

rounding it, and if these lines pass through a dielectric, no current is created by them, and their existence is revealed by a polarized needle, etc. Your impression is a wrong one.

(2168) E. V. N. asks: 1. Has the storage battery proved a success as a motor in aerial navigation, bicycling, carriages, etc.? A. No; it is too heavy. 2. What is the weight of such an apparatus compared with the power developed in horse power? A. A cell weighing 125 pounds gives energy at the rate of 70 watts, equal to a little over one-eleventh horse power. 3. Where can data on the subject be had? A. The companies dealing in and making accumulators will supply data of different sized cells. 4. What is the weight of a gas meter compared with the power produced in horse power? A. A 1 horse power gas engine will weigh about 1,000 lb.; the large will weigh less in proportion. 5. What is the consumption of gas per horse power? A. From 25 cubic feet upward. 6. What is the usage in determining the amount of storage necessary in a storage battery to develop a given power for a given length of time? A. Practical considerations affecting the duration of the plates are the basis.

(2169) G. J. L. writes: I would like to make a lotion such as the dermatologists use in removing freckles or tan.

A. Whitesoft soap..... 3 oz.  
Gum mucilage thick and clear..... 4 "  
Finest pale honey..... 6 "

Mix thoroughly in a mortar, add the yolks of 5 eggs previously beaten and strained through gauze, add slowly oil of almonds (scented to taste) 2 1/2 pounds. When perfectly mixed add pistachio milk (made from fresh-peeled nuts and rose water) 1/4 pint, and rub up until completely mixed. This is corrosive, and acts by removing the outer cuticle.

(2170) A. P. F. writes: Will you state the ingredients, with their proportion, for forming a pickle commonly used in preserving cucumbers, mixed pickles, etc.? A. Put, after washing and drying, into boiling vinegar, add some salt, a handful to a three gallon jar, let cool. Boil up the vinegar alone every third day, and pour on the pickles until the cucumbers turn green, then add ginger and pepper to suit the taste.

(2171) A. M. G.—The plant sent for name is the common liver leaf—Hepatica triloba.

TO INVENTORS.

An experience of forty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

April 22, 1890,

AND EACH BEARING THAT DATE.

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

Table listing various inventions such as Air brakes, pressure recorder, Alarm, Annunciator call, Anvil and vise, combined, Arm attachment, Arc light, Armature for electric meters, Artist's kit, Band cutter and feeder, Bed and dresser, Bed spring, Bed clothes clamp, Bedstead, lounge, sofa, etc., Bell and engine indicator, Bell, call, Bench clamp, Bending tool, Bessemer converter nozzles, Bicycle, Lloyd & Priest, Bicycle, R. T. Torkeison, Binding post, Blacking case and chair, Blacking stand, portable, Block, Board, See Ironing board, Boiler, Boiler cleaner, Boiler fitting, kitchen or stand, Boiler furnace, Boiler setting, Bolt, G. S. Lacey, Books or other articles, coin-operated holder for, Boot or shoe soles, machine for laying channel flaps of, Boots, device for drying, Boring machine, Box, See Cigar box, Knockdown box, Sheet metal box, Brake, See Car brake, Brake beam, truss, C. T. Schoen, Brake shoe, C. W. Repper, Brake shoe, W. D. Sargent, Brake shoe support, S. A. Bemis, Brazing machine, J. C. Ballew, Brick machine, J. W. & R. C. Penfield, Brush, W. A. Quigg, Buckle, suspender, Gurney & Rummel, Buckle, wedge, A. T. Nelson, Bung and bushing, G. M. Doersch, Burner, See Hydrocarbon burner, Oil burner, Button fastener, L. Witkowsky, Calendaring machine, R. Butterworth, Camera, See Photographic camera, Can opener, J. C. Myers

