

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion: about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

Marine Iron Works. Chicago. Catalogue free. "U. S." metal polish. Indianapolis. Samples free.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Handle & Spoke Mch. Ober Lathe Co., Chagrin Falls, O.

For mud dredging engines. J. S. Mundy, Newark, N. J. Inventive problems and ideas worked out. See adv't, page 367.

Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Lawnt and Canal Sts., New York.

Emerson, Smith & Co., Ltd., Beaver Falls, Pa., will send Sawyer's Hand Book on Circulars and Band Saws free to any address.

Practical Electrician.—The most complete book on electrical matters, fully illustrated. 8vo, cloth, 75 cents. Spon & Chamberlain, 12 Cortlandt St., New York.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4; Munn & Co., publishers, 361 Broadway, N. Y.

For the original Bogardus Universal Eccentric Mill, Foot and Power Presses, Drills, Shears, etc., address J. S. & G. F. Simpson, 26 to 36 Rodney St., Brooklyn, N. Y.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(6667) X. Y. asks: 1. Where can I find the exact diameter, in parts of inch, of machine screws? A. A complete table of sizes of shank heads, threads and lengths of machine screws, American Screw Company's standard, is published in Kent's "Mechanical Engineer's Pocket Book," \$5 by mail. 2. Is it advisable to grind the back of a razor as thin as that of a pocket knife in order to get an acute cutting angle? If not, why? A. It would not be desirable to have the back of the razor too thin; the back is usually all right as the razor is sold. 3. In electroplating, is gold of 24 karat necessary? Will not a lower karat answer? A. Any degree of fineness of gold may be used in plating. 4. How to make stick mucilage. A. For Pocket Mucilage.—Boil 1 pound of the best white glue and strain very clear; boil also 4 ounces of isinglass and mix the two together; place them on a water bath with half a pound of white sugar, and evaporate till the liquid is quite thick, when it is to be poured into moulds, cut and dried to carry in the pocket. This mucilage immediately dissolves in water and fastens paper very firmly. 5. Name the materials used to color wax a bright pink. A. Use vermilion.

(6668) J. P. K. says: Will you please inform me what is the receipt for tempering mill picks? A. There is nothing peculiar in hardening mill picks, only that they should be as hard as possible and moderately tough. The greatest care should be taken to avoid burning the steel. Where there is much of this work to be done, the picks can be heated in a pot of cherry red hot lead, then dipped plumb into clearwater at about 60°. Do not draw the temper. The hardening by the ordinary smith's fire can be well done if charcoal is used, and not hurried through the fire. Hurry burns the corners. Much also depends upon the shape of the pick, as to whether it is a sectional or leaf pick, or a thick solid pick, the last being the most difficult to manage, on account of the sharp edge and thick back. They should be laid across the fire, so as to heat the eyes as fast as the edge.

(6669) D. C. D. says: Will you kindly inform me of a receipt for a quick-drying polish such as is used for polishing guitars, mandolins, etc.? Would like one which will give the article to be polished a hard finish not liable to scratch. A. Treat the same as in the following, which are directions for violin varnishing. Dissolve over a moderate fire—

- Sandarac.....12 parts. Shellac.....6 " Mastic.....6 " Elemi.....3 "

In 150 parts 95 per cent alcohol which has been colored red with cochineal, or if a darker red is required, add dragon's blood gum. When the above is dissolved add 6 parts Venice turpentine. As this varnish is highly inflammable, use caution as to fire.

(6670) R. J. C. asks how to bleach straw plait. A. This is bleached by exposing it to the fumes of burning sulphur in a close chest or box, or by immersing it in a weak solution of chloride of lime, and afterward washing it well in water. Water, strongly acidulated with oil of vitriol or oxalic acid, is also used for the same purpose. Straw may be dyed with any of the simple liquid dyes.

TO INVENTORS.

An experience of nearly fifty 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 securing 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

November 26, 1895,

AND EACH BEARING THAT DATE.

(See note at end of list about copies of these patents.)

