

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. The publishers of this paper guarantee to advertise a circulation of not less than 50,000 copies every weekly issue.

Lubricate, Gear Grease, Cylinder and Machinery Oils. R. J. Chard, 6 Burling Slip, New York.

Telephones repaired, parts of same for sale. Send stamp for circulars. P. O. Box 205, Jersey City, N. J.

The genuine Asbestos Liquid Paints are the purest, finest, richest, and most durable paints ever made for structural purposes. H. W. Johns Mfg Co., 87 Maiden Lane, sole manufacturers.

The Finger Annunciator, and all other electr. apparatus, by Finger Annunciator Co., 73 Cornhill, Boston.

The most popular Pens in use are those of the Esterbrook Steel Pen Company. For sale everywhere. Everybody send Circular to R. K. Teller, Unadilla, N. Y.

A few pat. Centering and Squaring Attachments for Lathes, made by R. E. State & Co., entirely new, for sale cheap. J. & W. State, Lock Box 291, Springfield, Ohio.

Soapstone and Empire Gum Core Packing, the best for Railroads. Greene, Tweed & Co., New York.

Our new Stylographic Pen (just patented), having the duplex interchangeable point section, is the very latest improvement. The Stylographic Pen Co., Room 13, 169 Broadway, N. Y.

Shaw's U. S. Standard of Pressure. Mercury Gauges, all pressures, Steam, Hydraulic, and Vacuum. Best for pumping stations and pipe lines. 915 Ridge Ave., Philadelphia, Pa.

For Sale low—52 x 17 feet Sidewheel Boat, and one 23 x 5 1/2 feet Launch; best condition. S. E. Harthan, Worcester, Mass.

Wanted.—Farm Engine, with Steam Plow Attachment. Address P. O. Box 18, Reinbeck, Iowa.

Advertising of all kinds in all American Newspapers. Special lists free. Address E. N. Freshman & Bros., Cincinnati, O.

Patent for Sale Cheap.—Entire Patent or State Rights. Just the thing for the summer. Money can be made out of it. Other business prevents owner from handling it. A. H. Watkins, 294 Harrison Ave., Boston, Mass.

We keep a full assortment of Esterbrook's, Gillott's, Spencerian, Perry's, and Lamar's Pens. Send for price list to J. Leach, 36 Nassau St., New York.

For Sale.—A Baltimore City Fire Department Steam Fire Engine, in complete working order. Address P. O. Box 676, Baltimore, Md.

Metallic Piston Rod Packing Company, 773 Broad St., Newark, N. J. Agents wanted; terms liberal.

Skinner & Wood, Erie, Pa., Portable and Stationary Engines, are full of orders, and withdraw their illustrated advertisement. Send for their new circulars.

Asbestos Board on Chimneys prevents their heat from affecting the temperature of rooms through which they pass. Asbestos Pat. Fiber Co., lim., 194 Broadway, N. Y.

Sweetland & Co., 126 Union St., New Haven, Conn., manufacture the Sweetland Combination Chuck.

Power, Foot, and Hand Presses for Metal Workers. Lowest prices. Peerless Punch & Shear Co., 52 Dey St., N. Y.

The Brown Automatic Cut-off Engine; unexcelled for workmanship, economy, and durability. Write for information. C. H. Brown & Co., Fitchburg, Mass.

Corrugated Traction Tire for Portable Engines, etc. Sole manufacturers, H. Lloyd, Son & Co., Pittsburg, Pa.

For the best Stave, Barrel, Keg, and Hoghead Machinery, address H. A. Crossley, Cleveland, Ohio.

Best Oak Tanned Leather Belting. Wm. F. Forepaugh, Jr. & Bros. 531 Jefferson St., Philadelphia, Pa.

National Steel Tube Cleaner for boiler tubes. Adjustable, durable. Chalmers-Spence Co., 40 John St., N. Y.

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

Stave, Barrel, Keg, and Hoghead Machinery a specialty by E. & B. Holmes, Buffalo, N. Y.

Solid Emery Vulcanite Wheels—The Solid Original Emery Wheel other kinds imitations and inferior. Caution.—Our name is stamped in full on all our best Standard Belting, Packing, and Hose. Buy that only. The best is the cheapest. New York Belting and Packing Company, 37 and 38 Park Row, N. Y.

For Separators, Farm & Vertical Engines, see adv. p. 382.

Wairus Leather, Emery, and Polishing Goods. Greene, Tweed & Co., 118 Chambers St., New York.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts, importers Vienna lime, crocus, etc. Condit, Hanson & Van Winkle, Newark, N. J., and 92 and 94 Liberty St., New York.

