

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion: about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

Marine Iron Works. Chicago. Catalogue free. "U. S." metal polish. Indianapolis. Samples free. Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Handle & Spoke Mch. Ober Lathe Co., Chagrin Falls, O. For mud dredging engines. J. S. Mundy, Newark, N. J. Inventive problems and ideas worked out. See adv't, page 367.

Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Lawnt and Canal Sts., New York.

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The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4; Munn & Co., publishers, 361 Broadway, N. Y.

For the original Bogardus Universal Eccentric Mill, Foot and Power Presses, Drills, Shears, etc., address J. S. & G. F. Simpson, 26 to 36 Rodney St., Brooklyn, N. Y.

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Notes & Queries.

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 This is for our information and not for publication.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.

(6667) X. Y. asks: 1. Where can I find the exact diameter, in parts of inch, of machine screws? A. A complete table of sizes of shank heads, threads and lengths of machine screws, American Screw Company's standard, is published in Kent's "Mechanical Engineer's Pocket Book," \$5 by mail. 2. Is it advisable to grind the back of a razor as thin as that of a pocket knife in order to get an acute cutting angle? If not, why? A. It would not be desirable to have the back of the razor too thin; the back is usually all right as the razor is sold. 3. In electroplating, is gold of 24 karat necessary? Will not a lower karat answer? A. Any degree of fineness of gold may be used in plating. 4. How to make stick mucilage. A. For Pocket Mucilage.—Boil 1 pound of the best white glue and strain very clear; boil also 4 ounces of isinglass and mix the two together; place them on a water bath with half a pound of white sugar, and evaporate till the liquid is quite thick, when it is to be poured into moulds, cut and dried to carry in the pocket. This mucilage immediately dissolves in water and fastens paper very firmly. 5. Name the materials used to color wax a bright pink. A. Use vermilion.

(6668) J. P. K. says: Will you please inform me what is the receipt for tempering mill picks? A. There is nothing peculiar in hardening mill picks, only that they should be as hard as possible and moderately tough. The greatest care should be taken to avoid burning the steel. Where there is much of this work to be done, the picks can be heated in a pot of cherry red hot lead, then dipped plumb into clearwater at about 60°. Do not draw the temper. The hardening by the ordinary smith's fire can be well done if charcoal is used, and not hurried through the fire. Hurry burns the corners. Much also depends upon the shape of the pick, as to whether it is a sectional or leaf pick, or a thick solid pick, the last being the most difficult to manage, on account of the sharp edge and thick back. They should be laid across the fire, so as to heat the eyes as fast as the edge.

(6669) D. C. D. says: Will you kindly inform me of a receipt for a quick-drying polish such as is used for polishing guitars, mandolins, etc.? Would like one which will give the article to be polished a hard finish not liable to scratch. A. Treat the same as in the following, which are directions for violin varnishing. Dissolve over a moderate fire—

- Sandarac.....12 parts. Shellac.....6 " Mastic.....6 " Elemi.....3 "

In 150 parts 95 per cent alcohol which has been colored red with cochineal, or if a darker red is required, add dragon's blood gum. When the above is dissolved add 6 parts Venice turpentine. As this varnish is highly inflammable, use caution as to fire.

(6670) R. J. C. asks how to bleach straw plait. A. This is bleached by exposing it to the fumes of burning sulphur in a close chest or box, or by immersing it in a weak solution of chloride of lime, and afterward washing it well in water. Water, strongly acidulated with oil of vitriol or oxalic acid, is also used for the same purpose. Straw may be dyed with any of the simple liquid dyes.

TO INVENTORS.

An experience of nearly fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for securing patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address: MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

November 26, 1895,

AND EACH BEARING THAT DATE.

(See note at end of list about copies of these patents.)

Table listing inventions and their patent numbers, including items like Abdominal supporter, Adjustable chair, Air brake mechanism, etc.

Table listing inventions and their patent numbers, including items like Gas burner, L. C. Thiele, Gas engine, H. A. Lawson, etc.

Table listing inventions and their patent numbers, including items like Textile stretching device, W. C. Mackimney, Thill coupling, R. G. Jahke, etc.

DESIGNS.

Table listing designs and their patent numbers, including items like Badge, Barker & Green, Brush, etc., back for G. L. Crowell, Jr.

TRADE MARKS.

Table listing trade marks and their patent numbers, including items like Ale, Joseph R. Peebles' Sons Company, Antiseptic, germ destroyer, and inflammation.