

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423. Pottsville, Pa. See p. 364. C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 330. Ajax Metal Company, Phila. Clamer's Ajax Metals for railroad, rolling mill, engine bearings, cocks, and valves. Fire Brick, Tile, and Clay Retorts, all shapes. Borgner & O'Brien, M'f'rs, 23d St., above Race, Phila., Pa. Drop Forgings of Iron or Steel. See adv., page 364. Bradley's Road Cart, Syracuse, N. Y. See p. 366. Diamond Planers. J. Dickinson, 64 Nassau St., N. Y. Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York. Emerson's 1884 Book of Saws. New matter. 75,000. Free. Address Emerson, Smith & Co., Beaver Falls, Pa. Hoisting Engines. Friction Clutch Pulleys, Cut-off Couplings. D. Frisbie & Co., Philadelphia, Pa. Gould & Eberhardt's Machinists' Tools. See adv., p. 365. Barrel, Keg, Hogshead, Stave Mach'y. See ad., p. 365. Magic Lanterns and Stereopticons of all kinds and prices. Views illustrating every subject for public exhibitions, Sunday schools, colleges, and home entertainment. 116 page illustrated catalogue free. McAllister, Manufacturing Optician, 49 Nassau St., New York. Lightning Screw Plates, Labor-saving Tools, p. 348. Hand and Power Bolt Cutters, Screw Plates, Taps in great variety. The Pratt & Whitney Co., Hartford, Ct. For best low price Planer and Matcher, and latest improved sash, Door, and Blin Machinery, Send for catalogue to Rowley & Hermance, Williamsport, Pa. Woodwork'g Mach'y. Rollstone Mach. Co. Adv., p. 366. Amateur Photographers can have their negatives printed or enlarged by Rockwood, No. 17 Union Square. The Porter-Allen High Speed Steam Engine. South-work Foundry & Mach. Co., 430 Washington Ave., Phil.Pa. Aneroid Barometers, Mercurial Barometers, Thermometers, Anemometers, Hydrometers, Hygrometers. Send for catalogue. Queen & Co., Philadelphia.

(5) C. W. asks how to make a good and cheap cherry stain for wood. A. Take 3 quarts rain water; annatto, 4 ounces; boil in a copper kettle till the annatto is dissolved, then put in a piece of potash the size of a walnut; keep it on the fire about half an hour longer, and it is ready to bottle for use.

INDEX OF INVENTIONS For which Letters Patent of the United States were Granted November 27, 1883. AND EACH BEARING THAT DATE.

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

Table listing inventions with patent numbers and names. Includes: Acid, apparatus for concentrating sulphuric, S. T. McDougall; Album clasp, A. Pfinger; Animal trap, G. W. Jolly; Annunciator, hotel and burglar alarm electric, W. S. Corwin; Awl, belt, Lothrop & Hewins; Back bands, draught chain loop for, Smither & Carlisle; Bag holder, L. Valentine; Baling press, P. Wright; Ball, See Game ball. Return ball; Band cutter and feeder, C. B. Scherer; Barrel cover, H. C. Barnes; Bath and wash tub, L. J. Groom; Bicycle saddle, T. J. Kirkpatrick; Bit, See Expansion bit; Blind, inside, W. Teuteberg; Block, See Paving block; Boat, See Life boat; Boiler, See Steam boiler; Book clamp, F. E. Halliday; Boot and shoe tips, apparatus for skiving, J. A. Safford; Boot treening machine, J. Warren; Boring machine, wood, M. Sweet; Bottle stopper and fastener, E. Burns; Bottles, head for siphon, J. Brown; Bow, cross, H. G. Lewis; Box, See Journal box. Paper box. Toy money box; Brake shoe, G. B. Simonds; Brick and tile machines, endless chain carrier for, F. A. Smith; Brick kiln, J. W. Penfield; Bridle, E. Ward; Bucket, slop, H. Pound; Building front, P. H. Jackson; Button, C. Radcliffe; Button and glove hook, F. B. Bracking; Button hook, G. Havell; Button, sleeve or collar, Allen & Richardson; Buttons, attaching, G. W. Prentice; Calendar, S. D. Styles; Can filling