Presses, Dies, and Tools for working Sheet Metal, etc. Fruit & other can tools. Bliss & Williams, B'klyn, N. Y. Bradley's cushioned helve hammers. See illus. ad. p. 397.

Instruction in Steam and Mechanical Engineering. A thorough practical education, and a desirable situation as soon as competent, can be obtained at the National Institute of Steam Engineering, Bridgeport, Conn. For particulars, send for pamphlet.

Hydraulic Jacks, Presses and Pumps. Polishing and Buffing Machinery Patent Punches, Shears, etc. E. Lyon & Co., 470 Grand St., New York.

Forsyth & Co., Manchester, N. H., & 207 Centre St., N. Y. Bolt Forging Machines, Power Hammers, Comb'd Hand Fire Eng. & Hose Carriages, New & 2d hand Machinery. Send stamp for illus. cat. State just what you want.

For Mill Mach'y & Mill Furnishing, see illus. adv. p. 381.

Air Compressors, Blowing Engines, Steam Pumping Machinery, Hydraulic Presses. Philadelphia Hydraulic Works, Philadelphia, Pa.

For Patent Shapers and Planers, see illus. adv. p. 380.

For Pat. Safety Elevators, Hoisting Engines, Friction Clutch Pulleys, Cut-off Coupling, see Frisbie's ad. p. 316.

Machine Knives for Wood-working Machinery, Book Binders, and Paper Mills. Large knife work a specialty. Also manufacturers of Solomon's Parallel Vise. Taylor, Stiles & Co., Riegelsville, N. J.

For Alcott's Improved Turbine, see adv. p. 297.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 381.

Rollstone Mac. Co.'s Wood Working Mach'y ad. p. 380 Improved Solid Emery Wheels and Machinery, Automatic Knife Grinders, Portable Chuck Jaws. Important, that users should have prices of these first class goods. American Twist Drill Co., Meredithville, N. H.

For Standard Turbine, see last or next number. Burgess' Non-conductor for Heated Surfaces; easily applied, efficient, and inexpensive. Applicable to plain or curved surfaces, pipes, elbows, and valves. See p. 284.

Diamond Saws. J. Dickinson, 64 Nassau St., N. Y. Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Wanted.—The address of 40,000 Sawyers and Lumbermen for a copy of Emerson's Hand Book of Saws. New edition 1880. Over 100 illustrations and pages of valuable information. Emerson, Smith & Co., Beaver Falls, Pa.

Eagle Anvils, 10 cents per pound. Fully warranted. For Wood-Working Machinery, see illus. adv. p. 413.

Eclipse Portable Engine. See illustrated adv., p. 413.

Tight and Slack Barrel machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv. p. 413.

Elevators, Freight and Passenger, Shafting, Pulleys and Hangers. L. S. Graves & Son, Rochester, N. Y.

\$400 Vertical Engine, 30 H. P. See page 413.

Best American Shot Gun made is the "Colts." Far superior to any English guns for the same price. For description, see SCI. AMERICAN of May 29. Send for circular to Hodgkins & Haigh, Dealers in General Sporting Goods, 300 Broadway, New York.

Telephones.—Inventors of Improvements in Telephones and Telephonic Apparatus are requested to communicate with the Scottish Telephonic Exchange, Limited, 34 St. Andrew Square, Edinburgh, Scotland. J. G. Lorrain, General Manager.

Pat. Steam Hoisting Mach'y. See illus. adv., p. 413.

Hydraulic Cylinders, Wheels, and Pinions, Machinery Castings; all kinds; strong and durable; and easily worked. Tensile strength not less than 65,000 lbs. to square in. Pittsburgh Steel Casting Co., Pittsburg, Pa.

C. J. Pitt & Co., Show Case Manufacturers, 226 Canal St., New York. Orders promptly attended to. Send for illustrated catalogue with prices.

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

Elevators.—Stokes & Parrish, Phila., Pa. See p. 412.

Penfield (Pulley) Block Works. See illus. adv. p. 413.

