

Business and Personal.

The Charge for Insertion under this head is \$1 a Lin.

Wanted—A reliable manufacturing firm to introduce and manufacture an improved lathe chuck. Patent for sale or disposed of on royalty. Address Fred. Van Fleet, Ithaca, N. Y.

For Small sizes of Screw Cutting Engine Lathes and Drill Lathes, address Star Tool Co., Providence, R. I.

A thorough Machinist and Draughtsman, an experienced foreman, desires employment. Address A. R. Wilson, Ludington, Mich.

Speed Counter, to carry in vest pocket. Every mechanic should have one. By mail, \$2.10. Discount by the dozen. Samuel Harris, 119 West Washington St., Chicago, Ill.

Ice Machines.—Are there any machines made in this country which will manufacture ice in quantity to suit one or two families? And if such articles are in market, where can I get one? A. H. McClintock, Wilkes Barre, Pa.

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Clapboard Planer, used slightly, S.A. Wood's, for sale, \$350. S. C. Forsyth & Co. Manchester, N. H.

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"Old Reliable" Drill Chucks, \$3, \$5, \$7. Anderson Brothers, Peekskill, N. Y.

For Sale—25 Horse Locomotive Boiler, run 3 months. J. H. Baldwin, Meriden, Conn.

A practical mechanic in wood and metal, with genius and judgment, desires employment, temporarily or permanently; wood preferred. Address M. J., "World" Office, New York city.

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Mechanical Expert in Patent Cases. T. D. Stetson, 23 Murray St., New York.

Sure cure for Slipping Belts—Sutton's patent Pulley Cover is warranted to double the work before the belt will slip. See Sci. Am. June 21st, 1873, p. 389. Circulars free. J. W. Sutton, 95 Liberty St., N.Y.

Stencil Dies & Steel Stamps, all sizes. Catalogue and samples free. E. M. Douglas, Brattleboro, Vt.

For Sale or Exchange—A first class Gear Cutter with Brown & Sharpe's Index plate. Also a Bolt Cutter; will cut bolts to 1/2 in. Wanted in exchange, Crank Planers. George Barnes & Co., Syracuse, N. Y.

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Models made to order. H.B. Morris, Ithaca, N.Y.

Linseed Oil Presses and Machinery for Sale. Perfect order. Very cheap. Wright & Lawther, Chicago, Ill.

Magic Lanterns for Public Exhibitions. Profitable Business, requiring small capital. Catalogues free. McAllister, 49 Nassau St., New York.

Nickel Plating—Pure Salts and Anodes of all Sizes on hand; Polishing Powders also for sale by L. & J. W. Feuchtwanger, 180 Fulton St., New York.

Gas and Water Pipe, Wrought Iron. Send for price list to Bailey, Farrell & Co., Pittsburgh, Pa.

Forges—(Fan Blast), Portable and Stationary. Keystone Portable Forge Co., Philadelphia, Pa. Silicates of Soda, Soluble or Water Glass manufactured by us in all quantities for Paint, Artificial Stone, Cements and Soap. L. & J. W. Feuchtwanger, 180 Fulton St., New York.

Boilers and Engines, Second Hand. Egbert P. Watson, 42 Cliff St., New York.

Mills & Machinery for m'g Flour, Paint, Printing Ink, Drugs, &c. John Ross, Williamsburgh, N.Y.

L. & J. W. Feuchtwanger, Chemists & Drug and Mineral Importers, 180 Fulton St., N. Y., manufacturers of Silicates of Soda and Potash, Soluble Glass, &c.; Hydrofluoric Acid for Etching on Glass; Nickel Salts and Anodes for Plating.

For the very best Babbitt Metals, send to Conard & Murray, Iron and Brass Founders, 80th and Chestnut Sts., Philadelphia, Pa. Circulars free.

Taft's Portable Baths. Address Portable Bath Co., 156 South Street, New York city.

Iron Planers, Lathes, Drills, and other Tools, new and second hand. Tully & Wilde, 20 Platt St., N.Y.

