Rays of Electric Lamps.

NEW DESIGNS FOR LETTER BOXES.

Miniature Incandescent Lamps Can Be Thrust Into the Stomach.

THE MARKINGS ON THE PINGER TIPS

PUBLITHEN FOR THE DISPANCE ! Further specific information on the effect of electric light on plants is afforded by the results of recent experiments at Cornell University. The general effect of the naked light running all night was to hasten maturity, especially in the case of leaf plants, such as lettuce, spinach, etc., which ran to seed before edible leaves were formed. For five feet either side of the lamp the plants died soon after coming up. Two varieties of cress acted in the same way, and the surviving plants were in full bloom seven weeks after sowing, while those in the dark house were still in good leaf. Radishes were injured by the light in direct proportion to their proximity to the lamp, those within three to six feet being nearly dead at the end of six weeks. In regard to entire crops, it was found that those obtained in the normal house were about twice as great as those from the light compartment. Tests were then made with a view to discovering whether the injury to the plants resulted from the electric light itself or from the fact that they received light during the whole 24 hours. The plants were covered during the day in such a manner as to entirely exclude the light, while permitting a free circulation of air. Radishes subjected to this treatment were slender and sickly, assumed a faint green color and died in three or four weeks. The fact that the light hastened seed-bearing suggested that a modification might, under certain conditions, be profitable, and to this end the lamp was enclosed in a white "opal" time to come. The wind, though an uncertains glabs. The results were very many laws glabs. and sickly, assumed a faint green color and class clobe. The results were very much the same, but in a less degree, with the exception of the lettuce, which was decidedly better in the electric light house. The in-fluence of the light upon productive-ness, and color of flowers was found to vary with different species and with different colors within the same species. Several varities of tulips gave interesting results. When certain of these came into full flower it was found that in every case the colors were deeper and richer n the light house; but the colors lost their intensity after four or five days, and were indistinguishable from those in the dark house. The plants in the light compartment had longer stems and larger leaves than the others; and there was a greater number of floriferous plants in the light. Verbena flowers growing near the electric light were uniformly injured. These and other experi-ments point to the probability that while, in particularly helpful.

Finger Tip Evidence.

Further evidence as to the reliability of finger tip impressions for indicating character or establishing identity has been compiled and published by Dr. A'Bundo. After examining the fingers of seven idiots, he found that the markings on the tips of all the fingers on each hand were identical. thus showing a marked difference between those of idiots and of same people. The thumb tips of one idiot had the same markings as those on his fingers. There was a noticeable smoothness of finger tips in all idiots. In one case there was a perfect resemblance between the markings on the fin-gers of an idiot and on those of his mother. Out of 20 cases of imbecility in 4 only was one sort of tracing found on all the fingers, in the remaining 16 a tendency to repetition asserting itself to a considerable extent. In hemiplegia, when the lesion was old stand-ing, a distinct smoothness of the finger tips was noticed, which prevented the obtaining of good impressions. A prominent medical authority is of opinion that from a medicolegal point of view these researches may ultimately have an important bearing on crimes of a sanguinary nature. For instance, if drawings were taken of the impression of a hand bathed in blood the markings would be most clear, more especially if the crimmal had not merely laid his hand on any papers, but had actually fingered them. The evidence of crime would be still more valuable if the criminal had any pecultarity of finger tip impressions.

A Model Prisoner.

It is seldom that a convict turns the hours of his enforced confinement to such good purpose as an inmate of a Maryland prison, of whose ingenuity a cotemporary gives an interesting account. His term of imprisonment is 13 years, on a conviction of horse stealing, of which he asserts he is innocent. By working overtime he has earned such sums of money as to enable him to purchase books, of which his cell con-tains over 200. A short time ago when electric light wires were being placed in the prison he became interested in electricity, and bought some standard works on the subject. The result was the construction of half a dozen different electrical appliances, includin a burglar alarm which he has just completed for the bedroom of the warden of the prison. Another result of his industry is a lock which is so arranged that hammering on it drives the bolts deeper into their fast-ening. He exhibited a model of this lock to the warden, who was so pleased with it that it was at once adopted for use in the prison. Castings for the locks were made in the prison foundry, a lathe was set up in the prisoner's cell, and he was relieved of all other tasks, so that his entire time could be devoted to the manufacture of his locks with which, in a short time, all the dormi-tories of the prison will be provided.

Improved Letter Box. A well-known citizen of New York has invented an improved letter box. The pillar mail box has a clock on which the time of the next-collection is plainly shown, and every letter is stamped at the moment of being-dropped into the box with the exact time. The inventor claims: The time of the mailing of each letter is stamped upon it, which will help to settle disputes often arising as to the time when letters were rent, and will thus relieve the Postal Department from much blame on account delayed letters, which were not really sent at the time stated. It shows how long it took to transmit the letter from point of trailing to its destination, and, if there is a delay, makes it easy to locate it. It acts as a check on letter collectors, and, if they ship boxes, the absence of cards to be dropped into the box before the mail is taken out will show it. taken out will show it.