4 to 40 H. P. Steam Engines. See adv. p. 413.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending June 1, 1880,

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 one dollar. In ordering please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, 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 patent numbers, including: Adding machine, C. P. Sullivan; Advertising checker board, H. P. Eysenbach; Announcer, pneumatic, D. & T. Morris; Axle lubricator, car, C. D. Flynt; Axle lubricator, vehicle, L. Adams; Bale tie, W. S. E. Sevey; Baling press, H. O. King; Bedstead, invalid, E. Conover; Bedstead, sofa, C. S. E. Spoerl et al.; Belting and process of manufacture, cotton, M. Gandy; Belts, lacing, O. C. Pomeroy; Berth for vessels, self-leveling, D. Huston (r); Berth for vessels, self-leveling, C. C. Sanderson; Berth, self-leveling ship's, C. C. Sanderson; Binders, knot-tyer for self, W. Stephens; Blacking and polishing boots and shoes, machine for, P. P. Audoye; Blower, fan, H. Allen; Bolting tree, J. M. Springer; Boot and gaiter, rubber, G. H. Sanford; Bottle, etc., lock, A. T. Boone; Bottle stopper, E. Hollender; Bow strings, clutch for, C. M. Beard; Bracelet, C. E. Hayward; Brazelet, A. Vester; Bran cleaner, L. Gathmann; Brick pottery, etc., kiln for burning, E. Escherich; Buckboard, E. Hitt; Buckle, tug, D. O. Fosgate; Bumper, V. P. Perry; Bung, J. H. Stamp; Button fastener, D. Bainbridge; Button, sleeve and cuff, H. McDougall; Buttons, machine for making, W. W. Wade; Can, D. Bennett; Can fastening, J. Hall; Car coupling, Neff & Thalman; Car coupling, J. F. Stanley; Car coupling, Morand & Edwards; Car coupling tool, G. Searl; Car door bolt, A. W. Zimmerman; Car wheel, J. A. Woodbury; Car wheel, W. Wilmington; Cars, bell cord guide for railway, S. L. Finley; Cars upon railways, running, J. R. Cox; Carbureting gas and air, W. M. Jackson; Card teeth, apparatus for tempering wire for, W. F. Bateman; Carpet fastener, W. Bray; Carpet lining, G. J. Bicknell; Carpet sweeper, B. W. Johnson; Carriage top, E. S. Scripture (r); Carriage top rest, G. Miles; Carriage shells, machine for drawing, A. C. Hobbs; Centering machine, J. E. Dimsey; Chair seats and backs, making, F. D. Newton; Chandelier, extension, G. Bohner; Cheese press, M. B. Fraser (r);