For Surface Planers, small size, and for Box Corner Grooving Machines, send to A. Davis, Lowell, Mass.

The "Scientific American" Office, New York, is fitted with the Miniature Electric Telegraph. By touching little buttons on the desks of the managers, signals are sent to persons in the various departments of the establishment. Cheap and effective. Splendid for shops, offices, dwellings. Works for any distance. Price \$5. F. C. Beach & Co., 263 Broadway, New York, Makers. Send for free illustrated Catalogue.

All Fruit-can Tools, Ferracite, Bridgeton, N.J. Brown's Coalyard Quarry & Contractor's Apparatus for hoisting and conveying materials by iron cable. W. D. Andrews & Bro., 414 Water St., New York.

For Solid Emery Wheels and Machinery, send to the Union Stone Co., Boston, Mass., for circular. Lathes, Planers, Drills, Milling and Index Machines. Geo. S. Lincoln & Co., Hartford, Conn.

For Solid Wrought-iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Hydraulic Presses and Jacks, new and second hand. E. Lyon, 470 Grand Street, New York.

Peck's Patent Drop Press. For circulars, address Milo, Peck & Co., New Haven, Conn.

Small Tools and Gear Wheels for Models. List free. Goodnow & Wightman, 23 Cornhill, Boston, Ms.

The French Files of Limet & Co. are pronounced superior to all other brands by all who use them. Decided excellence and moderate cost have made these goods popular. Homer Foot & Co., Sole Agents for America, 20 Platt Street, New York.

Mining, Wrecking, Pumping, Drainage, or Irrigating Machinery, for sale or rent. See advertisement. Andrew's Patent, inside page.

Buy Boulton's Paneling, Moulding, and Dove-tailing Machine. Send for circular and sample of work. B. C. Mach'y Co., Battle Creek, Mich., Box 227.

Automatic Wire Rope R. R. conveys Coal Jre. &c., without Trestle Work. No. 34 Dey street, N. Y.

A. F. Havens Lights Towns, Factories, Hotels, and Dwellings with Gas. 34 Dey street, New York.

Best Philadelphia Oak Belting and Monitor Stitches. C. W. Army, Manufacturer, 301 & 303 Cherry St., Philadelphia, Pa. Send for circular

Steam Fire Engines—Philadelphia Hydraulic Works, Philadelphia, Pa.

Bone Mills and Portable Grist Mills.—Send for Catalogue to Tully & Wilde, 20 Platt St., New York. Temples & Oilcans. Draper, Hopedale, Mass.

Dean's Steam Pumps, for all purposes; Engines, Boilers, Iron and Wood Working Machinery of all descriptions. W. L. Chase & Co., 93, 95, 97 Liberty Street, New York.

Emerson's Patent Inserted Toothed Saws, and Saw Swage. See occasional advertisement on outside page. Send Postal Card for Circular and Price List. Emerson, Ford & Co., Beaver Falls, Pa.

Iron Roofing—Scott & Co., Cincinnati, Ohio.

Price only three dollars.—The Tom Thumb Electric Telegraph. A compact working Telegraph apparatus, for sending messages, making magnets, the electric light, giving alarms, and various other purposes. Can be put in operation by any lad. Includes battery, key and wires. Neatly packed and sent to all parts of the world on receipt of price. F. C. Beach & Co., 263 Broadway, New York.

Millstone Dressing Diamond Machines.—Simple, effective, economical and durable, giving universal satisfaction. J. Dickinson, 64 Nassau St., N.Y.

Keuffel & Esser, largest Importers of Drawing Materials, have removed to 111 Fulton St., N. Y.

Portable Engines 2d hand, thoroughly overhauled, at 1/4 Cost. I. H. Shearman, 45 Cortlandt St., N. Y.

Engines, Boilers, Pumps, Portable Engines Machinery Tools. I. H. Shearman, 45 Cortlandt St., N. Y.

Rue's "Little Giant" Injectors, Cheapest and Best Boiler Feeder in the market. W. L. Chase & Co., 93, 95, 97 Liberty Street, New York.

