

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 next issue.

Council will receive bids for lighting the streets of Hazleton, Pa., either with oil, gas, or electricity. Address J. E. Giles, Chairman.

BERKELEY SPRINGS, W. VA., Sept. 12, 1882. Messrs. H. W. Johns Mfg Co., 87 Maiden Lane, N. Y. GENTLEMEN: I am a painter by trade and have been using your paints; find them very good, and recommend them. Will send you an order on receipt of your sample sheets and price list.

Yours respectfully, ROBERT M. ADAMS. CROSS KEYS, VA., Sept. 11, 1882. Messrs. H. W. Johns Mfg Co., 87 Maiden Lane, N. Y. GENTLEMEN: I am before last I bought some paint of you for our Temperance Hall at this place. I like the paint very much. What will you sell me your Asbestos Roof Paint at? Yours very respectfully, J. B. WEBB, M.D.

\$25.00 buys a 2 1/2 x 6 engine pump and governor. J. F. Barber, Catskill, N. Y.

Collection of Ornaments.—A book containing over 1000 different designs, such as Crests, Coats of Arms, Vignettes, Scrolls, Corners, etc., will be mailed free on receipt of \$1. Address Palm & Fichteler, 6 West 14th Street, New York.

For Sale.—New Planer, 27" by 24", with 3/4 ft. table with 18" Planer Chuck; weight, 5,000 lb.; price, \$500. New Crank Planer, 18" x 15", with 12" stroke; a good tool; \$350. S. M. York, Cleveland, O.

Tight and Slack Barrel Machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv. p. 206.

Pure Nickel Anodes, Nickel Salts, and all Polishers' Supplies. Greene, Tweed & Co., New York.

Trevor's Patent Key Seat Cutter. Trevor & Co., Lockport, N. Y. See last or next issue.

See Burgess's Blow Pipe adv., page 221.

American Fruit Drier. Free Pamphlet. See adv., p. 205.

Fire Brick, Tile, and Clay Retorts, all shapes. Borner & O'Brien, M'Frs, 234 St., above Race, Phila. Pa.

Peck's Patent Drop Press. See adv., page 206.

For best Portable Forges and Blacksmiths' Hand Blowers, address Buffalo Forge Co., Buffalo, N. Y.

Drop Forgings of Iron or Steel. See adv., page 205.

Brass & Copper in sheets, wire & blanks. See adv. p. 205.

The Chester Steel Castings Co., office 407 Library St., Philadelphia, Pa., can prove by 15,000 Crank Shafts, and 10,000 Gear Wheels, now in use, the superiority of their Castings over all others. Circular and price list free.

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

Diamond Planers. J. Dickinson, 64 Nassau St., N. Y.

Eagle Anvils, 10 cents per pound. Fully warranted.

Hand and Power Bolt Cutters, Screw Plates, Taps in great variety. The Pratt & Whitney Co., Hartford, Ct.

Imperial Mange Cure. Best remedy ever prepared for mange on dogs or horses troubled with scratches. For sale at all gun and ammunition stores. Manufactured by H. Clay Glover, Tomas River, N. J. Send for testimonials.

See New American File Co.'s Advertisement, p. 190.

Rubber Hose, Linen Hose, lined and unlined, all sizes. Greene, Tweed & Co., 118 Chambers St., New York.

The Sweetland Chuck. See illus. adv., p. 190.

Steam Pumps. See adv. Smith, Vaile & Co., p. 188.

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

Send stamp to Morse Yellow Dock Root Sirup Co., Providence, R. I., for descriptive circular and sets of elegant Advertising Cards.

Bostwick's Giant Riding Saw Machine, adv., page 173.

Draughtsman's Sensitive Paper, T. H. McCollin, Phila., Pa.

For Mill Mach'y & Mill Furnishing see illus. adv. p. 172.

Woodwork'g Mach'y. Rollstone Mach. Co. Adv., p. 173.

Drop Forgings. Billings & Spencer Co. See adv., p. 205.

C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 205.

Lightning Screw Plates, Labor-saving Tools. p. 206.

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

Air Pumps for High Pressure, Hand, or Steam Power, at low prices. C. Beseler, 218 Center Street, New York.

Small articles in sheet or cast brass made on contract. Send models for estimates to H. C. Goodrich, 66 to 72 Ogden Place, Chicago, Ill.

