

ENGINEERING INVENTIONS.

A rail joint has been patented by Mr. Edward A. Temple, of Chariton, Iowa. This invention covers a novel construction, designed to prevent the battering of the end of the rail, and to do away with the ordinary form of bolt and nut, using instead a key or wedge of wood or metal, or a combination of both.

A smoke consuming furnace has been patented by Mr. John L. Peslin, of Appleton, Wis. Its construction is such that the main fires, having been once started, are fed by partially coked coal, the smoke and gas generated during the process of partial coking being delivered beneath and forced to pass through the main fire of the furnace.

A car coupling has been patented by Mr. Joseph T. Hammick, of Rhinebeck, N. Y. The mouth of the drawhead is made very flaring, and has a rib just in front of the pin hole to guide the end of an entering link, with other novel features, intended to facilitate the automatic coupling of cars, the invention being an improvement on a former patented invention.

A stop block has been patented by Messrs. John P. and Joseph Goodman, of Plymouth, Pa. It is so made that the forward wheels of the car will be checked, without rocking or twisting of the axle, and so the stop blocks proper may be turned down to a position to constitute a portion or section of the tread of the rail in connection with which they are arranged.

AGRICULTURAL INVENTIONS.

A cultivator attachment has been patented by Mr. George W. Campbell, of Alamo, Ind. This invention relates to a construction wherein the shovels are adjustably connected to a leveler, and may be adjusted to any angle desired, to throw the earth to or from the crop being cultivated, and to make a deep or shallow furrow.

A corn harvester has been patented by Mr. Sylvester E. Ferguson, of Eureka Springs, Ark. Combined with a frame and platform is an elevator and its driving mechanism, with receiving box, all so constructed as to remove the ears of corn from the stalks and deposit them in the receiving box as the machine is drawn along the rows of corn, the stalks being left in the field.

MISCELLANEOUS INVENTIONS.

A harness pad machine has been patented by Mr. John W. Jones, of Glasco, Kan. It is a press intended to take the stretch entirely out of the leather before stuffing, to make a perfect shaped pad, without wrinkles, while being readily adjustable for different styles and sizes of pads.

A music leaf turner has been patented by Mr. Thomas H. Garland, of Chicago, Ill. Combined with a rack, spindle, and series of swinging arms is a spring, and various other novel features, whereby the leaves of sheet music may be conveniently turned by a performer, or turned backward, as desired.

A velocipede has been patented by Mr. Charles W. Hamshaw, of Blue Springs, Mo. This invention covers a construction applicable to hand or foot power vehicles or to small boats, and combines with hand propelling mechanism means whereby the steering device may be controlled without the rider releasing his grasp upon the handles of the propelling mechanism.

An adjustable scaffold has been patented by Mr. Samuel Tucker, of Pleasanton, Kan. It is a construction for the use of carpenters, masons, etc., so designed as to be easily adjustable as to height as the work progresses, by means of a windlass located upon the scaffold within reach of the mechanic, while the device is durable and not expensive.

A handle for cutlery and other articles has been patented by Mr. Joseph E. La Fave, of Miller's Falls, Mass. It is composed of a hollow metal shell and an outside covering of porcelain, the shell having a reduced inner end to receive a bolster over it, and one or more exterior flanges for support of the porcelain and engagement of it with the shell.

A mechanical telephone has been patented by Mr. Bloomfield L. Kenyon, of Lee Center, N. Y. Combined with a box holding rods, bars being secured to the rods and a diaphragm held by the bars, a wire is passed through an aperture in the diaphragm, and through a loop formed on the end of the wire a piece of wood is passed, which is held against the front of the diaphragm.

A floor cleaning machine has been patented by Mr. John F. Cameron, of New York city. It is adapted to be rolled along the floor, carrying water and operating scrubbing brushes, and so constructed that both the scrubbing brushes and a series of wipers will adjust themselves automatically to the floor, whether it be even or not, and an easy reciprocating motion is communicated from the drive wheel to the brushes.