machine, L. H. Smith; Car brake, J. O'Donnell; Car brake, G. A. Small; Car brake, automatic, W. B. Guernsey; Car, cable railway, C. W. Rasmussen; Car coupling, J. Cochran, Jr.; Car coupling, J. H. Harrod; Car coupling, I. Holland; Car coupling, Nye & Hunsicker; Car coupling, B. Taylor; Car coupling, J. A. Whittemore; Car door, grain, B. H. Gatton; Car door lock, J. H. Fisher; Car shifter, W. H. Lind; Car, sleeping, H. S. Hale; Car wheel, E. K. Righter; Car wheel chime, contracting, J. N. Barr; Cars, heating railway, M. Hurly; Carbon conductors, apparatus for treating, E. Weston; Card scoring machine, Strachan & Henshaw; Carriage spring, J. J. Fetzer; Carpet stretcher, J. Lindsay; Carrier, See Trace carrier; Cart, road, N. P. Anderson; Cartridge wad retainer, J. T. Walker; Case, See Egg cell case. File case. Match case; Caster, glass, D. C. Ripley; Chain, pitch, A. H. Wallis (r); Chamber and slop bucket, combined, A. G. Mack; Chenille web and manufacturing the same, W. Adam; Cigar clipper and perforator, combined, Klalber & Currier; Clamp, See Book clamp; Clasp, See Album clasp; Clasp, E. S. Smith; Clay crushing and grinding roller, J. W. Penfield; Clay crushing and pulverizing roller, J. W. Penfield; Cleaner, See Gun barrel cleaner; Clothes line coupling, A. F. Brewer; Clothes pounder, McCready & Aleshouse; Clutch, J. Gibbins; Coat, Dodge & Cummings, Jr.; Coffee roaster and corn popper, P. B. Sheldon; Commode, Sullivan & Tobin; Compass, mariner's, E. Bisson; Copy holder and book rest, combined, G. Weinschen; Cores and moulds, apparatus for forming, F. Shickle; Cornice, J. M. Montgomery, Jr.; Cotton opener, E. Kitson; Coupling, See Car coupling. Clothes line coupling. Crank coupling. Thill coupling; Cracker machine, Fowler & Rockwell; Crank coupling, E. E. Hyatt; Cuff holder, J. F. Atwood; Cultivator, J. H. Albright; Cultivator, R. D. Hall; Cultivator, R. K. Nichols; Cupeling furnace, B. Roesting; Cutter, See Band cutter; Dog irons, chill mould for, N. Zins; Door check, W. H. Herrick; Door lock, Schilling & Massar; Doors, stay roller for sliding, W. Cronk; Doubling silk, etc., stop motion for machines for, T. S. McElhose; Drag, marine, A. J. Clarke; Drawer pull, F. Frank; Drawer pull, J. G. Hallas; Drill, See Rock drill; Drilling machine, hand, D. E. Kempster; Drum, heating, Weamer & Zimmerman; Edger attachments, S. W. Viets; Egg cell case, J. Lynam;

Table listing inventions with patent numbers and names. Includes: Electric cable, W. Halkyard; Electro-circuit breaker, E. Weston; Electric currents, system of generating and regulating, E. Weston; Electric machine, dynamo or magneto, E. Weston; Electric machine regulator, dynamo or magneto, E. Weston; Electrical cable, S. D. Strohm; Electrical generator regulator, E. Weston; Electrical transmission of power, apparatus for regulating and controlling the, E. Weston; Electro magnetic motors, safety cut-out for, E. Weston; Elevator, See Mine shaft elevator; Elevator and conveyor, I. N. Matlick; Elevator safety guard, W. A. Ingalls; Engine, See Gas engine. Rag engine. Steam engine. Traction engine; Engine register, C. Chambers, Jr.; Engine running gear, suspension, J. H. Race; Engine slide lubricator, M. S. Cabell; Expansion bit, G. Nichols; Fare collector for passenger cars, B. G. Fitzhugh; Fat or oxyline, deodorized, J. Hobbs; Feed bag attachment, J. H. Palmer; Feeding device for horses, T. L. Brooks; Fence, G. M. Wadsworth; Fence, metallic, C. Hauka; Fence post, S. E. Hyndman; Fence post, metallic, D. B. Scott; Fence, wire, C. H. Barr; Fifth wheel, vehicle, W. W. Grier; File case, A. W. Voltz; Filter and cooler, combined water, E. J. Howe; Firearm, breech-loading, D. S. Cole; Firearm, breech-loading, D. Kirkwood; Firearm