The world are acarpence for four years.

a Housekeeper.

only air that can enter is by the door and the two windows. Men and women prisoners are confined in this stone building. Recently the number thus housed was 176. The smell which comes from the interior is such that few persons can approach the door without being sickened.

At Muscogee is the third of the territory jails. A fire destroyed the old building in use, and a new structure, crude for such purposes, but a marked improvement on the

counterparts in the whole country, are em-ployed to hold between 700 and 800 prisoners, of ther awaiting trial or under sectonce. They are the only jails for a population of 300,000 white people. After the first of the year
the federal courts will supersede the Indian
courts, and the three jails may serve as well
for the Indian population. To keep the 700
or 800 prisoners within these "black holes"
the United States pays \$40,000 a year to Aged and Wealthy lowan's Search for Jailers and keepers. The course of the government toward the Indian Territory has been reprehensible in many respects. There is nothing, however, which calls more loudly or reform than these horrible makeshifts

### WHY CRIME INCREASES.

and Penalties Too Uncertain. Some unpleasant facts in regard to the increase in crime in the United States and some of the causes which have produced it were recently laid before the social sciendepartment of the Philadelphia Civil club by General Isaac J. Wistar, says the New York Post. Passing over the statistics, which were not new, General Wistar's views as to the causes of the increase of crime may be briefly summarized. One of these causes, i his opinion, is that the methods of punish When oils are extracted by heat, or the mechanical violence of pressure, the deleterons nitrogenous characteristics of the globule sheaths are imparted to the oil globules themselves, and no art can separate widow who was a good housekeeper and with where the sheriff is the boss politician. In some of these jails, he said, indecent pictures are hung on the walls, and the prisoners are supplied with cards so that they may spend their evenings pleasantly. A prison General Wistar continued, should be a place f punishment, and above all a place wher To this end separate confinement he regard as necessary, and he is not shaken in this view by the claim that separate confine ment largely increases cases of insanity There is no more insanity luside a priso than outside, among the same classes, General Wister maintains, and much of it in the prisons is feigned to furnish greater oppor tunities for escape. Another cause of the increase of crime, is

eneral Wistar's opinion, is the delay and the uncertainty in punishment. For this criminal jurisprudence is at fault. The appellate courts, he says, appear to devote themselves, not to the trial of the criminal, but to the trial of the judge that convicted him, in the hope that they can prove their estuteness by showing that he committed some error. In some extreme cases new trials have been granted because of missibility works to the local development. spelled words in the legal documents. One way to reform this, suggested by General Wistar, is to deny the right of appeal in criminal cases. This, he claims, would not be a hardship, inasmuch as the crimical has four trials, the first before a magistrate, the see ond before the grand jury, the third and the fourth (a retrial) before the higher criminal court. Other remedles are suggested by the rauses that show their need. Still another advance would be the reorganization of the prison system on the English plan, by which in Great Britain the number of criminals has been reduced 51 per cent in twenty years. General Wistar did not believe the people here were worse than in England, and there was no reason to believe that ren ures which are successful in Great Britain would not be successful here.

Arnold's Bromo Celery cures hendaches, 19c, 25c and 59c. All druggists.

Policeman Canvicted of Extortion. CMICAGO, Jan. 5.—Ex-Po imuel C. Rank was found extorting money from "blind pig" proprie-fors in the Hyde Park prohibition district the extreme penalty is a fine of \$500, and six months' imprisonment. Pending an ap-plication for a new trial Rank was allowed its liberty on bond. He says he is the vic-

## There is a Class of People

Who are injured by the use of coffee. Recently there has been placed in all the grocery stores a new preparation called GRAIN-O, made of pure grains, that takes the place of coffee.

The most delicate stomach receives it without distress, and but few can tell it from coffee. It does not cost over 4 as much.

Children may drink it with great benefit. 15 cents and 25 cents per package, Try it. Ask for GRAIN-O.

Try Grain=0! Insist that your grocer gives you GPAIN-O Accept no imitation.