For best Presses, Dies and Fruit Can Tools, Bliss & Williams, cor. of Plymouth & Jay, Brooklyn, N.Y.

[OFFICIAL.]

Index of Inventions

FOR WHICH

Letters Patent of the United States

WERE GRANTED IN THE WEEK ENDING

May 26, 1874,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

Table listing inventions with names and dates. Includes items like Alarm, measuring can, Alkali, caustic, G. Thompson (r), Anchor, A. H. Cobb, Antimal and other life, destroying, G. M. McGehee, Asbestos, treating, A. J. Bartholow, Auger bits, forming, W. Tucker, Bale tie, A. S. Armstrong, Bale tie, cotton, E. Grant, Bayonet, spade, Melcalfe & Chillingworth, Bed bottom, H. D. Eddy, Bee hive moth trap, W. J. & A. H. McCoy, Bell pull, J. Collins, Bells, operating door, I. H. Abell, Belt tightener, G. Walker, Binder, temporary, A. Peck, Blower, steam, T. B. Field, Boat, life, Keeler, Updike, & Longyear, Boiler, division steam, T. Angell, Boiler, hot water, J. D. Keeler, Boiler, steam, C. H. Haswell, Boiler tube attachment, J. C. Kilgore, Boiler injector, Ryner et al., Boot soles, etc., drying, Jeffers et al., Boot soles, burnishing, I. E. Trepanier, Boot, protecting welt, J. L. Joyce, Boots, making, J. Lanham, Boring bit, C. C. Tolman, Box, blacking, W. F. Redding, Bricks, coloring, A. Hall, Brush, paint, F. Hubbard, Buckle, suspender, S. Oppenheimer, Burial casket, B. D. Stevens, Burner, gas, J. Ellis, Burner, lamp, A. Barker, Camera attachment, solar, D. A. Woodward, Can, measuring, Barney & Dally, Candle holder, miner's, N. Larsen, Car axle box, L. Schulze, Car axle box, T. S. Tincher, Car brake, electromagnetic, F. F. A. Achard, Car coupling, T. Andrews, Car coupling, Baker & Matfield, Car coupling, M. E. Bromeling, Car coupling, W. D. Rinehart, Car coupling, W. Todd, Car replacer, J. R. Wilds, Car starter, S. Jones, Car starter, D. Milliken, Carstock, S. W. Bemmer, Car truck, T. K. Riggs, Cars, condenser for steam, A. G. Buzby, Carbureter, M. Horning, Carpet stretcher, E. L. Baker, Carriage jump seat, L. W. Bleasing, Carriage wrench, W. F. Rowe, Carriages, spring for children's, J. G. Field, Cartridge, E. Jones, Cartridge, shot, C. Weldon, Chains, connecting links of, W. F. Davis, Chair fan, rocking, G. M. Tope, Chopper, meat, Hagen & Burkholder, Churn dasher, T. Mathias, Churn power, W. Maurer, Cigar mold, B. Hawkins, Clamp, scaffold, Gudenoge & Pollock, Clothes dryer, D. L. Huff, Cock, stop, J. C. Kilgore, Cooler, beer, W. Woerle, Core box, J. B. Aston, Cornice, T. J. McGee (r), Corset, J. Bowers, Corset, J. Bowers, Crib, folding and rocking, O. Naller, Cutter head, W. T. Smith, Cutter, meat, D. W. Garst, Delivery apparatus, W. Bullock (r), Dental coffee dam clamp, C. Bancroft, Dentists and jewelers, file for, E. Maynard, Derrick, C. Roberts, Designs on stone, etc., sunk, J. Frost, Door check, G. C. Idley, Door step seat, S. M. Marshall, Dress elevator, M. Dewey, Drill, grain, W. Weusthoff (r), Drilling machine, metal, Silver & Fawcett, Earthenware, culinary, W. A. H. Schreiber, Embossing roll patterns, C. Grasser, Engines, valve gear for, E. Penney, Fence post socket, Lord & Ayers, Filter, C. Andersen, Fire arm, breech loading, O. Whitney, Fire escape, Gillett, Bill, & Crawford, Fire escape, H. Stibbs, Fish hook, trolling, Huard & Dunbar, Fruit dryer, A. S. Edgett, Fruit dryer, J. W. McPherson, Fruit jars, holder for filling, J. F. Webber, Fruits, etc., preserving, L. A. Sicard, Fuel, compound for, C. C. F. Otto, Furnace, air heating, J. P. Hayes, Furnace chimneys, hood for smelting, J. R. Egar, Furnace, tinners' and plumbers', J. P. Hayes, Gage, mercurial proof, B. E. J. Ellis, Game apparatus, C. E. Marshall, Gas governor, Potter & Hayton, Gas, making water, W. Harkness, Gas purifier, Audouin & Pelouze, Gas regulator, C. H. Edwards, Gate, automatic, J. S. Winsor, Governor for water wheels, H. D. Snow, Grain