

# THE ELECTRICAL WORLD

## ELECTRIC NOTES.

An electric machine has been made to wash and purify the air in any room.

Paper may be made a good electric conductor by impregnating it with carbon.

Japan has now more than 200 telephone exchanges, more than twice the number it had two years ago.

More than 20,000 20-candlepower incandescent lamp filaments can be made from a single pound of tantalum.

A new electric desk lamp has the filament stretched out in a long line to distribute the light over a greater area than usual.

The handle of a new electric torch is magnetized so that it will adhere to metal surfaces, leaving its hands free for work.

The largest wireless station in Europe, that on the Adriatic sea at Pola, Austria-Hungary, includes a 300-foot tower built on a foundation of glass.

Two California men have patented an electric station with an automatic cut-off, so that the current is used only when the iron is in actual operation.

Somewhat in line with the electrically lighted scarf pin is one devised by a French jeweler in which images of animals are made to move by motors supplied with power from a pocket battery.

In an address recently made by Prof. John W. Whitehead of Johns Hopkins university it was pointed out that out of 220,000 miles of railroad track in this country only 1,000 miles have as yet been electrified.

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An electric light plant in Nebraska is manufacturing ice as a by-product. The exhaust steam of the plant, which would otherwise be waste, is utilized in the ammonia absorption process of ice manufacture, and also for distilling water from which the ice is made.

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## WIRELESS OUTFIT IS UNIQUE

Successfully Operated Without Ground Connection at Either End—Apparatus on Bicycle.

The sending of wireless messages through space without a ground at either station has been demonstrated by two inventors of Brooklyn, N. Y., Messrs. I. Wolf and H. Mohler, where they took part in the Memorial day parade with their complete sending and receiving apparatus mounted on bicycles, says Popular Mechanics. One of the inventors took the position at the end of the procession, while the other was leading, making a distance of about 1 1/2 miles between them. No ground wire was used and the rubber tires prevented any connection through the frame and wheels.

The sending apparatus of the station on the bicycle consisted of a two-inch induction coil, zinc spark, and a home-made rubber plate multiple-series condenser, which was used for transmission of the electrical waves, and a large wireless key that operated the coil.

The receiving instruments consisted of a pair of 2,000 ohm double-head telephone receivers, a silicon detector and a non-inductive potentiometer. The entire outfit, including the battery, was mounted on a board 10 by 22 inches, which was fastened to the handle bar of the bicycle as shown in the photographs.

The aerial consisted of a three-wire system mounted on a seven-foot pole, which was attached to the seat of the bicycle. Each of the three wires are ten feet long and insulated at the top and bottom.

The transmitting and receiving instruments were connected with very heavy rubber-insulated wire. The operator would guide the bicycle with one hand and the key with the other. The interesting part of this outfit was the aerial used for sending the electrical discharges. The wires were divided into two parts; one part consisted of two wires connected to the positive terminal of the induction coil, and the other, or single wire, was connected to the negative. In both diagrams A represents the top of the aerial and B the bottom.

May Take Place of Platinum in Apparatus for Melting Brass and Many Other Metals.

Silundum, the new material for industrial and domestic apparatus made in the electric furnace of F. Bolling, a German engineer, is now being supplied commercially by a special factory in Switzerland. It is a form of silicon carbide produced by saturating carbon with silicon, which is vaporized at about 1,600 degrees C., and the product differs from carborundum, the amorphous or crystalline silicon carbide, it being a very hard and resistant mass retaining the shape originally given the carbon. That is, it is not fused with rods or utensils, may be cut with rods or utensils, and is entirely converted into silundum by heating in silicon vapor. Below 1,500 degrees C., silundum does not melt or oxidize, and it is expected to find a large field as a cheap, resisting and durable substance for the heating rods and grids of electric kitchen ranges, as it can be given a high temperature without risk of overheating; the ranges may have the glowing heat of a coal fire. As silundum is not affected by acids or alkalis, it may take the place of platinum for melting brass, especially in apparatus for melting brass, aluminum, lead and other metals, and for laboratory ovens requiring high temperature. It is attacked by very hot molten metals, from which it may be protected by a thin coating of platinum.

Electric Smelting.

The success of electric smelting is indicated by the rapid adoption of a German authority counts up 114 electric furnaces that are at work making steel, and his list is incomplete, some important omissions having been pointed out. Of these enumerated 77 are arc furnaces, two generate heat by arc and resistance combined, and 25 are induction furnaces. There are also some pig iron smelting furnaces, Norway and Sweden have two or three. Of the steel furnaces seven are at work in England and a number in America, but the great majority are in France and Germany. Most of the furnaces are of small capacity, one to five tons. They are employed chiefly on high-class steels, for special purposes, but a fair proportion are working on ordinary steels, such as structural steel, castings and railway ties, rails, etc.