Table listing various inventions such as Cans, making lined, M. Ams, Cane, device for handling, C. S. Palm, Car brake, T. S. Shenston, Car coupling, A. Bowron, Car coupling, H. A. Case, Car coupling, H. F. Hemm, Car coupling, G. Mock, Car coupling, electric, L. Pfingst, Car door, grain, E. A. Hill, Car, electric railway, J. C. Henry, Car motor, street, W. E. Prall, Jr., Car, railway, C. W. Jones, Car seat, auxiliary, N. Joergensen, Car switch, street, J. R. Potter, Car ventilator, A. T. Bemis, Cars, label holder for freight, M. Williams, Cars of inclined roads, grip for, J. M. Isenber, Cars, trussing for railway, F. E. Canda, Carding engines, apparatus for grinding flats for revolving, McConnell & Higginson, Jr., Carpet stretcher, C. Mabel, Carpet sweeper, W. J. Drew, Carriage, jump seat, M. Woodhull, Carriage wrench, F. A. Wegner, Carrier track, W. & C. A. Gutenkunst, Cart, road, E. W. Doolittle, Carving machine, wood, A. Dodds, Case, See Blacking case, Thermometer case, Cash register and indicator, H. A. Herr, Caster, H. Howell, Cattle guard, surface, P. Merrill, Chain link, J. W. Garland, Chair, See Railway chair, Rocking chair, Rotary chair, Theater chair, Channel cleaner, W. Evans, Checking and unchecking device, K. P. Drysdale, Churn, C. A. Japhet, Churn operating mechanism, J. T. Wright, Chute, portable, Musgrave & Clarke, Cigar box, D. W. Parker, Cigar branding machine, G. E. Le Clair, Circuit closer, magnetic, J. Von der Kammer, Clamp, See Bed clothes clamp, Bench clamp, Clasp, See Clothes line clasp, Cleaner, See Boiler cleaner, Channel cleaner, Clip or paper holder, E. D. Rockwell, Closet attachment, R. V. Baraco, Cloth, ornamented, H. Unger, Clothes drier, A. N. Paxson, Clothes line clasp, E. Manser, Clothes tongs, W. H. Mitchell, Clover feed cutter, I. B. Coleman, Clutch, friction, Crosby, Coal, etc., shift for, T. McCarty, Coat fastener, F. Wolkow, Coiling metal rods, apparatus for, H. Roberts, Collar, dog, A. F. Nuttall, Collar fastener, G. S. Crosby, Collar, horse, Degnan & Meyer, Combination lock, J. J. Deal, Combing and brushing hatters' furs not on the skin, machine for, C. E. Sackett, Compound engine, A. H. Eddy, Cooking utensil, I. Chadwick, Conduit, underground, J. F. Munzie, Connector, flexible, J. F. Munzie, Converter, E. Wagemann, Corn cutter, J. Weber, Corn shocker, J. Armstrong, Corn