magazine, P. Mauser; Firearms, sight for small, T. Gilbert; Fire escape, Borst & Will; Fire escape, T. T. Church; Fire escape, D. L. Garver; Fire escape, W. A. Holbrook; Fire escape, B. C. Margileth; Fire escape, J. Metzger; Fire escape, P. P. Pealer; Fire escape, T. B. Smith; Fire escape, L. Straehl; Fire escape, J. S. M. Wilcox; Fire escapes, fireproof box for, B. C. Margileth; Fireproof compound, K. A. Hohenstein; Fireproofing composition, J. H. Nolan; Floor, fireproof, A. J. Campbell; Flower pot, M. Holden; Frame, See Quilting frame. Spinning frame; Fruit, apparatus for drying and conserving, D. Burr; Fruit jar, J. L. De Steiger; Fruit jar, A. S. Lambert; Fruits and flowers, cutter and holder for, P. McDonald; Furnace, See Cupelling furnace. Saw heating furnace. Smoke consuming furnace; Furnaces, apparatus for feeding fuel to, McMullan & Robertson; Gauge, See Printing press feed gauge. Water gauge; Game apparatus, H. T. W. Walker; Game apparatus or toy target, C. Sears; Game ball, W. B. Melot; Game table, G. Calder; Gas, apparatus for generating heating or illuminating, J. K. Leadley; Gas cut-off, automatic, R. W. H. Kopp; Gas engine, L. H. Nash; Gas engine, F. W. Turner; Gas furnace, recuperator, J. F. Rittweger; Gas, process of and apparatus for manufacturing, J. E. Leadley; Gate, See Sewer gate; Generator, See Steam generator; Governor, steam engine, Galloway & Beckwith; Grain, etc., apparatus for transferring, L. Smith; Grain header, J. A. Rumrill; Grain transferring apparatus, mouth piece for, L. Smith; Grinding and polishing machine, E. R. Ware; Guard, See Elevator safety guard. Handle guard. Switch guard; Gun barrel cleaner, J. C. Petmecky; Gun lock, A. T. Brown; Hama, C. Roehl; Handle guard, ax and tool, G. P. Morrill; Harness loop, J. Kearville, Jr.; Harrow, riding, T. L. Cone; Harrow, roller, etc., combined, J. D. McKinnon; Harrow tooth holder, F. W. Herrmann; Harvester, C. M. Grim; Harvester wheel, J. R. Severance; Hat brim curling machine, J. Wilson; Hat drying apparatus, Dunlap & Ketchum, Jr.; Hat felting machine, R. Elckemeyer; Hats, manufacture of, Dunlap & Ketchum, Jr.; Hatch, etc., automatic, C. Chapman; Hay rake, horse, E. Glendillen; Heater, See Water heater; Hedge trimmer, M. M. Curtis; Hen house, S. Rawson; Hinge, spring, L. M. Devore; Holst, ash, J. D. Spreckels; Holder, See Bag holder. Copy plate holder. Cuff holder. Harrow tooth holder. Photographer's camera holder. Whip holder; Hook, See Button hook. Button and glove hook; Horse power, J. Smith; Horseshoe, C. F. A. Zinke; Horseshoe, detachable, Thomas & Betzer; Hose reel, automatic, L. W. Stockwell (r); Hub band, G. W. Endebrook; Huller, See Seed huller; Ice cream freezer, D. W. Curtis; Indicator lock, M. Welsh; Infant's seat, A. E. McDonald; Intestines, machine for cleaning, C. Nida; Iron, purifying molten, W. Griffith; Ironing machine, H. Schmidt; Ironing table, C. W. L. Hayward; Jacketed vessel, L. Fritz; Jar, See Fruit jar; Joint, See Knuckle joint. Railway rail joint; Journal box, Worswick & Cutter; Key, T. Lincoln; Key seat cutting machine, G. W. Bonds; Kiln, See Brick kiln; Knife, See Rag joining knife; Knob attachment, E. L. Phipps; Knuckle joint, universal angular, E. Mignault; Ladder, step, J. J. Baldwin; Lamp switch, electric, G. T. Benson; Land roller, clod crusher, and harrow, combined, A. Helman;

