

RECENTLY PATENTED INVENTIONS.

Electrical Devices.

**BUILT-UP INSULATOR.**—L. STEINBERGER, New York, N. Y. The invention relates to insulators of the kind used for currents of high potential and in which it is desirable to secure the greatest possible dielectric quality combined with a maximum of physical strength and a minimum of materials and weight. The invention enables the operator to readily take the same partially apart without interrupting the service, so as to examine the interior portions of the insulator for the purpose of cleaning it or for coating the exposed surfaces or to replace the oil used for increasing the insulation.

**INSULATOR FOR HIGH VOLTAGES.**—L. STEINBERGER, New York, N. Y. This improvement refers to insulators for electric conductors, and especially to insulators for conductors conveying currents of high potential. The main object is to prevent any leakage of current or the possibility of the formation of a destructive arc between the conductor and the line-support, such as a partition or wall, and also to prevent the leakage of the current and the formation of arcs between the conductors and adjacent bodies. Mr. Steinberger further seeks to provide the insulator with hoods movable relatively thereto, whereby the arcing distance may be varied and the hoods disposed to best advantage.

Of General Interest.

**ATOMIZER.**—F. S. DICKINSON, New York, N. Y. An object of this invention is to provide a force-pump to be used in connection with an atomizer, wherein a spring is employed for the return stroke, thereby avoiding muscular action to operate the plunger on the return stroke, which greatly facilitates the operation of the instrument.

**CEMENT PAVING.**—R. KIESERLING, Altona, Elbe, Germany. The present invention relates to improvements in the production of cement paving for streets, roads, floors, yards, closed rooms, and so on. One part of the subject matter of the invention relates to the production of elastic joints in cement paving, which joints make the same permanently free from cracks. Another part of the subject matter relates to means for producing such elastic joints in the paving.

**FRAME FOR MAGNIFYING GLASSES.**—W. J. KEMLER, Pittsburg, Pa. The purpose of the invention is to provide a frame, so constructed that it can be compactly and flatly folded when not in use and quickly and conveniently opened out for use as a standing frame or an eyeglass-frame or so that all the members are placed in practically horizontal alignment, in which latter position of the parts one member can be utilized as a handle and the lens member employed for reading purposes, thus enabling the same device to be used as an eyeglass, a standing view or magnifying glass, and a reading-glass.

**CANDELABRUM.**—A. C. GUNTZER, New York, N. Y. One purpose of the inventor is to provide a candelabrum wherein the body portion is in the form of a cross revolvably mounted upon an adjustable standard and to provide the standard with removable legs at its base and also to provide readily locking devices for the legs. Another purpose is to construct the cross forming the body in sections readily removable, and which when assembled will not show their points of connection at the front, and to provide means for securing sections firmly in place, which means can be quickly and conveniently applied and are not visible at the front of the body.

**UNDERREAMER.**—J. F. THOMPSON, Marietta, Ohio. Mr. Thompson's principal objects are to provide means whereby the reamer can be lowered through a casing, automatically expanding when it reaches the end of the casing and having no parts extending materially below the working edges of the bits; also, to provide means for manipulating the bits for lowering the reamer in the casing without interfering with operation of same when it reaches the lower end thereof to provide means for holding the bits in expanded position to operate the device for reaming and to avoid vertical motion of the bits with respect to the body of the reamer.

**TOBACCO-CONTAINER.**—W. H. BROWNING, New York, N. Y. This invention is an improved device primarily for containing cigars and keeping them in proper moist condition, but may be used with advantage for containing tobacco in other forms. The object is to overcome former disadvantages and produce an effective device for holding the cigars which will at all times keep them in proper order.

**COMBINATION NOTE-BOOK, COPY-HOLDER, AND TOOL-KIT.**—G. H. RICHARDSON, San Francisco, Cal. The object in this case is to provide a note-book stand, copy-holder, and tool-kit for the use of stenographers and arranged to hold a note-book or a loose copy in a most advantageous position, readily to accommodate various tools and to allow of convenient folding into little space for storing or for shipping purposes. The clasp on the front shelf will hold an incoming letter, which the stenographer frequently has occasion to refer to, by the top edge, letting said letter hang down in front of the operator, who then may see at a glance both the letter received and the stenographic notes for the letter to be forwarded.

# The Incomparable WHITE The Car for Service



## “SPEAKING OF THE WHITE REMINDS ME—”

The first appearance of the White Steamer in competition was in the New York-Rochester endurance run of 1901. The four Whites which started all made perfect scores, although only half of the total number of starters even finished.

The latest appearance of the White in competition was in October, 1906, in the London Town Carriage Competition, in which the leading makes of the world were entered. The cars were judged on 14 distinct points, covering practically every phase of the construction and operation of the car. The White entry received the highest award—a gold medal—only one other machine being similarly honored.

