

A good receiving instrument may be made of a tubular magnet and single helix, the latter being surrounded by an external soft iron case upon which the plate may be laid loosely. 3. About what size and quantity of wire is required for electro-magnets, and what is the length of the permanent magnets? A. An ordinary sounder helix will answer for a short circuit.

(40) W. E. says: Is there anything besides water that will cut Russian isinglass, and keep it in liquid form? A. It is soluble also in warm wine spirit, in strong acetic acid, and in diluted muriatic and nitric acids.

What kind of leather should I get for a polishing belt for lathe use? A. We believe that sheepskin is usually employed for fine work. There are dealers who make a specialty of such materials.

(41) L. T. D. asks: What is the best substance for the hands for those using the horizontal bar and trapeze? A. Pulverized rosin is, we think, given the preference.

(42) G. H. S. says, in reply to a correspondent who asked if coal oil (kerosene) will make the hair grow: I can say truthfully that it will. I am now 37 years of age; and about 8 years ago my hair gradually commenced to fall out, and in one year I was almost entirely bald. I wore a wig for about 2 hours a day for 3 years, that is, whenever I had occasion to go out. I used various preparations; the hair would grow a little, and then drop out; so that I almost despaired of having it grow any more. An engineer recommended me to try kerosene oil, as a relative of his had used it with success. I first had it tried on a dog. I found it did not injure his hair in the least; I next tried it on my arms and legs (for I was afraid of it), and I found that it strengthened the hair and new hair formed after four months' use, once a week. I next tried it on my head, cautiously; and it was not a great while before new hair or fuzz began to grow; and at the present time I have a pretty good head of hair. As soon as my head begins to get any dandruff, I wash it with oil.

(43) A. B. and others who ask as to perspiration of the feet: The unpleasant odor you mention is caused primarily by the impregnation of the leather with putrescible organic exhalations, various ammonia salts, acetic acid, etc., from the excessive perspiration of the feet within, or moisture without, and from the more or less imperfect fixing of the gelatin contained in the hide by the process of tanning. Under such continued conditions, of heat, moisture, etc., the leather, if not properly cared for, will suffer a species of slow decay, hence the odor. This may be obviated in great part by a frequent change of underclothing for the feet, and by keeping the leather as dry as possible, and well oiled. An unpleasant odor from shoes is often occasioned by the use of poor blacking.

(44) W. J. B. asks: How can I polish malleable iron castings after they have been nickel-plated? A. Use a buffing wheel.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the result stated:

A. H. F. & Co.—The shells have not been received.—R. S. N.—Judging from the small sample you send, the paper is impregnated with an insoluble lead soap, probably by saturating the paper with a strong soap solution and then immersing in a solution of sugar of lead.—M. P. B.—It is a slag from some iron furnace. The small red crystals are cyano-nitride of titanium.—H. A. S.—Some of the enamels from cooking utensils contain antimony; but in the powder which you send us, which consists principally of organic matters, we found no indications of the metal.—P. A. L.—It is a granitic rock containing small crystals or iron pyrites (sulphide of iron) and chalcocyanite (sulphide of copper), also a considerable quantity of oxide and carbonate of iron.—C. L. V.—The large piece is magnesian limestone, the smaller, red-colored fragment is jasper. The piece of an arrowhead is of flint.

L. D. asks: How is Florida water made?—J. McM. asks: What is the best way to break down butter from rolls to tubs, and from tubs to rolls? What is the best method of salting and coloring butter?

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On the Madstone. By W.
On a Perpetual Motion. By C. E. N.
On the Planet Vulcan. By A. F. G.
Also inquiries and answers from the following:
L. W. S.—C. A. H.—B. A. J.—E. J. W.—J. I.—W. W.—A. A. I.—M. M. H.—J. T. B.—L. D. D.—L. S. B.—C. W.—G. E. D. B.—C. W. C.—R. W., Jr.—C. R.—B. & W.—W. J. B.—S. M. L.—E. V. B.—W. R. McC.—P. W. W.—H. A. P.

HINTS TO CORRESPONDENTS.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The address of the writer should always be given.

Inquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all; but we generally take pleasure in answering briefly by mail, if the writer's address is given.

Hundreds of inquiries analogous to the following are sent: "Who makes cheap achromatic microscopes? Who sells telephones, and what do they cost? Who sells galvanic bands or belts, for medical purposes? Who sells incubators, and what do they cost? Who makes the best pony planer and the best saw table?" All such personal inquiries are printed, as will be observed, in the column of "Business and Personal," which is specially set apart for that purpose, subject to the change mentioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

OFFICIAL. INDEX OF INVENTIONS FOR WHICH Letters Patent of the United States were Granted in the Week Ending April 17, 1877, AND EACH BEARING THAT DATE. [Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list, including both the specifications and drawings, will be furnished from this office for one dollar. In ordering, please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, New York city.

