

ENGINEERING INVENTIONS.

A rail joint truss has been patented by Mr. John McEwen, of Lawrence, Kan. It consists of a base plate, block, and opposite truss bars, secured to the rails by bolts, to prevent the settling of the end of one rail below the other at rail joints between the ties, to obviate the hammering of car wheels at these joints.

A spring rail frog for railways has been patented by Mr. Joseph E. Clifton, of Geneseo, Ill. It has tie plates with clips, combined with a moving rail and guard and fixed outer rail, with other novel features to obviate the defects in this class of frogs, and increase their durability.

AGRICULTURAL INVENTIONS.

A seed planter has been patented by Mr. George Lovick, of Temple, Tex. Its construction is such that the operator is enabled to see each seed in its passage from the planting wheel to the ground, and so guard against some of the rows being only half planted from the seed spout getting stopped up or the planter wheel failing to act properly.

A universal marker has been patented by Messrs. Elmer J. Hildreth and Thomas R. Miller, of New Haven, Conn. It is for use in marking fields for seed drills, hand planters, and other planting machines, and provides for the convenient adjustment of the shovels or marking points, so they may be grouped or spaced as desired, and any number taken out.

A cotton scraper has been patented by Mr. Richard Cooper, of Greenville, Tex. This invention covers a novel mechanism for a cotton scraper to cut a wider furrow with lighter draught, do the work more perfectly, be more easily held to the row, while the implement may be conveniently disconnected for repairing.

A hay rake and loader has been patented by Mr. Edward A. Gerrard, of Columbus, Neb. The frame has three wheels and but a single central forward wheel for a vehicle which can be drawn across fields to rake up hay, and is provided with means for separating the hay to be elevated from that which is to remain on the ground, with means for holding the rake teeth and means for running the elevator rope.

MISCELLANEOUS INVENTIONS.

An adjustable bedstead has been patented by Mr. Charles A. Jenkins, of New Berne, N. C. This invention covers a novel form of construction for a bedstead which can be used as a crib, a double crib, or a full sized bedstead.

A wagon box has been patented by Mr. Henry Jacobs, of Evansville, Ind. It is formed of sections which can be taken apart and put together very rapidly, making it convenient for one person to place it on or remove it from the running gear of the wagon.

A toilet fan has been patented by Mr. Joseph Silbern, of New York city. It is light and simple of construction, but it is so made that the fan can be operated by a slight movement of one finger, without its being necessary to move the entire hand.

An adjustable and balancing seesaw has been patented by Mr. Arthur B. Flach, of New York city. It is a novel arrangement of rocking frame with hinged ends on which are the seats, with adjustable foot rests, and so constructed that when not in use it can be readily taken apart and compactly folded.

A shaft support for vehicles has been patented by Mr. Frank P. Chamberlin, of Carlisle, O. It consists of a metal strip carried by the shafts, with a spring carried by the shaft clip, and secured thereto in a novel manner, making an attachment for holding carriage or wagon shafts in an elevated or upright position.

A jump seat iron has been patented by Mr. Andrew F. Shuler, of Arcanum, O. It has front and rear bars of novel design so pivoted to a base bar that a wagon seat constructed therewith can be readily adjusted to form one or two seats, as may be required, the irons being applicable to any kind of vehicle or any kind of seat.

A waist belt buckle has been patented by Messrs. Louis Sanders, of Brooklyn, N. Y., and Harry A. Sanders, of New York city. It is of simple construction, and can be cheaply made, but is so formed that belts can be readily adjusted and firmly secured thereby to lie smoothly in place, while the buckle has a very finished appearance.

A bag or satchel fastening has been patented by Mr. Louis B. Prahar, of Brooklyn, N. Y. This invention covers a simple and novel arrangement of catch plates and a light frame to make a fastening for a purse, pocket book, or a hand bag frame, to hold the frames securely closed, but yet so they can be readily unfastened.

A fastening for hand bags and other articles has been patented by Mr. Louis Sanders, of Brooklyn, N. Y. Combined with a slotted eye plate, attached to one part of the frame, is a stem having a flaring notch in its top, and attached to the other part of the frame, making a fastening intended to be strong and reliable in use and neat in appearance.