## AN OPEN LETTER To MOTHERS.

EXCLUSIVE USE OF THE WORD "CASTORIA," AND "PITCHER'S CASTORIA," AS OUR TRADE MARK.

I, DR. SAMUEL PITCHER, of Hyannis, Massachusetts, was the originator of "PITCHER'S CASTORIA," the same that has borne and does now hear the fac-simile signature of hat Hitchies wrapper. This is the original "PITCHER'S CASTORIA" which has been used in the homes of the mothers of America for over thirty years. LOOK CAREFULLY at the wrapper and see that it is and has the signature of Chart fletcher wranper. No one has authority from me to use my name except The Centaur Company of which Chas. H. Fletcher is President.

Obenul Fitcher on. D. March 8, 1897. THE CENTAUR COMPANY, 17 MURRAY STREET, NEW YORK CITY.

## Do You Skate?

It has been many a year since skating has been so popular as it is this winter. This is no doubt due to the fact that no such opportunity has been offered in the shape of a good place to skate-This year, however, the-

## Lagoon on the Exposition Grounds

makes an ideal skating rink-The boys and girls of this city and South Omaha are offered a chance to obtain their-

# Skating Tickets Free

To every person bringing in 30 cents for a two weeks subscription to the Daily and Sunday Bee or the Evening and Sunday Bee, we will give a ticket admitting them-

To the Exposition Grounds-To the Ice on the Lagoonand to a Ride on the Toboggan

Bring orders to the Subscription Department,

THE BEE PUBLISHING COMPANY.

Are You Bearing a Secret Burden Because of Sexual Weakness.

# IF YOU ARE, THEN ACCEPT THIS

A COURSE OF MEDICINE SENT ABSOLUTELY



Every man suffering from the effects of youthful folly or later excesses restored to PERFECT REALTH AND VIGOR. Premature Decline, Lost Manhood, Spormatorthora, Emissions, and all Diseases and Weaknesses of Man, from whatever cause, permanently and privately cared.

Send the famous PIN VIGOR. INSTITUTE, of Chicago, a description of your trauble, with a cents for postage and packing, and our eminent physicians will prepare for you a course of medicine of such strength as your case may require. We send it FEPE to introduce our remarkable method of treatment for Lost Manhood. No Quacker: or C. O. D. Friud. We have thousands of thankful letters that praise our noncrable, liberal business methods, as well as our remarkable quick cures. We have cured cases that have bailled others. Failure impossible by our method.

IT COSTS YOU NOTHING TO TRY IT!

PHYSICIANS' INSTITUTE, 1945 Masonic Temple, CHICAGO, ILL.

ATTIVITY OF THE STATE OF THE ST

### daylight by substituting in its place electric light for the purpose of increasing the number of "growing hours" of plants has al-ready been proven. In addition to the fact that the light of the aurora might tend to increase the number of growing hours of the plants of the north, Lemstrom contends that they are also stimulated by the presence of the large amount of atmospheric electricity, to which, as it is contended, the pres-

ence of the aurora he due. Lemstram, in furtherance of his ideas, ha been carrying on a series of experiments have been subjected to atmost electricity. But these experiments while in a measure thorough, have not carried out on a sufficiently extended scale to warrant any large assumptions being made in the matter. It is Lematron's ide that, in conjunction with Prof. Bailey, some very important work can be carried on, and it is for this purpose that Prof. Bailey is making ready to proceed to F'nland.