Improved Skinner Portable Engines. Erie, Pa.

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.

Latest Improved Diamond Drills. Send for circular to M. C. Bullock Mfg. Co., 80 to 88 Market St., Chicago, Ill.

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. Pictet 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. (Forward above by postal or letter; mention this paper.)

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

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

For Power & Economy, Alcott's Turbine, Mt. Holly, N. J.

Wood-Working Machinery of Improved Design and Workmanship. Cordesman, Egan & Co., Cincinnati, O.

Presses, Dies, Tools for working Sheet Metals, etc. Fruit and other Can Tools. E. W. Bliss, Brooklyn, N. Y.

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. The SUPPLEMENT contains lengthy articles embracing the whole range of engineering, mechanics, and physical science. Address Munn & Co., Publishers, New York.

Presses & Dies. Ferracite Mach. Co., Bridgeton, N. J. Presses & Dies (fruit cans) Ayar Mach. Wks., Salem, N. J. Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocum & Son's Shafting Works, Drinker St., Philadelphia, Pa.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending

September 5, 1882,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1866, will be furnished from this office for 25 cents. In ordering please state the number and date of the patent desired and remit to Munn & Co., 261 Broadway, corner of Warren Street, New York city. We also furnish copies of patents granted prior to 1866; but at increased cost, as the specifications not being printed, must be copied by hand.

Table listing inventions with names and dates. Includes: Adding machine, C. W. Herzenroeder; Alarm, See Burglar alarm; Ammonia and bone black, manufacture of, H. Y. & E. B. Castner; Axle for steam engines, cranked, P. Armington; Ale lubricator, car, J. E. Steger; Bag for holding phosphates, etc., Horner & Hyde; Bail ear and lug, J. B. Westcott; Bake pan, Williams & Richey; Bale tie, M. Campbell; Bale tie, D. T. Cooper; Bale tie, D. B. Eastburn; Bale tie, wire, M. Campbell; Bales, rest for cotton, W. Glover; Baling press, W. M. & W. H. Penniston; Band cutter and feeder, S. C. Corcoran; Bar. See Saddle bar; Barrel roller and guide, B. H. Schonhoff; Barrel ventilator, W. H. Swartout; Battery. See Secondary battery; Bed and canopy combined, cot, J. W. Steele; Bed spring, J. H. Faith; Bellows, Ingalls & Phelps; Berth, self-leveling, A. A. Young; Billiard cue tips, fastening, H. Platts; Blinds, device for hanging Venetian, C. M. Young; Blow pipe, C. W. Dean; Boiler. See Stand boiler. Sugar boiler; Boiler, D. C. Hill; Bone black drier, Donner & Booraem; Bone black in sugar refineries and apparatus for carrying on the same, process of washing, S. M. Lillie; Boot and shoe jack, Gooding & Taylor; Boots and shoes, heel for, J. G. de Trez; Boots or shoes, rubber heel for, F. D. Hayward; Boring and tenoning machine, C. A. Hodge; Bottle stopper, J. Q. Adams; Bottles, machine for corking, Bolet & Schraeder; Bottles, machine for corking, K. F. C. Petersen; Bottling machine, J. Klee; Bracket. See Lamp bracket; Brake. See Car brake; Brake shoe, J. F. Curtice; Bran and middlings, machine for disintegrating, Miller & Hogeboom; Brick, E. A. Kern; Broom holder, whisk, A. Pfrangle; Buckle, J. F. Follett; Buckle, T. O. Potter; Burglar alarm, F. A. Langewald; Burglar alarm, electric, H. F. Neumeyer; Burner. See Gas burner. Lamp and oil stove burner. Vapor burner; Button, sleeve, R. E. Brunacci; Can cover, A. Willis; Cane mill, W. A. Roberts; Canopy or tent, W. F. Wheeler; Car brake, S. Lykke; Car brake, D. Terrey; Car coupling, A. J. Avery; Car coupling, S. Brown; Car coupling, C. F. & E. R. Clapp; Car coupling, A. W. Coats; Car coupling, C. J. Edwards; Car coupling, M. V. King; Car coupling, N. D. Mussey; Car coupling, S. Scott; Car coupling, T. M. Sharpe; Car coupling, J. Q. Thomas; Car coupling tool, W. J. Riley; Car, hand, A. M. Stoner; Car platforms, controlling the opening of gates of, F. P. Fish; Car, stock, S. C. Wiser; Car ventilator, S. Hurst; Car wheel, G. S. Sheffield; Cars, apparatus for heating, M. J. Walsh; Cars or carriages, device for lighting the steps of, G. W. Hunt; Cars panoramic sign for, W. Halkyard; Carbon conductors, apparatus for treating, H. S. Maxim; Carbon conductors, manufacturing, E. Weston; Carbon rods, baking, C. F. Brush; Carbon rods, process of and apparatus for straightening, C. F. Brush; Carriage lock, baby, L. L. Richmond; Carrier. See Trace carrier; Cartridge shells, wafer for, S. F. Cheeseman; Carving fork guard, G. H. Warren; Cement, manufacture of hydraulic, E. J. de Smet; Cement pipe, mould for manufacturing, N. W. Stowell; Chain link, ornamental, J. L. Heeley; Chain, watch, W. C. Edge;

