

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 next issue.

For Sale—New and second hand iron-working machinery. Prompt delivery. W. P. Davis, Rochester, N. Y. Turck water motors at 12 Cortlandt St., New York.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Hoisting Engines. The D. Frisbie Co., New York City. For best hoisting engine. J. S. Mundy, Newark, N. J.

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Best Ice and Refrigerating Machines made by David Boyle, Chicago, Ill. 155 machines in satisfactory use.

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

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"How to Keep Boilers Clean." Send your address for free 96 p. book. Jas. C. Hetchkiss, 120 Liberty St., N. Y.

First-class Marine Draughtsman wanted. Give reference and salary expected. F. W. Wheeler & Co., ship builders, West Bay City, Mich.

Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Guild & Garrison, Brooklyn, N. Y., manufacture steam pumps, vacuum pumps, vacuum apparatus, air pumps, acid blowers, filter press pumps, etc.

"Liquid Fuel for Mechanical and Industrial Purposes," by E. A. B. Hodgetts. 134 pages. Illustrations. \$2.50. E. & F. N. Spon, 12 Cortlandt St., New York.

For low prices on Iron Pipe, Valves, Gates, Fittings, Iron and Brass Castings, and Plumbers' Supplies, write A. & W. S. Carr Co., 138 and 140 Centre St., New York.

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.

The Holly Manufacturing Co., of Lockport, N. Y., will send their pamphlet, describing water works machinery, and containing reports of tests, on application.

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.

Every Pharmacist should have a copy. "A Pocket-book for Pharmacists, Medical Practitioners, Students, etc.," by Thos. Bayley. 528 pages. Price, \$2.00. E. & F. N. Spon, 12 Cortlandt St., New York.

A business man who has visited nearly every town in the United States desires an agency for manufacturers or others having goods or machinery for sale. References. Address W. Y., box 132, Cheshire, Conn.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

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.

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.

(2325) L. G. B. asks for a good way to remove warts. A. Use a strong solution of chromic acid, applied three or four times. It is said that repeated applications of whale oil will cause warts to disappear.

(2326) F. O. asks what the advantage is in making the ordinary mouth blowpipe conical. Is it simply a convenience in manufacture, and would a straight tube of same opening as the small end of the blowpipe answer as well? A. The conical shape of the tube is useful, as it gives more capacity for the transmission of air, and the operator does not need to blow so hard.

(2327) D. & S. ask: Is not much of the Vichy dispensed from fountains in drug stores, etc., artificial, and does it approximately represent the water of that name? What is the formula for the artificial manufacture? A. Yes; nearly all is artificial, made by formulae approximating more or less to the true composition. For 10 gallons (80 lb.) of water use: Sodium carbonate... 4249 grs. Sodium chloride... 112 " Potassium chloride... 141 " Sodium bromide... 10 " Sodium silicate... 15 1/2 " Lithium carbonate... 11 " Calcium chloride... 736 " Magnesium chloride... 308 " Barium chloride... 6 1/2 " Aluminum chloride... 12 1/2 " Iron chloride... 10 "

(2328) F. M. N. asks: 1. Will shellac varnish do for coating, developing, and toning trays? A. No; use asphaltum varnish, or coat the bottom or sides of the woodentray with:

Resin... 1 part by weight. Beeswax... 2 " " Paraffine... 3 " " "

Melt the above first, warm the tray, and while hot apply composition with a brush. 2. How can I burnish

photographic prints without going to expense of purchasing burnisher? A. Apply the prints face down while wet to the smooth varnished side of a ferrotype plate, squeezing it by rolling a rubber roller over the back, having blotting paper between the print and paper. When dry it will have a high polish and drop off the sheet. The polish is called 'glace' finish. To mount such prints without losing the glass, make the following mounting solution: Soak an ounce of refined gelatine in cold water for an hour, then drain off and squeeze out the water as much as possible; put the gelatine in a jelly pot and place the latter in a pan of hot water on the fire; when the gelatine has melted stir in slowly 2 1/2 ounces of pure alcohol, and bottle for use. This glue will keep indefinitely, and can be melted for use in a few minutes by standing the bottle in basin of hot water. As it contains a very small percentage of water, it hardly affects the gloss of the prints and dries almost immediately. 3. How can I make nitrate of silver for photographic purposes? A. By dissolving metallic silver in nitric acid; the solution is then boiled down and set aside to crystallize. It should then be redissolved and again boiled down and allowed to crystallize. The recrystallized is the best. 4. Would like to know the difference between a 'glace' polish and lubricator used for polishing prints? A. The 'glace' finish is obtained as described above or by coating a plate with collodion and squeegeeing the print on to it, then stripping the whole from the glass plate. The lubricator is material rubbed on surface of photograph before it is run through the burnisher, and consists of white soap cut up in small bits dissolved in alcohol. One method consists in breathing on white curd soap and rubbing a cloth over it, then rubbing the soap (which adheres to the cloth) over the surface of the photo. Another plan is to dissolve 20 grains of paraffine wax in one pint of benzole and rub that over the surface of the photo.

(2329) I. S. D. asks: 1. What is put into fluid drawing ink to make it waterproof or to prevent it spreading when applying colors? A. It depends on the quality of the ink. Shellac dissolved in borax water may be used to rub the ink up in to increase its permanency. 2. What is used for moist water colors to keep them soft? A. Covered vessels are used to hold them. Glycerine will retard their drying, but will do the same after they are on the paper.

Replies to Enquiries.

The following replies relate to enquiries recently published in SCIENTIFIC AMERICAN, and to the numbers therein given:

F. A. M., in query No. 2266, asks for method for polishing vulcanized rubber. I use powdered pumice stone and water for smoothing, and half polish, and finish with rotten stone and sweet oil on cotton flannel disk. This gives a very high polish.

In query 2261 W. P. S. asks what will take away the bad smell from cistern water without making it unfit for use. If he will take a pole with a dasher head on it and agitate the water once or twice a day for a few days, thereby aerating it, the smell will entirely disappear. I presume W. P. S. uses a pump, and this allows the water to become stagnant, supply being drawn from the bottom.

TO INVENTORS.

An experience of forty 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 procuring 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.

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July 1, 1890,

AND EACH BEARING THAT DATE.

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