HOW THE FARM WILL BE ARRANGED If the plans of the two experimenters are carried out in the manner which is now con-templated, the result will be an electric farm of a decidedly picturesque character. It is proposed to erect a line of posts around thi farm or field in which the experiments are to be carried out. Fr. post to post through the air above the ground wires will be stre ched and at convenient distances along these wires, small knobs or points will profect. A static current, such as produced by the Holtz machine, will be sent over the wires, and will be allowed to jump across the open space between the wires from are point or knob to another. A constant flow of elec-tricity through the air will thus be accompliehed and the surrounding atmosphere wil ne, in a measure, saturated with the current. At least, this is the idea of the ex-perimenters; certainly at night the score should be very picturesque. The tkey points of flame jumping from wire to wire fro knob to knob, in a background of darkness, ought to create a picture such as might b thought to exist only in the fabled farms of fairyland. Prof. Bailey, in speaking of the

"Our contemplated experiments point t the application of atmospheric electricity to the growing of plants. Lems rom and myself have devised a scheme by which we are to work in unless -some work to be carried or in Finland and some to be carried on i America. He has recently suggested that should go to Finland in order to look over his experiments and to be better able to toder take them here. Lemstrom was first led consider this whole subject by observing the influence of the aurora on the atmosphere and plant growing, and thought that the electrification of the atmosphere had a great deal to do with the growth in the Arctic region. He went to Spitzbergen for the purpose of in-vestigating the electrical phenomena and the

me ecrology of plant growing.
"I have recently pointed out to the members of the Massachusetts Horticultural soci By the great effect which a mospheric elec-tricity has co the growth of plants. Atmospheric electricity exerts a very powerful in-fluence upon vegetation. The experiments of Grandeau were designed to determine this point. Plants were grown in the free a mos-phere, which is always in a greater or less state of electrification, and also in a wire cage from which the atmospheric electricity was excluded. Maize in the free air was in every way better than the other, not only in the bulk of all is parts, but in the amount of ash, and of both nitrogen and non-nitrogenous matters. Grandeau found that plants de-prived of the influence of atmospheric elecfricity have in the same length of time given 50 to 70 per cent less bulk, and 50 to

ATMOSPHERIC ELECTRIC: TY FARM IN FINLAND States that the rapid growth of plints in the far north is due directly to the light of the aurora berealis. Light is one of the this effect is brought about. It is highly probable, however, as Lemstrom thinks, that fats were subjected to the radiant energy of the modification is not the direct result of the modification is not the direct result of powerful electric light the nitrographs to the extent of 190 pounds. She was per the electrification of the plant itself, nor the sheaths were shrivelled and their contents atmosphere, but that they follow some put in a condition to be milked out or expectations of the problems we will attack while working animal or plant itself.

This is one of the problems we will attack while working animal or plant itself.

Another expected to the radiant energy of the radiant energy of the nitrographs to the extent of 190 pounds. She was perfectly willing to form such an agreement but she needed money right away. She had not only were ler jewels in pawn, but her clothing was decidedly shabby. She also said that she would not be made to the contents of the contents of the contents to the extent of 190 pounds. She was perfectly willing to form such an agreement but she needed money right away. She had and not only were ker jewels in pawn, but the problems we will attack while working a minute of the contents of the contents of the contents of the contents of the contents. occessary natural agents in promoting plant growth and the efficacy of continuing the in unison. If it is solved, we shall probably know better how far to go with this artificial plant stimulating process. In some cases it is found that stimulation is advisable up to a certain point, but from that point onpant stimulating process. In some cases trained of of the was kneed by the article to a certain point, but from that point on- free from any of its native microbes and ward it becomes injurious. If we can re-1 ready to be used as a culture medium for duce the system to a practical basis, our any desired microbe.

The lowa farmer stayed to St. Louis three weeks, during which time the widow drew or his purse to the extent of about \$300. The widow was relabilitated from shoes to have the system to a practical basis, our any desired microbe. forthcoming experiments and those of the past will not be or have been in vain."
THEODORE WATERS.

