Business and Personal.

The Charge for Insertion under this head is One Dollar a line for each insertion.

Notes & Queries

(1) A. L. B. asks if there is any way of making paper soluble in water? A. No.

(2) A. H. asks how to neutralize the bad effect of gas in a room where plants are kept? A. The only way will be to stop the leakage of gas, if there be any, and provide better ventilation.

(3) R. P. T. asks for a flavoring for cigars? A. Cinnamon and tonka beans may be bruised and macerated in rum and the tobacco sprinkled with the spirit. Cigars may be moistened externally with a tincture of cascarilla or of gum benzoin.

(4) W. P. P. says he is using an aniline ink with rubber stamps, but it fades, and asks if there is a remedy? A. The fading cannot be avoided where exposed to light.

(5) S. A. H. asks how to make a Leyden jar? A. An ordinary candy jar, free from cracks and flaws, will answer; line inside and out to within 4 inches of the top with tinfoil, heat so as to drive of all moisture; give the glass above the foil, inside and out, several coats of shellac varnish, and use a cork carefully fitted, dried and baked in an oven, and varnished. The chain from the brass rod and ball should be sufficiently long, and fair earth connection must be provided when charging.

(6) G. R. asks: 1. What size of wire should be used in winding the cores of an electro-magnet, and with how many layers should each core be wound, each core being 36 inches long by 3½ inches diameter? A, You may use 9 spools on each core, each spool having about 16 layers of No. 12 covered copper wire. 2. Of how many pairs, and what size, of Grove or other cells, should the battery consist? A. Use three 1 gallon jars, exposing to the liquid in each about 300 square inches of surface of zinc (six plates) opposed to an equal surface of carbon. Use for the liquid acidified solution of potassium dichromate.

(7) O. H. W. asks: 1. Will a frosted window give more or a better distributed light than a plain one of the same size? A. It aids the diffusion of light but decreases the intensity. 2. What are the best and cheapest methods of frosting windows? A. By emery grinding or by the sand blast.

(8) C. A. K. asks: 1. What effect has Paris green on the system? A. It is an irritant poison, its action on the system being very nearly that of arsenic alone. It inordinately increases the secretions and diminishes the contractility of the voluntary muscles. 2. What is the best antidote for Paris green? A. Hydrated magnesia and fresh hydrated sesquioxide of iron are well recommended, but no specific antidote is yet known. The poison is but slightly soluble, therefore no chemical antidotes should ever supersede active evacuent treatment.

(9) E. C. H. asks for a simple rule how to place the weight from the fulcrum or pin of a safety valve, to produce 50 lbs. pressure. Weight of valve being ¼ lb., area of valve ·78. Weight of beam ¾ lb.; center of gravity of beam 6 inches from pin or fulcrum. Distance from fulcrum to valve $1\frac{5}{16}$, weight 8¾ lbs. A. Multiply weight of valve by $1\frac{5}{16}$. Multiply weight of beam by 6. Subtract the sum of these products from pressure of steam multiplied 0·78 times $1\frac{5}{16}$. Divide the remainder by the weight of the ball.

(10) A. M. R. asks: 1. For a recipe for making ink suitable for use in post offices for cancelling with hand stamp? A. A fine grade of printing ink is ordinarily employed. A good ink may be made as follows: Balsam of copaiba (pure), 9 ozs.; lampblack, 3 ozs.; indigo and Prussian blue, of each, 5 drachms; Indian red, ¾ oz.; dried yellow soap, 3 ozs.; grind to a uniform smoothness. 2. How can I make a suitable pad for inking stamp? A. Cover the metal base with a smooth piece of wood and build on this the cushion—a piece of thick, dressed leather covered with several thicknesses of silk. 3. How can I purify water in a new hemlock cistern which emits a stench? A. A few bushels of recently prepared, well burnt charcoal free from dust, thrown into the water, will often suffice. If the smell is due to the resinous constituents of the wood, it may be requisite to discharge the contents several times after replacing with fresh water, until no further contamination occurs.