Table listing inventions with patent numbers and names. Includes: Lantern, R. L. Hull; Lathes, work rest for wood turning, N. Geisen; Leather and a substitute therefor, patent, J. B. Edson; Life boat, M. Besosa; Life-preserving mattress, W. Miller; Lightning conductor, T. H. Dodge; Line loop, J. Hudson; Liquids from barrels, apparatus for drawing, J. Cox; Load binder, A. H. Johnston; Lock, See Car door lock. Gun lock. Indicator lock; Locking nut, G. W. Simpson; Locomotive fuel feeding device, J. W. Cloud; Lubricator, See Engine slide lubricator; Mangie, A. T. Abbott; Match safe, F. H. Waite; Measure, powder and shot, J. E. Langdon; Measuring fluids, apparatus for, C. H. Bacon; Meat cutting machine, Winnen & Heusch; Mill, See Roller mill; Millstone driver, Park & Hackett; Mine shaft elevator, M. S. Coleman; Mould, See Pipe mould; Moulding machine, wood, W. O. Smith; Mouldings, composition for gilt, L. Eberle; Music leaf turner, W. J. Arnold; Nail feeder and nailing machine, J. J. Sullivan; Nail plate feeders, feeding attachment for, S. S. Dean; Nailing machine, W. P. Hopkins; Necktie fastener, O. J. Terault; Net, fly, A. C. Smith; Ore concentrator, J. Miller; Ore concentrator, Simmons & Henry; Ore separator, B. Hershey; Paint distributor, J. P. Whipple; Paper bag holder, W. H. Ashton; Paper box, H. D. Stimson; Paper, etc., manufacture of, R. Blitz; Parer, apple, A. B. Carter; Pavement, F. W. Bartlett; Pavements, laying, W. McLean; Paving block, impervious, E. B. Martindale; Paving composition, J. G. Ketcham (r); Photographer's camera plate holder, F. G. & A. C. Sargent; Piano panel protector, Pasmore & McClure; Pipe making, forming moulds and cores in, F. Shickle; Pipe mould, F. Shickle; Pipe moulding machine, F. Shickle; Pipe wrench, C. D. Volkman; Pipes, laying underground, T. Hibbard; Plane, joiner's, H. B. Beach; Planer, iron, G. E. Brettell (r); Planter and drill combined, corn, J. Folmer; Planter, corn, R. M. Clark; Plating, nickel, L. F. Dunn; Pliers, C. F. Winslow; Plow, Cooper & Lemmon (r); Plow, shovel, W. Eddy; Plow, sulky, J. F. Gebhrke; Plow, sulky, W. H. Harrod; Plow, wheel, R. M. Clark; Pole and line holder, clothes, W. H. Martyn, Jr.; Portable engines, draught attachment for, M. E. Hershey; Post, See Fence post. Spiral spring post; Pot, See Flower pot; Power, See Horse power. Treadle power; Precious metals by means of the lead bath, apparatus for extracting the, Brown & Gates; Press, See Baling press; Printing press feed gauge, E. L. Megill; Protector, See Skirt protector; Puddling furnace, gas burning, J. C. Williams; Pulley rig, dead, H. C. Crowell; Pulley, roller, or friction wheel, J. W. Osborne; Pulley, roller, or wheel, J. W. Osborne; Pulp, machine for assorting wood, F. Voith; Pump, C. L. Fouts; Pump, H. & J. Kelly; Pump, W. S. Marshall; Pump valves, operating steam, C. A. Goyne; Quilting frame, E. H. Tallafarro; Rack, See Wagon rack; Radiator, steam, S. F. Gold; Rag engine, G. W. Cressman; Rag joining knife, J. A. Fulwiler; Rail for street car tracks, A. J. Moxham; Railway gate, C. A. Ely; Railway rail joint, J. E. Moeller; Railway signals, automatic circuit breaker for, M. W. Long; Rake, See Hay rake; Rasp and saw, combined, W. S. How; Reamer, expanding, P. Gendron; Register, See Engine register; Regulator, See Electric machine regulator. Electrical generator regulator. Watch regulator; Rein, driving, O. F. Coy; Relay or circuit closer, automatic shunt, T. A. B. Putnam; Return ball, C. W. Clark; Ring, See Watch pendant ring; Roaster, See Coffee roaster; Rock drill, Naylor & Thornton; Rocket and whip, T. Doekum; Roller, See Clay crushing and grinding roller. Land roller. Pulley roller; Roller mill, R. J. Good; Rolling car couplings, roll for, J. W. Higgs; Roof coating, J. H. Kelley; Saddle adjuster and fastener, O. W. Cline; Safe door, M. Mosler; Safe, kitchen, J. H. Selby; Saw heating furnace, E. C. Atkins; Sawmill dog, Michener & Varns; Sawing machine, lath, A. Carrier; Scaffolds, support for swinging or pendant, J. T. Churchill; Scarf, neck, I. Noar; Scrapper and