

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion...

"U. S." metal polish. Indianapolis. Samples free. For mud dredging engines. J. S. Mundy, Newark, N. J.

Agricultural patent for sale.—P. J. Ebersohl, Center-ville Station, Ill.

Cheapest Water Power.—See top of 1st column, page 170. Also top of 2d column, page 239.

Bookbinding.—All classes of work. Magazines a specialty. Haddon & Co., 139 Center St., New York.

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., Laight and Canal Sts., New York.

Centrifugal Pumps. Capacity, 100 to 40,000 gals. per minute. All sizes in stock. Irvin Van Wie, Syracuse, N. Y.

Emerson, Smith & Co., Ltd., Beaver Falls, Pa., will send Sawyer's Hand Book on Circulars and Band Saws free to any address.

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

Patent for Sale.—Stall for comfort and cleanliness of milk cattle. Agents wanted at 50 per cent commission. M. Schembri, 366 Van Buren St., St. Paul, Minn.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4; Munn & Co., publishers, 36 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.

Patent Electric Vise. What is claimed, is a time-saving, no turning of handle to bring jaws to the work, simply one sliding movement. Capital Mach. Tool Co., Auburn, N. Y.

Competent persons who desire agencies for a new popular book of ready sale, with handsome profit, may apply to Munn & Co., Scientific American office, 361 Broadway, New York.

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 This is for our information and not for publication.

(5974) J. E. E. asks: 1. Could storage battery plates be made porous by making them of lead and zinc melted together...

(5975) I. A. H. asks: Is the electric spark the passage of a mass of electrified matter, or a current through rarefied air similar to a Geissler's tube?

(5976) H. E. says: Kindly give me a recipe for destroying moths and worms, such as infest upholstered furniture and ruin carpets.

(5977) P. M. asks (1) if the current from an induction coil would be of any use if it was constant.

(5978) T. R. E. writes: 1. I have a piece of pyrites I overheat trying to solder a scarf pin to it. Is there any way to get it back to its bright color again?

for pyrites, you cannot solder it. 2. How can I drill a hole through it? A. For drilling, use a diamond drill.

(5979) E. W. M. asks: 1. Is there any serious difficulty in charging a storage battery of 30 cells, arranged in three parallel series of ten each...

(5980) W. A. S. asks how to stain a gun barrel. A. Clean the barrel thoroughly, then sponge with the following solution which is made up by weight:

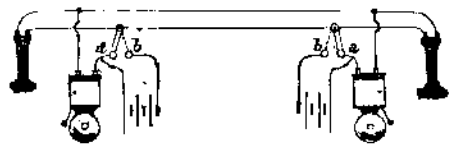
(5981) C. W. T. says: We have a number of small water motors here, and I desire to get at the amount of water used by them. What is the volume of discharge in cubic feet or gallons, due to 50 pounds pressure...

(5982) F. M. B. asks how to make a cheap single coil electric sander and the materials needed. A. Make a core of bits of iron wire each 2 inches long, the bundle being 1/4 inch thick.

(5983) A. M. R., Toronto, asks for the best method of dealing with water supply pipes to prevent condensation of moisture in passing through warm apartments...

(5984) J. K. asks: If the balance wheel on machinery run by an electric motor was changed from the main shaft as now run, making 40 revolutions per minute...

(5985) F. H. W. asks if there is any way that two hand telephones (receivers) can be connected by two wires only, and no ground, between two stations...



point, a, connected with the bell. When it is desired to call, the switch arm is moved over to the contact, b; after the call is answered, the switch arm at either end of the telephone line is thrown off from the point, d, and left open.

(5986) C. W. H. asks (1) whether a magneto telephone will work on the same line with an electric telephone? A. Yes. 2. Also please give a diagram of a magneto telephone on a line 1,000 feet long with common electric bells for call.

(5987) J. S. M. asks: 1. On a common slide valve engine, cylinder 12+18 inch, how large ought the steam and exhaust pipe be? Is it best to have the exhaust pipe larger than the steam pipe?

(5988) W. W. W. asks: 1. What is the principle on which cream separators work, that is, how is the milk separated from the cream? A. The difference in specific gravity causes the separation.

casting and sound, will be run at a velocity of 400 revolutions per minute with safety. If a split pulley with a bolted rim, it should not be trusted for more than one-half the velocity above stated.

(5988) W. W. W. asks: 1. What is the principle on which cream separators work, that is, how is the milk separated from the cream? A. The difference in specific gravity causes the separation.

TO INVENTORS.

An experience of forty-four 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.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

April 17, 1894.

AND EACH BEARING THAT DATE.

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

- Acid, apparatus for distributing carbonic, E. Ruef 518,519
Air and gas mixing apparatus, Hay & Kearns 518,428
Air heating apparatus, J. Howden 518,455
Alarm, See Burglar alarm.

- Cash drawer and manual recorder, E. H. Minnigh 518,264
Cash register, indicator, and recorder, H. Cook 518,344
Cash register, indicator, and recorder, W. T. McGraw 518,267
Ceiling, Stevens & Baker 518,337
Ceiling, metallic, C. C. Moore 518,374