

Rub the surface gently first with a clean pad of fine cotton wool, and afterward with a similar pad covered over with cotton velvet which has been charged with fine rouge. The surface will under this treatment acquire a polish of great brilliancy, quite free from any scratches.

(43) S. W. F.—The best that can be done with rusty planished iron (we suppose that you mean Russia iron) is to carefully scrape the rusty spots and polish the sheet with plumbago wet with a little sour beer or vinegar in the same manner as you would polish a stove. Any treatment with acid will take off all the planished surface.

(44) F. E. P. asks: What would be the probable result of the explosion of a cartridge sunk in clay or stiff soil 3 1/2 feet below the surface—the probable depth and size at the top of the excavation? A dynamite acts in clay much in the same manner as in rock that is uniformly compact or not stratified. It blows out a pot shaped hole when well tamped. It is not economical in shallow holes. as it is apt to blow out a conical hole, taking out less material than in stone blasting. We have but little experience with clay blasting, but have heard that deep holes 5 or 6 feet are the most economical in effect. We would advise trying gun powder.

(45) Z. B. F.—Laps are not always thicker than other parts of belting, but they are stiffer, and together with the copper rivets cause quickrunning belts over small pulleys to produce uneven motion where the running parts are light, as spindles in cotton and silk machinery; but in wood and iron working machinery the difference is scarcely noticed.

(46) A. C. D. writes: We often see small statues, etc., in store windows that are bronzed, and the cavities of them filled with a green, blue, black, blackish red, etc. Can you tell me how this is done? Is it possible to lacquer over this work without spoiling it with the lacquer brush? A. In order to accomplish your desires, it will be necessary to purchase the so-called gold paint. It is best to buy it rather than attempt to make it. As generally sold in the market, the preparation consists of a solid metallic powder, which can be procured of some sixteen different tints or colors. It is mixed, according to the directions sold with the package, with the liquid preparation, and applied with a brush. The article coated or painted can on drying be finished by further application of a coat of furniture varnish.

(47) N. G. asks where the amianthus or asbestos is found in the United States. A. Asbestos is an exceedingly common mineral. It is mined in Rabun and Fulton Counties, Ga., in Northern Georgia, Western N. C. and S. C., Staten Island, Long Island, various localities in New York State, Maryland, Northern New Jersey, Pennsylvania, and Virginia. It is also found in Colorado and in California. There are several hundred localities from which it can be obtained.

(48) G. W. C., of Selma, Ala., writes, referring to former inquiry of B. J. B., that it is as safe there to cement cisterns right on the clay as any foundation which could be made, saying: "Our fire department here is supplied by cisterns entirely. The majority of them being cemented directly on to the clay sides, and in one case where there was no clay, nothing but sand, directly on to this. We have one cemented on to clay which is 100 feet long, 10 feet wide, by 9 feet deep, which has been in use for 6 years, and has not cost one cent for repairs except a new cover, which is of wood; it is good for as many more years. The sides of these cisterns are dug sloping, which always causes an outward pressure. These cisterns are not theoretical, on paper, but are in practical use daily with us." A. It is perfectly safe to cut cisterns in the indurated clays of the Tertiary in Alabama, even without cementing. These clays are nearly as hard as rock. We have seen cisterns from 30 to 40 feet deep, and as many in diameter, on the clay ridge west from Selma, where cistern water is their only choice.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