thinner, J. S. Lewis, Cornet, J. F. Stratton, Counterbalance for chutes, D. T. Denton, Coupling, See Car coupling, Thill coupling, Cream separator, centrifugal, C. A. & W. Hult, Cultivator, H. Myers, Cultivator, wheel, W. E. Taft, Culvert, H. H. Celby, Current indicator, F. B. Rae, Cuspider, N. Hartmann, Cutter, See Band cutter, Clover feed cutter, Corn cutter, Lemon cutter, Meat cutter, Pipe cutter, Wire cutter, Cutting machines, straightener for board, T. S. Crane, Cutting pile fabrics, apparatus for, J. H. Smith et al., Dental engine, A. Retter, Derailing switch, side track, A. Patton et al., Derrick, cotton loading, E. M. Field et al., Dies, method of and apparatus for making, C. Grasser, Distillation of mineral oils and like products, apparatus for the, Dewar & Redwood, Distilling and concentrating liquids, apparatus for, C. C. Peck, Door check, R. Stevenson, Door hanger, W. J. Lane, Door hanger, E. Y. Moore, Door or window casing for frame buildings, Lee & Johnson, Door support, sliding, J. R. Payson, Jr., Doors, device for opening and closing, E. H. Hemenway, Drawbar spring pocket, C. T. Schoen, Drier, See Clothes drier, Drier for humid materials, Buttner & Meyer, Drilling machine, D. E. & L. E. Whiton, Drying machine, Proctor & Knowles, Dumbwaiters, etc., indicator for, L. Friess, Dye, red, A. Weinberg, Dynamo safety device, E. P. Clark, Eggs, device for opening hot boiled, G. W. King, Electric cables, apparatus for hauling through, J. F. Munzie, Electric conductors, duct for, J. F. Munzie, Electric machine, dynamo, Wightman & Thomson, Electric motor, Davis & Scott, Jr., Electric motor and dynamo, J. C. Henry, Electric switch, J. P. Norton, Electrical distribution, system of, C. J. Knitner, Electro-magnetic instrument, P. B. Delaney, Electrodes for secondary batteries, manufacturer, L. Epstein, Elevator alarm, A. L. Brice, Elevator for letters, etc., C. E. Reid, Elevator safety device, S. G. Bennett, Ellipsograph, A. W. Leighton, Embossing machine, thimble, J. Browning, Engine, See Compound engine, Dental engine, Gas engine, Rotary engine, Single-acting engine, Engine driving gear, steam, J. Baird, Envelope, coin, A. F. Rolfe et al., Evaporating apparatus, C. C. Peck, Exercising machine, J. E. Dowd, Exhaust nozzle, L. P. Garner, Exhibiting stand for oil cloths, etc., W. Doering-finger, Expander and flue cutter, combined, J. N. Murray, Fabric, See Knit fabric

