

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 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. Scovil, 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 Mechem's River, Va. The cutter head has been combined with 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.

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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.

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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 of 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 ¼ gallon of water. Boil until a perfect solution is obtained. Then add ¼ 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," in 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 replated 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 mantle 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 2½ drachms, alcohol 11 drachms, water 9 drachms, saltpeter 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 98, 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.

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