## PRIVATE HOWE'S PAY.

After He Had Put tp \$31,000 He and All His Regiment Got Their Pay. When the civil war broke out, relates the Youth's Companion, an immense meeting was held in Bridgeport, Conn., and many men volunteered for the army. To the gen-eral surprise, one of the richest men in the tate, Elias Howe, the inventor of the sewing

nachine, arcse and made this brief speech; "Every man is called upon to do what he can for his country. I don't know what I can do, unless it is to enlist and serve as a private in the union army. I want no posi-tion; I am willing to learn and do what I can

with a musket." But it soon proved that the chronic lame ess from which Howe suffered incapacitated im from marching with a musket, even to the extent of standing centry. Determined to be of use, however, he volunteered to erve the regiment as its postmaster, messen

er and expressman. Sending home for a suitable horse and wages, he drove into Baltimore twice a day and brought to the camp its letters and parcels. It was said that he would run over half the state to deliver a letter to some onely mother anxious for her goldler boy ring back to him a pair of boots which he caded during the rainy weather.

For four months after the Seventeenth Con-octicut entered the field the government was so pressed for money that no payment to the troops could be made, and there was conscquently great suffering among the familie the soldiers, and painful anxiety endured the men themselves. One day a private soldier came quietly int

or an interview. Presently the office Well, my man, what can I do for you?" "I have called to see about the payment of the Seventeenth Connecticut," answered the

he paymaster's office in Washington and ook his seat in the corner to await his tur-

The playmaster, somewhat irritated by wha he supposed a needless and impertinent in terruption, told him sharply "that he could do nothing without money, and that until the government furnished some it was useless for oldiers to come bothering him about pay. "I know that the government is in straits returned the soldier. "I have called to fin-out how much money it will take to give m regiment two months' pay. I am ready

truish the amount. The amazed officer asked the name of hi visitor, who modestly replied, "Elias Howe. He then wrote a draft for the required sum-\$31,000. Two or three days later the regiment was paid. When Mr. Howe's name was was paid. When Mr. Howe's name was called, he went up to the paymaster's desk and signed the receipt for \$28.65 of his own

The officers of a neighboring regiment sent over to the Seventeenth Connecticut to see if they could not borrow their private."

typen 50 to 70 per cent less bulk, and 50 to Look to your interest. You can buy Sal-10 per cent less fruit and seeds than plants vation Oil, the great pain-cure, for 25 cts.

fluences plants profoundly, and is usually them afterward. Here comes in the great whom he might be able to make an arrange beneficial, we are yet uncertain as to how discovery in the use of the electric light. this effect is brought about. It is highly Mr. Day found that when these oils and the new domestic firm. The landlady intro

Among the microbes destroyed by the light are those which cause putrefaction and a gold watch and silver-buckle garters could decay, and so the articles acted on by the not be a success and these were bought light are readily preserved as long as they are protected from new invasions of nature's hosts of destroyers. As a result, the various go into effect, kinds of butter, cheese, etc., made under the The other d Day processes show most remarkable keep-

ing powers, far surpassing those produced by the old-fashioned methods. For the same reason, the new articles are not affected by any diseases, such as tuber-culosis and typhoid fever, which may be whiskers. Then Mr. Dowson made a fircarried and transmitted in the milk of cows resolve to have nothing more to do wit as well as by contamination from baruyard widows.

The Day process does not end with the treatment of fats and oils, but is applied to all the flesh of animals, as well as of fish, crabs, oysters, fruits and vegetables. Mr. Day found that the application of the radiant energy from the electric light produced peculiar and wonderful effects on all these substances. Fresh meat was made rigid and hard as wood. It could then be ground or pulverized into powder, and this, when put into water, would swell up and when cooked would have the substance and the good quali-ties of fresh meat. The electric curing process reduced four pounds of meat to one process reduced four pounds of filed to one pound. In this condition it could be trans-ported anywhere and would keep in any climate. Then by adding the requisite amount of water the article would be ready

to be cooked and served up, thus furnishing an ideal meat, as to which "digestion waits on appetite, and health on both." Mr. Day tested the merits of his process in many ways. He found that meats could be cured in large or small pieces; in fact, that by suitable exposure to the electric light odies of any size might be first disinfected rom all microbes and then preserved in-lefinitely. No matter what the germ might be, the inventor found that powerful light was fatal to it. He experimented with the entire range of germs supplied by the physicians of the Johns Hopkins hospital, and killed them all.

and killed them all.