November 4, 1884,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Table listing inventions such as Advertising device for show cases, Aerated beverages, Air brake, railway, Hat box, Lunch box, Box for caustic lye-sifting, Brake, See Air brake, Carbrake, Carand locomotive brake, Wagon brake, Broom receiver and match holder, combined, whisk, W. Goodfellow, Brush, O. Fish, Brush, calcimining and wall, H. Bantz, Brush cleaning and cutting machine, W. Walther, Vogel, Buckle and trace support, combined, J. R. Simson, Buggy spring, C. J. Miller, Burglar alarm, P. Keffer, Button, J. A. Flomerfeld, Button or stud, T. W. F. Smitten, Can ending machine, Norton & Hodgson, Cans and jars, cover for preserve, L. A. Kline, Canister, G. S. Church, Car and locomotive brake, W. P. Widdifield, Car brake, H. Flad, Car coupling, W. R. Barton, Car coupling, W. C. Beal, Car coupling, Keen & Meehan, Car coupling, R. T. Payne, Car coupling, D. P. Prescott, Car coupling, J. D. Vance, Car starter, Morell & Goff, Car, street, F. O. Deschamps, Car wheel, J. G. McAuley, Car wheel, P. E. Merrihew, Carriage spring, J. McCormick, Carriage umbrella attachment, C. H. Butlin, Carrier, See Hay carrier, Casting ingots, mould for, J. Pedder, Castings to other parts, securing cored, M. Gar-side, Chair, See Rocking chair, Chair seat frame, J. Nicholson, Check, conductor's, J. Backus, Cheese knife, G. T. Moran, Chopper, See Cotton chopper, Chopping block, L. Rowe, Clamp, See Frame clamp, Clamp, P. F. Corbett, Clasp, See Necktie clasp, Claw bar, J. L. Hardwick, Clip board, pad, J. B. Bloomingdale, Cloth from animal and vegetable fibers, manufacturing, F. Fremery, Cloth stretching machine, O. E. Drown, Clutch friction, C. W. Cardot, Coal washing machine, S. Nevins, Coke oven door, J. Herron, Comb, See Curry comb, Connecting rod, J. P. Hovsey, Copying press, R. E. Kidder, Corn borer, seed, G. Meyer, Cotton chopper, W. L. & R. A. Daniel, Coupling, See Car coupling, Pipe coupling, Vehicle spring coupling, Coupling expander, J. Nuttall, Cracker machine, McCollum & Parr, Crane, J. Wild, Crochet needle machine, S. J. Tiley, Crusher, See Ore crusher, Crutch, F. C. Brightman, Cultivator, A. B. Reeves, Cultivator, garden, M. Mauermann, Cultivator, walking, J. Goodnough, Currycomb, Newell & Stiles, Cut-off governor, automatic, J. B. Stanwood, Cutter, See Ice cutter, Stubble cutter, Cutting and printing machine, C. W. Hobbs, Dental capsicum bag, W. C. Foulks, Dental engine angle attachment, E. T. Starr, Dental impression cup, F. M. Palmiter, Digger, See Potato digger, Disintegrating machine, S. Dodson, Door hanger, I. B. Perry, Drill, See Ratchet drill, Rock drill, Drilling machine, F. J. Dufbrul, Dye vat, J. P. Delahunty, Electric call, D. H. Rice, Electric distribution, regulator for systems of, W. M. Thomas, Electric machine regulator, dynamo, R. J. Sheehy, Electrical circuit protector, E. T. Gilliland, Electro magnetic pole changer, J. E. Smith, Elevator, See Hay elevator, End gate, wagon, I. Eaton, End gate, wagon, G. & H. H. Thomas, Engine, See Pumping engine, Excelsior machine, P. Henry, Extractor, See Nail extractor, Fabric, figured pile, T. Anderson, Feed rack, J. Fernbaugh, Fence, barbed, J. W. Nadelhoffer, Fertilizer, L. Haas, Fertilizer distributor, A. G. Clarkson, Field roller, W. H. Thomas, Firearm, J. H. Brown, Firearm, magazine, R. L. Brewer, Firearm, magazine, W. E. Elliot, Fire extinguisher, F. Gray, Fire extinguisher, band, E. H. Lewis, Floor cloths or painted carpets, fabric for the manufacture of, H. M. Small, Folding box, I. T. Brown, Folding table, C. M. Bolles, Folding table, portable, J. McKeough, Frame clamp, C. C. Shepherd, Furnaces, air feeding device for, T. W. Jenkins, Furnaces, air injector for, G. W. F. Bennett, Furnaces, device for feeding shavings, etc., to, T. W. Jenkins, Furs, taping, F. Vorck, Gas and water service, street box for, E. & C. E. Lindsley, Gas purifiers, screen or grid for, J. Cabot, Gas works, hydraulic main for, W. R. Beal, Gate, See Automatic gate, End gate, Gate, W. R. White, Globe, telluric, R. H. Ferguson, Grain binder, J. D. Nix, Grain separator and grader, W. W. Ingraham, Graining compound, H. & W. H. Bailey, Grape crushing machine, J. B. Klumpp, Gun, A. N. Eastman, Hanger, See Door hanger, Shafting hanger, Hat box, J. Gauch, Hatchway, self-closing, R. D. Thackston, Hay carrier, P. A. Myers, Hay elevator, P. Wernum, Heater stand for coffee urns, etc., E. B. Manning, Heating apparatus, S. Smith, Hinge, lock C. E. Robinson, Holder, See Bag holder, Sack holder, Sash holder, Spool holder, Hook, See Safety hook, Hook and eye, H. W. R. Strong, Ice cutter and snow sweeper, combined, R. D. Drake, Indicator, See Valve indicator, Induction coil, J. Allen, Ingot, compound, J. Pedder, Iron oxides, treatment of, J. Mason, Joint, See Rail joint, Journal bearings, device for cooling, H. Borchardt, Knife, See Cheese knife, Lactose or milk sugar, making, A. H. Sabin, Ladder, extension, A. 