binder, J. H. Whitney, Grain, etc., unloading, L. D. Woodmansee, Graining transfer plate, R. A. Adams, Handcuff and shackle, J. J. Tower, Harness saddle, V. Borst (r), Harvester, W. M. & G. H. Howe, Harvester, J. Werner, Jr., Harvester binder, P. F. Hodges, Harvester binder, W. Wheelock, Harvester guard finger, C. Appleby, Hatchway, self-closing, W. H. Brock, Hogs, apparatus for scalding, H. Strycker, Hook, box and bale, J. M. Knight, Horse detaching device, W. Rosenbaum, Horse power, L. E. Faught, Hose, hydraulic, J. Greacen, Jr., Hose tubing, etc., antiseptic, J. Murphy, Hydrant, J. V. S. Miskelly, Insect destroying compound, E. Severns, Insects, destroying, W. B. Royall, Ironing board clamp, H. Bosch, Jack, lifting, M. Durnell, Journal box, I. D. Mathews (r), Journal boxes, lubricating, J. F. Light (r), Kettle, tea, T. Graham, Ladder, fireman's, T. Pritchard, Lamp, A. Syverson, Lamp bowl handles, D. C. Ripley, Lamp, iard, C. A. Gabe, Sr., et al., Lamp lighter, head, S. M. Davies, Land roller, J. Woolridge, Latch, reversible, W. E. Sparks (r), Lathe, L. H. Dwelley, Lathe chuck, metal, B. Lewis, Lock, H. Winn, Locks and latches, strike for, J. Davies, Locks, tumbler for permuta'tion, H. W. Covert, Loom, narrow ware, W. Gregory, Loom, needle, J. H. Greenleaf, Lubricating compound, R. Fitzgerald, Lumber, loading and unloading, Gotthammer et al., Measure, liquid, J. H. Eyres, Mechanical movement, A. Warth, Meter, gas, J. W. Drummond, Meter, liquid, J. M. Blanchard, Mill, cider, H. L. Whitman (r), Mill, rolling, J. Swan, Mill shoe, quartz, J. G. Kittredge, Mill, smut, G. W. McNeil, Mill, triturating, C. P. Aising, Miterbox, H. C. Hough, Mitten, J. L. and J. H. Whitten, Molding machine, foundry, McGregor et al., Molding plastic materials, H. Brooke, Mop head, T. K. Knapp, Mortising machine, A. Borneman, Nail, picture, C. B. Jenkins, Nozzle, spray, G. E. Jenks, Omnibus, C. M. Murch, Ore crusher, T. and J. Clifford, Padlock, J. McNeiley, Paper bag machine, W. F. West, Paper perforating punch, G. W. McGill, Pavement, H. S. S. Copland, Pen and pencil case, W. A. Ludden, Pen holder, G. W. Jolly, Pencilsharpener, E. M. Grandal, Photographs, burnishing, E. R. Weston (r), Photograph plate holder, D. H. Cross, Pianoforte hand guide, W. O. Brewster, Pipe pattern molding, J. B. Aston, Pitman to wheels, connecting, J. M. G. Mouck, Planter and distributor, Asay & Wood, Planter and distributor, J. W. Harbin, Plow, J. Kuenzel, Plow, gang, G. J. Overshiner, Plow, weed turning, A. Smith, Press, baling, P. K. Dederick, Printer's quoins, E. A. Warren, Printing press, G. B. Sarchet, Pumpgearing, J. W. Douglas, Pump, steam and vacuum, H. S. Maxim, Pump valve chamber, G. B. Markle, Railway rail joint, H. M. Garstide, Railway rail joint, A. B. Johnson, Refrigerator, transporting, S. G. Bilyeu, Rein terret, J. J. Wightwick, Rolling mandrel tubes, S. P. M. Tasker, Roundabout, S. L. Bolton, Safe, fireproof, J. W. Warner, Sash holder, E. P. Masterson, Sash pulley, S. E. Maxon, Sausage stuffing machine, C. Forscher, Saw, H. Diston, Saw mill head block, D. Rawson, Saw set, S. Bartlett, Saw swage, J. E. Emerson, Saw teeth, J. E. Emerson, Saw teeth, J. R. Luce, Saw frame and guide, A. D. Clark, Sawing machine, band, E. F. Gordon, Sawing machine, circular, O. T. Gronner, Sawing machine, stone, Heermans & Reed, Scale, platform, H. Paddock, Seat, school, S. R. Ruckel, Sewing machine, C. F. Bosworth, Sewing machine, J. Bohr, Sewing machine, H. and J. Lomax, Sewing machine, Steinbach & Ready, Sewing machine, button hole, J. J. Graff, Sewing machine fan, W. S. Elliott, Sewing machine fan, Jackson & Smith, Sewing machine hemmer, S. A. Davis, Sewing machine treadle, D. E. Lillis, Sheet metal, cleaning, Paul & Schug, Ship's knee, W. Morehouse, Sifter, flour, D. W. Marvin, Signal and buoy, J. J. Kane, Silica, dry soluble, R. Guenther,