In the intervening competitions, extending over a period of six years, the White has won a larger percentage of victories than have any other five makes combined. Included among White honors is the world's track record for the mile, 48 3-5 seconds, some four seconds faster than any other machine has ever traveled except on a special straightaway course.

White progress in designing has been continuous and has had a beneficial influence on the entire industry. We commenced the use of nickel-steel in 1903, at which time the nickel-steel makers informed us that we were the only automobile manufacturers who used their product. Similarly, our engine was the first to be fitted with a ball-bearing crank-shaft. The Jury of Awards at the St. Louis Exposition officially recognized our leadership by conferring on our designer, Rollin H. White, a special gold medal, the only award made to an individual connected with the industry.

The principal advance in the design of our models for this year is the new system of regulation, whereby the steam pressure remains practically constant at a uniform degree of superheat under all conditions. Another way of stating the effect of the improvement is that a person driving one of our new models for the first time will be able to get the same results as the most experienced operator. A number of other improvements, suggested by the study and experience of the year, have also been made. Taking into consideration the new features, together with the features characteristic of all White models—absolute silence, freedom from vibration, the absence of all delicate parts, genuine flexibility (all speeds from zero to maximum by throttle control alone) and supreme reliability—we believe that no other car has so much to commend it as our 30 steam horse-power Model “G” and our 20 steam horse-power Model “H.”

Write for Descriptive Matter, giving Prices and full Specifications of both Models.

## THE WHITE COMPANY CLEVELAND, OHIO



HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(10288) H. L. P. asks: 1. Can Ohm's law (current = pressure ÷ resistance) be read also resistance = pressure ÷ current, or pressure = current × resistance? I hear that Ohm's law is not strictly true. To what extent is this true? A. Ohm's law is true. The values of resistance and current as you give them are correct. Anyone who has studied algebra would read these values at sight. 2. What is Ampere's law? A. Ampere's law relates to the attractions and repulsions of currents upon each other, and is at the foundation of the use of electricity in motors. You will find them in such a book as Thompson's "Electricity," price \$1.50, or in Sloane's "Handy Book of Electricity," which we send for \$3.50. This last is a very valuable book for one who would learn all about the subject. 3. Is there any way of transforming a direct current without combining a motor and dynamo? Thus: How can 1 volt × 12 amperes = 12 watts be changed to read 6 volts × 2 amperes = 12 watts? A. There is no way, except by a motor dynamo, to transform a direct continuous current into another direct continuous current. 4. When transformers are used on electric lighting circuits, is not the current similar to the secondary of an induction coil? A. A transformer is only a special form of an induction coil. Used with an alternating current, it need not have a vibrator or interrupter. 5. What is the nature of secondary current of induction coils? A. The secondary current in an induction arranged for giving a spark is an interrupted direct current. The plus end of the spark remains at the same pole of the coil. The spark passes all the time in the same direction.

(10289) W. P. K. asks: In the SCIENTIFIC AMERICAN SUPPLEMENT of April 7 last, it is stated that the ultra-violet rays have proved singularly successful in curing baldness; twenty-seven cases out of thirty-two submitted to the treatment having been perfectly cured, though many of the cases were of many years' standing. As this is a matter which interests many of your readers in the present, and is likely to interest most of us in the future, you may perhaps be so kind as to favor us with some information on the subject. First, do you happen to know, or to have heard, of any case of baldness submitted to and cured by this treatment? Secondly, considering the powerful action of the ultra-violet rays on the human body, is there no danger likely to be incurred in submitting a part so important as the head to their influence? A. Several esteemed correspondents ask regarding the production of hair by ultra-violet rays. The simplest way to get ultra-violet rays into contact with the scalp is to go in the sunshine without a covering for the head. If all did this, there would probably be no baldness. The tight hat impedes the circulation of the blood through the scalp, and the hair dies. We have no other information regarding the treatment referred to in the note than is given in the SUPPLEMENT named.

(10290) A. M. D. asks: Through the columns of your valuable paper will you please give a decision on the following dispute? A claims that in the manufacture of a mirror, the chemical reaction generates an electric current, the glass acting as a conductor on which the silver deposits. B claims the glass in a non-conductor, and the action is purely chemical. Will you please state which is correct. If B is correct, does the hardness of the glass surface have anything to do with the brilliancy of the deposit? A. The precipitation of silver upon glass in silvering a mirror is a simple chemical action due to the presence of some reducing agent, such as glucose. There is no electrical action whatever, and glass is not a conductor of electricity, but a strong insulator.

(10291) H. W. S. asks: Does it take more power to pull a 100-light dynamo when 100 lights are used, than it does when there is only one light used? Dynamo in both cases registers 110 volts. A. Does it take more gas to light 100 lights than it does to light one light? This is a parallel question to that above. A dynamo which is lighting one lamp is furnishing the amperes necessary to light one lamp. A dynamo which is lighting 100

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