Table listing inventions with names and dates. Includes: Chimney top, J. G. Lindemann; Cider mill, G. M. Clark; Clamp. See Tool clamp; Clothes drier, W. Vanderlip; Clothes frame, W. C. Nelly; Clothes pounder, W. E. Kinnear; Clothes wringer, G. J. Cline; Coats and other garments, binding for, J. F. Mulen; Coffee pot, J. H. Bean; Collar, horse, J. Q. Black; Color, manufacture of alizarine blue, H. Rose; Colter, plow, Morris & Speirs; Cooler. See Milk cooler; Cop-tube, metallic, Essex & Ball; Cork stopping machine, self-acting, O. Assmann; Corn sheller, H. Packer; Corset busk, A. S. Haight; Coupling. See Car coupling. Pipe or hose coupling. Tubing coupling. Wrought iron coupling; Cow tail holder, W. S. Allen; Crank shaft or journal bearing, E. A. Rowley; Crate. See Fruit crate; Cutter. See Band cutter. Index cutter. Straw cutter. Thread cutter; Damper regulator, automatic steam, W. Noyes; Dental hand piece, T. H. Schmitz; Dental plugger, C. F. Rich; Desk, adjustable, S. A. Cummings; Disinfectants, receiver for, J. W. Birkett; Distilling apparatus, wood, C. J. T. Burcey; Door operator, C. V. Derr; Door, sliding, R. Bauch; Draught equalizer, M. Frisbie; Draw bars, manufacture of, J. T. Wilson; Drawer pull, Rogers and Donovan; Drier. See Bone black drier. Clothes drier. Portable drier; Drier for fruits and other substances, H. S. Jory; Drilling machine, C. Wren; Dumb waiter, G. F. Skinner; Dyeing, Method of and apparatus for press, A. Tavernier; Dyestuff from alizarine blue, manufacture of, H. Rose; Ear ring, S. L. Braverman; Electric light regulator, F. K. Fitch; Electric machines, regulator for dynamo, A. de Khotinsky; Electro-medical induction coil, T. H. Hicks; Elevator. See Sucker rod elevator. Water elevator; Elevator bucket attachment, G. L. Lord; Elevator safety attachment, Edson & Lowe; Engine. See Pumping engine. Rotary engine; Engine register connection, G. W. Brown; Envelope machine, J. Ball; Evaporating pans, apparatus for automatically supplying sap to, M. C. Barsten; Evaporator for fruits, vegetables, etc., R. M. Belinger; Explosive compound, E. Turpin; Fabrics, apparatus for stretching, J. G. Lindemann; Farm gate, A. L. Geer; Feed rack, R. B. Dunn; Felly clip, J. Wheeler; File, paper, C. C. Clark; Filter, W. F. Wheeler; Firearm, breech-loading, Silver & Fletcher; Firearm lock, G. W. Cilley; Fire escape, E. Emmert; Fire escape, T. Penn; Fire escape, B. F. Pike; Fire extinguisher, A. S. Harris; Fire kindler mould, C. J. Riencour; Fish, method of and apparatus for hatching, M. McDonald; Folding apparatus, Anthony & Harvey; Foot mat, E. S. Ellis; Fork. See Hay fork; Frame. See Clothes frame. Hammock frame; Fruit crate, R. L. Humphrey et al.; Fruit gatherer, H. L. F. Overbey; Fruit gatherer, J. Tear; Fruit jar filling attachment, W. M. Doty; Furnace. See Heating stove or furnace; Furnace grate, J. H. McIlvain; Gas, apparatus for generating, N. M. Langdon; Gas burner, kerosene, J. H. Bean; Gas, process of and apparatus for the manufacture of, T. G. Springer; Gate, J. S. Peck; Gear wheel, toothed, F. Leclere; Generator. See Steam generator; Glass paper weights, manufacture of, W. H. Maxwell; Globe, E. E. Filtz; Glycerine from soap-boilers' mother-lye, obtaining and purifying, J. K. Kessler; Governor steam engine, J. P. McCook; Grain binder, A. C. Miller; Grain binder, J. W. Webster; Grain cleaners, blast governor for, Andrews & Godfrey; Grain, machine for cleaning, A. B. Kellogg; Guard. See Carving fork guard; Hame fastener, J. Straus; Hammock frame, L. E. French; Harrow, J. Divora; Harrow, K. Tharalason; Harvester binders, raking attachment for, J. D. Heebner; Hat bodies and other articles, machine for felt-ing, A. Pelisse; Hay and grain ricks, portable roof for, W. McEvoy; Hay fork, horse, G. D. Rowell; Hay press, T. D. Aylsworth; Hay press, H. Purrier; Hay sling, A. F. Hillman; Hay stacker, B. J. Downing; Head protector, H. H. Snow; Heat apparatus, steam, E. Werner; Hinge lock, W. C. Peckham; Hinges, machine for making, E. Salomon; Hog scalding and elevating apparatus, S. Kreiter; Holder. See Broom holder. Cow tail holder. Pillow sham holder. Rein holder. Type and space holder; Hook. See Snap hook; Horse hoof expander, G. W. Wemple; Horseshoe calks, machine for forming and sharpening, J. Elliott; Horseshoe nails, machine for forging, C. W. Woodford; Hose pipes, automatic nozzle for, L. D. Shaw; Hose reel, A. J. Guild; Index cutter, McCutcheon & Chilcote; Iron. See Porch iron; Jack. See Lifting jack;

