

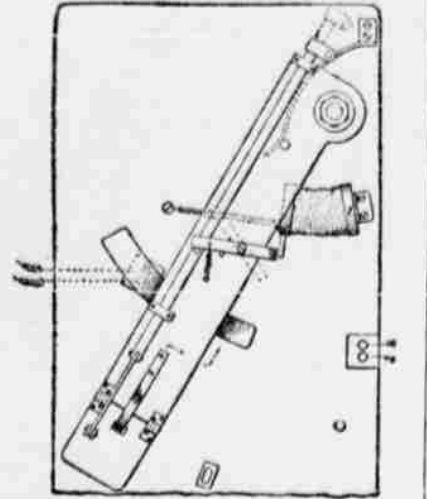
THE ELECTRICAL WORLD

NEW SWITCH IS AUTOMATIC

Device for Controlling Electric Currents Made Movable by Hand in One Direction.

In describing an automatic electric switch designed by John L. Polk of Menands, N. Y., the Scientific American says:

This automatic switch is for use in controlling electric currents. The switch in one of its movements being automatic, and also sluggish in its action. More particularly stated a switch is provided having a lever movable by hand in one direction and movable in the opposite direction by the action of a spring and against the



Automatic Switch.

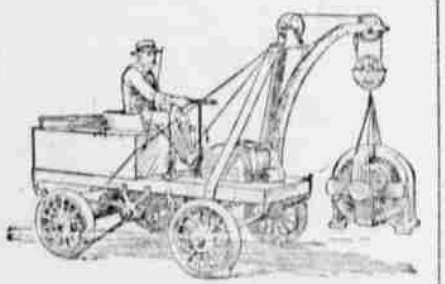
pushing pressure of a dash pot for the purpose of retarding the movement or rendering it sluggish, the idea being that when the switch lever is in one of its extreme positions it closes one electric circuit and a few moments afterward opens that circuit and automatically closes another. A plan view is shown herewith complete, the lever occupying its extreme position to the left and closing one of the circuits.

NEW ELECTRIC TRUCK-CRANE

Designed Especially for Unloading, Loading and Transporting Heavy Loads for Short Distance.

An electric motor-truck crane, designed for unloading, loading and transporting the loads for short distances in yards and shop buildings is shown in this illustration while transporting a one-ton load, says the Popular Mechanics. The hook of the swinging crane, which is mounted on the front end of the truck, is raised and lowered by a hoist of one-ton capacity mounted just back of the crane, the motors driving the hoist and the vehicle being operated from a battery on the rear end of the truck.

When material is to be unloaded and deposited within a 6 to 8-ft. radius, and this action does not require the material to be moved vertically more than 10 ft., the truck is run into position, the brakes are set, and the truck remains stationary, the boom of the crane moving back and forth between the picking-up and deposition place. When material has to be transported



Electric Truck-Crane.

to a distance in the warehouse or yard, the truck picks up the load from the railroad car or wagon, conveys it to its destination, and sets or piles it where desired. The short wheelbase permits the driving of the machine about warehouse and shop aisles.

Treatment of Sciatica.

Electricity was formerly the mystic remedy of the quack, but since electrical apparatus has become so essential for X-ray work more serious attention has been given by regular physicians to the physiological effects of this powerful agent. Among the notable results has been an electrical method of arresting the degeneration of the arteries so common in premature old age. A new announcement is that of Doctor Laborde, a French medical man, who gives details of a method of treating sciatica by ionization with sodium hypophosphite and shows what appears to be an effective cure for a painful disease. The effects are attributed in this treatment to sulphur oxide from electrolytic decomposition instead of the direct action of the electric current itself.

Novel Method of Lighting.

Probably one of the most novel methods of providing lighting for a church is that employed at the old Conely church, situated a few miles out from Birmingham, Eng. About 600 feet from the church is the mouth of a disused coal mine, around which are huge piles of tallins. Upon one of these, a steel tower 60 feet high is erected, and a windmill 18 feet in diameter installed. At the base of the tower, in a small house, is an electric generator which is run by the mill. The current thus generated feeds 27 lamps in the church, two in the chapel, two in the vestry; operates a motor for pumping the pipe organ, and also lights 30 lamps in the rectory. A storage battery in the rectory is a part of this unique plant.

Electricity as Needed.

To promote the use of electricity in the homes, the electric company of the little German town of Luneneckel, has installed slot machines by means of which consumers can purchase electric current in measured quantities as needed.

