

Business and Personal.

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Assays and Analyses of ores and all commercial products. Advice given and investigations made in all branches of chemical industry.

Lehigh Emery Wheels emit no offensive odor; do not gum or glaze; are free cutting, safe, and very durable.

Wanted.—Description, prices, and what commission will be given on all kinds of agricultural machines used in the South.

Silvered Glass Equatorial Telescopes. Ready—Two 6 1/4", \$170 each; one 8 1/4", \$365.

Wanted.—A second-hand centrifugal machine for liquids. Address, with description and price, P. O. Box 3396, Boston, Mass.

Small patented articles, or light machinery, made and introduced. Gaynor & Fitzgerald, New Haven, Conn.

An author's reputation was made by the pen; the pen he used was made by Esterbrook; the reader is requested to name the concluding proposition.

Woodworking Mach'y. Bentel, Margedant & Co., p. 318.

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Diamond Planers. J. Dickinson, 64 Nassau St., N. Y. Lubricator. See advt., Detroit Lubricator Co., p. 318.

50,000 Emerson's Hand Book of Saws. New Edition. Free. Address Emerson, Smith & Co., Beaver Falls, Pa.

Bostwick's Giant Riding Saw Machine, adv., page 318.

Gould & Eberhardt's Machinists' Tools. See adv., p. 316.

For Heavy Punches, etc., see illustrated advertisement of Hilles & Jones, on page 318.

Barrel, Key, Hoghead, Stave Mach'y. See adv., p. 318.

Paragon Drawing Paper is the only reliable. Send for samples. Keuffel & Esser, 27 Fulton St., New York.

Magic Lanterns and Stereopticons of all kinds and prices. Views illustrating every subject for public exhibitions, Sunday schools, colleges, and home entertainment.

See New American File Co.'s Advertisement, p. 318.

Vertical Engines, varied capacity. See adv., p. 316.

Drop Hammers, Power Shears, Punching Presses, Die Sinks. The Pratt & Whitney Co., Hartford, Conn.

For best low price Planer and Matcher, and latest improved Sash, Door, and Blini Machinery, Send for catalogue to Rowley & HERNANCE, Williamsport, Pa.

The only economical and silent Gas Engine in the market is the new "Otto" Silent, built by Schleicher, Schumm & Co., Philadelphia, Pa. Send for circular.

Steam Pumps. See adv. Smith, Vaile & Co., p. 316.

The Porter-Alien High Speed Steam Engine. South-west Foundry & Mach. Co. 430 Washington Ave., Phil. Pa.

Common Sense Dry Kiln. Adapted to drying of all material where kiln, etc., drying houses are used. See p. 318.

The Sweetland Chuck. See illus. adv., p. 318.

Knives for Woodworking Machinery. Bookbinders, and Paper Mills. Taylor, Stiles & Co., Riegelsville, N. J.

For Sale.—Iron Planer, 50" x 54" x 16 ft.; engine lathes, 25" x 20ft., 21" x 8 ft.; also six other lathes of various sizes, in A No. 1 condition. Apply to or address John Steptoe & Co., 24 W. Second St., Cincinnati, O.

For Mill Mach'y & Mill Furnishing, see illus. adv. p. 300.

Red Jacket Adjustable Force Pump. See adv., p. 302.

Woodwork'g Mach'y. Rollstone Mach. Co. Adv., p. 302.

The Double Induction Motor and Automatic Battery, Griscom's patents, are manufactured and for sale by the Electro Dynamic Co., Philadelphia. This little electric motor, illustrated and described in our editorial, June 24, 1882, is now on exhibition at the American Institute Fair, Alceve 14, New York. Power from 1,000 to 6,000 ft. lb., according to battery. Weight 2 1/2 lb. The only practical power for driving the family sewing machine, small lathes, dental and surgical instruments, etc. 1,000 stitches per minute on the sewing machine. 7,000 revolutions per minute on dental tools. Apparatus complete for sewing machines, lathes, \$35 and \$40. Dental apparatus, nickel plated, complete, \$50.

Cope & Maxwell Mfg Co.'s Pump adv., page 285.

The Berryman Feed Water Heater and Purifier and Feed Pump. I. B. Davis' Patent. See illus. adv., p. 285.

