

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.
Yankee Notions. Waterbury Button Co., Waterbury, Ct. Handle & Spoke Mch. Ober Lathe Co., Chagrin Falls, O.
Improved Bicycle Machinery of every description. The Garvin Machine Co., Spring and Varick Sts., N. Y.
Concrete Houses - cheaper than brick, superior to stone. "Ransome," 757 Monadnock Block, Chicago.
The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Verne Refrigerating Machine Company. Foot of East 125th Street, New York.
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.
The Temperly Transporter. See illustration, front page of SCIENTIFIC AMERICAN, April 24. It is manufactured by the Lidgerwood Mfg. Co., 98 Liberty Street, New York. Write for particulars.

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 This is for our information and not for publication.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.
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.

(7167) C. F. H. K. says: Will you please let me know what kind of acid will change the color of blue print photography paper to a dark brown? Also how much to use of it and how long to use it, and if you use it before, or after washing the prints.

A. Borax..... 2 1/2 oz.
Hot water..... 38 "
When cool add sulphuric acid in small quantities until blue litmus paper turns slightly red, then add a few drops of ammonia until the alkaline reaction appears and red litmus paper turns blue. Then add to the solution 154 grains of red crude gum catechu. Allow it to dissolve, with occasional stirring. The solution will keep indefinitely. After the print has been washed out in the usual way, immerse it in the above bath a minute or so longer than it appears when the desired tone is reached. An olive brown or a blackish brown is the result.

NEW BOOKS, ETC.

ELECTRIC POWER TRANSMISSION. A Practical Treatise for Practical Men. By Louis Bell. New York: The W. J. Johnston Company. 1897. Pp. 491. Price \$2.50.

The familiar power house of the Niagara Falls generating plant gives the subject for the frontispiece of this exhaustive book. It really seems as if an adequate treatment was at last given to an all-important subject. The design of the author has been to avoid the following up of the abstract mathematics of the subject, simply introducing such conditions as are quite essential to a proper treatment of the subject. He devotes his energies on the other hand to putting into tangible shape the most recent results in this branch of electrical science. At the same time he seems to have avoided giving the work the unsatisfactory aspect of a purely theoretical one, and on turning over its pages it seems evident that an excellent contribution to a subject hitherto inadequately treated is here to be found. It does seem as if the index for so comprehensive a book might have been considerably greater in extent.

SEWER FLUSHING DIAGRAMS. Showing how far the Discharge from a Flush Tank will give a Self-Cleansing Velocity. S. H. Adams. New York: Spon & Chamberlain, 12 Cortlandt Street. London: E. & F. N. Spon, 125 Strand. Price \$5.

These diagrams are devoted to data relating to the action of pipe sewers established by actual tests, and, despite its somewhat high price, it is to be treated as a sine qua non in advanced engineering practice, and hence receives our commendation.

REISSMANN'S RAFTER AND POLYGON GAGE. Copyright 1897. Price 30 cents.

This gage is somewhat in the same line as the one just spoken of, and is designed for the use of carpenters. It gives rules for laying out complicated roofs, measuring the timbers and framing complicated roofs in general.

The Bridgeport Wood Finishing Company have recently issued, more especially for the use of architects, a specimen book containing samples of different woods finished with the Wheeler wood filler and the Breinig stains, which is something quite remarkable in the way of catalogue work. The book contains forty-

eight specimens of oak, mahogany, cherry, cypress, maple, whitewood, sycamore, curly birch, pine, ash, etc., mounted on heavy cardboard, their finely finished surfaces protected by layers of soft cotton, and all showing the great beauty which can be developed in clearly bringing out the natural grain of a wood and finishing it with a high polish, which the materials furnished by this company render entirely practicable. The samples given are but a small percentage of the kinds of wood on which these finishes are applied, but the book forms a volume almost as large as a dictionary.

The 1897 catalogue of the Keuffel & Esser Company, of New York, has considerable new matter, and its entire text and illustrations are well worth the attention of artists, draughtsmen, surveyors, architects and engineers. The book has 424 pages, and we are informed that 400 of its engravings are separately copyrighted, as well as the text. The company has long held a leading position as manufacturers and importers of drawing materials and surveying instruments, and has a most enviable reputation for furnishing the widest variety and the very highest qualities of everything which any one may desire to purchase in their line. The reading matter of the book also affords a most excellent guide to a sound judgment when one is selecting either instruments or materials.