TELEGRAPH QUICK AND CHEAP

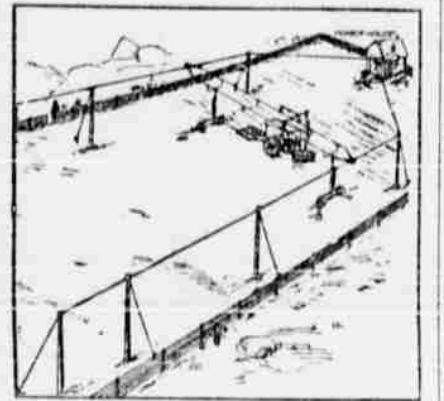
Johnson-Varley System of Communication Promises to Supersede Slow Morse Signaling.

A revolution is promised in the new Johnson-Varley system of tuned cable, wire, and wireless telegraphy. At a private press exposition its principles were clearly elucidated by Mr. Varley and Mr. Johnson. The system is based upon the well-known law of syntonism. This supercedes the slow Morse signalling by a system of tuned reeds representing letters and numerals sent from a type keyboard and received at the other end by a similarly tuned type recorder. In all there are 49 differently tuned signals to each machine, and the whole of these range within one semitone. To show that the rate of vibration of these reeds is uninflected by variation of temperature a reed was placed in boiling water while the one that was tuned to it was kept out of the liquid, yet on vibrating the latter the former was seen to oscillate in a like manner. The advantages claimed for the new system are: 1. That messages can be sent four times as fast as by the Morse code with one transmitter. 2. Several transmitters can work at the same time over one cable in both directions. 3. Practical elimination of skilled operators. 4. As a result cheaper rates and increased speed. The Johnson-Varley system also makes possible secret wireless telegrams, and all interference of one message with another is prevented by its use. The tuning of the reeds—by a mechanical process, not the human ear—is absolute and definite, and we might say illimitable, as the fraction of a vibration per second makes all the difference in the world.

ELECTRICITY HANDY ON FARM

Montana Man Secures Patent on Apparatus for Operating Plows, Harrows and Other Implements.

Interest in the application of electricity to the farm recently manifested itself in a patent upon a system for distributing electricity to operate apparatus such as plows, harrows and other farm implements used in the fields. The patent is issued to Charles S. Doney, Columbia Falls, Montana, says the Popular Electricity. The illustration conveys something of the inventor's idea, which is to run wires out from the dynamo and on each side of the field. Across the field and



Novel Electrical Distribution.

between these two wires runs a pair of wires constituting a movable trolley from which a motor driven traction engine will take current by means of a second trolley, the whole outfit being moved up the field as the ground is prepared by the plows, harrows or drills.

New Fire Alarm Indicator.

A new alarm indicator for fire engine stations has three panes, behind which incandescent lamps can be so arranged as to show the signaling box by numeral or special signs. The apparatus can be worked by hand or automatically by the usual Morse alarm signals. To save the time necessary for finding on a chart the spot from which the alarm was sent, it is proposed to use a translucent map that would be illuminated by the alarm, and would have all boxes of the fire department area marked by numbered disks. The call would also show a red light behind the disk for the signaling box and another for the station, so that the best route to the fire would be seen at a glance.

ELECTRICAL NOTES

The signal corps has nine wireless stations in Alaska.

It is claimed there is less shrinkage of meats when cooked by electricity.

The General Electric company will supply forty electric mules for the Panama Canal.

A signal will pass over the 2,700 miles of the Atlantic cable in three-tenths of a second.

New York is installing additional high-pressure motor-driven fire pumps in two of its pumping stations.

There are 71 armored telephone cables leaving Manhattan island with a total of 13,561 paid conductors.

Berlin employs more than 100 storage battery driven electrical machines literally to scrub its well kept streets.

The Omaha Light & Power company uses a portable motor-driven pump for pumping water from the underground conduits.

The city of Hamburg will build a three mile monorail railroad to test the availability of the plan to the municipal traction system.

Many farmers near Eureka, Ill., have tapped the electric transmission lines and are enjoying electric light and electric power to do the work.

NEW MAN THEORY

Skeleton Shows Human Race is Older Than Believed.

Age Over 100,000 Years—Being Much More Like the Modern Briton Than the Neanderthal Type.

London.—English scientists are taking great interest in the discovery of a skeleton beneath an undisturbed layer of bowlders and clay in East Anglia, near Norfolk and Suffolk. If the evidence is good, this skeleton must be that of a man who belonged to a race that lived in that district before the most severe of the various ice movements of the glacial period.