A gate has been patented by Mr. Nelson D. Combs, of Hawthorne, Iowa. It is a combined sliding and swinging gate, with vertical ends, horizontal rods, central bar, and strands of barbed wire, anti-friction rollers being journaled in transverse apertures in the uprights, with other novel features, making a gate not liable to get out of order, and one that is light and easily handled.

A shot cartridge has been patented by Mr. William E. Boyd, of Selma, Ala. In this cartridge the individual shot are connected together by wire, twine, a chain, or other suitable means, to limit the spread of shot or bullets after they leave the gun, the wire or twine, etc., being wound around the body of any light substance, such as cork, pith, or paper, that will allow of easy detachment.

A buckle has been patented by Mr. Samuel J. Scovill, of Jamaica, N. Y. It is designed for a cheap, practical, and convenient buckle, which can be put in place without stitching, and consists of a hollow frame and two right angled jaws or levers oppositely pivoted therein, the inner portions of the jaws being adapted to grasp the straps entered, one at each end of the frame.

A fence wire stretcher has been patented by Messrs. Clifton R. and Marshal E. Summers, of Stanberry, Mo. It is a simple and easily handled device, which can be conveniently attached to a fence post of any shape, to powerfully clamp and stretch barbed or plain wires or ribbons, and hold it tightly up to the faces of the posts until permanently fixed by staples or otherwise.

A candle burner has been patented by Mr. Hubert Bové, of New York city. It is preferably made of sheet metal, of a hollow conical shape, so made as to rest on a shield upon the top of the candle, and prevent the sweating or running of the melted wax, sperm, or grease down the side of the candle, the shield itself descending by gravity with the burning of the candle.

A cutter head has been patented by Mr. William A. Woodroffe, of Mechum's River, Va. The cutter head has combined with it one or more oscillating or shifting cutters, intended to give better clearance for wood shapers having a rotary motion and capable of cutting in opposite directions of rotation, including solid friezing and edging cutters and those for making mouldings and other ornamental work.

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 next issue.

Engines and boilers, 1/2 to 4 H. P. Washburn Engine Co., Medina, O.

Wanted—Parties with capital to secure patents in this and foreign countries on a very sensitive and reliable Engine Governor. Address Geo. S. Agee, Burnham (Mill), Howell Co., Mo.

For Sale—The machinery, tools, plating apparatus, and raw material of a manufacturing establishment, now working on orders in brass and other metals. Very low rent, including steam power. Address Manufacturer, P. O. box 285, New Brunswick, N. J.

Inventors of Buttons and Button Machinery, address Geo. E. Weaver, Providence, R. I.

Concrete Apparatus, etc. Ernest Ransome, S. F., Cal.

The Knowles Steam Pump Works, 44 Washington St., Boston, and 93 Liberty St., New York, have just issued a new catalogue, in which are many new and improved forms of Pumping Machinery of the single and duplex, steam and power type. This catalogue will be mailed free of charge on application.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Machinery for Light Manufacturing on hand and built to order. E. E. Garvin & Co., 130 Center St., N. Y.

A Catechism on the Locomotive. By M. N. Forney. With 19 plates, 227 engravings, and 600 pages. \$2.50. Sent on receipt of the price by Munn & Co., 361 Broadway, New York.

Guild & Garrison's Steam Pump Works, Brooklyn, N. Y. Pumps for liquids, air, and gases. New catalogue now ready.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts, polishing compositions, etc. \$100 "Little Wonder." A perfect Electro Plating Machine. Sole manufacturers of the new Dip Lacquer Kristalline. Complete outfit for plating, etc. Hanson, Van Winkle & Co., Newark, N. J., and 92 and 94 Liberty St., New York.

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn.

Haswell's Engineer's Pocket-Book. By Charles H. Haswell, Civil, Marine, and Mechanical Engineer. Giving Tables, Rules, and Formulas pertaining to Mechanics, Mathematics, and Physics, Architecture, Masonry, Steam Vessels, Mills, Limes, Mortars, Cements, etc. 900 pages, leather, pocket-book form, \$4.00. For sale by Munn & Co., 361 Broadway, New York.