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 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.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted JUNE 15, 1897, AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Table listing various inventions with their patent numbers, including items like 'Acid, making lactic, P. Roosen', 'Air brake hose coupling, J. Redfern', 'Alarm, for fire, H. G. B. Smith', etc.

Advertisements. ORDINARY RATES. Inside Page, each insertion -- 75 cents a line. Back Page, each insertion --- \$1.00 a line. For some classes of Advertisements, Special and Higher rates are required.

Star Foot power Lathes Automatic Cross feed 9 and 11-inch Swing. New and Original Features. Send for Catalogue B. Seneca Falls Mfg. Company, 695 Water St., Seneca Falls, N.Y.

SCIENTIFIC AMERICAN SUPPLEMENT - Any desired back number of the SCIENTIFIC AMERICAN SUPPLEMENT can be had at this office for 10 cents. Also to be had of newsdealers in all parts of the country.

POWER & FOOT LATHES SHAPERS, PLANERS, DRILLS MACHINE SHOP OUTFITS TOOLS AND SUPPLIES. CATALOGUE FREE. SEBASTIAN LATHE CO. 120 CULVERT ST. CINCINNATI, O.

SOMETHING NEW AND GOOD HALL BICYCLE STAND. For Cleaning, Adjusting or Exhibiting Bicycles. Simple, light, durable, and can be folded in small space. Readily adjustable to any make of wheel. All parts of wheel accessible. Saves back-breaking labor in cleaning.

LATHES FOR GUNSMITHS, TOOL MAKERS, EXPERIMENTAL AND REPAIR WORK, ETC. Send for Illus. Catalogue. W. F. & Jno. Barnes Co. 1939 Ruby Street, ROCKFORD, ILL.

STEAM STAMP MILL. A mill for crushing ores. Equal in efficiency to a five stamp battery, and at a fraction of the expense. Send for catalogue. GATES IRON WORKS, Dept. C. 650 Elston Ave., Chicago, U. S. A.

PHYSICAL AND SCHOOL APPARATUS. INDUCTION COILS for experiments in X rays and other electrical work. Catalogue Free. E. S. RITCHIE & SONS, BROOKLINE, MASS.

THE COBURN PATENT TROLLEY TRACK HOUSE DOOR HANGERS. The first made with adjustable track. The track can be put up in 30 minutes. Send for Book. The Coburn Trolley Track Mfg. Co., Holyoke, Mass.

PRATT'S CONE BELT SHIFTER. Simple in construction, easily applied. Saves TIME to manufacturers. TROUBLE to operator, and WEAR to belts. In ordering give width of belt. For Belts 1 to 2 1/2 inches wide, \$3.50. 2 3/4 to 4 " 4.50. Send for catalogue of machinists' tools. CHANDLER & FARQUHAR, 38 Federal St., BOSTON, MASS.

Queen's Patent "Triple Plate" Toepler-Holtz Electrical Machine. Can be used at all times of year and in all kinds of weather. Prices range from \$25 to \$50. Circular on application. We carry a complete line of Electrical and Physical Instruments and Apparatus. QUEEN & CO., Inc. 1011 Chestnut St. Philadelphia, Pa.

ROCK DRILLS AIR COMPRESSORS SIMPLEST, MOST EFFICIENT and DURABLE. RAND DRILL CO. Send for Catalogue. 100 Broadway, New York.

If you want the best CHUCKS, buy Westcott's. Little Giant Double Grip Drill Chucks, Little Giant Drill Chucks, Improved Oneida Drill Chucks, Cutting-off Chucks, Scroll Combination Lathe Chucks, Geared Lathe Chucks, Plain Universal Lathe Chucks, Independent Lathe Chucks. Made by Westcott Chuck Co., Oneida, N. Y., U. S. A. Ask for catalogue in English, French, Spanish or German. FIRST PRIZE AT COLUMBIAN EXPOSITION, 1893.

Table listing various mechanical items and their prices, including 'Combination chair, G. C. Starcher', 'Composing machines, machine for making controllers for, F. A. Johnson', 'Composing machines, making controllers for, F. A. Johnson', etc.

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