

Business and Personal.

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For Sale—28" x 12" and 32" x 16" engine lathes. New, with compound rest and power cross feed. W. P. Davis, Rochester, N. Y.

Acme engine, 1 to 5 H. P. See adv. next issue.

Presses & Dies. Ferracite Mach. Co., Bridgeton, N. J. Best 15 in. Shapers, \$245. Am. Tool Co., Cleveland, O. Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

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

Beach's Improved Pat. Thread Cutting and Diamond Point Lathe Tool. Billings & Spencer Co., Hartford, Ct.

Centrifugal Pumps for paper and pulp mills. Irrigating and sand pumping plants. Irvin Van Wie, Syracuse, N. Y.

For Sale—A vacuum pan, a digester or converter, a still. All copper. Apply to J. Edw. Crusel, New Orleans, La.

For Sale—Patent 45,891, Cotton Scraper. New and valuable. Send 2 cents for circular. Jas. Hobbs, Lagarto, Texas.

Wanted—Machine for cutting old style through dovetail to lock boxes. Address Boxmaker, care of Scientific American.

Scale removed and prevented in boilers; for each 50 horse, 10 cents a week. Pittsburgh (Pa.) Boiler Scale Resolvent Co.

Have mill and power. Want to associate with one having patented article to manufacture. Address "B," care Scientific American.

For Sale—A quantity of scrap rosewood, averaging in size from 1 1/2 to 1 3/4 inches diameter, of various lengths. Address The James Cunningham, Son & Company, Rochester, N. Y.

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.

Wanted—A first class man as assistant to superintendent of motive power, to take charge of railroad engine shops. Address, stating age, references, and salary expected, to J. M. C., care Scientific American.

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

Automatic Springless Door Latch. Patent for sale entire, or arrangements made to manufacture on royalty. Patent dated Nov. 10, 1891. See page 339. Address for particulars T. C. Mace, Cameron, Mo.

The Akron Iron Company, of Akron, Ohio, have recently issued a new catalogue (for their Eastern department) of shafting, pulleys, friction clutches, and other power transmitting machinery. As a special feature, it contains numerous millwrights' tables and other technical information that is of interest and value to superintendents, engineers, and machinists. These special features make this catalogue well worthy of preservation as a handbook on the subject of power transmission. It is furnished with special indexes to facilitate quick reference. A copy will be furnished upon application to Akron Iron Company, Akron, Ohio, providing this paper is mentioned.

struck a slight explosion takes place and the flame is extinguished. A. It is a compound of silver, probably fulminate, gummed to the match.

(3679) W. O. B. asks: How can I purify and make into the solid state a solution containing nitric and hydrochloric acids and pure gold leaf, in order to use the same as a tanning solution for photographic prints? A. Evaporate nearly to dryness, add more water and re-evaporate, and repeat until it is neutral in reaction. If you evaporate to full dryness, there is danger of producing a basic salt.

(3680) G. H. asks: 1. How is gasoline gas made for illuminating purposes? A. Gas can be made from gasoline by passing air over its surface. The air takes up enough of the vapor to burn. The temperature of the gasoline tends to fall on account of the absorption of heat by the evaporation; hence the apparatus should be kept at a constant temperature as far as possible. 2. Is the gas referred to very dangerous? A. No; it is used in a great many country houses with success. 3. Is the gas very easily blown out? If so, is there any protection for the light? A. It is more easily extinguished than pure coal gas. It is burned in Argand burners with chimneys or in special open and unprotected burners. 4. Has heat or cold any effect on the light? A. Heat would tend to improve it, and sufficient cold might be condensing the gasoline in the pipes extinguish it. Under ordinary conditions it gives no trouble. 5. What is the cost of gasoline light per thousand feet? A. No figure can be given, as the gas is not measured. It is a cheap form of illuminant.

(3681) S. A. A. asks how to make a gold plating solution (the best), how to couple and use it with my dynamo which I made like that described in SUPPLEMENT, No. 161, only with the drum armature. Field is wound with No. 16 and armature with No. 18 double covered magnet wire. It works well. I would like the solution and connections fully described, so I can make it myself. I am a practical watchmaker and a subscriber. A. For information on plating solutions we refer you to SUPPLEMENT, No. 310. A dynamo would as you have it is not suitable for plating, as it gives a current of too high an E. M. F. Probably an armature wound with No. 10 or No. 12 wire would answer. Consult SUPPLEMENT, Nos. 720 and 793, for information on small plating dynamos.

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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HINTS TO CORRESPONDENTS.

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