

knots with red lead or shellac, filling cracks and holes with putty, and bringing forward new patches and decayed parts with a coat of priming (white lead thinned with about 3 parts of turpentine and one of oil with a small quantity of drier). The first coat (priming) is then applied expeditiously. It consists of white lead mixed with turpentine only. Then the finishing coats, thinned largely with oil, are applied.

(15) F. L. C. writes: I want a coloring matter, black, to mix with oils for use on leather. It must be either a liquid or something that will dissolve readily and thoroughly and leave no sediment. Lamp black I have found open to the last objection, besides not being a strong black. Cheapness desirable, and it must be of negative property that will not injure leather. A. Try soluble nigrosine dissolved in a warm glycerine.

(16) C. R. J. asks (1) whether there is any kind of ink, and what it is, if any, that can be used with equal success with the copying pad shown on page 325, Vol. 41, of SCIENTIFIC AMERICAN, that will not fade as does the aniline violet. This seems to be the color used most, as the most copies can be taken with it according to present experience. Is there a way to render this color more durable? If so, how can it be done? A. The higher grades of soluble coal tar blues are more permanent. The fading cannot be avoided. 2. Who was the inventor of the process? A. The credit of the invention is claimed by several people. It probably belongs to a Viennese chemist.

(17) E. M. G. asks where to get the metallic cadmium. Is it an expensive metal? A. Cadmium is quoted at \$4 per lb. It can be obtained through any chemist.

(18) P. H. C. asks: What will remove the disagreeable smell arising from boots, shoes, etc., worn during the summer months? A. Try a strong solution of sulphate of iron—copperas—in water.

(19) C. L. S. writes: In one of your last issues I see a receipt for making a perfectly insoluble glue. Can you give me the proportions of tannic acid, glue, and water? A. The glue will require for its precipitation about an equal quantity (wt.) of tannic acid, water enough to dissolve the glue.

(20) H. asks: 1. How can a hemlock sole leather tan shoe bottom be changed to an oak tan (which gives the bottom a white appearance)? A. The difference is due chiefly to the coloring matter of the former. Try coating with a paste of chloride of lime and water, and after washing with a little hyposulphite of soda solution, finally rinse with water, dry and roll. 2. What is the article used in shoe factories known as French yellow? Is it turmeric? A. Extract of French berries, fustic, quercitron, and turmeric are used.

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

W. S. S.—Clayslate, contains arsenical pyrites—mispickite.—B. K. D.—The glimmering particles in the gravel are mica fragments of quartz and pyrites.—R. A. L.—We have not seen the samples.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

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

June 22, 1880.

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 1836, 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. We also furnish copies of patents granted prior to 1836; but at increased cost, as the specifications not being printed, must be copied by hand.

Table listing various inventions such as 'Aging liquors, apparatus for', 'Alkali ball, coated caustic', 'Alkaline solutions, concentrating', etc., with corresponding page numbers.

Table listing various inventions such as 'Canner and weighing scales, combined fruit', 'Cans, etc., apparatus for sealing', 'Car brake and starter', etc., with corresponding page numbers.

Table listing various inventions such as 'Railway switch signal', 'Razor, J. Heitner', 'Reflector, S. B. H. Vance', etc., with corresponding page numbers.

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