Wrinkles and Recipes. Compiled from the SCIENTIFIC AMERICAN. A collection of practical suggestions, processes, and directions, for the Mechanic, Engineer, Farmer, and Housekeeper. With a Color Temperature Scale, and numerous wood engravings. Revised by Prof. Thurston and Vander Weyde, and Engineers Buel and Rose. 12mo, cloth, \$2.00. For sale by Munn & Co., 361 Broadway, New York.

Cutting-off Saw and Gaining Machine, and Wood Working Machinery. C. B. Rogers & Co., Norwich, Conn. Iron and Steel Wire, Wire Rope, Wire Rope Tramways. Trenton Iron Company, Trenton, N. J.

Send for catalogue of Scientific Books for sale by Munn & Co., 361 Broadway, N. Y. Free on application.

See Burnham's turbine ad. to mill owners next week.

Pat. Geared Scroll Chucks, with 3 pinions, sold at same prices as common chucks by Cushman Chuck Co., Hartford, Conn.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Friction Clutch Pulleys. D. Frisbie & Co., N. Y. city.

Tight and Slack Barrel Machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv., p. 28.

Catarrh Cured. A clergyman, after years of suffering from that loathsome disease, catarrh, and vainly trying every known remedy, at last found a prescription which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Dr. Lawrence, 212 East 9th St., New York, will receive the recipe free of charge.

Lick Telescope and all smaller sizes built by Warner & Swasey, Cleveland, Ohio.

Billings' Drop Forged Steel C Clamps. Drop Forgings, all kinds. Billings & Spencer Co., Hartford, Conn.

Poverty and Distress. That poverty which produces the greatest distress is not of the purse, but of the blood. Deprived of its richness, it becomes scant and watery, a condition termed anemia in medical writings. Given this condition, and scrofulous swellings and sores, general and nervous debility, loss of flesh and appetite, weak lungs, throat disease, spitting of blood, and consumption are among the common results. If you are a sufferer from thin, poor blood employ Dr. Pierce's "Golden Medical Discovery," which enriches the blood and cures these grave affections. It is more nutritive than cod liver oil, and is harmless in any condition of the system, yet powerful to cure. By druggists.

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.

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.

(1) A. W. asks: By what means may I remove the paint that have accumulated on the floor of a room that was used as a sales room of paints for several years? A. The best method is to lay on a thick coating or plaster of fresh slaked lime mixed with soda; next day, wash it off with water.

(2) E. B. writes: I have a fine banjo, but the neck of it, which is black walnut, is not polished. Will you please tell me how to polish the same, also how to stain the face of it to imitate ebony? A. Use the following to stain the wood: Dissolve 4 ounces of shellac with 2 ounces borax in 1/2 gallon of water. Boil until a perfect solution is obtained. Then add 1/2 ounce of glycerine, after which add sufficient aniline black soluble in water and apply. To polish: Dissolve by heat so much beeswax in spirits of turpentine that the mixture, when cold, shall be about as thick as honey. Apply with a clean flannel cloth.

(3) F. H. writes: 1. New wine was accidentally put in a very old barrel and tastes of decayed wood. How can said taste be removed? A. A little coarsely powdered charcoal or boneblack, in either case with dust sifted out, shaken up with the wine will remove any disagreeable odor. 2. How to detect imitation from genuine meerschaum? A. We know of no means, except its general appearance, by which the imitation can be detected.

(4) B. F. H. asks: 1. What are the constituents of and proportions used in nitroglycerine? A. See "Manufacture of Nitroglycerine," in SCIENTIFIC AMERICAN SUPPLEMENT, No. 243. 2. What is the method pursued in making gun cotton? A. See "Manufacture of Gun Cotton," SCIENTIFIC AMERICAN SUPPLEMENT, No. 320. 3. Is nitrate of silver procured by dissolving silver in nitric acid, precipitating with sodium chloride and evaporating or drying the precipitate? A. No; this will produce chloride of silver. The proper method is by dissolving silver in nitric acid, evaporating to crystallization, and dissolving the crystals thus obtained in water. 4. How to make a silver plating solution to plate brass, copper, or replat old silver plated articles? A. See "Electro-Metallurgy," in SCIENTIFIC AMERICAN SUPPLEMENT, No. 310.