Table listing inventions with names and patent numbers. Includes Aerated beverage flavor, Anchor, Anti-friction compound, Bale ties, Bath tub, Bed bottom, Bedstead, Beer barrel, Beer faucet, Boiler flue cleaner, Boot and shoe, Boot jack, Boots, Bottle stopper, Bottle stopper, valve nozzle, Bottle washer, Brick, Broom and brush rack, Burglar alarm, Burial casket, Butter worker, Button, Car coupling, Car coupling, C. C. Dow, Car coupling, W. B. Dunning, Car coupling, J. Lips, Car coupling, A. C. Rumble, Car heater, T. Keech, Carbureter, J. M. Palmer, C rriage shaft, J. A. J. Sawyer, Chain links, ornamental, E. F. Seery, Chains, link for, J. J. Freeman, Chair seats, J. Lemman, Chandeller, friction clutch, J. H. Seaman, Chamber case, G. Vorrath, Chamber closet, E. Smith, Chuck for gas fittings, etc., J. Powell, Churn, G. S. Bell, Churn dasher, W. M. Landreth, Cider and wine press, J. Schoepfin, Clamp, J. G. Mole, Clamp for making frames, J. Zimmerman, Clothes pounder, Roberts, Rowe & Lane, Coffin, cast iron exterior, R. Beachman, Coin detector, W. Painter, Confectionery, putting up, H. H. Snow, Copy book, Requa & Dunn, Corn planter, H. W. Mayerhoff, Corn planter, dropper and marker, Silsbee et al., Corn sheller, J. E. Lewis, Corset, L. A. Palmer, Corset, E. S. Weldon, Cotton picker, J. Tripp, Crimping pin, hair, A. M. Smith, Cultivator, harrow, Saur & Wilson, Cultivator shovels, attaching, R. Elwood, Curtain fixtures, A. B. Shaw, Cutter head, oscillating, J. R. Locke, Dental foil condenser, Hood & Reynolds, Desk, C. H. King, Ditcher, W. R. Peet, Door checks, C. S. Whipple, Dredging machine, J. W. Philbrick, Drying and cooling, C. H. Hersey, Drying ground wheat, C. S. Fuller, Electro-magnetic engine, M. Egger, Electro-magnet, armature, H. Stroth, Fan, J. G. Schmidt, Faucet, A. Fuller, File, P. Heffernan, Fire arm, front sight, F. W. Freund, Fire bar, furnace, E. & G. E. Rowland, Fish and other traps, B. F. Smith, Flower stand, folding, S. R. Pay, Flowers, etc., mounting, L. L. Lewinsohn, Flue ditcher, W. W. Snyder, Fluting iron, B. B. Bignall, Fly fan, W. R. Fowler, Fog horn, P. Thompson, Fruit drier, T. R. Kendall, Fruit jar, self-sealing, Earle & Perry, Gage glass, J. J. Paquette, Galvanic battery, M. W. Parrish, Gas apparatus, J. Rigby, Gas, producing, B. F. Greenough, Gas heater, soldering, G. R. Gleason, Gas key, A. G. Buzby, Gas, making, J. Rigby, Gas regulator, J. Bassemir, Gate, Kelter & Leickem, Gate, C. Pool, Gate, F. J. Tinsley, Gate, farm, O. F. Fuller, Gate, swinging, W. A. Ohaver, Glass, manufacture of, F. Siemens, Governor for engines, A. W. Browne, Grain separator, A. A. Balat, Grain separator, Ballard et al., Grapnel for submerged piles, Bogert & Holmes, Grate, M. G. Bell, Guns, feeder for machine, J. P. Taylor, Harness buckle, E. G. Latta, Harness connection, F. Leclere, Harness pad, R. O. Burgess, Harvester elevator, Coddington & Kennedy, Harvester reel, C. W. & W. Marsh, Harvester, self-rake, I. N. & R. N. Cherry, Hay press, W. Kelly, Hay raker and loader, J. S. Hewitt, Heater, molasses, etc., B. F. Harper, Hinge for iron vessels, F. G. Neidringhaus, Hoists, M. Pennypacker, Hone, strop, and oil cup, Ketchum & Wilde, Hoop poles, splitting, G. B. Selden, Horse hay rake, M. P. Denney, Horseshoe, J. C. Brightman, Horseshoe, S. P. Fisher, Horseshoe nails, finishing, Mortimer et al., Horseshoe nails, finishing, C. W. Woodford, Horseshoe nails, making, I. C. Tate, Hose, watertight, R. Cowen, Hot water, heating, S. & J. Bennett, Hydrant, J. K. Rugg, Hydraulic press, F. S. Kinney, Ice creeper, J. Crossley, Illuminating sign, C. H. Seawell, Incubator, C. C. Weston, Injector, J. Fergus, Ironing board, R. W. Hargrave, Ironing table, E. B. Smith, Ladder, N. S. Boynton, Lamp, N. L. Rigby, Lamp extinguisher, W. T. Wood, Lamp, hydrocarbon gas, R. W. Park, Lamp lighter, H. W. P. Colson, Lath, board, A. A. Smith, Lath machine, E. C. Dicey, Leaf turner, A. L. Clark, Leather cutting gage, G. F. Lindsay, Lock, seal, J. N. Smith, Locomotive