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Streck, Nut lock, E. H. & J. H. Klemroth, Nut lock, W. J. McTighe, Nut lock washer, J. W. Morgan, Oil and other substances from seeds, etc., by means of solvents, extracting, F. X. Byerley, Oil tank, R. Thayer, Offer, car axle, Johnson & Hansen, Ore concentrator, G. H. Malter, Ore crusher, J. C. Wiswell, Packing, composition for steam, J. H. Cheever, Packing, stuffing box, J. D. Richardson, Padlock, I. W. Moore, Paint, mixed, W. D. Folger, Pan, See Vacuum pan, Pantaloon, device for shaping, C. Hatton, Paper box machine, I. T. Brown, Paper pulp, apparatus for treating wood for, Wheelwright & Marshall, Paper pulp digester, C. S. Wheelwright, Paper, etc., sizing, C. Weygang, Patterns for dresses, method of and apparatus for cutting, J. W. Livingston, Pen, fountain, L. E. Waterman, Pen, stylographic fountain, M. H. Kerner, Pencil sharpener, J. Williamson, Photographic plates, box for changing, H. Mad-er, Pile, metallic, Gray & Abbott, Pipe coupling, Holland & Toner, Pistol holster, B. Jacob, Piston meter, G. Holliday, Planter, corn, W. M. Graze, Planter, potato, J. L. Ullathorne, Planter, vine, J. D. Enas, Plow, J. O. Beek, Plow, J. F. McKinley, Pneumatic dispatch tube, H. Clay, Potato digger, E. Ohriein, Pulley, J. D. H. Cleavland, Pulley, expanding, W. G. Finlay, Pulp barrel, W. Mears, Pulp digesters, lining for, G. R. Phillips, Pump, G. Reed, Pumps, pawl and ratchet mechanism for chain, A. Lyon, Pumping engine, J. D. Davies, Rack, See Feed rack, Radiator, J. W. Shaw, Rail joint, A. Hasey, Railway, J. Lockhart, Railway or carrying system, elevated, A. J. B. Berger, Railway signal, detonating and visual, E. W. Applegate, Railway spikes, machine for making, L. Acheson, Railway track or switch, C. D. Chamberlin, Ratchet drill, C. E. Tunellus, Refrigerating apparatus, P. J. McDonald, Refrigerating chest, portable, J. J. Fayle, Refrigerator and refrigerator building, J. F. Han-raban, Regulator, See Electric machine regulator, Riveting machine, J. F. 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Graff, Signal, See Railway signal, Skate, roller, C. W. Gooch, Skate, roller, G. W. Keyser, Skins, machine for clipping seal and other, G. & F. F. Cimlotti, Slates, machine for dotting, C. M. Hyatt, Sled, H. K. Proctor, Soldering machine, Norton & Hodgson, Sower, broadcast seed, H. L. Whitman, Spark arrester, G. D. Hunter, Spectacle case, W. H. Thomas, Spoke lathes, sand belt attachment for, E. Case, Spool holder, C. Von Wallemenich, Spring, See Buggy spring, Carriage spring, Stairs, P. H. Jackson, Steam and air brake, C. Phillips, Steam boiler, G. Steele, Steam boiler, sectional, J. E. Lewis, Steam engines, ineriarecording mechanism for, E. F. Williams, Stopper, See Bottle stopper, Stove boards, machine for covering, I. Van Hagen, Stove grate, H. C. Bascom, Stove leg, J. M. Bennett, Stubble cutter, J. P. Gueno, Sulky, M. Payne, Table, See Folding table, Talbot, information, E. S. Boynton, Tank, See Oil tank, Telegraph, printing, A. & E. Wirsching, Telephone, electric battery, T. D. Lockwood, Telephone transmitter, speaking, T. J. Ferrin, Tension line holder, automatic, M. Randolph, Thermoscope, electro-magnetic, H. J. Haight, Thrashing machine hoisting apparatus, J. H. Carlie, Tie loop, R. Crocker, Trimmer, See Wick trimmer, Tube, See Pneumatic dispatch tube, Tuck marker, A. Johnston, Type writing machine, Dement & Granville, Urn or percolator, individual coffee, T. D. Mowlds, Vacuum pan, Edwards & Hauptman, Valve, T. Clancy, Valve, balanced, M. J. McGinn, Valve indicator, slide, T. E. Gleason, Vat, See Dye vat, Vehicle, T. Hill, Vehicle running gear, E. Whitmore, Vehicle spring coupling, C. E. & J. C. Wilson, Vehicle, two-wheeled, B. Burr, Vessel, navigable, R. B. Condon, Vise jaw attachment, E. A. Galbraith, Wagon brake, L. L. James, Wagon brake, automatic, F. W. Moldenhauer, Washer, See Nut lock washer, Water closet, W. Bunting, Jr., Water closet, W. H. McAndrews, Water closet ventilating attachment, M. S. Clark, Well drilling apparatus for oil, gas, or water, G. Westinghouse, Jr., Well drilling machine, L. Nelson, Wheel, See Car wheel, Wheelbarrow, J. Graves, Wheelbarrow, F. A. Rich, Wick trimmer, R. Hoffman, Wire stretcher, H. McIntosh, Wood ornamentation, J. F. McClain, Yoke, neck, Letteer & Barlow