Miniature Incundescent/Lamps.

Some beautiful specimens of tiny incandescent lights are now made for surgical uses. The smallest lamp manufactured is only 3 mm. diameter and 5 mm. long. In medical practice, where electricity is acquiring an over-growing application, this lamp, owing to its small size, has made it possible to thoroughly inspect the bladder-and stomneil, into which it can be introduced. This application was illustrated at the Centen-bial Expectation by a fish, swimming in an aquations with a samp brightly glassing in its storach. Another adaptation of the small incandercent lamp is to the copper tola which fit the handles or sechets now alto st universally employed with electric tauterizing knices. A doctor working with one of those knives can in an instantare-

PLANTS AND LIGHT.

place it by a lamp, should this become necessary, for instance, in cases of mouth disease. The tiny lamp already mentioned is also mounted on a laryngoscope, and is thus of great value in the treatment of infectious diseases.

The Sponge Industry. The sponge industry, which for many

years was centered in the Bahamas, is rap-

idly developing along the southern coast of Florida. It is found that the sponges growing along the Florida coast are much superior to the Bahama sponges. The method of gathering sponges is by means of iron hooks attached to long poles. By using a water glass the fisherman can readily discover the sponges at the bottom, and then with his pole and hook he will bring up those fit for his purpose, leaving the smaller ones tor his purpose, leaving the smaller ones untouched. Some sponges adhere firmly to the bed of the sea, while others are not attached at all, the latter being known as rollers. After being bought in the local market they are carted to the shipping yard of the purchaser, where they are cut and trimmed into proper shapes and sizes; they are then washed and thoroughly dried being sparselly spread in the sum for dried, being generally spread in the sun for that purpose upon canvas or old sails; next they are assorted according to varieties and grades, and then packed, by means of hand presses, into bales weighing from 20 to 150 pounds. Sometimes the sponges are bleached by being pressed through a solution of white lime and water so weak as not to injure the fibre of the spongs. Nearly all the sponges are bought in open market by resident agents, who buy for New York, London and Paris houses, shipping the

The Future of Sailing Ships. It has been assumed, in view of the great development of steamship traffic, that sailing ships would eventually disappear. This assumption is fallacious. One of the most marked features in shipbuilding during the past few years has been the distinct revival of the use of sailing ships and the building of some of the largest sailing ships afloat. At a recent launch of a sailing ship in Scottain power, is a very cheap power, and there are many important descriptions of goods in regard to which it is of no consequence that the speed at which they are conveyed across the ocean should be the-quickest possible. Moreover, the sailing ship is sometimes a very convenient warehouse for the merchant.

Automatic Letter Deliverer, An ingenious contrivance for distributing letters or parcels to the different flats of large buildings has been invented by a German mechanic. A large collecting box, provided with compartments to correspond to the various flats, is fixed in the basement. The placing of letters or parcels in this box establishes electrical communication with the top story, the effect being to ments point to the probability that while, in a variety of instances, the effect of the arcollight is injurious to the proper growth of plants, yet under certain conditions the judicious use of the electric light will prove contents of the various compartments into the receiving boxes of the various floors. When the collecting box has reached the top story, the cylinder, by emptying itself, permits of its return to the basemant.

> Electricity in Mining. The members of an English mining institute recently paid a visit to the Mechernich lead mine in Brussels. Not only is this mine electrically lighted, but current is used throughout for the economy of labor. The enormous quantity daily raised sur

daily, and so perfect are the automatic arrangements that only 25 hands are required for the output. One elever electrical appliance will doubtless soon be generally adopted in Enclish mines. When a wagon or ore is tipped at the shaft's mouth, electric contact is made in the tipping, and a small needle in the office makes a red mark on a band of paper revolving by elockwork. The object of this is not so much to give automatically the number of wagons give sutomatically the number of wagons tipped as to show at a glance that the haul-ing is proceeding regularly.

Defects in Linseed Oil. In a paper read before the Society of Arts, England, on the durability of paintings with oils and varnishes, A. P. Laurie showed that linseed oil cannot be relied on to protect a surface from moisture, as it absorbs water from the air. This would scarcely be thought possible considering the general nature of oils and fats, but it can eadily be shown to be the case by means of a sufficiently sensitive reagent. Dry sul-phate of copper, when ground up with lin-seed oil and painted on a glass slide, forms a whitish green opaque enamel. This re-mains unchanged if kept over a dessicator, but on exposure to the air it becomes green and transparent showing the absorption of and transparent, showing the absorption of moisture. Most of the varnish gums, as copal and mastic, have the same defect.

New Insulating Material.

