

The inside of the chamber and allow the air to escape? A. Make your cups as before, but use glycerine, with about one-third water, to soak the cups, and use glycerine as a lubricator. If the metal of the cylinder is hard the glycerine may answer your purpose. If soft or common brass, you may still have to use oil for a lubricator. A trial of a small quantity of pure plumbago, ground fine and mixed with glycerine, may give good results.

(18) P. J. D. asks: Can a regular heptagon be inscribed in a circle? If not, please give the reason why. Is there any other polygon which cannot be inscribed? A. All polygons can be inscribed in a circle. The larger the number of sides, the more complex is the labor of laying out. For the drawing board, divide 360° by the number of sides required, and with this sum lay off the radial lines of the polygon with a sector, or from this sum and the radius, compute trigonometrically the chord of the arc of one side, which will be the actual length of the side in parts of the radius. For a heptagon the area=sides<sup>2</sup> x 3.639126; the side=radius x 0.8677; the angle at the center=51° 25' 42"; the angle of the sides upon each other=257° 08' 36"; the angle of the side with the radius=128° 34' 18'.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending May 23, 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., 251 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 of inventions including items like Acid from bones, Alarm clock, Amalgamator, Annunciator, Axle nut, Bag, Battery cell, Bed bottom, Book stand, Boat, Bobbin, Boiler, Bookstand, Bottle stopper, Boxes, Brass, Brushing machinery, Buckle, Carriage, Chair, etc. with corresponding patent numbers.

Table of inventions including items like Chimney cap, Chopper, Churn motor, Cider mill, Cigarette, Clasp, Cleaner, Clock escapement, Clutch, Coke oven, Collar fastener, Collar, Colors, Comb, Cooling and heating apparatus, Cork screw, Corset, Coupling, Cotton chopper, Cotton gin, Cotton opener, Cradle, Crane, Cultivator, Cutter, Dental plugger, Dish, Doubling yarn, Drought equalizer, Drain pipe, Drill, Eaves trough hanger, Electric motor, Electroplating, Elevator, Ensilage cutter, Envelope, Evaporator, Fabrics, Fare collector, Faucet, Fence, Fertilizer, File, Files, Firearm, Fire escape, Fire extinguisher, Fire kiln, Flower tray, Flue cleaner, Fly book, Fodder, Fountain, Frame, Fruit drier, Fruit gatherer, Furnace, Game wheel, Gate, Gearing, Glass, Gleaner, Globe holder, Glove fastener, Grain, Grain binder, Grain elevator, Grain mill, Grain sifter, Grate, Grease, Gun, Hat, Heater, Hinge, Holder, Honeycomb, Hook, Horse blanket, Horses, Hydraulic brake, Ice, Ice cream, Ink fountain, Insecticide, Integrating apparatus, Ironing machine, Jack, Journal bearing, Knitting machine, Lacing, Lamp burner, Lamp oil, Lamp electric, Lamp, electric arc, Lamp, electric arc, M. R. Moffatt, Lamp, electric arc, R. J. O'Sullivan, Lamp heating frame, Lamp safety device, Lamp study, Lantern, Last, Latch, Leather, Lightning arrester, Link welding device, Lock, Loom, Loom shuttle, Match splints, Meat apparatus, Mechanical movement, Milk boiling vessel, Mill, Mitten, Mould, Motor, Musical instrument, Mustache guard, Nut, Oil can, Ordnance, Ore concentrator, Ores, Oven, Oven, baker's, Ox shoe, Pan, Paper bags, Paper pulp, Paper pulp engine, Paper pulp, etc., Pavement, Penholder, Pens, Pencil case, Petroleum apparatus, Photographic camera, Photographic purposes, Piano, Pick, Picture, Pillow block, Pillow sham, Pipe, Pipes, Pitcher, Planter, Plow, Plow, sulky, Post, Press, Printing press, Protector, Pulp moulding machinery, Pulping wood, Pump, Pump, air, Pump and motor, Radiator, Railway, Railway frog, Railway rolling stock, Railway switch, Railway time and speed indicator, Railway time indicator, Reamer, Regulator, Rocking chair, Roller, Rolling mill, Rope, Rotary engine, Saccharine liquids, Safe, Safety elevator, Saw, Saw tooth, Sawing machine, Scales, Scoop, Scraper, Screwdriver, Seal and tag, Separator, Sewing machine attachment, Sewing machine needle-threading attachment, Sewing machine shuttle, Shelf or stand, Shot showcase, Shovel, Shutter fastener, Sign or name plate, Sliding gate, Snow shovel, Spitoon holder, Spring, Spring stretcher, Stamp mill, Stand, Starch, Steam generator, Steel, Stoop, Stove attachment, Stove, hay and straw burning, Stove or oven door, Stove support, Strainer plate, Sugar, Sugar from molasses, Suspenders, Swinging gate, Swinging gate, Table, Table, information, Target, Telegraph, Telegraph, duplex, Telegraph, harmonic, Telegraph lines, Telegraph, printing, Theater stage, Tile, Toy, Toy house or structure, Toy watch, Trace trimming machine, Traction engine, Tubular sectional boiler, Umbrella, Valve, Valve and operating mechanism, Valve indicator, Valve mechanism, Vapor burner, Vegetable and fruit evaporator, Vehicle brake, Vehicle dash board, Vehicle shifting rail, Vehicle wheel, Velocipede, Velocipede, Ventilator, Vessels, Wagon brake, Wagon brake, C. F. Quast, Wagon, dumping, Wagon jack, Wagon seat seat support, Wagon spring, Wall paper hanging device, Washboard, Washboard plate, Washing machine, Wax shoe, Water engine, Waterproof cloth, Waterproof gum, Weather strip, Wheel, Wheelbarrow, Wheelbarrow and cultivator, Whiffletree, Wind engine, Windmill, Windmill regulator, Window shade, Window ventilator, Wire, Wool washing machine, Zinc for batteries.