Table listing inventions with patent numbers, including: Abdominal supporter, Adjustable chair, Air brake mechanism, Air compressor, Altar and vestment satchel, Badge, Bale fastener, Banjo head clamp, Barrel, metal, Bathtub, Battery plate, Battery well, Beistead, Bell, bicycle, Bicycle lock, Bicycle pedal attachment, Bicycle stop, Block, Boat cabin, Boiler, Boiler joint, Book, copying, Book holder, Book rest, Bottle necks, Brake, Brake apparatus, Breaker tooth, Bung, Glennan & Reilly, Burner, Can screw cap, Can wiping machine, Cans, supplemental side handle, Candy machine, Car brake, Car coupling, Car coupling, Dressler & Timoth, Car coupling, J. A. Hinson, Car coupling, R. Scott, Car fender, G. W. Greer, Car lighting apparatus, Car vestibule, Cars, guard or turret, Carburizing apparatus, Card grinding apparatus, Cash indicator and recorder, Centering and drilling circles, Centrifugal machines, Chain and wheel, Chair, Clamp, Cleaner, Clutch mechanism, Coal scuttle, Coating metal plates, Coffee roaster, Collapsible handle, Colter clamp, Commutator, Commutator brush, Composing stick, Corn sheller, Corn sheller conveyor, Cotton chopping machine, Cotton compressor, Cultivator, Current alternator, Curtain pole, Cuspidor, Dental tool, Dish cleaner, Door opening apparatus, Door stop, Drawing coils, Drill, Egg boiler, Electric machine, Electric regulator, Electrical switch, Electrical apparatus, Electrical distribution system, Electrodeposition apparatus, Electrolocomotive, Electromotors, Envelope, Excavator hoist, Fare box, Feedwater purifier, Fence, Fence post, Fence stay, Fence steel, Fence wire, Fire alarm system, Fire escape, Fire extinguisher, Fish pond, Fishing net, Folding hinge handle, Forging metal shapes, Fruit wash, Furnace, Furnaces, jacket ring, Garbage, Garbage treating apparatus, Gas apparatus, Gas burner, Gas engine, Gas engine, H. A. Lawson, Gas generator, Gas generator, high and low pressure, Gas pump, Gear, Gear, driving, Generator, Gig pad, Glove drying and forming apparatus, Glasses, etc., Glassware blowing apparatus, Gravel heater, Gun, safety device for breakdown, Gun, collapsible handle, Harness, Harp, Shearer, Hashing or masticating implement, Heater, Hitching attachment, Hoe, C. H. Wilson, Horse detacher, Horseshoe, C. D. Shephard, Hose coupling, Hose nozzle, Hydrocarbon burner, Index cutter, Indicator, Injector, Insect catcher, Jack, M. J. Dwyer, Joint, Knit cuff, Lace string, Lamp, apparatus for lighting miners' safety, Lamp, Acroyd & Best, Latch and lock, Lathe, E. Childs, Lathe, multiple turning, Leather perforating machine, Ledger index balance sheet, Life-saving apparatus, Lighting interior of buildings, Lock, See Bicycle lock, Locomotor, Loom, Loom shedding mechanism, Loom warp stopmotion, Lubricator, Lumber counter, Nail back catcher, Match, W. F. Hutchinson, Measuring machine, Mechanical movement, Metal, antifriction, Metallic box holder, Millstone, Milling apparatus, Mining machine, Mould cylinder, Mop head, Musical instrument, Necktie holder, Net, A. Ward, Nitrocellulose powders, Non-welding contact, Numbering machine, Nut lock, Office indicator, Organ reed bending machine, Over doors, means for securing heat indicators, Pad, See Gig pad, Pail handle, detachable, Paper, toilet, Photographing film, transparent, Piano string clamp, Piano tuning pin and adjusting screw, Picture wire fastener, Pipe covering, Piston lubricator, Plow, R. E. Crosby, Plow, D. Daniel, Plow, H. Oldendorff, Pocketbook or wallet, Post, See Fence post, Power generating motive, Precious metals, apparatus for saving, Printing machine, Propeller, screw, Pump, exhaust, Pumping and motor apparatus, Pumping apparatus, electric, Pumping apparatus, electrical, Rail brake, guard, Railway, electric, Railway, elevated, Railway signal, Railway signal, transformer for electrically controlled, Ratchet drill, Refuse drier and extractor, Regulator, Rein supporter and holder, Rendering apparatus, Roaster, Rolling pin, Roofing metal, Rotary engine, Steam generator, Steam generator, W. J. Ranton, Steam or pneumatic engine, Steel, method of and apparatus for hardening, Stool, folding camp, Stop motion mechanism for machines for preparing slivers, Stop motion mechanism for machines for preparing slivers, W. P. Cannitt, Stove, C. W. Boynton, Stove, M. W. Foster, Stove, C. L. Allen, Stove or range, Surgical instrument, Switch, See Electric switch, Table attachment for articles of furniture, Tablet copy and bill holder, Tack machine, Telegraph or telephone wires, apparatus for hanging and cleaning, A. Custodis, Telegraphy, Tellingurium, Tellurium, wall, Textile stretching device, Thill coupling, Thill coupling, E. W. Warner, Tin, machine for preparing roofing, Tire repairing tool, Tire, vehicle wheel, Tongs, ingot, Toothpick box, Toy, H. T. Gay, Train starter, Tramway with underground distribution of current, electric, Triple expansion engine, Trolley, E. L. Richter, Truck brake, hand, Truck, electric car, Truss, J. Fauchon, Tube, pipe, or conduit, Turbine, steam, Type distributor, Type distributor machine, Type setters, ejecting mechanism, Typewriter attachment, Typewriting machine, Typewriting machine, C. Wheeler, Jr., Typewriting machines, key locking device for, Umbrella stand, Underwaist, C. Andrews, Unicycle, Valve apparatus, Valve device, compound engine, Valve lubricator, steam engine, Valve piston, G. W. Driggs, Valve, steam tank, Vehicle, electric, E. Lane, Vehicle running gear, Vehicle spring, Violin chin rest, Vise, R. Griffiths, Wagon, dumping, Wagon loader, Wagon running gear, Washer, See Fruit washer, Water closet, P. J. Madden, Wheel, See Sprocket wheel, Whistle, F. O. Aspley, Window screen, J. E. Bohner, Wrinkles, device for removing, E. Ent.