Table listing inventions with patent numbers, including: Cheese press, G. F. White; Cheese vat, J. B. Marquis; Chuck, J. H. Westcott; Churn, E. Rhoades (r); Clock alarm, F. Krober; Clock, calendar, C. S. Lewis; Clock case, G. Havell; Cloth pressing machine, P. Miller; Clutch, W. J. Ray; Cockle separator, D. Brubaker; Collar, horse, T. Hepburn; Commode, A. Climie; Copying process, dry, Kwaysser & Husak; Cork tapering machine, F. L. Blair; Corn husking machine, F. L. Collis; Corn husking machine roller, E. A. Bourquin; Corn popper, D. Lambert; Cornice, window, H. F. Gray; Cranks, device for overcoming the dead points of, C. L. Fleischmann; Crochet needles, manufacture of, J. A. Smith; Crucible furnaces, hydrocarbon burner for, I. M. [Seamans]; Cutlery, pocket, J. W. Ayers; Dangersignal, M. A. Vosburgh; Diagram for theaters, etc., H. T. Lemon; Domestic boiler, C. Friedeborn; Drawing, apparatus for assisting in, W. B. O. Peabody; Drying apparatus, W. J. Johnson; Electrotyping mould, E. B. Sheldon; Exercising machine, F. Saunders; Eyeglasses, J. Schaffer; Fan, M. Rubin; Fastening device, E. F. Miller; Faucet attachment, C. A. Raggio; Fence nail, wire, E. L. Warren; Fertilizers, process and apparatus for the manufacture of, W. Plumer; Firearm, breech-loading, W. H. Baker; Fluted fabrics, machine for creasing, E. Broseman; Fruit basket, H. B. Crandall; Fuel, process and apparatus for burning pulverized, A. Faber de Faur; Furnace, B. F. Smith; Gas, making illuminating, T. J. F. Regan; Gate, E. J. Clark; Gate roller, F. W. Holbrook; Gelatine or ichthyocolla from salted fish skins, extracting, J. S. Rogers (r); Glass furnace, T. B. Atterbury; Glassware, machine for grinding, A. M. Bacon; Glove fastener, Smith & Hassall; Governor, elevator, I. H. Small; Governor for marine engines, W. U. Fairbairn; Governor for middlings purifiers, etc., feed, W. Donlon; Grain conveyor, pneumatic, F. A. Luckenbach; Grain meter, J. B. Stoner; Grain separator, magnetic, C. E. Fritz (r); Grate, fire, E. Monouse; Grinding and polishing wheel, G. Hart; Hammer lifter, drop, C. G. Cross; Harness, breast, J. W. Cooper; Harrow, S. A. Bollinger; Harrow, C. W. Page; Harvester, Jones & Emerson; Header, guiding, W. H. Keen; Heating and ventilating apparatus, J. W. Geddes; Hinge, spring, L. Bommer; Hitching strap, J. C. Covert; Hoes and other tools, eye for, J. R. Thomas; Hog holder and nose ring carrier, W. A. Stark; Horse hoof pad, A. J. Lockie; Horse power equalizer, W. T. G. Cobb; Horse power sweep, J. Branning; Horseshoe nail machine, J. Roy; Hose coupling, S. Adlam, Jr.; Hose coupling, M. B. Hill; Hot air furnace, B. W. Felton; Hydraulic joint, E. D. Meier; Indigo blue, making artificial, A. Baeyer; Lamp, car, G. Seagrave; Lamp globe, G. Chappel; Lamp, street, J. G. Miner; Last, W. J. Crowley; Latch, G. L. Crandall; Life protector for railway rails, E. J. Hoffman; Lifting jack, J. State; Lithographic press, J. A. Parks; Lock, C. F. Otto; Locomotive, J. B. Smith; Locomotive cone, F. A. Perry; Locomotive engine, J. W. Clardy; Locomotive lubricator, W. P. Phillips; Loom for weaving gauze fabrics, A. McLean; Loom shedding mechanism, H. Halcroft; Loom temple, E. Hamilton; Loom temple, J. & L. Hardaker; Lubricator, W. P. Phillips; Mash machine, W. Craig; Mash rake, whisky, D. L. Graves; Mash stirrer, G. Schock; Measuring machine, cloth, B. K. Parker; Middlings purifier, J. B. Martin; Milk cooler, T. Stahler; Milk pail holder, A. C. Dodge; Mining and excavating apparatus, E. M. Hugenotobler; Mortising machine, E. H. N. Clarkson (r); Nickel, solution for electro-deposition of, J. Powell; Oil and lard oil, treatment of petroleum lubricating, H. V. P. Draper; Ore separator, magnetic, T. A. Edison; Packing for piston rods, etc., metallic, L. Katzenstein; Packing for steam engines, spring, J. W. Smith; Packing, piston, W. M. Thompson, Jr.; Packing, piston rod, R. B. H. Gould; Padlock, McDonald & McAllister (r); Pantaloon, F. H. Carney; Paper bag machine, C. A. Chandler; Paper floor covering, compound, H. Hayward; Paper for bank notes, checks, etc., J. Sangster; Parchment or toughening paper, making artificial, L. H. G. Ehrhardt; Pens, pointing, E. Wiley; Permutation lock, J. B. Cook; Photo-negatives, producing, embellishing, and retouching, W. D. Osborne; Photographic background, accessory for forming, W. F. Ashe; Picture support, G. H. Brown; Pillowsham holder, M. A. Steers; Pipes, tubing, etc., protector for the threaded ends of, H. E. Boyd; Planter, corn, R. H. C. Enyeart; Planter, corn, A. Hearst; Planter, corn, A. Runstetler; Plow attachment, J. R. Harbaugh;