DESIGNS.

Table listing designs such as Carpet, J. B. Campbell, Carpet, J. L. Folsom, Carpet, A. L. Halliday, Carpet, M. R. Loudon, Carpet, H. North, Carpet, F. E. Smith, Carpet, L. W. Valentine, Match safe, Lockwood & Bryant, Oil cloth, C. T. & V. E. Meyer, Spoon or fork, A. F. Jackson, Upholstery fabric, J. Hartley, Upholstery fabric, D. B. Kerr, Wall ornamentation, R. J. Chapman

TRADE MARKS.

Table listing trade marks such as Bitters, P. Lotz, Castor oil, Allen & Hanburys, Cements, J. B. White & Brothers, Cod liver oil, Allen & Hanburys, Coffee, roasted, C. Brun, Face cream, I. Hubert, Gloves and mittens and glove or mitten leather, buck, sheep, calf, dog, and other leather, B. D. & W. N. Eisendrath, Grinding and polishing implements of corundum or emery, Grant Corundum Wheel Company, Hat and bonnet linings, S. Friedman & Co, Hollands and prepared muslins, H. B. Wiggins Sons, Medicinal tinctures, extracts and fluid preparations, L. Brown, Medicinal tonic bitters, F. W. Goodwin, Ointment, W. Jones, Pharmaceutical preparations, certain, Allen & Hanburys, Pharmaceutical sirup and lozenge, E. Fournier, Pills, L. Brown, Preservative of the complexion, Candes & Co, Publication, periodical, G. W. Turner, Renovating powder for horses and cattle, B. J. Kendall Company, Salve, Schmidt & Barnitz, Sirup of hypophosphites with lactates and pepsin, J. W. Goodwyn, Thread, linen, Marshall & Co, Thread, shoe, Marshall & Co, Toilet articles, certain, R. Farres & Co, Twine, binder, E. M. Fulton et al

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