Table listing inventions with patent numbers, including: Textile stretching device, Thill coupling, Thill coupling, E. W. Warner, Tin, machine for preparing roofing, Tire repairing tool, Tire, vehicle wheel, Tongs, ingot, Toothpick box, Toy, H. T. Gay, Train starter, Tramway with underground distribution of current, electric, Triple expansion engine, Trolley, E. L. Richter, Truck brake, hand, Truck, electric car, Truss, J. Fauchon, Tube, pipe, or conduit, Turbine, steam, Type distributor, Type distributor machine, Type setters, ejecting mechanism, Typewriter attachment, Typewriting machine, Typewriting machine, C. Wheeler, Jr., Typewriting machines, key locking device for, Umbrella stand, Underwaist, C. Andrews, Unicycle, Valve apparatus, Valve device, compound engine, Valve lubricator, steam engine, Valve piston, G. W. Driggs, Valve, steam tank, Vehicle, electric, E. Lane, Vehicle running gear, Vehicle spring, Violin chin rest, Vise, R. Griffiths, Wagon, dumping, Wagon loader, Wagon running gear, Washer, See Fruit washer, Water closet, P. J. Madden, Wheel, See Sprocket wheel, Whistle, F. O. Aspley, Window screen, J. E. Bohner, Wrinkles, device for removing, E. Ent.

Table listing inventions with patent numbers, including: Textile stretching device, Thill coupling, Thill coupling, E. W. Warner, Tin, machine for preparing roofing, Tire repairing tool, Tire, vehicle wheel, Tongs, ingot, Toothpick box, Toy, H. T. Gay, Train starter, Tramway with underground distribution of current, electric, Triple expansion engine, Trolley, E. L. Richter, Truck brake, hand, Truck, electric car, Truss, J. Fauchon, Tube, pipe, or conduit, Turbine, steam, Type distributor, Type distributor machine, Type setters, ejecting mechanism, Typewriter attachment, Typewriting machine, Typewriting machine, C. Wheeler, Jr., Typewriting machines, key locking device for, Umbrella stand, Underwaist, C. Andrews, Unicycle, Valve apparatus, Valve device, compound engine, Valve lubricator, steam engine, Valve piston, G. W. Driggs, Valve, steam tank, Vehicle, electric, E. Lane, Vehicle running gear, Vehicle spring, Violin chin rest, Vise, R. Griffiths, Wagon, dumping, Wagon loader, Wagon running gear, Washer, See Fruit washer, Water closet, P. J. Madden, Wheel, See Sprocket wheel, Whistle, F. O. Aspley, Window screen, J. E. Bohner, Wrinkles, device for removing, E. Ent.

DESIGNS.

Table listing designs with patent numbers, including: Badge, Barker & Green, Badge, K. H. Noland-Garnett, Brushes, etc., back for, G. L. Crowell, Jr., Brushes, etc., back for, P. O. Dickinson, Carpet, A. L. Halliday, Chair, spring, back, Christmas tree ornament, V. A. De Prouse, Dish, covered, C. W. Franzheim, Display stand, J. Rait, Eye shade, N. Bray, Finger ring, F. E. Vaiter, Hopper frame, Metal stock pattern, G. L. Crowell, Jr., Napkin, Loring & Seaman, Padlock case, W. H. Taylor, Photo holder, H. Denby, Pump casing, A. B. Marshall, Radiator, Sink bracket, L. Nichols, Table leg, J. E. Bohner, Tabletop frame, J. E. Bohner, Treadle, A. W. Browne.