For Pat. Safety Elevators, Hoisting Engines, Friction Cutch Pulleys, Cut-off Coupling, see Frisbie's ad. p. 286.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 286.

C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 286.

4 to 40 H. P. Steam Engines. See adv. p. 286.

Sheet and cast brass goods, experimental tools, and fine machinery. Estimates given when models are furnished. H. C. Goodrich, 66 to 72 Ogden Place, Chicago.

Improved Skinner Portable Engines. Erie, Pa.

Engines, 10 to 50 horse power, complete, with governor, \$250 to \$550. Satisfaction guaranteed. Nearly seven hundred in use. For circular address Heald & Morris (Drawer 127), Baldwinville, N. Y.

25' Lathes of the best design. G. A. Ohl & Co., East Newark, N. J.

Collection of Ornaments.—A book containing over 1,000 different designs, such as Crests, Coats of Arms, Vignettes, Scrolls, Corners, etc., will be mailed free on receipt of \$1. Address Palm & Fechteler, 6 West 14th Street, New York.

Combination Roll and Rubber Co., 68 Warren street, N. Y. Wringer Rolls and Moulded Goods Specialties.

Pure Water furnished Cities, Paper Mills, Laundries, Steam Boilers, etc., by the Multifold System of the Newark Filtering Co., 177 Commerce St., Newark, N. J.

First Class Engine Lathes, 30 inch swing, 8 foot bed, now ready. F. C. & A. E. Rowland, New Haven, Conn.

Ice Making Machines and Machines for Cooling Breweries, etc. Picotet Artificial Ice Co. (Limited), 142 Greenwich Street. P. O. Box 3083, New York city.

Jas. F. Hotchkiss, 84 John St., N. Y.: Send me your free book entitled "How to Keep Boilers Clean," containing useful information for steam users & engineers.

Steel Stamps and Pattern Letters. The best made. J. F. W. Dorman, 21 German St., Baltimore. Catalogue free.

For Power & Economy, Alcott's Turbine, Mt. Holy, N. J. Presses, Dies, Tools for working Sheet Metals, etc.

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

Supplement Catalogue.—Persons in pursuit of information on any special engineering, mechanical, or scientific subject, can have catalogue of contents of the SCIENTIFIC AMERICAN SUPPLEMENT sent to them free.

Machinery for Light Manufacturing, on hand and built to order. E. E. Garvin & Co., 139 Center St., N. Y.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J.

Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer.

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from \$1 to \$5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at this office. Price 10 cents each.

Correspondents sending samples of minerals, etc., for examination, should be careful to distinctly mark or label their specimens so as to avoid error in their identification.

(1) F. S. B. asks: Is there anything that will destroy the buffalo carpet bugs? A. One of the surest remedies for this pest that we know of is benzine, if thoroughly applied.

(2) J. A. C. asks: What can I mix with gas tar and apply to felting to make a fair roof—pitch of roof 1 ft. in 15? A. The pitch can be used without any addition if used hot; or it may be thinned somewhat with naphtha, and applied cold.

(3) R. F. H. writes: I have a sliding lens three-quarters of an inch diameter on a photographic camera. By use, the slide has come to work loosely in the mount, so that after focusing, in the subsequent manipulation of inserting diaphragm and uncapping for exposure, the slide is moved and the focus disturbed.

(4) A. N. H. writes: I am building this season, and use best pine shingles for roof, and intended to dip them in a bath of lead and oil, but find it will cost \$3.00 per thousand for the bath, which on a large roof is quite an item.

(5) L. C. asks: Will you kindly inform me as to the best method of dissolving white shellac? Have tried alcohol. A. Try absolute alcohol.

(6) H. C. asks: 1. What is the best form of electric engine? A. For small motors the Trouve form is best; for larger motors the Siemens or Gramme machine.

(7) J. H. asks: What kind of a bit can I get that will bore a quarter inch hole through seven inches of hardwood without choking—I mean a quarter inch

bit? A. We know of no better bit than the one known as the auger bit, that has the lip turned up instead of the old fashioned leading lip, which heats and wears away rapidly when driven hard.

(8) R. B. M. asks what polishing material is made of, called composition for polishing brass, iron, nickel, and steel; the different grades and the quantity of each ingredient for mixing the same?

(9) W. J. F. asks: What liquids do manufacturers use in making "barrel paints," blue and white? The paints are made to dry very quickly, with a gloss, and are very cheap.