Table listing inventions with names and dates. Includes: Jewelry ring, R. J. LaGrange; Jump seat, G. H. Hutton; Key ring, B. H. Meleny; Knitting fabrics having a plush surface, machine for, H. A. Truitt; Knitting machine, circular, W. H. Pepper; Knitting machines, looping attachment for, S. M. Levy; Knob for exercising or Indian clubs, E. M. Folk; Lamp and oil stove burner, M. de Graffenried; Lamp bracket, incandescent, E. Weston; Lamp chimney protector, M. E. Zollicoffer; Lamp, electric, T. A. Edison; Lamp, electric, J. V. Nichols; Lamp, electric arc, J. A. Mondos; Lamp, electric arc, E. Weston; Lantern, Corban & Wright; Leather washers, method of and apparatus for making, D. S. Hall; Letter, etc., initial, A. B. Case; Lifting jack, L. Yakel; Lifting jack and spike puller, J. S. Hood; Locket, D. Goldsmith; Loom for weaving netted fabrics, A. Melzer; Loom temple, R. E. Neuber; Lubricant, C. J. Inman; Lubricator. See Car axle lubricator. Piston rod lubricator; Lubricator, H. Balbridge; Lubricator, C. Vermaud; Magneto-electric machines, machine for winding armatures for, Haase & Recker; Mat. See Foot mat; Match box and knife, combined, L. W. Fairchild; Measure, dressmaker's, W. Ganzhorn; Measuring the foot and fitting lasts, apparatus for, J. H. Schaefer; Mechanical movement, O. M. Morse; Methanometer, automatic, D. Monnier; Milk cooler, H. H. Finn; Milk cooler, A. B. Ward; Mill. See Cane mill. Cider mill. Reduction mill. Roller mill. Roller flour mill. Windmill; Milling cutters, manufacture of, B. F. Wheeler; Millstone driver, L. Read; Mould. See Fire kindler mould; Mortising machine, A. S. Bangs; Musical instrument, mechanical, J. H. Chase; Musical instrument mechanical, G. W. Ingalls; Musical instruments, reel for, J. B. Hamilton; Needle cabinet, T. Harper; Needle for attaching buttons, R. D. Gates; Optometer, compound, L. A. Berteling; Ore separator, dry, P. W. Reardon; Pan. See Bake pan; Paper scorer and cutter, J. Spooner; Pedal, L. C. Clark; Pencil sharpener, P. R. Erling; Piano lid support, H. S. Tucker; Pick, miner's, S. Smith; Picture exhibitor, G. W. Shirk; Pile for use with protecting and preserving material, W. N. Horton; Pillow, H. Weston; Pillow sham holder, F. Sette; Pipe. See Blowpipe; Pipe or hose coupling, W. F. Casse; Pipe sections, wrought iron coupling for, J. O. Morse; Piston rod lubricator, Hoffmaster & Arthur; Planter check rower, corn, Campbell & Chambers; Planter, seed, L. Wilkerson; Plow, J. W. Jory; Plow and drag attachment, M. A. Culver; Plow, sulky, S. W. Barr; Porch iron, D. U. Stoner; Portable drier, A. Thalheimer; Pot. See Coffee pot; Press. See Baling press. Hay press; Pressure indicators, piston for, G. W. Brown; Pressureregulator, H. A. Tobey; Printing