

Business and Personal.

The charge for insertion under this heading 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.

"U. S." metal polish. Indianapolis. Samples free. Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Best baling presses. Ryther Mfg. Co., Watertown, N. Y. G. D. Hiscox, 361 Broadway, N. Y., Consulting Engineer. Universal and Centrifugal Grinding Machines. Pedrick & Ayer, Philadelphia, Pa.

Traction engine patent for sale, warranted to work on plowed land. C. H. Stratton, Moscow, Pa. Wm. Jessop & Sons, the celebrated steel makers, observe the centennial of their firm next year.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Stow flexible shaft. Invented and manufactured by Stow Mfg. Co., Binghamton, N. Y. See adv., page 254. 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.

I want some one to help me place a valuable patented farm implement on the market. S. Remaly, Johnstown, Neb.

Razorine sharpens the dulllest razor, or money refunded. Mail, 20 cents. Razorine Mfg. Co., 182 Columbus Ave., N. Y.

For Sale Cheap—Patent Office reports from 1881 to date, complete. Calif binding. Hanifer & Co., Kensington, Philadelphia.

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

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

For pumping engines. J. S. Mundy, Newark, N. J.

Wanted—Second-hand vertical engine, of 600 to 800 horse power, in good condition. To be fitted with belted wheel. Address G. D. S., box 773, New York.

Perforated Metals of all kinds and for all purposes, general or special. Address, stating requirements, The Harrington & King Perforating Co., Chicago.

To Let—A suite of desirable offices, adjacent to the Scientific American offices, to let at moderate terms. Apply to Munn & Co., 361 Broadway, New York.

Fine castings in brass, bronze, composition (gun metal), German silver. Unequaled facilities. Jas. J. McKenna & Bro., 424 and 426 East 23d St., 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.

Canning machinery outfits complete, oil burners for soldering, air pumps, can wipers, can testers, labeling machines. Presses and dies. Burt Mfg. Co., Rochester, N. Y.

Wanted—A first class mechanical engineer. One with experience in mill engineering, shafting, etc., preferred. State salary. Address "Shafting," office of Scientific American.

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.

Iron Shipbuilding—Wanted a position as superintendent of an iron shipbuilding department, both theoretical and practical. Highest of testimonials. G. Blanchard, 4 Liberty St., Newburg, N. Y.

Mr. Johan Koopmans, of the firm of Johan Koopmans & Co., commission merchants and agents of American manufacturers in Amsterdam, Holland, will be in the United States this month to solicit the representation of manufacturers and exporters. Would also solicit the agency of an American flour mill. For reference or further information, apply to Jos. Agostini, 62 Broad St., New York.

The Engineering Record, the recognized authority on municipal and building engineering, has recently been enlarged by the addition of a department in which notable industrial plants are regularly described and illustrated, the steam and power plants being a conspicuous feature. Recent publications include the great Ivorydale plant of Messrs. Proctor & Gamble, described in 23 columns and illustrated by 57 drawings. The steam plant at Ivorydale is separately treated in 13 columns and 31 drawings. The new foundry of Henry R. Worthington, at Elizabethport, N. J., 16 columns, 26 illustrations. National Metal Company's foundry and brass finishing shop, Brooklyn, 13 columns, 29 illustrations. Niagara Power Plant (now in process of publication), 6 columns, 6 illustrations. Steam power plant of the Dwight Manufacturing Co., Chicopee, Mass., 9 columns, 7 illustrations. Published Saturdays, 12 cents a copy. The Engineering Record, 277 Pearl St., 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. 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.