Extending the range of his process, Mr.
Day found that fruits and vegetables could either be preserved very nearly in their natural condition and size, or they could be made dry and hard as wood, reduced in size ward restored again to a food form by sup

American Champagnes are fast driving ou the imported article. list is Cock's Imperial.

### SMOKE SHIELD FOR FIREMEY.

Enables Them to Stay Fifteen or Twenty Minutes in a Thick Smoke. A new invention has been put on the mar-ket in New York recently which, the inket in New York recently which, the in-ventor says, will do much toward increasing the efficiency of the fireman and make his calling less hazardous. The invention is called a "smoke protector," but is really a shield made of fine wire cloth and rubber. The wire screen is strapped across the mouth and the rubber fits closely over the nose. All air taken into the lungs must come through a dame scoopes which is fastened on the outa damp sponge which is fastened on the out-side of the screen. Equipped with the pro-

widow was rehabilitated from shoes bonnet. She said that housekeeping withou not be a success and these were Then Mr. Dowson returned to Iowa to awai the time when the new arrangement was

The other day he came to St. Louis, on! learn that the widow was not Mrs. Cari but Mrs. Sweet, and that in many other way intentions to the ruddy-cheeked ex-marine

INDIAN TERRITORY BLACK HOLES.

Herrible Prisons an Which Between 700 and 800 Prisoners Are Kept. The other day a prisoner was brought to the bar in one of the feleral courts of the Indian Territory, relates the Globe-Democrat He was told that he could have his choice of jall or a penitentiary sentence.
"Judge," said he, "let me go to the peni entlary. For God's sake don't send me

At Ardmore the space between two brick buildings is inclosed by walls across the front and rear of the let. A roof partially covers the inclosure. The gable ends are open, and a driving rain or snow storm wet. the interior. The mud of the dirt floors is often ankle deep. Such is one of the Unites States jails of the territory. Under this she-

and in the mud the federal prisoners await ing trial are herded by guards, who patro the front and rear day and night.
At South McAlester is the second of the national disgraces. It is a stone building fifty feet wide by about eighty feet long. The sides of the building are without openings of any kind. In one end is a In the opposite end are two windows. Th

### TOILET AND BATH requirements are



perfectly met in There may be more expensive solutely pure. For the bath it is ng and delight

There's only one soap that wen't shrink I Wish Mine must choose be-



ELLISVILLE, Jones Co., Miss., Sept. 14th, 1897. I have been married a little over four years, and have been in bad health all the time. Have lost three children. Nine months ago I commenced to use Wine of Cardui, and have used three bottles. I am greatly improved, and have a fine living child. I will never be without Wine of Cardui. SARAH HARVEY.

FLORENCE, Ala., Feb. 4th. I received the book on Home Treatment of Female Diseases, and the medicine that you sent me. I have used two bottles of Wine of Cardui and two small packages of

Black-Draught. I have gained four pounds in weight, and "a hundred pounds" in health and spirits. MRS. NINA DOWELL.

# Wine of Cardui

These letters show what Wine of Cardui will do for women. They make it plain to any one that a woman need not be weak and languid and low-spirited. But that she can be well and happy. And that she can bear strong, healthy children. With Wine of Cardui so easily obtained, there is no reason why any woman should suffer from those dragging pains in her head, back and sides, that torture so many thousands month after month. The reported cures of this great medicine include the worst cases of suppression, flooding, irregular and painful menstruation, whites and falling of the womb. Wine of Cardui helps a girl properly develop into a woman, and is

the best medicine she can take for every trying crisis in her life. It makes it possible LADIES' ADVISORY DEPARTMENT. for her to be a happy wife and mother. Wine of Cardui can be bought at every drug store. \$1.00 per bottle.

For advice in cases requiring spe cial directions, address, giving sympa-The Chattaneoga Medicine Co Chattaneoga, Tenn.