Wireless for Airships.

Now that aerial navigation is coming to be considered seriously, new problems are arising, such as the question of navigation on starless nights or over fog-bound land, when the aeronaut will be unable to find his bearings. It has been proposed by a German inventor, that a network of wireless stations be established over the land, each station sending out a predetermined signal at regular intervals, which would be received by the air craft, and enable the aeronaut to determine his course. The airships would not be required to carry transmitting apparatus, as a small receiving apparatus would suffice to enable them to avail themselves of this proposed system, and the weight of the receiving device could easily be kept down to a few pounds.

Auto Speed Meter.

An English inventor has devised a new speed meter for automobiles. Placed in front of the vehicle, the exact speed may be ascertained at any time, either from the vehicle or from the road. An excess of speed limit is announced by a gong which continues to sound until speed is reduced. For night driving excess speed is also indicated by the figures on the face of the instrument being illuminated.

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# "Cold Molasses"

By BELLE MANIATES

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There was to be a leap year dance down at the Corners, and consequently all the young men in the vicinity wore a half receptive, half sheepish air.

"I can give you a faster ride than either Art or Warren can," he said, promptly once more.

"Oh, have you got a new horse, John?"

"Not a horse. Keep on guessing."

"An automobile?"

"No."

"Well, I give up, John."

"I don't believe I'll tell you just yet. Not until you are sitting out the fifth dance with me."

"John isn't so slow," she thought, as she took his program and wrote her name on it.

When the fifth dance came he asked her if she would enjoy it more to have it a surprise until it materialized.

"I'll come over tomorrow afternoon and take you to it."

"This looks like Warren's horse," said Hetty, as she got into the sleigh.

"It is," he replied, touching up the horse. "I borrowed it because I heard you couldn't bear to ride behind a lead horse."

"Did Warren know you were going to take me riding?"

He looked at her in surprise. "Why, no," he replied. "He would have made some excuse not to lend it to me if he had known that."

"Well, Hetty, I feel honored even to be a compromise, and I should be delighted to go with you, but I have a confession to make: I don't dance."

"I didn't suppose you did, John, but I thought maybe you'd like to go and hear the music and sit out some dances with me."

"Of course, I would," he said, flashing and looking down into her dazzling eyes.

"John's good looking, even if he is a little slow."

"I'll never think of John as 'Cold Molasses' again," she thought as they finally went up to the farmhouse to get warm before starting for home.

When they reached her house Mr. Lane came out to the sleigh.

"My wife sent me to ask you in to supper, John," urged Hetty.

"I've got to get this horse back," said John, sorrowfully. "Warren wants it tonight."

"Ben Childs is here. He lives next to Warren's. He'll be glad not to have to walk home."

After supper Mr. and Mrs. Lane went to a neighbor's to call and Hetty settled herself for a comfortable visit with John without perturbation. She knew from a certain expression in his eyes how much he thought of her, but she also knew his slow way of doing things, and calculated that it would take him at least a year to reach the proposing point. Therefore, when he suddenly put his arm about her and asked her tersely if she would be his wife she was so surprised that she accepted him.

"John," she said later, "how did you come to ask me so soon?"

"So soon?" he echoed, in surprise. "Why, little girl, I've been wanting to ask you since the first time I saw you."

A Kneepad for Miners.

The miner's calling is what accident insurance companies would term an "extra hazardous risk," but every little while some inventive genius brings forward an article designed to eliminate some of the dangers. One of these devices is the kneepad designed by three Illinois men. This pad is a concave steel piece worn over the knee with two sharp points turned outward. On the inside of the pad, toward the knee, is a cushion lining to allow the water to kneel on it, instead of bruising himself. The harness worn with this guard consists of a pair of side bars running from the ankle to the knee. At the upper point they are attached to a strap, which buckles around the point and at the foot they terminate in a contrivance which fits over the instep and around the heel, thus keeping the pad in place and preventing it from slipping around to one side. Equipped with this device a miner can crawl around on dangerous ledges with safety.

Faults of Women's Dress.

Mrs. John F. Fitzgerald, wife of the mayor of Boston, says that individuality should be the essential feature of women's dress. Society women, adhering so closely to the styles, she says, often make themselves unconsciously ridiculous. Many women, she says, wear the latest styles in order to avoid gossip, when they would much prefer to dress in a simpler manner.