A singular feature of the discovery is that, in most respects, the skeleton resembles that of the modern Englishman and is not of the more simian type to which the Neanderthal man, though a much later phenomenon, belongs.

There now seems to be a growing body of evidence that the modern type of man was evolved at an extremely early date before the beginning of the glacial period, but that for thousands of years afterwards the primitive, or Neanderthal, type continued to flourish in Europe.

Until this find the Neanderthal man was regarded as the oldest in Europe, and one of the scientific commentators says:

"Some people were hasty enough to discern in these Neanderthal men, with their monkeylike qualities, evidence of the missing link. It is now clear that they were survivors of a stock which had deteriorated, and not progenitors of our race. If we have to accept the theory of evolution—and it is still only a theory—it is a puzzling fact that man has changed so little in 100,000 years."

On this point Prof. Keith, anthropologist at the museum of the Royal College of Surgeons, says of the latest discovery:

"There is every evidence that this man lived long before the glacial period. During this period England was covered with a great thickness of ice.

STOLYPIN IS LAUDED

Agrarian Reforms Have Brought Peace to Peasants.

Millions Now Possess Farms—Socialistic and Revolutionary Agitators Vainly Appeal to These Contented Yeomen.

St. Petersburg.—Agrarian reform begins to bear good fruit, a correspondent writes. It was the greatest work of Peter A. Stolypin, premier of Russia, whom Dmitri Bogrov assassinated in the czar's very presence at a gala performance in the Municipal theater at Kiev last September.

"While quelling a bloody revolution Stolypin brought about a peaceful one," say those today who were the premier's bitterest enemies.

His great plan of letting the peasants hold land in perpetuity, which Stolypin inaugurated in 1906, has given land of their own to 32,000,000 peasants; they possess 3,000,000 square miles in European Russia and 7,500,000 square miles in Siberia. And the face of the land has been changed. The peasant now lives on his own instead of miles away, as under the old communal system, when all the land was redistributed every three years.

Besides, the owner works intensively now, for he takes pride in his land. Here again Stolypin's far-seeing brain came into play. He planned that the world should be a speculator in the world's grain trade. He opened hundreds of farming schools and hundreds more are being founded. Besides, Stolypin arranged that money should be advanced to the peasant farmer at low rates of interest, 4 1/2 per cent—something unknown here hitherto. The Imperial bank holds granaries and keeps the peasant informed on grain prices by posting official quotations several times a week in railroad stations, inns and markets. Co-operative stores have been opened in the markets; the peasants can buy agricultural machines on easy terms; mechanical experts give instruction gratis to farmers who desire it.

The results are as obvious as beneficent. A sturdy, hardworking yeoman class is slowly but surely growing in Russia; this in six years, and the plan will not be worked out completely for several years more. The fact is becoming clearer and clearer that agrarian reform has done more to calm Russia than all the restorative dictates from the city. Socialistic and revolutionary agitators have no success where the muzik owns his land, because it is all he really cares for in

Air Machine Saves Many

Persons Resuscitated by Use of the Pulmotor—Government Adopts Apparatus.

Washington.—Thousands of lives will be saved in the future in the opinion of the bureau of mines officials by means of the pulmotor, an oxygen pumping apparatus with which the bureau's workers during the last year have restored to life more than thirty persons who had ceased breathing. By means of the lung filling and emptying machine used by the bureau oxygen is forced in, the poisonous gases drawn out and normal breathing started. The machine acts automatically, any effort on the part of the individual hindering rather than helping it.

In drowning cases, gas poisoning and electrocution accidents, there will be many revivals, it is believed, by the prompt use of the oxygen device. Hundreds of inquiries have reached the bureau of mines from hospitals,

CANADA'S GREATEST ENTERPRISE.



THE WELLAND CANAL

CANADIANS will spend \$30,000,000 on the new Welland ship canal connecting Lake Erie and Lake Ontario. This is the largest enterprise in Canada since the transcontinental railroad was inaugurated. When the canal is enlarged it will have a depth of 22 feet, against 14 feet at present, and will enable the Canadians to meet the competition of the new Erie canal. When the Welland canal is deepened the rest of the St. Lawrence system to Montreal will be deepened at a cost of \$75,000,000 to \$100,000,000.

Finally this melted and a layer of debris was deposited. It was underneath a deposit of this sort that the skeleton was found. Hence he must have lived before the ice age and before the rivers formed.