Table listing inventions with patent numbers, including: Plumbers' traps, manufacture of, J. McCloskey; Preserving evaporated fruits and vegetables, H. G. Hulburd; Printer's chase, J. Kingsland, Jr.; Printer's quoin, C. G. Squintani; Printer's type case, J. T. Edson; Pulley, J. B. Stockham; Pump, W. S. Laney; Pump, lift, P. T. Perkins; Pump, rotary, J. Hallner; Pump, steam jet, Randall & Tuttle; Railway heads, stop motion for, H. T. Spencer; Railway joints, angle splice for, J. D. Hawks; Railway signal apparatus, electric, O. Gasset; Range, D. H. Nation; Reclining chair, T. G. Maguire; Refrigerating and ice making apparatus, C. P. G. Linde; Rivets, making tubular, G. W. Tucker; Rock drills and earth augers, machine for operating, G. Taylor; Rubber bottles, etc., closing the openings in India, T. J. Mayall; Rubber, ornamenting hard, H. O. & M. Traun; Sash cord fastener and sash lock, combined, E. V. Headford; Sash cord guide, E. H. N. Clarkson (r); Sash fastener, S. P. Jackson; Sash fastening, J. Pusey; Sawing machine, circular, P. Fryball; Sawing machine, drag, S. F. Steele; Sawing machine, drag, A. Wilkins; Screw bolt, L. Strauss; Screw threads, device for cutting, J. C. Williams; Sealing packages, E. A. McAlpin; Seaming machine, F. A. Walsh; Sewing machine balance wheel pulley, E. Flather; Sheet metal joint, C. Wright; Shirt, G. C. Henning; Shoe, J. J. Snyder; Shoe nail, Z. Talbot; Shoe support, rubber, J. G. Foreman; Shoulder brace, C. A. Williamson; Sign, flexible, F. Tuchfarber (r); Skiving machine, W. S. Fitzgerald; Skylight, W. D. Smith; Smoker's kit, T. V. Curtis; Soap and other materials, apparatus for mixing, W., Sr., W., Jr., & A. W. Cornwall; Soap, machine for mixing materials for making, W., Sr., W., Jr., & A. W. Cornwall; Soap, process and apparatus for remelting, W., Jr., & A. W. Cornwall; Soda water, apparatus for generating gas for, J. Collins; Spark arrester, locomotive, D. P. Wright; Spool box, C. Tollner; Stamp, hand, T. Berridge; Stamp, postage, J. Macdonough; Steam engine, J. C. Miller; Steam engine recorder, G. H. Crosby; Steam generator, N. Eaton; Stove, A. C. Barstow; Stove grate, J. Moore, Jr.; Stove, hay, Stocum & Merrill; Stove, magazine, C. Seaver; Surface gauge, F. J. Rabbeth; Swarm catcher, J. W. Bailey; Syringe attachment, S. Turner; Tackle or pulley block, T. R. Ferrall; Telephone, S. Russell; Telephone circuit switch, G. L. Anders; Telephones, dental attachment for, H. G. Fliske; Testing machine T. Olsen; Textile and other materials, machine for cutting, A. Warth (r); Textile fabrics, machine for cutting, A. Warth (r); Ticket holder, C. Scherich; Ticket, railway, F. C. Nims; Tobacco caddy, R. Finzer; Tobacco hoisting apparatus, W. S. Guy; Tongs, pipe, S. Fawcett; Toy, creeping, P. Von Erichsen; Treadle mechanism, D. S. Van Wyck; Treadle power machine, G. W. Ziegler; Tree protector, J. W. Richards; Trimmings, filter for milliners', J. Lambert; Tube machine, D. Appel; Valve, balanced, E. D. Meier; Vapor burner, W. H. Smith (r); Vehicle spring, H. M. Keith; Vent for beer barrels, O. Zwietusch; Vessels, apparatus for unloading coal, etc., from, Cooney & Swanston; Vise and clamp, J. Brady; Wagon, road, C. W. Saladee; Wagon running gear, G. W. Burr; Wash boiler, O. Tilton; Washing and wringing machine, combined, C. H. Wood; Washing machine, J. B. Pettit; Water closets, flushing cistern for, S. G. McFarland; Water heater, K. McDonald; Water heater, fireplace, I. B. Potts; Whiffletree hook, E. Hanrahan; Windlass locking gear, Remington & Manton (r); Windmill, A. H. Smith; Window screen, H. Perrin; Wire stretcher, H. Hemenway; Wood bit, L. Thuston;

DESIGNS.

Table listing designs with numbers, including: Carpets, T. J. Stearns; Carriage door fender, M. Wiard; Coffin lid lifters, J. W. Rogers; Fringe for knitted fabrics, G. Upton; Funeral ornaments, J. W. Rogers; Key bow, G. S. Barkentin; Medal batteries, Lewis & Brice; Pencil cases, L. W. Fairchild; Statuary, group of, J. Rogers;

TRADE MARKS.

Table listing trade marks with numbers, including: Cigars, E. Aschermann & Co.; Cigars, Giglio & Freschi; Dry goods, Eddystone Manufacturing Co.; Flour, B. R. Pegram, Jr.; Prints, Eddystone Manufacturing Company; Soap, C. Davis & Co.; Teas, table, Sanders & George; Velocipedes, N. S. C. Perkins;

English Patents Issued to Americans.

From May 25 to June 1, 1880, inclusive. Anthracite, obtaining, C. M. Warren, Norfolk, Mass. Burners and generators for hydrocarbons, E. G. Furber, New York city. Corsets, L. C. Warner, New York city. Engines, locomotive, W. P. Haussey, Philadelphia, Pa. Filtering apparatus, G. H. Moore, Norwich, Conn.