Table listing inventions with names and dates. Includes items like Siphon and filter combined, W. W. Grant, Sizing cotton yarn, compound for, H. Wegmann, Sled blade, A. Blackstone, Soda, etc., making sulphate of, Hargreave et al., Speculum, surgical, R. Knapp, Splints, machine for making, A. F. Scow, Square, carpenter's, J. A. Traut, Stalk cutter, H. Herold, Stencil, A. F. Comings, Stool and foot rest, combined, J. Odenbaugh, Stove, J. Smith, Stovegrate, D. H. Erdman, Stove, heating, J. C. Proctor, Stove pipe shelf heater, J. H. Mears, Stoves, heat radiator for cooking, P. Adams, Strainer, S. W. Rowell, Suspenders, F. A. Garnier, Table, etc., for games, folding, T. J. Whitcomb, Telegraph and perforator, automatic, T. A. Edison, Textile and other material, cutting, A. Warth, Tobacco bag attachment, J. W. Chambers, Tool handle, Morgan & Reid, Toy, J. Deuell, Trap, sink, G. Miller, Trunk, fastener, J. Heiser, Truss, anal, W. Shields, Valve, hydrostatic, J. Osborn, Valve, stop, J. Ross, Vehicle axle, W. Beers, Vehicle brake, E. G. Lunceford, Vehicle spring, E. Chamberlin, Vehicle wheel, R. W. Davis, Vehicle wheel, S. Downey, Vehicle wheel, O. Lundin, Vehicle wheel, F. Seidle, Vehicles, shifting seat for, W. M. Knapp, Vermin suffocator, L. Mast, Vessels, center board for, J. W. Campbell, Vessels, center board for, J. Rand, Washing machine, J. L. Austin, Washing machine, F. W. Robertson, Washing machine, S. R. Ruckel, Washing machine, Spangler & Reich, Watch chain, safety guard, R. A. Johnson, Watches, mainspring indicator for, G. P. Reed, Watchmaker's tool, J. F. Young, Water wheel, E. B. and W. P. Lyon, Weaver's spool, H. H. Bryant, Welding and forming couplings, G. H. Fox, Windlasses, gearing for, D. E. Myers, Windmill, G. A. Myers, Windmill wheel hub, Keeler & Harris, Wire, flyer for winding bonnet, etc., E. H. Tyler, Wood, bundling kindling, F. Myers (r)

APPLICATIONS FOR EXTENSIONS.