(4608) W. I. S. asks: 1. What is the strongest electric battery known to science? How made? A. Practically the storage battery. For high voltage a battery using sodium as the positive element

may be cited. A couple has been described which is supposed to give nearly 4 volts E. M. F. 2. What is the platinum type photographic paper coated with, and what is the developer used composed of? A. Platinum type paper is coated with iron and platinum salt and developed on cold solution of potassium. It is a patented process. The prepared paper can be obtained from Willis & Clements, Philadelphia, Pa. 3. How may blue prints be copied with the camera? A. Blue prints may be copied by inserting an orange red glass screen in the camera behind the lens and giving three times the usual exposure. 4. How may I make good black ink suitable for a fountain pen? A. Try following: Concentrated borax solution, 4 parts; Strylac, 1 part; aniline black, q. s. Or try an aqueous solution of aniline black. 5. How may I plate small articles without a battery, in silver or gold? A. For gold and silver plating try the following: Solution for Gilding Brass and Copper.—The following formula has been adopted for water-gilding, as it is termed. Fine gold, 6 1/2 dwts. Convert the gold into chloride and dissolve in 1 quart of distilled water, then add 1 pound bicarbonate of potassium and boil the mixture for two hours. Immerse the articles to be gilded in the warm solution for a few seconds up to one minute, according to the activity of the bath. Silver Wash.—Mix 1 part chloride of silver with 3 parts pearl ash, 1 1/2 parts common salt, and 1 part whiting, and rub the mixture on the surface of brass or copper, previously well cleaned, by means of soft leather or a cork moistened with water and dipped into the powder. When properly silvered, the metal should be well washed in hot water, slightly alkalinized, and then wiped dry. 6. I inclose a substance which I found on breaking open a piece of anthracite coal. Please tell me what it is. A. The substance is a piece of shale or slaty coal. It seems intermediate between a true slate and coal.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

November 22, 1892,

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 Air brakes, Alarm, Annunciator, Aerial attachment, Attrition mill, etc.

Table listing inventions and their patent numbers, including items like Cultivator and planter, Cultivator, Current director, Current regulator, etc.

Table listing inventions and their patent numbers, including items like Perspective gauge, Photograph display rack, Piano action, Piano forte action, etc.

Wood trimming machine, C. Neracher (r)..... 11,286
 Wooden vessel, E. M. Reese..... 486,737
 Woven fabric, tubular, B. L. Stowe..... 486,620
 Wrench, W. E. Brooke..... 486,758
 Wrench, D. E. Carpenter..... 486,764
 Wrench, A. J. Curtis..... 486,697
 Wrench and screw driver, combined, W. E. Brooke 486,759

TRADE MARKS.

Albums and scrap books, photograph and auto-graph, Koch Sons & Company..... 22,007
 Baking and roasting pans, J. W. Oblinger..... 22,051
 Baking powder, A. V. Ruhl..... 22,027
 Blacking for shoes, waterproof liquid, Price & Walters..... 22,023
 Books, pamphlets, and periodicals, A. C. Northrop..... 22,008
 Capsules filled with medicine, J. R. Platten..... 22,040
 Capsules for medicine, J. R. Platten..... 22,046
 Cards, playing, A. Dougherty..... 22,010
 Cards, playing, New York Consolidated Card Company..... 22,011
 Compounds for destroying insects and other pests, for disinfecting purposes, for curing diseases and healing wounds, J. Rowbotham..... 22,039
 Cosmetics, both liquid and powder, and a liquid dentifrice, E. G. Hake..... 22,018
 Disinfectant, J. M. Raymond..... 22,044
 Dry goods, certain named, J. D. Weir & Co..... 22,015
 Enamel for use on glass, liquid, E. P. Gleason Manufacturing Company..... 22,024
 Hair and wool clippers, American Shearer Manufacturing Company..... 22,050
 Hats and bonnets for ladies, misses, and young boys, and trimmings therefor, H. J. Taylor..... 22,018
 Hay carriers, J. E. Porter..... 22,055
 Knit fabric, Murphy, Hibberd & Co..... 22,014
 Lamps and burners, W. B. Robins..... 22,049
 Lard, F. Sobrino & Co..... 22,030
 Letter boxes, drawers, and the like, post office, Keyless Lock Company..... 22,057
 Medicinal preparation for the cure of piles, dysentery, and kindred complaints, W. A. Winchester..... 22,034
 Medicinal tonic, L. Mansfield..... 22,033
 Ointments, W. Fairweather..... 22,043
 Paints, powdered, W. H. Kemp & Co..... 22,026
 Photographic paper, A. I. Cobb..... 22,038
 Planos, F. G. Smith..... 22,048
 Pills for human use, J. C. Cooke & Co..... 22,047
 Plaids for dresses, P. J. Willis & Bro..... 22,016
 Powder, face and skin, Van Dyk Manufacturing Company..... 22,019
 Powders, worm, McBride & Hall..... 22,041
 Preparations embodying a coal tar derivative, proprietary, Klein..... 22,036
 Preparations for the complexion, including soaps, lotions, powder, and cream, L. Wilbert..... 22,020
 Preparations of sulphur in liquid form, Peters & Company..... 22,035
 Remedy for diseases of the liver, kidneys, and stomach, Klein..... 22,038
 Remedy for rheumatism, cystitis, and other diseases resulting from excess of acid in the secretions, Keasbey & Mattison..... 22,037
 Shoes for children's wear, Kollock, Logan & Co..... 22,017
 Sirup, liquid cough, M. E. Van Arsdale..... 22,042
 Soap for the toilet and laundry, White, Ohio Soap Company..... 22,021
 Soap, toilet, Oakley Soap and Perfumery Company..... 22,022
 Spectacles and eyeglasses, American Optical Company..... 22,012
 Stoves, ranges and furnaces, Co-operative Foundry Company..... 22,052
 Tobacco, chewing, P. H. Hanes & Co..... 22,053
 Tonic preparations, pills, and powders, J. Dienelt & Co..... 22,032
 Washing machines, hand, Vandergrift Manufacturing Company..... 22,054
 Windmills, B. A. Manufacturing Company..... 22,056
 Zwieback (a twice baked bread), J. Stapenhorst..... 22,029