apparatus, chromatic, E. H. Caughey; Printing machine, E. Anthony; Printing machine, Anthony & Harvey; Printing machine delivery apparatus, E. Anthony; Printing machines, web-reversing apparatus for, Anthony & Harvey; Protector. See Head protector. Lamp chimney protector; Pump, W. C. Athey; Pump, A. D. Austin; Pump, R. G. Conley; Pump, P. A. Myers; Pump and sprinkler, portable, F. E. Snyder; Pump for driven wells, D. A. Schomp; Pump for locomotives, air brake, D. J. Dampman; Pump, rotary, A. Siegrist; Pump, steam vacuum, G. H. Nye; Pumping engine, H. F. Gaskill; Pumping engine, steam, E. R. Hubbard; Rack. See Feed rack; Railway and depot, H. C. Rew; Railway rails, device for attaching torpedoes to, D. R. Murphy; Railway rope, J. B. Low; Railway switch, F. A. White; Railway tie, C. F. Kreuz; Recorder. See Steam engine recorder; Reduction mill, Nichols & Watson; Reel. See Ljose reel; Register. See Engine register; Regulator. See Damper regulator. Electric machine regulator. Pressure regulator; Rein, check, H. T. Harding; Rein holder, J. L. Hall; Rein holder, Howell & Burdick; Ring. See Ear ring. Jewelry ring. Key ring; Rings, machine for bending, C. A. Svensson; Roller. See Barrel roller; Roller flour mill, W. A. Mahaffy; Roller mill, N. W. Holt; Roofing tile or plate, T. B. Atterbury; Rotary engine, H. Peavey; Saccharine compounds, process of and apparatus for the manufacture of, T. A. Jebb; Saddle bar, safety, H. Spence, Jr.; Safe, fireproof, W. B. Marvin; Saw sharpening machine, H. C. Agan; Sawing machine, circular, Reinhart & McDonald; Scenery and appliances, theatrical, W. Hanlon; Scraper and harrow, combined, T. M. Smith; Screw blank feeder, H. W. Loomis; Screw, toilet, J. Wadell; Seat. See Jump seat; Secondary battery element, C. F. Brush; Separator. See Ore separator. Thrashing machine separator; Sewing machine feed mechanism, M. A. Dille; Sewing machine ruffing attachment, A. Johnston; Sewing machine tucking attachment, Fisher & Hart;

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From August 22 to August 25, 1882, inclusive.

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Batteries, electric secondary, T. A. Edison, Menlo Park, N. J.

Barrel machinery, F. Myers, New York city.

Cannon, manufacture of, W. E. Woodbridge, Washington, D. C.

Cases for furniture, etc., A. F. Potts, Indianapolis, Ind

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Dynamo electric machine, T. A. Edison, Menlo Park, N. J.

Electric conductors, insulation of, J. M. Hirsch, Chicago Ill.

Electric conductors, T. A. Edison, Menlo Park, N. J.

Electric lamps (3), T. A. Edison, Menlo Park, N. J.

Electricity, storage and generation of, J. S. Williams, Riverton, N. J.

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