Table of inventions including items like Telegraph, Telegraph lines, Telegraph, printing, Theater stage, Tile, Toy, Toy house or structure, Toy watch, Trace trimming machine, Traction engine, Tubular sectional boiler, Umbrella, Valve, Valve and operating mechanism, Valve indicator, Valve mechanism, Vapor burner, Vegetable and fruit evaporator, Vehicle brake, Vehicle dash board, Vehicle shifting rail, Vehicle wheel, Velocipede, Velocipede, Ventilator, Vessels, Wagon brake, Wagon brake, C. F. Quast, Wagon, dumping, Wagon jack, Wagon seat seat support, Wagon spring, Wall paper hanging device, Washboard, Washboard plate, Washing machine, Wax shoe, Water engine, Waterproof cloth, Waterproof gum, Weather strip, Wheel, Wheelbarrow, Wheelbarrow and cultivator, Whiffletree, Wind engine, Windmill, Windmill regulator, Window shade, Window ventilator, Wire, Wool washing machine, Zinc for batteries.

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DESIGNS.

Table of designs including items like Bottle, Box, Carpet, Chain link, Handkerchief, Lamp, Monument, Parasol, Ring, Tag, Tenoning machine, Type, font of printing.

TRADE MARKS.

Table of trade marks including items like Baking powder, Boots, Canned fruits, Chocolate, Cigars, Flour, Leather, Measuring tapes, Medical compound, Medicinal preparation, Medicines, Ointment, Paints, Paper cover, Pickles, Ranges and stoves, Sirup for soothing, Soap, Soaps, Stationary, Toilet articles, Wines.

English Patents Issued to Americans.

From May 16, 1882, to May 26, 1882, inclusive.

Table of English patents issued to Americans including items like Alarm clocks, Bell alarm, Boots and shoes, Cabinet, Sewing machine, Ceilings, Cotton press, Darning last, Door fastener, Dynamo-electric machine, Electric battery, Electric motor, Engine, Glove fastener, Flour, Lead, Link machine, Metal planer, Pipes, Power wheels, Sewing machine, Sewing machine, Shoe uppers, Stationary, Wall paper, Water conductor.