"The finding of this skeleton strengthens the belief that the evolution of man was an infinitely longer process than we originally thought. At one time believers in the evolution theory thought that man's develop-

ment to his present state might have taken something like 10,000 years. Later they put the period at something around 20,000 years. The difference, if any, between this man's so minute work and modern man's bodily frame, so prove that the evolution must have taken hundreds of thousands of years.

"This discovery shows that England was inhabited as early as if not earlier than any continental country."

OLDEST HOUSE IS RAZED

Sayre Homestead Was Built in Southampton in 1648 by an English Gentleman.

Southampton, N. Y.—The oldest frame house in the United States is being razed by workmen by order of the authorities. It was built in 1648 by Thomas Sayre and was known as the "Old Sayre homestead." Sayre was an English gentleman who came to this country in Cromwell's time and was one of the original settlers near Southampton in 1619. The Sayre house is in the center of the village and has long been the principal point of interest here. With proper caretaking the old house would have stood for a century yet.

Used Piano for Bed. Philadelphia.—Ralph Bechtel, an old time actor, known on the stage as Jack Meyers, was found dead in bed. The gas jet was turned on, but all indications point to an accidental death. Bechtel was employed as a scene painter.

Bechtel, like many old-time actors, had peculiarities. While there was a brass bed in the house he preferred to sleep on top of the piano in his parlor. Under his pillow was a sword used by him the first time he appeared on the stage.

Claims Fortune in America

Welsh Railroad Man Confident of Proving Title to Part of New York City.

London.—Thomas Williams, a retired railroad man, who lives in a cottage at Coerwas, a Welsh village, tells us that he is confident of proving his right to a fortune in America of \$275,000,000.

He bases his claim on his belief that he is the nearest surviving male relative of Edward Edwards, a Welshman, who emigrated in the 18th century and amassed an enormous fortune, but died intestate. Edwards was a native of Llanynech, near Oswestry, and removed to Silverdale, where he married. His wife's behavior caused him to emigrate to New York state, where he acquired cheaply the marshy land on which part of New York city now stands.

When the British government recognized American independence Edwards leased his land to the United States government, but the lease expired in 1880.

Edwards also acquired collieries at Edwardsville (named after him). Williams told me that he was sixty-four years of age, had worked on five railways including the Northwestern, the Great Central and Brecon, Merthyr & Cambrian. He saved mon-

ey, but lost some in the Liberator frauds and more recently in a London bank failure. He has engaged a first-class lawyer in America and is himself collecting data here. He showed me papers which seem to have a strong bearing on his claim.

Some people's abuse is a great deal more gratifying than their applause would ever be.

COW BREAKS BUTTER MARK

New Champion, Clothilde II., Produces 1,277 Pounds in Year From 25,000 Pounds of Milk.

Newton, N. J.—The world's record for butter production in a single year, held so long by Clothilde, a Wisconsin Holstein cow, has been broken by Clothilde II., an eastern cow of the same breed. The new champion has just completed her year's test, and, according to the official figures, produced in 365 days, 1,277 pounds of butter from 25,000 pounds of milk. It takes an exceptionally good cow to make 100 pounds of butter in a month, even in full flow, but here is a cow that has averaged that amount for twelve months in succession.

Abuse Not Always Harmful. Some people's abuse is a great deal more gratifying than their applause would ever be.

LEAVE STATE; EVADE LAW

Why Massachusetts Millmen Drink Water in Connecticut.

Perryville, Mass.—Although the employees of the Perry mill here work in Massachusetts, they are obliged to go into the state of Connecticut whenever they want a drink of water. This is not much of a hardship, as the factory straddles the state line, and the men have only to cross the road to get from one state to the other. A new Massachusetts law forbids the use of a common drinking cup, so the pall containing the drinking water is kept in the other state.

And Then—Many a man thinks he is a martyr when he is just a plain fool.

TIPS TEMPT FRANCE TO TAX

Croupiers at Gaming Tables Gather in Riches, Much Coming From the Americans.

Nice.—Declaring the croupiers at the gaming tables in the big French gambling resorts earn more than ministers and ambassadors, and that the winnings of the owners are "princely," a member of the French chamber proposes that a new tax be assessed on the tables, graduated according to the winnings. The croupiers get no salary. They live on "tips." At the Enghein Casino, near Paris, these amounted to 1,737,000 francs during the season of 1911.

Striking Features of the New Spring Suits

THERE is one good point about the spring suit this year: coats are made in lengths to suit the figure. The stout woman is not given a short coat, while the slight woman who looks her best in a hip length jacket may have it. While the short coats are decidedly to the fore, the hip and the three-quarter lengths are shown, too.