(10) D. B. V. writes: I have a shaft 5 feet long on which there are four wheels, all of which weigh about one hundred and ten pounds, &c., the shaft and wheels together. One of these wheels is a water wheel, 32 inches in diameter, having 12 buckets, which are 5 inches deep and 7 1/4 inches long or across the wheel.

INDEX OF INVENTIONS FOR WHICH Letters Patent of the United States were Granted in the Week Ending October 31, 1882. AND EACH BEARING THAT DATE.

Table listing inventions with dates and patent numbers, including items like Air brake for railway cars, Alcohol apparatus for rectifying, Animal power, W. C. Knox, Animal trap, J. H. Bussard, Balcony, portable adjustable window, G. W. Cannon, Ballot box, S. T. Bacon, Bar, See Car draw-bar, Battery, See Stamp battery, Bed, lounge, E. J. Pahtz, Bed lounge, T. Soden, Bed or crib, G. McWayne, Bed spring, J. Stephens, Bedstead, folding, S. S. Burr, Bedstead, wardrobe, R. F. Meissner, Belt gearing, H. Landon, Binder, self, Whiteley & Bayley, Bleaching fiber, P. Thomas, Boiler, See Wash boiler, Boiler furnace, G. Schroll, Bolt, See Door bolt, Bolt pointing machine, O. R. Olsen, Boot or shoe tongue, Haggerty & King, Boots or shoes, guide for the manufacture of, Varney & Howard, Boring pump logs, etc., machine for, P. T. Perkins, Bottle stopper, A. C. Schulz, Bottle washer, H. E. Clinton, Box, See Ballot box, Musical box, Box fastener, R. M. Williamson, Bran beating machine, J. W. Barbeau, Bread cutter, J. H. Lynch, Brick kiln, W. N. Graves, Brick mould, J. Blum, Brick mould, J. J. Johnston, Buckle, D. W. Smith, Burner, See Gas burner, Gas and oil burner, Buttersubstitute, Coumbe & Roberts, Button, J. Costello, Button fastener, F. A. Smith, Jr., Button fastener, A. G. Wilkins, Button fasteners, apparatus for securing, A. G. Wilkins, Button fastening, G. W. Prentice, Button, separable, D. Humphreys, Can, See Milk transporting can, Paint stirring can, Car chimney, railway, C. A. Dubey, Car coupling, L. I. Hinkle, Car coupling, G. K. Hoff, Car coupling, D. E. Kelley, Car coupling, L. Recht, Car coupling, G. W. Watts, Car draw-bar, railway, E. B. Sankey, Car, dumping, J. E. Bemis, Car, freight, T. L. Wilson, Car platform guard, J. B. Driscoll, Car running gear, E. D. Carter, Car step attachment, railway, F. W. Coolbaugh, Car wheel, A. Cottrau, Carbon black, apparatus for manufacturing, J. T. Dysart, Carbon conductors, apparatus for treating, J. E. Lockwood, Carpetstretcher, J. A. Risdon