Not So the Eggs.

Rooster—Did you see where they are going to require all eggs to be tagged with their age?

Hen—These humans are getting too fresh.

Obtained in Queer Manner

Origin of a New York Village's Name Which It is Now Proposed to Change.

The village of Horseheads, N. Y., is again agitating the question of changing its name to North Elmira. The matter has been brought before the public from time to time for several years, but so far the old name has been retained.

One result of the present discussion has been an inquiry as to how the village obtained its name. The story generally accepted is that in 1779, when General Sullivan was returning from a campaign against the Indians in Genesee county, he stopped here to rest his troops. The surrounding country was covered with dense forest and he was thickly beset with his enemies, so he determined to shorten his march by descending the Chemung river on rafts. As the depth of the river was not known to him and he had no appliances for building large rafts he ordered that all extra

logs and supplies be destroyed and that all feeble or superfluous horses be killed.

As soon as the troops had departed the wolves came forth from the forest and picked the bones clean. Into the Indians ventured back into this region again they visited the camp ground and some of them made a great mound of the bleached horse heads which they found strewn about.

This monument was later found by the settlers who penetrated into the valley and because of it they gave their settlement the name of Horseheads.

Alarming Symptoms.

Nurse—Doctor, the patient rallied a little last night, and shows unexpected strength this morning.

Dr. Kallowell—Dear, dear! We'll have to do something to get him out of that condition.

# POULTRY

## IMPORTANCE OF GOOD FEED

Well Established Fact That It Is Easier to Hatch Chickens Than to Raise Them.

It is a well-known fact that it is easier to hatch chickens than to raise them. The following method has given satisfactory results on a successful poultry ranch:

For the first six days a commercial chick feed is used, consisting of cracked grain, such as wheat, oats, millet seed, weed seed, grit, egg shells, and meat scraps. Part of the feed is placed in shallow saucers and the remainder scattered among the chicks. It is important that the young birds should be active, so scratching for food is good exercise. Clean water is kept before them at all times.

When the chicks are let into the outdoor runs, which is about the sixth day, if the weather is favorable, skim milk is added to the ration. This is fed once a day, in the morning, and is placed in drinking fountains in the outside runways. The quantity of milk fed is determined by what will be cleaned up within a short time, for

through a 12 by 12-inch door in back. Openings in the lower part of box provide fresh air for lamp. The door is made of good lumber matched to fit very closely. An inch and a half below floor is a solid piece of sheet iron or tin (not zinc) which keeps out the fumes from the lamp. The lamp heats the sheet iron, and the dead-end space above, thus warming the boards in brooder floor.

In front of brooder are three doors, two of glass and one for the runway. From floor to eaves is 5 or 6 inches. Roof is covered with a prepared roofing. The front part is hinged with 6-inch strap hinges so it will lie flat on main top. Rear part is on hinges at back of brooder, so the entire top can be turned back for cleaning and airing. The joint between the two parts of roof may be covered with a strip of oilcloth. A few folds of burlap sack split up to 3 inches form the division between the main brooder and the cooling room.

Hardy White Embden Geese Considered Very Practical Birds for Farmers and Pay Well for Their Care and Keep.

White Embden geese are considered very practical birds for farmers and pay well for their keeping. They are nice looking, of large size, tall and erect carriage, and snow-white plu-

mage. They originally came from Embden, in Westphalia, and have been bred in this country for many years.

Pair of White Embdens.

Eggs should be regularly collected at least twice daily.

Grain should be fed poultry at night, as it remains in the crop the longest.

A light placed in the roosting quarters will keep the ducks quiet at night.

There is no place for a sick person in the poultry business. It's bustle, rustle, bustle.

Nearly all disease of poultry can be traced to filth. Clean off the drop boards frequently.

Young ducks should be ready for market at ten weeks old. No profit in feeding them after that.

The ground and duck pen should be disinfected every spring and fall by digging up and sowing green crops.

Hard-shelled eggs are always preferable; consequently give the laying hens plenty of egg-forming material. Oyster shells are one of the excellent foods.

We often read of hens that lay 200 eggs in one year. This is a good record to aspire to, but count how many you have in your pen that can go one better.

On most farms it will prove better and more economical to allow the poultry free range during favorable weather and fence off the lawn and garden.

With the common knowledge of the earning of the farm flocks have come a desire to keep more fowls and make their keeping a special department of the farm operations.

The gains made by chickens during the summer are rapid and poultrymen are fast beginning to realize that if they have large healthy birds they must have abundant range during the period when they are