engine, A. M. Cumming, Locomotive water stand pipe, H. Smith, Loom shuttle, C. Lewando, Loom staff picker, A. I. Earle, Lubricator, J. C. Lamb, Lubricator for steam engines, J. Powell, Malt kiln, H. Altenbrand, Mechanical movement, E. C. Hopping, Mechanical movement, J. E. Lewis, Medicine glass, T. G. Boggs, Millpick, J. Norman, Moulding machine, A. W. Stosmeister, Moulding sand sifter, J. Stackpole, Moulding and sheet metal, H. Miller, Mower, Douglas & Wemple, Music stand, J. D. & C. E. Alvord, Musical key board, G. N. Carozzi, Nursing bottle, J. Briere, Nut lock, J. D. Kennard, Nut lock, G. Neilson, Oil can, W. H. Bartels, Ore separator, W. Hooper, Organ action, reed, L. K. Fuller, Organ reed, L. K. Fuller, Pan and basin, G. Wright, Paper boxes, inserting staples in, H. R. Heyl, Paper collar, S. S. Gray, Paper cutting machine, E. Schlenker, Paper pulp engine, J. S. Warren, Pattern, metallic composition, J. Habermehl, Pencil sharpener, G. Agnew, Piano stringing device, G. Morgan, Picture exhibitor, F. Prince, Pipe coupling, M. Allen, Pipe tongs or wrench, E. R. Girvin, Pipe wrench, W. Eberhard, Pipe wrench, E. R. Mathews, Plow, W. Gore, Plow, H. Cleare, Plow, J. M. Looker, Plow, reversible, E. C. Hodge, Potato digger, J. P. Maul, Printing roller, litho, W. H. Woodcock, Printing, colors for, C. H. O. Radde, Printing presses, Griffith & Byrne, Printing press, W. H. Woodcock, Propeller, steering, J. H. Carpenter, Pulley, screw hoisting, L. T. Pyott, Pump, chain, T. Wallis, Pump valve, W. E. Worthen, Pump, elastic bucket, T. Kenyon, Pumps, driving, ship's, Gordon & Baxter, Punching sheet metal, T. Rowan, Redistillation apparatus, P. G. Rooney, Reflector, etc., A. Pudigon, Revolving firearm, D. Moore, Rice huller, E. H., L. L., & F. A. Graves, Ropeway grip, A. S. Hallidie, Sad iron, S. J. Bugh, Sash cord fastener, N. Holmes, Saw filing machine, S. V. Pattillo, Saw set, C. B. Hopkins, Sawing machine, W. F. & I. Barnes, Sawing machine, G. J. Kautz, Sawing shingles, H. J. Morton, Scales, platform, I. Rigdon, Screws, threading, J. A. Sheldon, Screws, threading, H. S. Ansdell, Seythe fastening, F. Ludden, Seed drill and harrow, T. J. Whitecar, Seeding machine, J. C. Baker, Sewing machine braider, G. H. W. Curtis, Sewing machine feed dog, H. Feyh, Sewing machine motor, Haworth & Newell, Sewing machine, shoe, J. Bond, Jr., Sewing machine shuttle, R. H. St. John, Shade fixture, spring, P. W. Phillips, Shade holder and gas burner, F. S. Shirley, Strup and sugar filter, etc., W. J. Allen, Skate, parlor, J. W. Post, Skid for handling boxes, A. Day, Sleigh knee, A. A. Abbott, Spouts and strainers, F. G. Neidringhaus, Station indicator, J. P. Schmitz, Steam boiler, D. Sullivan, Steam trap, C. H. Yeager, Stench trap, P. F. Morey, Stench trap, H. W. Clapp, Stone and glass, polishing, A. Vogeley, Stove, C. A. Hamlin, Stove, lamp, G. H. Ferris, Stove, gas and heating, S. Rothschild, Jr., Stove, safety car, S. & G. R. Swartz, Stoves, water heater for, J. J. Elwood, Table easel, C. Fisher, Table, extension, J. E. Spraker, Table blocks, J. W. Norcross, Tap and die, J. Flower, Tea and coffee pot, E. B. Manning, Telegraph, printing, Pope & Edison, Telegraph signal box, S. D. Field, Ten pin ball, W. Woods, Tenon and mortise joint, W. F. Morton, Thread cutter, T. Masac, Thread, winding, W. Clark, Thread, spooling, J. W. West, Ticket reel, W. N. Evans, Tide power, H. Newhouse, Tire tightener, W. F. Rowe, Tobacco, marking plug, J. T. Drummond, Tobacco, marking plug, C. Peper, Tobacco package, P. Cauhape, Tobacco stick, M. M. Ledford, Tooth brush, Coakley & Lloyd, Toy dancer, B. F. Spayd, Toy money box, J. Hall, Track cleaner car, J. N. Clark, Try squares, shade for, C. B. Hopkins, Tube welding furnace, W. B. Sandford, Umbrella tip cup, R. Lubrinski, Under garment, S. T. Converse, Valve, safety, A. Turnbull, Valve, steam slide, J. Gillies, Velocipede, Will & Uebele, Violin for practice, C. F. Albert, Vise, T. P. Hardy

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