A sash fastener has been patented by Mr. Charles Witzel, of Brooklyn, N. Y. This invention provides a novel arrangement of sliding bolts connected with levers and slots, intended to do away with weights and cords as used in an ordinary window, and to hold and lock the sash in any desired position, either raised or lowered.

An illuminated glass sign has been patented by Mr. Francis L. Pisch, of New York city. This invention provides for a sheet metal frame with bars so arranged that different parts of the sign can easily be united and taken apart, as desired for different effects, while the sign will be smooth on the outside, and has no projections in which the dust can settle.

An adding machine has been patented by Mr. Thomas W. Maxey, of Nevada, Mo. It has a number of wheels journaled to be revolved on a shaft, and provided circumferentially with figures to indicate the amount of an addition, so that the numbers in one

or more columns may be added by moving levers as many times as there are units in each column.

A mop holder has been patented by Mr. John McWilliams, of New Lebanon, N. Y. Combined with a mop holder, readily adjustable for thick or thin mops, there is a rod hinged on the stick, with a forked piece swiveled on the end of the rod, which forked piece can be used for wringing the mop, and when not in use can be swung back against the stick.

A defecator for cane juice has been patented by Mr. Leon F. Hauptman, of New Orleans, La. It has a skimming shaft and paddle and scum screen, with various novel features and special details of construction, whereby the scum may be removed automatically, and the valuable parts of the impurities readily preserved and again defecated.

A chenille ornament has been patented by Mr. Christian A. Schmidt, of Hoboken, N. J. It is formed of two or more strands of chenille of varying diameters twisted and bound together, and with which strands of tinsel or other material may be interwoven, to provide trimmings, such as pendants, drops, borders, etc., for furniture, upholstery, and articles of dress.

A machine for filing prescriptions has been patented by Mr. John S. Jarnagin, of Mossy Creek, Tenn. It consists of two reels, with suitable connections, drive gearing, and handle, the prescriptions to be pasted together to form a roll which can thus be wound up, and afterward readily referred to by unwinding from one roll and on another.

A power and speed regulator has been patented by Mr. Christian Rowland, of Lanark, Ill. It consists in the combination of a ratchet clutch mechanism, a driven shaft, and a flywheel rigidly fixed to the shaft at a point between the driven section of the clutch and the point of utilization of the power, for regulating the speed of machines run by hand or power.

A tube cutter has been patented by Mr. Delmer L. Baughman, of Albion, Ind. Combined with a tubular stock is a screw mandrel having a tapered part, with blocks in the stock resting on the tapered part of the mandrel and carrying cutters, the device being adapted for cutting off old boiler tubes in boilers or cutting and finishing off the ends of new tubes after the same have been expanded at one end.

An umbrella handle has been patented by Mr. Albert T. Schlichting, of New York city. The umbrella stick has its lower end screw-threaded, and the handle has a screw-threaded aperture with a cavity for the free ends of the umbrella ribs, so that by turning the handle in either direction it can be moved toward or from the ends of the ribs, to hold or release them.

A fence post has been patented by Messrs. William H. Meyers and Louis Anderson, of Oregon, Wis. It consists of a group of rods bound together at the desired distances above ground, their lower ends bent to form a triangular supporting base, and the rods interlaced to admit of the fence wires being passed between them and to stiffen the post to resist strain.

A fruit crate has been patented by Mr. Cyrus W. Lloyd, of Salisbury, Md. The invention consists in gaining or cutting the vertical strips of both the end and side panels, and fitting the horizontal strips into the gains, extending the ends of one set of panels out flush with the outer sides of the vertical strips of the other side panels, and fastening them by metal angle irons.

A combined fare box and lantern has been patented by Mr. Henry D. Clark, of Rochester, N. Y. This invention covers a novel construction, by the use of which a passenger can drop the fare into the fare box, and then the passenger and conductor can both see the fare after it has been dropped in and before it has been discharged into the money box, that both can be witnesses of its correctness.

A wind engine has been patented by Mr. John Serdinko, of New Braunfels, Tex. It has a vertical circular frame, with a windwheel covered to the half by a hemispherical roof supported by posts, only the lower blades of the windwheel being exposed to the wind, and the power obtained from the wheel being transmitted through a shaft, crank, and pitman rod to the machinery below.