Table listing various inventions such as Fan, electric, P. Diehl, Feed water heater, C. E. Hudson, Fence, hedge and wire woven, M. L. Main, Fifth wheel, A. E. Herman, File, newspaper, G. W. Hoss, File, rotating steel, J. C. Powell, Firearm, H. M. Caldwell, Fire escape, A. Boettcher, Fish hook, J. H. Lathrop, Fishing reel, W. H. Keach, Flashlight, apparatus for producing instantaneous, A. Hemsley, Floor tightener, W. P. King, Flush tank, automatic, A. Mayer, Forging machine, R. W. Bayley, Frame, See Mowing machine frame, Slate frame, Vehicle frame, Fruit picking stand, J. C. Greenlow, Funnel, J. T. Britton, Furnace, See Boiler furnace, Furnace, S. J. Miles, Fuse block, T. Patterson, Fuse block, F. G. Warrell, Fuse for shells, G. Phillips, Gauge, See Water gauge, Gang plank, D. C. McIntyre, Gas, apparatus for the purification of, W. C. Andrews, Gas engine, J. Mohs, Gas engine, C. Sinto, Gas, governor for regulating the supply of, J. Shaw, Gas lighter, electric, C. H. Hinds, Gas manufacturing apparatus, water, C. E. Burdell, Gas or lamps, extension fixture for, S. Bergmann, Gas, purifying, W. C. Andrews, Gas scrubber, H. J. Remmert, Gas system for distributing, J. C. Conroy, Gas washer, H. J. Remmert, Gate, W. H. Clay, Generator, See Steam generator, Glue compound, R. W. Johnson, Grinding mill rollers, machine for, H. N. J. Mansfield, Guard, See Cattle guard, Gun, cane, J. Frick, Gun lock, J. Frick, Gun, machine, J. G. Accles, Gun with reversible barrels, E. I. Herrick, Guns, pointing or laying, J. B. G. A. Canet, Hammer and distributor, combined tack, J. S. Bailey, Hanger, See Door hanger, Insulating hanger, Harness pad, H. B. Piatt, Harrow, pulverizer, and leveler, combined, C. W. Chase, Harrow truck, adjustable, J. & A. F. Moser, Hat stiffening machine, Murphy & Rundle, Head rest, adjustable, C. S. Rogers, Heater, See Feedwater heater, Water heater, Heater for cooperage purposes, L. M. Reed, Heating and lighting device, W. Rennyson, Holder, See Lamp holder, Paper holder, Paper bag holder, Pen holder, Photographic negative film holder, Sack holder, Spring holder, Holder or clasp, S. A. Cohen, Hook, See Fish hook, Hoop, See Spirally crimped hoop, Horses, pad for the backs of, C. M. Mudford, House, See Smoke house, Hydrocarbon burner, L. Chandor, Hydrocarbon burner, J. Feorst, Ice roads, machine for making, G. T. Glover, Index, C. M. Cott, Indicator, See Current indicator, Poison indicator, Indicator, W. R. Bouis, Indicator lock, J. C. Barr, Insulated joint, E. F. Gennert, Insulating compound, J. F. Munzie, Insulating hanger for overhead supply conductors, F. B. Rae, Insulating lining, J. F. Munzie, Insulator, J. F. Munzie, Ironing board, W. A. E. Henrick, Irrigating apparatus, E. C. Chapman, Jeweler's stock plate, J. D. Planchamp, Joint, See Insulated joint, Spectacle frame joint, Joint fastening device, G. T. Neill, Journal bearing, S. A. Bemis, Keyboard, transposing, A. Marcey, Key fastener, W. W. Hitchcock, Knit fabric, H. Pulster, Knockdown box, C. F. Bosworth, Ladder, R. Hammill, Lamp holder, incandescent electric, P. H. Klein, Jr., Lamp hood and support, electric, E. P. Warner, Lamp, incandescent electric, J. W. Packard, Land roller, Horey & Marsh, Lantern, combined platform and signal, M. Morton, Latch, W. H. Stinson, Lathes, adjustable tool holder for, J. H. Parker, Leather glazing machine, G. V. Anderson, Lemon cutter and squeezer, S. T. Jull, Life at sea, pillow or bolster for saving, D. Taylor, Life-preserver, J. Christensen, Lightning arrester, A. D. Spear, Lock, See Combination lock, Gun lock, Indicator lock, Nut lock, Seal lock, Lock, W. Hoover, Lock, F. G. Stark, Locomotives, stand pipe for supplying water to, G. B. Jackson, Looms, wire operating device for pile fabric, W. Kothe, Lubricator, T. J. Hart, Manhole for underground electric conduits, J. F. Munzie, Manometer, registering, Lusuardi & Falco, Marking instrument, B. Arnold, Match and mode of making, Y. Gonzalez-Gomez, Measurements according to one system into another system, instrument for transferring, H. Hagemann, Measuring device, lumber, T. Newnham, Meat cutter, S. T. Jull, Mechanical movement, J. A. Watson, Metal wheel, M. De Mars, Metallic tube, C. L. Betts, Metallic tube, C. F. Erb, Mill appliance, McClean & Faber, Jr., Motor, See Car motor, Electric motor, Water motor, Wave motor, Mowing machine, D. Abel, Mowing machine frame, R. H. Dixon, Music leaf turner, C. L. Service, Musical instrument, Crane & Withers, Musical scale register, G. B. W. Blass, Nail, See Screw nail

