

Will that make any material difference? A. Strontium chloride is not suitable for the purpose; use the carbonate.

(29) A. S. P. writes: Please answer through SCIENTIFIC AMERICAN what is the best method of washing white zinc paint, soap, or borax, or what? A. Use a moderately stiff brush, and a weak hot solution of sal-soda followed immediately by plenty of cold water.

(30) E. E. M. asks: 1. Will you please give me a recipe for making a good indeleble ink to be used with a pen? A. Dissolve asphaltum in any essential oil and color with old printer's ink and a little lamp black. A little benzole will give the ink greater fluidity. 2. Is osmium or any other metal infusible? If not, at what temperature does it fuse? A. Osmium can be fused by means of the oxyhydrogen blow pipe or electric arc, but under such conditions the liquid volatilizes as rapidly as formed, so that it can hardly be said to liquefy. Osmium is the most refractory of metals. The point of liquefaction (or volatilization) has never been accurately determined. 3. What is its specific gravity? A. In the black pulverulent state its specific gravity is about 10; but when heated to the fusing point of rhodium it acquires a density of 21.4—at a still higher temperature it volatilizes. 4. Who was the discoverer of nitrogen and whence its name? A. N (nitrogen) was discovered by Rutherford in 1772. The name was derived from niter, of which it is an essential constituent.

(31) W. F. E. asks: What are the ingredients required to make a good durable waterproof liquid stove polish. I have seen some such polish, and wish to know how it is made. I want a polish that will not burn off and give an offensive smell at the first fire, and should a sample stove be out in a shower the polish ought to resist the action of the water. A. You can try the following: Purified black lead (graphite) reduced to a very fine powder, one pound; per chloride of iron, half an ounce. Moisten with just enough water to form a stiff paste, and mix intimately by trituration in a mortar, and gradually add water sufficient to reduce the paste to a liquid. Shake before using.

(32) W. C. B. asks: Can you furnish me with any process or formula for bleaching and deodorizing dark or off colors of tallow and grease? A. The following treatment is recommended: Briskly agitate the fused grease with about three per cent of sulphuric acid and two per cent of a saturated aqueous solution of bisulphite of soda. Then run the mixture into a deep narrow cylindrical vessel, and agitate the whole violently by dry steam injected in small quantity at the bottom, for half an hour or more. Run off, let cool slowly, and while still fluid draw off the clear portion—without disturbing any sediment. Agitate again by injected steam with about twenty per cent of water and let stand to separate and harden.

(33) E. S. R. asks: What is the preparation used for silver plating spoons and table ware, etc., and where can it be procured? A. See Electro-Silver Deposits, page 81, vol. xlv, and column of Business and Personal.

(34) C. B. asks: Can you tell me where I can find practical information on gilding and electroplating? A. You will find a comprehensive paper on the subject of electroplating and gilding in SCIENTIFIC AMERICAN SUPPLEMENT, No. 310.

(35) W. A. M. asks: How can I print in gold or silver letters on black cotton tape? A. Use printer's gold size with the type (see answer to other correspondent on this subject), and, when partly dry, dust the printed parts with gold bronze.

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

L. W. D. P.—1. The clay is quite impure, but if burned would probably make good soft brick. 2. Marmolite, with a little calcite—no commercial value. 3. Schistose rock carrying a little copper carbonate.—S. M. C.—They are crystals of quartz—not precious stones but sometimes when very clear and well formed marketable in small lots.—J. R. E.—Synthetic rock bearing red hematite iron ore.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were

Granted in the Week Ending

November 15, 1881,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1866, will be furnished from this office for 25 cents. In ordering please state the number and date of the patent desired and remit to Munn & Co., 37 Park Row, New York city. We also furnish copies of patents granted prior to 1866, but at increased cost, as the specifications not being printed, must be copied by hand.

Table of inventions with patent numbers, including items like 'Adding machine, P. C. Forrester', 'Ash chute for buildings, G. A. Fisher', 'Axle and axle box, P. K. Hughes', etc.

Table of inventions with patent numbers, including items like 'Boot and shoe sole burnishing machine, C. H. Trask', 'Boot and shoe sole pricking machine, J. E. Wigham', 'Butt and shoe upper protector, Glazier & Tayte', etc.

Table of inventions with patent numbers, including items like 'Hay press, L. U. Lathrop', 'Head covering, R. Gray', 'Hides and skins, puring, W. Maynard', etc.

Table of inventions with patent numbers, including items like 'Sponge holder for slate pencils, Coles & Luckhurst', 'Spoon and ladle, L. P. Cottle', 'Spring See Carriage spring. Eyeglass spring', etc.

DESIGNS.

Table of designs with patent numbers, including items like 'Carpet, C. Magee', 'Umbrella or parasol cover, W. A. Drown', 'Wall paper, E. Leissner', etc.

TRADE MARKS.

Table of trade marks with patent numbers, including items like 'Agricultural implements and machines, certain, Collins Company', 'Bags, D. W. Manwaring', 'Beer, bottled, American Beer and Ale Bottling Company', etc.

NEW BOOKS AND PUBLICATIONS.

LITTLE FOLKS' EVERYDAY BOOK. Edited by Amanda B. Harris. Boston: D. Lothrop & Co. Price \$1.00.

This little volume, prepared upon the plan of the birthday books which are so popular nowadays, is destined to win merit and good favor wherever it goes. It contains a picture, a verse, and a blank for every day of the year, together with twelve full page pictures in color, representing the various months of the year, designed by G. F. Barnes.