Applications have been duly filed and are now pending for the extension of the following Letters Patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned: 29,760.—HAMMER.—R. Boeker, August 5. 29,785.—SEWING MACHINE.—D. Haskell, August 12. 29,789.—CULTIVATOR.—E. S. Huff, August 12. 30,415.—GAS REGULATOR.—J. G. Leffingwell, Sept. 30.

EXTENSIONS GRANTED.

23,469.—HORSESHOE.—R. A. Goodenough. 23,479.—MAKING TUBE JOINTS.—S. J. Hayes. 28,482.—COOKING STOVE.—J. C. Henderson. 28,482.—COAL STOVE.—J. C. Henderson. 28,483.—SEEDING MACHINE.—S. T. Holly. 28,488.—RATTAN MACHINE.—J. Hull. 28,495.—SKATE.—J. Lovatt. 28,512.—CAR WHEEL.—S. P. Smith. 28,517.—STOCK CAR.—L. Swearingen. 28,537.—PAPER BAG MACHINE.—S. E. Pettee.

DISCLAIMERS.

28,482.—COOKING STOVE.—J. C. Henderson. 28,495.—SKATE.—J. Lovatt. 28,537.—PAPER BAG MACHINE.—S. E. Pettee.

DESIGNS PATENTED.

7,452.—FAUCET HANDLE.—J. G. L. Boettcher, Br'klyn, N. Y. 7,453.—FINGER RINGS.—F. Bohnenberger, N. Y. city. 7,454.—DRAWER PULL.—J. Girard, New Britain, Conn. 7,455.—FUR CLOAKS.—C. Hülster, New York c 7,456.—STOVE.—J. S. Perry et al., Albany, N. 7,457.—STATUARY.—J. Rogers, New York city. 7,458.—SALT BOX.—F. Schneider et al., Chicago, Ill. 7,459.—BUCKLE.—S. G. Sturges, Newark, N. J. 7,460.—MOLDINGS.—J. Nonnenbacher, New York 7,461.—COOK STOVE.—J. R. Painter, Reading, Pa 7,462.—RUBBERS.—A. A. Rockwell, New Yorkcity

TRADE MARKS REGISTERED.

1,800.—WRENGER.—Empire Wringer Co., Auburn, N. Y. 1,801.—MOSS.—Ferguson & Haber, New Orleans, La. 1,802.—WATCHES.—Ling & Bro., Philadelphia, Pa. 1,803.—PRAES.—F. Mansfield & Co., St. Louis, Mo. 1,804.—SHIRTS.—Neustader & Co., New York city. 1,805.—GRINDING MILLS.—Straub Mill Co., Cincinnati, O. 1,806.—OIL FROM PETROLEUM.—Standard Oil Co., Cleveland, O. 1,807 to 1,810.—SHIRTINGS.—Wamsutta Mills, N. Bedford, Ms

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects: On Army Ants. By J. S. D. On the Boiler Explosion at Philadelphia. By C. and G. On Doubling the Value of the Currency By J. H. On Botanical Scraps. By S. C. Y. On the Insurance Question. By F. A. M. On an Ear Trumpet. By J. E. On Engineering Tables. By W. Z. On Sun Stroke. By E. S. G. On White Ants. By T. H. On the Westinghouse Brake. By F. G. W. On Bullets Impacted in the Air. By H. A. Also enquiries and answers from the following: L. X. L.—L. M. B.—J. H. J.—W. M. R. Correspondents in different parts of the country ask Who makes a hoisting apparatus to be run by water supplied by city waterworks? Who makes portable canvasboats? Makers of the above articles will probably promote their interests by advertising, in reply, in the SCIENTIFIC AMERICAN.