elevator, T. H. Apple; Scrapper, dirt, J. Porteus; Scrapper, road, G. D. Matcham; Screw, drive, T. J. Bray; Screwdriver, Allen & Ellrich; Screw machine, F. F. Motley; Screw threads, device for upsetting and restoring, M. Kepler; Screw threads, stock for cutting, O. J. Kosiol; Seat, See Infant's seat; Secondary batteries, apparatus for charging and discharging, Weston & Curtis; Seed huller and separator, cotton, Zerbe & White; Seed, treating cotton, T. Taylor; Seeding machine, E. D. Mead; Separator, See Ore separator; Sewer gate, S. Johnson; Shaft coupling, A. Wood;

Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer. Names and addresses of correspondents will not be given to inquirers. We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question. Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. Persons desiring special information which is purely of a personal character, and not of general interest, should remit from \$1 to \$5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration. Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at the office. Price 10 cents each. Correspondents sending samples of minerals, etc., for examination, should be careful to distinctly mark or label their specimens so as to avoid error in their identification. (1) W. H. N. asks (1) how to blue the locks and metal parts of rifles such as they are blued when new, and also how to color the rifle barrel a solid blue color. A. If the articles are small, heat them in a sand bath until they attain the desired color. They will not color evenly unless well polished and thoroughly clean. Sometimes articles are heated until they pass the blue color and become gray, they are then cooled and heated again until the desired blue tint appears. 2. Are there any small electric motors made, run by a battery that are suitable to run sewing machines and such light work? If so, inform me about amount of battery, required. A. You will find a small electric motor advertised in our columns. It is driven by a six cell bichromate battery. (2) F. C. R. asks how curled hair is made, that is, hair that is used for hair mattresses; how the curl is put into the hair. A. Hair for curling is twisted very tight into a rope of one strand, then steamed or boiled for a short time, rinsed in hot water enough to clear of dirt and stain, then dried in an oven. Then left a short time to set, when it is ready for the market and picking. (3) F. H. B. asks: 1. Is the sun at noon half way between sunrise and sunset? Is the shadow caused by the sun shining against an upright post on earth always in the same direction at noon? By noon I mean 12 o'clock sharp. A. The shadow from your upright post, as also upon all sun dials, varies with the seasons. In your almanac you will observe a record through the various months of "sun slow" "sun fast," with the amount in minutes which you must apply in observing the noon mark upon a sun dial or its equivalent, the shadow from the post. If your horizon is level, the sun will mark true noon on the dial on four days in the year, viz., 25th December, 16th April, 16th June, 1st September, at half way between sunrise and sunset. The sun is now (November 10) about 16 minutes too fast, so that it arrives at the meridian or noon mark 16 minutes before 12 M. (4) C. H. asks if there is anything in existence for soldering which will not cause rust afterward. Acid and ammonia will produce rust after soldered even if washed off, etc.; sometimes it will rust again, especially on anything like polished iron or steel. A. Dip the articles after they have been soldered into boiling water for several minutes. Then wash off in cold water, and we think the difficulty you mention will be obviated.