Table listing inventions with dates and patent numbers, including items like Carrier, See Egg carrier, Trace carrier, Cart, self-loading, A. J. Petrie, Carts, weighing attachment to, B. Lensing, Casting water closet cisterns, apparatus for, H. & W. Sutcliffe, Chains wivel, watch, Hancock & Richards, Chair, See Swinging chair, Upholstered chair, Chandelier, extension, E. A. Parker, Charcoal kiln, W. A. Lovelace, Chart, E. L. Hyde, Chart, dress, D. J. Taylor, Cheese cutter, Blodgett & Felix, Chopper, See Cotton chopper, Chuck, drill, J. T. Foster, Cigar bunching machine, G. Moebis, Cigar butt cutter, P. Scheppach, Cipher code and apparatus, R. T. Oney, Clamp, T. Reno, Clamp, H. H. Taylor, Clasp, See Garment clasp, Clip, See Flame clip, Clothes beater, L. H. Whitney, Clothes drier, W. Fenner, Clutch, friction, F. Brown, Coffee, etc., machine for scouring, J. Olendorf, Coffee roaster, W. W. Dunn, Collyrium, J. Fale, Coloring matter or dyestuff, J. H. Stebbins, Jr., Comb, See Currycomb, Cord, machine for making ornamental looped, A. Urbahn, Corn crusher, G. C. Mueller, Corn cutter and shoker, Burr & Smith, Corset, M. P. Bray, Corset, W. H. Ramsey, Cotton chopper, G. W. Dugger, Cotton picker, D. Rawl, Coupling, See Car coupling, Hose coupling, Thill coupling, Creamer, Chapin & Mercer, Crusher, See Corn crusher, Rock or ore crusher, Cultivator, cotton, Sursa & Dowdall, Cultivator, reversible barrow, W. C. Kelly, Cup, See Lubricating cup, Oil cup, Curry comb, E. Miller, Cuspidors, rolling support for, A. Stewart, Cut-off and reversing valve gear, H. T. Porter, Cutter, See Bread cutter, Cheese cutter, Cigar butt cutter, Cutting strings, machine for, W. Barry, Desks, attachment for raising and lowering, J. A. Eads, Digger, See Potato digger, Dish washing machine, B. S. Wheeler, Display rack, Knight & Rowley, Distilling alcohol, process of and apparatus for, Trobach & Cords, Distilling turpentine and for the purification of the crude products of distillation thereof, apparatus for, J. D. Stanley, Door, barn, J. J. Johnston, Door bolt, A. C. Blayne, Door check, pneumatic, G. R. Elliott, Door fastening device, J. T. Schertzer, Drain and sewer, H. W. Greenleaf, Drier, See Clothes drier, Drill, See Rock drill, Seed drill, Dyeing Turkey red, preparing fabrics for, A. M. Jacobs, Easel, H. Harris, Egg and flour mixer, A. Doll, Egg beater, R. N. Harrison, Egg carrier, A. B. Fisk, Egg carrier, D. Goodwillie, Egg tester, J. A. Sheffield, Electric circuits, implement for closing and testing, L. Mann, Electric distribution system, T. A. Edison, Electric lines, conduit for, R. H. Corbett, Electric machines, commutator brush for dynamo, W. B. Mason, Electrical conductors, conduit for, G. S. Eaton, Electrical conduit, underground, S. D. Strohm, Electrodes for secondary batteries, making, C. F. Brush, Elevator, See Hydraulic elevator, Engine, See Locomotive engine, Steam engine, Traction engine, Wind engine, Fan, automatic fly, T. W. Cofer, Faucet attachment or cask stopper, W. W. Jackson, Faucet, flexible self-gauging, W. T. Robertson, Feed trough, J. J. Johnston, Fence post, N. A. Haven, Fence wire, C. A. Mann, Fertilizer and planter, W. A. Hazelrigg, Fiber, manufacture of vegetable, J. H. Christiansen, Fifth wheel, W. A. Heath, Filtering device, water, Horsnell & Murphy, Filtering petroleum distillates for the separation of paraffin, H. Warden, Finger ring, N. Mitchell, Fire alarm, automatic, M. Martin, Fire extinguisher, D. Parham, Fire extinguisher, chemical, D. Parham, Fire kindler, J. H. French, Fireplace, Wellington & Chase, Fire-pot, blacksmith's, S. H. Savine, Flour dressing reel, centrifugal, W. B. Dell, Flour feeder and mixer, J. H. Langlois, Folding joint, J. S. Burton, Folding table, F. F. Atkinson, Form, dress, Richardson & Manchester, Frame, See Picture frame, Furnace, See Boiler furnace, Furnace grate, J. R. Fish, Gauge, See Marking gauge, Galvanic batteries, containing vessel for, C. A. Faure, Garment clasp, W. W. Anderson, Gas and oil burner, combined, J. H. Kidder, Gas burner, Cook & Piper, Gas burner, J. G. Miller, Gas burner, E. B. Requa, Generator, See Hot air generator, Glass grinding machine, A. W. Kelly, Glass water closet bowls, manufacture of, J. A. Talmadge, Gold separator, magnetic, H. Kenton, Grain binder, J. F. Gordon, Grain binder, J. F. Steward, Grain separator, A. H. Lighthall, Grinding mill, J. P. Lancaster, Guard, See Car platform guard, Life guard, Halter, J. J. Johnston, Hame, O. P. Letchworth, Hame clip, C. M. Derrick, Harness mounting, F. Petry, Harness pad press, J. W. Johnson, Harvester binders, grain adjuster for, Bullock & Appleby