Table listing various inventions such as Nailing machines, pointing mechanism for, E. L. Howard, Nut lock, T. C. Harris, Nut lock, G. M. Kifer, Nuts for screw bolts, manufacture of lock, A. B. Ibbotson, Oil burner, injector, J. B. Moore, Ordnance, breech-loading, A. Victorin, Ore feeder, L. D. Craik, Oven, portable, G. W. Walker, Overshoes, retaining device for, J. A. Patton, Packing device, G. B. Garrison, Packing, piston rod, A. J. Sypheer, Pad, See Harness pad, Padlock, permutation, W. M. Brooke, Pawl and ratchet mechanism, Dille & McGuire, Paper bag holder, W. B. Morlan, Paper holder and cutter, roll, G. E. Yarger, Paper making machines, suction box for, Young & Davis, Pen, fountain, A. B. Hyde, Pen holder, E. Faber, Pen holder for cripples, R. Ramsey, Pencil sharpener, T. Jenni, Photographic camera, Merritt & Spencer, Photographic dry plate coating machine, Swaine Moody, Photographic negative film holder, F. S. Osborne, Photographic purposes, petroleum lamp for, M. Jijinsky, Pianos, music rack for upright, G. M. Guild, Pianos, repetition action for, F. Schaaf, Pipe cutter, H. Comstock, Pipe wrench, F. Virgion, Planter, J. T. Wright, Planter check row attachment, corn, Simmons & Turner, Planter, corn, G. W. & F. P. Murphey, Planter, corn, E. R. Procter, Plow, J. M. Burrows, Plows and lists, open mould board and share for, J. Hammell, Poison indicator, W. H. Wallace, Jr., Post, See Binding post, Power transmitting mechanism, G. F. Evans, Print or picture, indelible, Colburn & France, Printing, plate holder for mechanical, H. H. E. G. Kohl, Propeller, hydraulic, A. De Kunwald, Propelling vessels, J. S. Morton, Propelling vessels, means for, J. S. Morton, Protector, See Tree protector, Pulley, J. S. Ebert, Pulley, A. W. Michael, Pulley, split, W. F. Maish, Pulp machine, fruit and vegetable, C. S. Bucklin, Pulp tearing machine, wood, W. O. Russell, Pump, mercury, F. B. Hill, Pump operating apparatus, J. W. Packard, Pump, steam, R. Everitt, Punching and shearing machine, combined, H. Stolpe, Racking machine, G. W. Packer, Railway, M. W. Silver, Railway chair and brace, J. W. Reeser, Railway contact, electric, F. O. Blackwell, Railway, electric, R. M. Hunter, Railway rail support, M. W. Silver, Railway signal, electric, G. A. Tower, Railway signaling, apparatus for electric, C. H. Rudd, Railway system, electric, L. Gutmann, Railway tie, J. Porter, Railway tracks, apparatus for clearing, H. H. Kryzer, Railway tracks, device for clearing the spaces between the rails of, H. H. Kryzer, Railways, switch movement for street, H. L. Nodder, Razor or other strops, composition for, H. A. Parker, Reapers and mowers, machine for sharpening the sickles of harvest, J. W. Greene, Reel, See Fishing reel, Register, See Cash register, Musical scale register, Rocking chair, spring, O. H. Ordway, Roller, See Land roller, Rosette machine, B. Bronson, Rotary chair, C. H. Purdy, Rotary engine, J. M. Farmer, Ruler, F. G. Osborne, Sack holder, A. McDonald, Saddle, C. K. Marshall, Safety connection, E. Thomson, Sait, manufacturing, C. C. Peck, Sash balance, T. B. Ross, Sash fastener, G. H. King, Sash fastener, F. P. McGovern, Sash fastener, Wintermute & Hershaw, Sawmill attachment, E. P. Armstrong, Screen, J. W. Boughton, Screw cutting die head, J. A. Becher, Screwdriver, ratchet, R. C. Ellrich, Screw nail, S. E. Groff, Screw, wire, L. W. Merriam, Seal lock, R. M. Sully, Seat, See Car seat, Water closet seat, Separator, See Cream separator, Tooth separator, Sewing machine, H. H. Fefel, Sewing machine, E. Woodward, Sewing machines, button holder for button, J. Mathison, Sewing machines, trimming attachment for looped fabric, G. Cooper, Shears, See Tinner's shears, Sheet metal box, C. J. Hauck, Jr., Sheet metal, embossing, A. Langerfeld, Sheet metal folding machine, S. F. Woodworth, Ships or vessels, apparatus for raising sunken, M. Garland, Shirt, C. L. Christmann, Shoe shanks, machine for making, Sprague & Fowler, Shutter fastener and bower, W. J. Scott, Sight, J. J. Schofield, Signal, See Railway signal, Signaling apparatus for hotels, electric, J. J. Miller, Single acting engine, J. P. Tidwell, Skiving machine, upper, G. F. Munn, Slate frame, D. Scrymgeour, Smokehouse and meat safe, combined, J. M. Badgley, Snow from railway tracks, apparatus for removing, H. H. Kryzer, Soldering device, can, R. T. Smith, Sowing machine, J. Melander, Spectacle frame joint, B. I. Price, Spinning bobbin, J. H. Wells, Spinning irregular forms, machine for, J. Brown-ing