As to skirts, suit skirts, those designed for street wear beneath long coats or for house wear, all are narrow, though some are slashed at the left or at the side, revealing a drop skirt sometimes most elaborately trimmed with braid. Others are cut in the simulated tunic effect.

Summarizing the salient features of the spring suit are the following ideas: The hipless figure continues; there is a gradual return of the normal waist line; the sleeves are three-quarter and full length and usually set in plain at the armholes; there is a slight increase in skirt width, but the straight line continues. The suit jackets vary in length, though the latest Paris report is that the tendency is entirely toward the extremely short jacket. A great many of the tailored suits are semi-tailored; there is a use of fabric trimming in form of covered cords and folds. There is a large use of silk, particularly taffeta, for these demi-tailored models.

Cutaway Effects More Popular. As the season advances the vogue for cutaway effects seems to be on the increase. Many of the late models are cut away to an extreme point in the back and fastened just below the bust in front. Shopkeepers realize, however, that a garment of this type is extremely difficult to wear and they are modifying these cutaway coats so as to make them a bit more practical. The majority of the cutaway models shown in the shops are not cutaway until they come below the waist line, and then are cut in either round or pointed effect, both being in favor.

As trimmings are confined largely to the collars, revers and cuffs of the suits, these are given a great deal of attention, and it is frequently the cut of a collar or a revers that makes or mars the entire costume. Shawl collars are again seen, but in most instances they do not have as large revers as in the last season. The notched collar and the small revers of mannish cut also are seen on many of the models and are well liked.

Other Forms on Girdle Order. Other forms of leather belts, more on the girdle order, are several inches wide at the back and curve slightly in the front. So far the use of leather belts has been confined largely to the simple jackets, many of which are in the belted style.

Lace Collar in Open Pattern. An interesting new feature of the model was an open pattern lace collar which was in shawl shape cut low, descending considerably below the normal waist line in front. This collar was formed of heavy crochet point in champagne color. It was edged with narrow platings of black tulle, the coat lined with heavy navy blue satin.

The skirt was simple, in three pieces, center back panel and two side panels, which overlapped each other to form the front. All overlapping edges were bound with braid and at the fronts and the sides a tunic effect was given by the trimmings of braid and buttons. The skirt was only medium narrow, measuring fifty-six inches at the bottom. It was hung from a belt about two and one-half inches deep.

Among the new belts are inch wide belts of fine Morocco leather in high colors, the design being formed by interlacing narrow strips of cut leather. The interlacing is copied from ancient leather work and is most artistic, the belt thus treated being simple in effect, while at the same time presenting a novel feature in ornamentation.

Chinese Hair Band. The current events in China are responsible for this Chinese embroidered hair band, which takes the place of the theater cap. The colorings are gorgeous, those for the blonde having the black band, flowers and butterflies in natural colors, and those for the brunette being pale colored ground with appropriate designs.

Chinese Hair Band



The current events in China are responsible for this Chinese embroidered hair band, which takes the place of the theater cap. The colorings are gorgeous, those for the blonde having the black band, flowers and butterflies in natural colors, and those for the brunette being pale colored ground with appropriate designs.

IN VOGUE

Changeable taffeta hats are popular. Shoes are becoming a little more ornamental in their effect. Small bows of black velvet are much used to trim blouses. Newest dress models show a continuation of one sided effect. Wide girdles appear on most of the elaborate afternoon frocks. There is a prophecy of plain effects in everything fashionable. Black millinery is extremely fashionable for children. These little hats and quaint bonnets are trimmed with clusters of tiny berries, fastened with brightly colored silks. For men, from England, and smart, are buckskin gloves with outions and clasps for fastenings, in grays and tans, some with heavy embroidery and others with silk linings. Sleeves show fullness at the lower ends now. On some, deep cuffs give

Pastebord Pyramids. Quite the newest conceit in imported place favors has appeared from abroad in the form of miniature pastebord pyramids, with tiny flowering plants seeming to have grown in them. The decoration of the holder simulates porcelain, with a color note to harmonize with that of the artificial blossoms surrounding it. A set of these favors in yellow, for instance, if in accord with the chosen color scheme for the table setting, will give a far prettier effect than a favor introducing its color solidly. With these novelties there come tiny white place cards to be slipped among the flowers.

Ecru Silk Vails. Vails of ecru silk lace with a wide mesh are being shown in Paris, and are more coming than the white ones to women with a dark skin.