

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423. Pottsville, Pa. See p. 334. 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.

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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.

(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 names and dates. 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, sloop, 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 sloop bucket, combined, A. G. Mack; Chenille wett 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. Roensing; Cutter, See Band cutter; Dog irons, chime 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; Electric cable, W. Halkyard; Electro-circuit breaker, E. Weston; Electric currents, system of generating and regulating, E. 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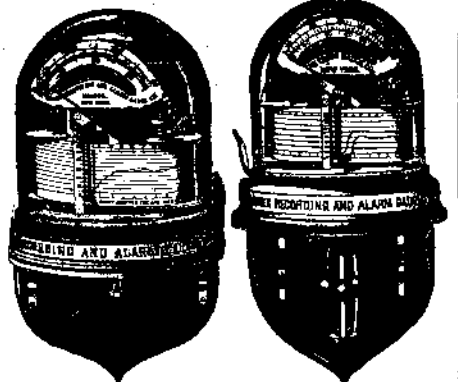
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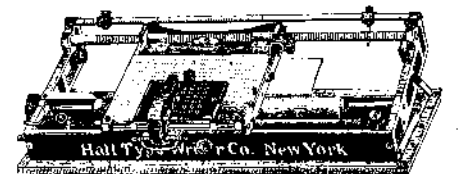


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