





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 This is for our information and not for publication.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.

(8677) W. L. J. asks for an acid-proof cement; preferably one which will stand a reasonably high temperature. A. Try a putty made of litharge and glycerin.

(8678) L. A. D. writes: I am a stereotyper. What will I put in paste to make the matrix hard after it is dry? Give me a recipe for backing powder. What is the cause of blow holes in plate and cure for it? A. Paper matrices for making stereotype plates from type forms, used in newspaper offices, are prepared as follows: Make a jelly paste of flour, starch and whitening. Dampen a sheet of soft blotting paper, cover its surface with the paste, lay thereon a sheet of fine tissue paper, cover the surface with paste, and so on until four to six sheets of the tissue paper have been laid on. The combined sheets thus made is then placed, tissue face down, upon the form of types, which are previously dusted with whitening, and with a brush driven down upon the types and thereon allowed to dry. The operation of drying is facilitated by having the types warmed by placing them upon a steam heated table. A blanket is placed over the paper during the drying operation. Probably thorough drying will avoid the difficulty you mention.

(8679) W. S. S. asks for a recipe for a soap to clean woodwork that will not injure the finish or varnish or paint, but at the same time remove the dirt. Also if such a soap will do the work should like it for cleaning carpets or rugs so that same will not be left sticky and stiff. Understand there are receipts for such soaps. A. To clean paint, provide a plate with some of the best whitening to be had; have ready some clean warm water and a piece of flannel, which dip into the water and squeeze nearly dry; then take as much whitening as will adhere to it, and apply it to the painted surface, when a little rubbing will instantly remove any dirt or grease. After which, wash the part well with clean water, rubbing it dry with a soft chamois. Paint thus cleaned looks as well as when first laid on, without any injury to the most delicate colors. It is far better than using soap, and does not require more than half the time and labor. To clean paint, take 1 ounce pulverized borax, 1 pound small pieces best brown soap, and 3 quarts water; let simmer till the soap is dissolved, stirring frequently. Do not let it boil. Use with a piece of old flannel, and rinse off as soon as the paint is clean. This mixture is also good for washing clothes. This would probably answer for cleaning rugs.

(8680) J. H. W. asks: Can you tell me in your query department what is the best size wire for the secondary winding of a spark coil for a gas engine. Could the secondary wire be too fine? Have you a good book on the subject? A. Very rarely is any number of wire less than No. 36, A. W. G. silk covered, used in the secondary of induction coils. The secondary cannot be too fine. We recommend upon this subject Norrie's Induction Coils, price \$1 by mail.

(8681) A. M. L. asks: Kindly inform me through the SCIENTIFIC AMERICAN: 1. What substances best conduct sound? A. If by best conductors is meant those through which sound travels most rapidly, the answer as given in Zahn's Sound and Music, price \$2.50 by mail, is steel, 15,470 feet per second; iron, 16,822 feet: fir wood, lengthwise the fiber, 15,218 feet; white pine, 17,260 feet. Chladni obtained a velocity for fir much greater than that given, 19,685 feet. 2. What substances are most opaque to heat? A. Kent, Engineers Pocket Book, price \$5, gives as the result of tests with heat at 310 deg. F. a list of 32 articles, of which the best four are loose wool, live geese feathers, loose lampblack, and hair felt. Of course these are all combustible, to an extent. Of covering materials, for instance, to protect ice from melting, mineral wool and hair felt are the best. In protecting liquid air from external heat to prevent evaporation a vacuum as perfect as possible has proved to be the best insulator. 3. What substances are most incombustible? A. A brick is probably the most incombustible thing. It has been once burned in a kiln till everything com-

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Table listing various scientific articles and their page numbers, including topics like Electric motor coupling, Electric snap switch, Enameling metal ware, etc.

Table listing various scientific articles and their page numbers, including topics like Oils, producing varnish, Gilling device, Ordnance, Ore silimes, etc.

Table listing various scientific articles and their page numbers, including topics like Telephone or telegraph pole, Tidal motor, Tile, A. L. Flood, etc.

DESIGNS.

Table listing design entries and their page numbers, including Automobile body, Bag frame, Candlestick, etc.

TRADE MARKS.

Table listing trade mark entries and their page numbers, including Butter, E. O. Whitford & Co., Cleansing preparations, etc.

LABELS.

Table listing label entries and their page numbers, including 'A Pocket Hat Luer', 'Boston Light Gelatine', etc.

PRINTS.

Table listing print entries and their page numbers, including 'At the Top—Mathushek Pianos', etc.

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