A mechanical telephone diaphragm has been patented by Mr. William Taylor, of Niles, Mich. It is made of alternate layers of wood or straw pulp pressed into the form of thin sheets or boards and strong cloth, two or three thicknesses of each style of material being united by any suitable cement, making a diaphragm that is strong and durable, and calculated to reproduce messages in clear and soft tones.

A combination lock has been patented by Mr. Andrew J. Calhoun, of Socorro, N. M. It is designed more especially for vault or safe doors, and has a key frame slotted lengthwise to receive one or more notched bolts, and slotted transversely to receive notched keys, which remain in the lock and are adapted to slide through the notches of the bolts, together with a suitable casing inclosing the key frame, and key stems fitted in the vault or safe door to which the lock is applied, and adapted to be engaged with and disconnected from the keys.

A bark shaving machine is the subject of two patents issued to Mr. Benedict Ott, of La Crosse, Wis. The knives or cutters are held in a fixed rim, and the link moved into contact therewith by a revolving carrier. The bark is fed through the hopper through a sort of agitator throat, and by the connections between the sections the tensions and motions given to one are transferred to the others, and the sections are given a tension toward the cutter head, with a motion which prevents clogging, the machine being for cutting tanner's bark into shavings instead of grinding it.

A combined inhaler and atomizer has been patented by Mr. Hugh Thomas, of New York city. This invention provides a novel apparatus for inhaling steam or other vapor, or steam mixed with atomized or medicated materials, and for different modes of inhaling, and may also be used as a douche, greatly increasing the number of uses of such appliances. [For further particulars with reference to this patent address Mr. James M. Henley, 361 Broadway, New York city.]

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Notes & Queries

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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.

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Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Minerals sent for examination should be distinctly marked or labeled.

(1) W. H. P. writes: I would like a receipt for a preparation to coat over malleable irons that will color them a bronze color, something like Berlin or Tuscan bronze. A leading firm uses common furniture varnish, baking the castings to 400° or 500° heat, but I would like something that I would not have to bake, that is air-drying and cheap. A cheap and easily applied bronze color may be made on ironwork by painting with a thin paint, about the color required, and, when nearly dry, brush the articles lightly with bronze powder on a piece of fur or a rabbit's foot. You may obtain any colors in bronze powder and a corresponding oil color through the paint trade. 2. Can I export goods into Canada free of duty, when the article is patented in Canada? A. No.

(2) M. R. A.—To put a high polish on walnut, or any other kind of wood, and preserve the natural color and grain, the Wheeler patent wood filler, made at Bridgeport, Conn., is very highly recommended. It is quicker applied and much more satisfactory for all finishing of natural woods than the old method of rubbing down with varnish and oil.

(3) C. F. desires a receipt for paint with which to paint an iron bath tub. A. Use the best quality of white lead.

(4) H. S. B. desires a receipt for coloring billiard and pool balls. A. For Black.—Boil for a short time in a strained solution of logwood, afterward immerse them in a solution of iron sulphate. Blue.—Immerse for a short time in a dilute solution of indigo carmine. Yellow.—Immerse for about 15 minutes in a solution of potassium chromate. Red.—Macerate cochineal in vinegar, and boil the balls in the liquid for a few minutes. Violet.—Dye red first, then immerse for an instant in solution of indigo carmine. Green.—Dye yellow first, and afterward dip into solution of indigo carmine.

(5) T. R. writes: I have noticed advertisements of preparations claiming to make the hair grow; for example, one will, in a given time, it is said, cause profuse beard to appear. Is this true? A. The use of borax in the water employed for washing, together with stimulating lotions containing small amounts of tincture of cantharides, will have some effect, but not as much as stated, in assisting the growth of the beard, in cases where no impediments (i. e., skin diseases, etc.) exist.

(6) P. D. writes: A flat bottomed boat (sharpie model) fifty feet keel, fifteen feet beam, and scow stern, "drawn in" to twelve feet width, and fifteen inches draught, is required to run eight miles an hour. What would be the dimensions of boiler (locomotive), engine, and screw wheel, to attain above results? Also, what would be approximate weight of boiler and machinery? Boiler and machinery to be as light and to occupy least space practicable. Is there any device in actual use to raise and lower small screw wheels by