A new material possessing improved inulating properties is composed of sulphur, pounds; pipeclay, 11/2 pounds; slate dust, 13/2 pounds, paraffine wax, 2 ounces, and a sutomatic variable quantity of oxide. The quantity of oxide added depends chiefly upon the color which it is desired to give the mixcolor which it is desired to give the mix-ture; it may vary from one-half to one-fourth of the total weight of the other in-gredients. In working up the mixture the-clay and slate dust are first thoroughly mixed together by grinding, the materials being heated. The paraffine wax is then added and the mixture is incorporated into a paste. After exposure for a time, during which it becomes dry and hard, the mixture is ground to a powder, and then mixed with the proper quantities of sulphur and metallic oxide.

Atmospheric Electricity. An interesting reproduction of Benjamin Franklin's historical experiment with the to alternate squeezing and distension in a kite, under somewhat different conditions, especially constructed apparatus, is coming has been carried out at the Blue Hill Ob servatory by Alexander McAdie. What Mr. McAdie has demonstrated is that electricity can be drawn from a kite high in the air in a cloudless sky. The kite dis-charged sparks from the lower end of an insulated wire reaching down to the earth, where an electrometer partly measured the increasing electric force. So nearly did the quantity of electricity in the upper air correspond to the height of the kite above the earth that the experimenter could usually determine whether the kite was raising or falling by simply looking at the needle of

Prevention of Scurvy. In a discussion in the Lancet on the best methods of preventing scurvy on board ship, an excellent specific was recalled. Many years ago an English surgeon of repute, while serving in the Indian Mercantile Marine, accompanied a large number of soldiers and seamen in a sailing ship to India. This ship was the only vessel of the squadron which arrived in port free from scurvy, a result which the surgeon secured by keeping up a full and fresh supply of mustard and cress, which he directed the crew to grow for their own use in warm, moist flannel. He lost not a single seaman moist flannel. He lost not a single seaman or soldier, a service for which he received the thanks of the Board of Directors.

Blactric Buttonhole Lamns The great omnibus strike in London is said to have developed the use of a modifiprised the visitors. This is over 3,000 tons | cation of the scarf electric lamp. Tickets are now compulsory on all omnibuses, and and their examination entails the employment of an army of inspectors. At night this is difficult, and the inspectors have had recourse to a small electric buttonhole lamp, which is worked by a pocket battery. On asking for the passenger's ticket the inspector has only to touch the battery, and a vivid light reveals the number and particulars of the printed slip. iculars of the printed slip.

The Perception of Color. Dr. L. Webster Fox is of opinion that savage races possess the perception of color to a greater degree than do civilized races. After examining 100 Indian boys Dr. Fox found no case of color blindness. In the same number of white boys, at least five same number of white boys, at least five cases would have been discovered. Some years ago 250 Indian boys were examined, and only two cases of color blindness were met with, a very low percentage when compared with the whites. Among the Indian girls he did not find any, Among whites two females in every 1,000 are color blind.

Improvement in Lamps. Of late years the keen competition in the Of late years the keen competition in the lamp trade has led to great improvements in lamps for industrial and other purposes. of these the latest is a spray lamp, that gives a light of from 500 to 5,000 candle-power, as may be required, by the simple turning of a cock. It is claimed that the lamp does not require to be periodically cleaned, and will burn any kind of oil, mineral, vegetable or animal. The lamp regulates its own supply of oil, and when set going pumping is dispensed with, as sufficient pressure is automatically secured to break up or spray the lamp.

Value of Metallic Sleepers. The injury of metallic sleepers from corresion has been greatly overrated. Even in the damp climate of the Netherlands the loss from corrosion does not, it is said, exceed 4 per cent in 20 years. Experience in India shows that metallic sleepers, which are subjected to a special treatment before leaving the works, are thoroughly to be re-lied on for efficiency and lasting wear.

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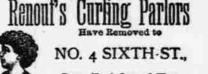
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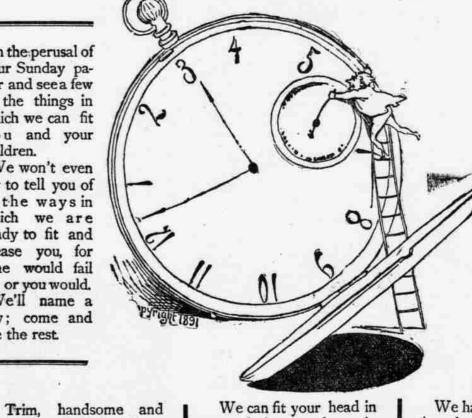
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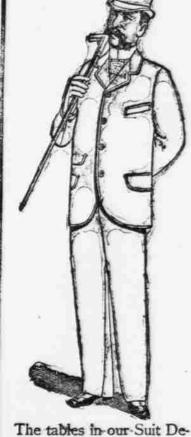
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