(11) L. B. B. asks: 1. How does a night glass differ from a common glass? A. The instrument sometimes called by seamen a night glass is composed of a convex object glass, and a concave eye lens placed at a distance equal to the difference of their focal lengths, the magnifying power being as the focal length of the object glass is to that of the eye lens. Thus, if the focal length of the object glass is 36 inches, and that of the eye lens 1 inch, they should be 35 inches apart, and the magnifying power would be 36 times. 2. Is it possible to make a binocular glass with a power of 40 diameters? A. Yes; make the focal length of the eye piece one fortieth that of the object glasses. See p. 11, SCIENTIFIC AMERICAN SUPPLEMENT, No. 1.

(12) H. F. S. asks how Japanese lacquer is made? A. Melt 50 lbs. of Naples asphaltum and 8 lbs. dark gum anime, boil for about two hours in 12 gallons linseed oil; then melt 10 lbs. of dark gum amber and boil it with two gallons linseed oil; add this to the other and add dryers. Boil for about two hours, or until the mass when cooled may be rolled into little pellets. Withdraw the heat and thin down with thirty gallons turpentine. During the boiling the mass must be constantly stirred to prevent boiling over.

(13) D. J. T. asks for a cement for an aquarium that will not crack or peel from glass or galvanized iron? A. Take, by measure, 10 parts of litharge, 10 parts of plaster of Paris, 10 parts of fine dry white sand, and 1 part finely powdered resin. When wanted for use, mix into a stiff putty with boiled linseed oil. Do not use the tank for three or four days after cemented.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

E. P. C.—It is hornblendic rock containing sulphides of iron and a little copper sulphide. The crystals are garnets.—E. T.—It is quartzite—composed of minute crystals of quartz.—G. M. L.—It is iron pyrites.—H. B. L.—The sand contains quartz, porphyry, felspar, fluorspar, lime carbonate, pyrites, and possibly a little gold.—W. R. P.—It is a piece of agate.—O. B.—It is axinite, composed of silicates of lime, alumina, iron, manganese and boron.

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

On What is Electricity. By J. H. R.

On Science against Homeopathy. By J. W. C.

On the Liverpool Engineering Society. By W. W.

On Aerial Navigation. By W. J. L.

Also inquiries and answers from the following:

I. B.—C. F. P.—P. McN.—J. F. & S.—H. B. L.—D. D. B.—J. R. E.—J. W. D.—J. E. M.

HINTS TO CORRESPONDENTS.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The address of the writer should always be given.

Inquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all; but we generally take pleasure in answering briefly by mail, if the writer's address is given.

Hundreds of inquiries analogous to the following are sent: "Who publishes photographic periodicals? Who publishes books on brass founding? Who makes vulcanizing apparatus for vulcanizing india rubber?" All such personal inquiries are printed, as will be observed, in the column of "Business and Personal," which is specially set apart for that purpose, subject to the charge mentioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

OFFICIAL.

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending

September 4, 1877,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list including both the specifications and drawings, will be furnished from this office for one dollar. In ordering, please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, New York city.

Aerial currents, apparatus for, P. Mihan	194,782
Alarm register, Moffett & Dean	194,951
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DESIGNS PATENTED.

10,173 to 10,194.—CARPETS.—J. L. Folsom, Brooklyn, N. Y

10,195 to 10,203.—CARPETS.—O. Heinigke, New Utrecht, N. Y.

10,204 to 10,217.—CARPETS.—H. Horan, East Orange, N. J.

10,218.—CARPETS.—H. Nordman, New York city.

10,219 and 10,220.—CARPETS.—G. W. Piggott, New York city.

10,221 to 10,223.—CARPETS.—J. E. Rollings, New York city.

10,224.—CARPETS.—J. H. Smith, Enfield, Conn.

10,225 to 10,228.—CARPETS.—W. H. Smith, Enfield, Conn.

10,229.—CIGAR BOX.—J. Straiton & G. Storm, Bay Side, N. Y.

10,230.—EASY CHAIR.—F. Krayl, Chicago, Ill.

10,231.—PRINTED AND WOVEN FABRIC.—W. Morris, London, England.

10,232.—HANDLES FOR TABLE WARE.—J. A. Whalen, New York city.

[A copy of anyone of the above patents may be had by remitting one dollar to MUNN & Co., 37 Park Row, New York city.]