

bath for electro-plating, but it is well to observe that the materials are extremely poisonous when introduced into the human system.

How can I make soft solder in thin sheets? A. By rolling.

(43) B. & S. ask how to detect the presence of benzine in turpentine? A. The presence of any notable quantity of benzine in turpentine can readily be detected by the sense of smell.

(44) R. L. F. asks of what the ink with which postage stamps are printed is made of? A. For the three cent stamps the ink is made of a mixture of Prussian blue and chrome yellow of a standard grade.

(45) N. C. L. asks how to copper plate leaves of trees, insects, feathers, and other perishable things, so as to preserve the form? A. Brush the leaves or other objects over with black lead.

How can I cast a medal, and what composition can I use? A. You can make the mould of calcined plaster of Paris.

(46) G. R. G. asks: Is such a thing as a hydraulic ram without an air chamber practically possible? A. No.

(47) J. C. asks if there is a preparation or paint that, when applied to a building, will render it fireproof, and withstand the heat of a burning building adjoining? A. No.

(48) J. B. asks for a process for engraving on brass? A. Cover the plate with a film of wax and surround it with a border made of beeswax 1 part, pitch 2 parts, and tallow 1 part.

(49) A. S. asks for a recipe or composition for beeswaxing floors? A. In a hot solution of 5 lbs. of good pearl ash, in soft water, is stirred 10 lbs. of good yellow wax, shaved or rasped fine.

(50) L. P. S. asks for the quickest and best method of making vinegar from cider, and also which makes the best vinegar, early or late cider? A. Take, say 10 gallons, new cider, and suffer it to ferment fully, which will probably be in about two weeks if the weather be warm; then add about 8 gallons of new cider for producing a second fermentation, and in about two weeks add a like quantity to produce a third fermentation.

(51) Orator asks if the drug cucu possesses the power to make the bashful bold, as some persons claim for it? A. No; but a whiff or two of ether is said to allay "stage fright" and similar forms of nervousness.

(52) N. Y. asks: What is butter of antimony? A. It is liquid chloride of antimony. It is made by dissolving crude or roasted black antimony in muriatic acid with the addition of a little nitric acid.

(53) S. E. N. says: I want to prevent iron rollers from rusting that are used on wet and dry linen? A. Heat your rollers with steam if practicable.

(54) D. A. R. asks for a recipe for red ink, to be used with a rubber stamp? A. Mix aniline red 2 to 4 grains, alcohol 15 ozs., and glycerin 15 ozs.

(55) J. M. W. says: I send you a worm that I found in an old rotten log; is there several of the same kind in said log. Can you tell me the name of it? A. It is the *Julus multistriatus*, belonging to the group *millepedes*. It is commonly found under sticks, etc.

(56) A. W. P. says: I send a box containing a bug or fly; what is the name of it, and the product of the egg-laying? You will observe it was captured in the act of pregnant a piece of bark. The proboscis is pierced in the bark belongs enclosed in the sheath under the belly, which divides in halves to receive it.

tached to the middle of the abdomen and extends considerably beyond its tip. The larvæ are "cylindrical fleshy grubs," of a whitish color, with a small rounded horn-like and pointed horn-like tail.

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

S. L. S.—No. 1, sample of clayey soil in small bottle, contains silica, alumina, lime, magnesia, oxide of iron, silicates, traces of sulphates, phosphates, and sulphides, organic matter, and about 15 per cent of water.

COMMUNICATIONS RECEIVED. The Editor of the Scientific American acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

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.

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 text books on journalism? Who makes well augers and drills?" 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.

OFFICIAL.

INDEX OF INVENTIONS FOR WHICH Letters Patent of the United States were Granted in the Week Ending September 25, 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.

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DESIGNS PATENTED. 10,258.—UPRIGHT PIANO CASES.—S. Beambach, New York city. 10,259.—BUTTONS.—A. H. Caron, Raunthal, Prussia. 10,260.—PENCIL CASES.—W. S. Hicks, New York city. 10,261.—ORNAMENTING SPOONS, FORKS, ETC.—D. B. Moulton, Lynn, Mass. 10,262.—HANDLES FOR SPOONS, FORKS, ETC.—G. W. Shiebler, Newark, N. J.

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