TRADE MARKS.

Table listing trade marks with patent numbers, including: Ale, Joseph R. Peebles' Sons Company, Antiseptic, germ destroyer, and inflammation, Ares, Kelly Axle Manufacturing Company, Bakery products, American Biscuit and Manufacturing Company, Beer, Joseph R. Peebles' Sons Company, Beer, Jager, Bartholomew Brewery Company, Beer, root, C. L. Egan Company, Beverage, certain named non-intoxicating, G. E. Ryckman, Bicycles, E. C. Berriman, Bicycles and attachments, Fowler Cycle Manufacturing Company, Cards, playing, E. Carrandi, Cards, playing, E. Conley, Cement, hydraulic, Frank E. Morse Company, Cereals, prepared, Muscatine Oatmeal Company, Chains, drive, Piano Manufacturing Company, Cheese, Joseph R. Peebles' Sons Company, Chocolate and other bonbons, Walter M. Lowrey Company, Cigars, Joseph R. Peebles' Sons Company, Coal and coke, Osage Coal and Mining Company, Coffee, Ohio Coffee and Spice Company, Colors and paints arranged in boxes, H. L. Bates, Confectioners' goods, including creams, jellies, oils, syrups, and chewing gum, Murcotte Company, Corals for wearing apparel, light stiffening, Warren, Corsets, J. Wanamaker, Disinfectants, H. W. Jayne Chemical Company, Dress shields, I. B. Kleibert Rubber Company, Floor finishing preparations, W. F. Williamson, Flour, prepared, B. Stern & Son, Flowers and feathers, artificial, A. Hirsch & Company, Food substances, prepared oleaginous, Braun & Pitts, Fungicides, insect and vegetable mixtures, Legett & Brother, Iron, manufactured, Ewald Iron Company, Lamps, sockets and bases, wall sockets and rosettes, switches, and cut-outs, incandescent, Perkins Electric Switch Manufacturing Company, Laxative compound, W. Reading, Leather and leather goods, including belts, pocket-books, purses, straps, satchels, and cases, raw, S. Scheuer & Sons, Lemons, Lemon Growers Exchange, Liniment, Gilbert Brothers & Company, Medical remedies, certain named, Electine Medical Company, Medicines and toilet preparations, certain named, Boehringer & Reuss, Musical instruments, G. Shearer, Noodles, spaghetti, and macaroni, Noodles, Oats and oatmeal, rolled, Muscatine Oatmeal Company, Oil, illuminating, L. H. Felsenfeld, Oils, paint, American Loco Company, Perfumes, extracts, oils, vanillas, and other perfumery, G. Luerssen, Perfumery, toilet articles, and preparations, H. Hudner, Plumbers' supplies and rubber and leather hose, Ahrens & Ott Manufacturing Company, Preparation for the cure of tuberculosis, Wynab Pump and Sanitary Company, Pump, beer, Liquid Carbonic Acid Manufacturing Company, Remedies for diseases of the skin and mucous membrane, topical, Quaratol Remedy Company, Remedy for diseases of the kidneys and urinary organs, Smith Medical Company, Ribbons, J. Sprich, Jr., Shrimps, Barataria Canning Company, Sweetening compound, F. Von Heyden, Nachfolger, Syrings, vaginal, E. J. Hussey & Company, Tires, liquid for closing punctures in, W. L. Lyman, Tonics and remedies for indigestion, S. S. Ryckman, Underwear, save hose, J. D. Levy, Veterinary remedies, E. A. Bidelman, Washing fluid, H. Haworth, Whalebone, Pacific Steam Whaling Company, Wood filler, L. J. Brandon.

A printed copy of the specification and drawings of any patent in the foregoing list, or any patent in print issued since 1880, will be furnished from this office for 25 cents. In ordering please state the name and number of the patent desired, and remit to Munn & Co., 361 Broadway New York. Canadian patents may now be obtained by the inventors for any of the inventions named in the foregoing list, provided they are simple, at a cost of \$40 each. If complicated the cost will be a little more. For full instructions address Munn & Co., 361 Broadway, New York. Other foreign patents may also be obtained.