(5) Z. R. B. desires a few hints on permanently staining in different colors a polished white marble mantel piece. A. Marble may be stained or dyed of various colors by applying the solutions mentioned below to the stone, made sufficiently hot so that the liquid will just simmer on the surface. Blue, tincture of litmus; brown, tincture of logwood; crimson, a solution of alkanet root in oil of turpentine; green, tincture of sap green; red, tincture of dragon's blood or cochineal; yellow, tincture of gamboge or turmeric. Success in the application of the colors requires considerable experience.

(6) F. McF. asks: 1. Of what is the fluid in storm glasses composed? A. The ordinary barometric solution consists of: Camphor 2 1/2 drachms, alcohol 11 drachms, water 9 drachms, salt peter 38 grains, sal ammoniac 38 grains. Dissolve the camphor in the alcohol, the salts in the water, and mix the solutions together. 2. What is a planchette, how is it made, and what is its use? A. It is an instrument made of wood, in the form of a heart, resting on slight supports, one terminating in a pencil point. Under certain favorable conditions, it was claimed, that when this was placed on a sheet of writing paper, and the finger tips rested upon it, messages from the spirit world were conveyed by writing on the paper. 3. What is the cause of different colors of slate rock? A. These are caused by different colored mineral oxides, chiefly of iron.

(7) W. A. F. asks: 1. What added ingredient will render ruling inks copyable? A. Add sugar or glycerine. 2. What will remove stains of ruling inks from the skin and clothes without injury to either? A. See the list of ink erasers in SCIENTIFIC AMERICAN SUPPLEMENT, No. 157; also for Removing Stains, in SCIENTIFIC AMERICAN SUPPLEMENT, No. 158.

(8) J. E. J. W. writes: I made a "Norrumberg doubler, according to directions given in SCIENTIFIC AMERICAN of July 17, page 38, except that I used 10 plates of common glass instead of the microscope cover glasses. The double proved to be a failure. What is the cause? A. The obvious trouble is that you substituted 10 pieces of window glass for 20 of cover glass. The doubler has been made in accordance with the description and has worked perfectly. You must not attempt to vary the construction without anticipating varying results. 2. How should a swimmer catch a drowning person, in order to swim to the best advantage? A. He may take the drowning person on his back with his head over his shoulder. 3. How should a drowning person catch a swimmer, in order to allow him (the swimmer) the free use of his limbs? A. The approved method is for the drowning person to keep behind the swimmer, with a hand on each hip of the latter.

(9) F. I. P. asks: If a party has a dynamo for electroplating purposes, can the same dynamo be used for electric lamps, without injury to the plating? A. It might be done, but would never give satisfaction, as one work would interfere with the other.

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

September 7, 1886,

AND EACH BEARING THAT DATE.

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

Table listing inventions and their corresponding patent numbers. Includes items like Advertising box, Alarm, Amperemeter, Animal trap, Anti-friction roller, Ax polls, Axle box, Axle lubricator, Back band hook, Bale ties, Baling press, Bar cutter, Barrels, Bath, Battery, Bed, Bedstead, Beehive, Belts, Bits, Block, Blue compound, Board, Boiler, Boiler stand, Bolt, Bolt machine, Book holder, Book, Boot heels, Boot or shoe heel, Boots or shoes, Box, Box cover, Bracket, Brake, Brick and tile kiln, Brick from dry material, Bricks, Bridle bit, Broom corn sizing machine, Broom handles, Brush, Buckle, Burglar alarm, Butter shipper, Button, Camera, Can, Candy box, Car brake, Car coupling, Car coupling, Car coupling, Car coupling, Car coupling, Car coupling, Car door, Car illumination, Car lock, Car propelling mechanism, Car starter, Car, stock, Cars, Cars, steam pipe connection, Carburetor, Carriage gear, Carriage seat corner, Carriage tops, Carrier, Case, Caster, Casting cross heads, Casting tubes, Chains, Chair, Chair, Chair, Chandeliers, Churn, Churn, Churn, Cigar, Cigar box, Cigar bundling machine, Clamp, Clasp, Clasp for supporting articles, Clock striking mechanism.