DESIGNS.

Book rest and holder for umbrellas, etc., C. Pegler..... 22,010
 Bust of Columbus, relief, E. H. Hirner..... 22,005
 Cane, T. W. Gardner..... 22,009
 Chair, A. Theobald..... 22,013
 Clock case, Merritt & Aucaigne..... 22,011
 Glass vessel, J. Proeger..... 22,001
 Handle for swords or the like, G. H. Wixon..... 22,008
 Heater casing, electric, M. W. Dewey..... 22,017
 Inстандарт, W. Roeder..... 22,005
 Mapped globe, C. O. Oble..... 22,009
 Paper weight, G. L. Reenstierna..... 22,002
 Stove, oil or gas, A. C. West..... 22,016
 Sign, H. Traun..... 22,005
 Table, F. Koenig..... 22,013
 Textile fabric, A. Q. Phyoer..... 22,008
 Thimble, F. C. Cobb..... 22,000
 Type ornaments, font of, H. Hlenburg..... 22,007

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 25 cents. In ordering please state the name and number of the patent desired, and remit to Munn & Co., 361 Broadway, New York.

Canadian patents may now be obtained by the inventors for any of the inventions named in the foregoing list, provided they are simple, at a cost of \$40 each. If complicated the cost will be a little more. For full instructions address Munn & Co., 361 Broadway, New York. Other foreign patents may also be obtained.

Advertisements.

Inside Page, each insertion - - 75 cents a line
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 U. S. Patents 459,403-459,404-459,405, dated Sept. 15, 1891, (Lanchester). Over 250 already supplied under corresponding British patents, by Messrs. CROSSLEY BROS. and others.
 U. S. Patents corresponding to British applications 13,788, 1891; 11,936, 1892; and 13,943, 1892 U. S. applications now in hand.
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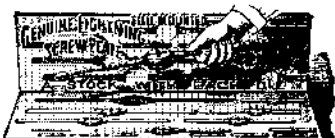
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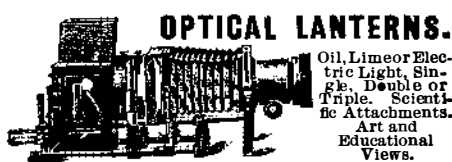
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