

RECENTLY PATENTED INVENTIONS.

Engineering.

**ENGINE GOVERNOR.**—Martin A. Green, Altoona, Pa. This governor is of a class which have a laterally movable eccentric upon the crank shaft of the engine, centrifugal weights operating in connection with centrifugal springs to vary the position of the eccentric, the invention covering an improved construction whereby the force exerted by the springs may be readily and accurately adjusted with reference to the opposing force exerted by the centrifugal weights.

**LOCOMOTIVE EXHAUST NOZZLE.**—John J. De Lancey, Binghamton, N. Y. This nozzle has an unobstructed open upper end, and in connection therewith is employed a flat plate having an unobstructed opening of the same size as the nozzle outlet, to one side of which it is pivoted to vibrate horizontally across it, its swinging motion being under the control of the engineer in the cab, whereby the exhaust may be regulated, thereby regulating the draught in the boiler.

**WHEEL FOR ROAD ENGINES.**—Rescue B. Page, Oakland, Cal. This wheel is so made as to prevent the sinking into the ground of the shoes used with it, also providing means whereby one of the shoes will at all times be in contact with the ground, and whereby the shoe to be lifted will be elevated first at that end facing the line of travel of the wheel, thus reducing suction.

**BOILER LEVELER.**—Ole O. Kravik, St. Carl, North Dakota. This invention provides a construction specially designed for portable boilers, to raise and lower their front ends when going up or down a grade without interfering with the turning of the front wheels, the devices therefor being simple, durable, and easily manipulated.

Railway Appliances.

**CAR COUPLING.**—Benjamin J. French and John H. Carroll, De Smet, South Dakota. The drawbar of this coupler is made in two hinged sections capable of lateral movement, the outer end of the bar terminating in a coupling hook, while a spring is attached to the drawhead and the hinge of the drawbar, and a shaft has a chain connection with the drawbar, the device being designed for use with the ordinary drawhead, to be manipulated from the top or sides of the car, and for coupling with an opposing coupler of greater or less height.

**CAR COUPLING.**—William H. Franks, Sonoma, Texas. This is a coupler of simple construction, to be manipulated from the top or sides of freight cars and from the sides or platform of passenger cars, the drawhead having an upwardly extending post in which is fulcrumed a lever, combination with peculiar forms of lock and link lifts, and various other novel features.

Mining, Etc.

**CRUSHING ROLLS AND APPARATUS FOR REDUCING ORES.**—Daniel Brennan, Jr., Bayonne, N. J. Three patents have been granted this inventor for radical improvements in machines for the reduction of ores, the crushing rolls of which comprise fixed and yielding rolls, the yielding rolls carrying pulleys and ropes provided with weights, there being a spring cushion for the weights, and screw rod stops of improved construction for the yielding roll, etc., whereby the rolls will have a steady and uniform pressure, but will yield should a drill point or other like article be passed in with the ore. For use in connection with the rolls a series of separator screens is provided, common to all the rolls, with conveying mechanism between the rolls and screens. The screens of the apparatus form receivers for the coarse products or tailings of each of the rolls, as well as distributors for the delivery of the tailings to the several rolls, thus facilitating the more speedy and economical reduction of the ores by assorting the material after its initial breaking, with special reference to the adjustment and capacity of the several rolls, the material being reassorted and redistributed to the rolls until reduced to the requisite degree of fineness. The feed regulator provided for use with these mills, though also capable of use for other purposes, has two superposed slides, arranged after a novel manner, and formed of sectional slides made up of relatively movable strips or individual slides, by means of which the ores, either coarse or fine, may be fully under the control of the operator, and the feed may be varied to supply more or less material at any particular point, or entirely cut off the supply at any point, the main object being to prevent any uneven wearing of the roll.

Mechanical.

**PLATE PRINTING PRESS.**—Wellington P. Kidder, Boston, Mass., and George H. Kendall, New York City. This invention relates to presses in which the inking, wiping and polishing of the plate are performed automatically, and provides improved mechanism for the wiping and polishing, and means for shifting the web over the face of the wipers and polishers, whereby the cloth will be applied in both services in both the forward and back stroke of the plate, while a perforating mechanism is provided in combination with the other improvements.

**TOOL FOR DRESSING EMERY WHEELS.**—Anson A. Reed, Worcester, Mass. In this device the shaft on which the cutter head is mounted is screw threaded between journals and has a collar, the cutter head consisting of a series of cutters and spacing collars clamped together by rivets or bolts and screw threaded interiorly to fit the shaft, the tool being adapted for use by hand or in the tool post of a lathe or similar machine.

**SHOE TURNING MACHINE.**—Jason H. Edgerly, Chicago, Ill. This machine has a hub pivoted on a support and provided with radially extending forms, which are changed to fit the varying sizes of shoes, a curved arm extending from the upper portion of the hub having its lower end opposite the toe of a form, to facilitate quickly turning shoes made as "turns" right side out.

Agricultural.

**CUTTER BAR FOR HEADERS.**—Charles E. Plumtree and Louis A. A. Tonnet, Spokane Falls, Washington. This is a double cutter bar for a harvesting machine, a pitman connected with a lever operating one of the cutter bars, the other cutter bar being operated by another lever formed of two members united by a sliding connection, each of the members having a separate fulcrum, and the two-part lever being connected to and operated by the first lever.

Miscellaneous.

**TAILORS' STOVE.**—George Hay, Picton, Canada. This is a compact and convenient stove for quickly heating tailors' irons, the fire chamber having apertured side plates connecting with vertical side flues which intersect a horizontal flue above the side walls of the fire chamber, the stove being principally formed by readily assembled cast iron plates.

**PLATFORM ROCKERS.**—Richard H. Krall, Allentown, Pa. This invention covers an attachment providing means whereby the body of the chair may be readily locked to the platform, and held rigidly in an upright or inclined position, the device also acting as a safety check, preventing the body of the rocker from falling backward should an accident happen to the spring.

**ADJUSTABLE SWING.**—William K. Miller, Troy, Kansas. Two doubled ropes are used in this swing, and the seat board has a shaft projecting from each end carrying a locking sleeve adapted to retain a rope end, with other novel features, whereby the swing may be readily adapted for height to suit different persons.

**WINDOW SCREEN.**—Christian C. Schupbach, Grand Island, Neb. This is a wire cloth device, applicable either in a stationary or sliding form, and which can be readily put in position, being adjustable for windows of different widths, while it is designed not merely to exclude flies, but to allow for their escape without letting in others.

**DRAWER ATTACHMENT.**—Edward W. Stone, Chicago, Ill. This is a stop attachment in which a novel form of angle iron turning in a socket is so applied that the drawer may be pulled outward essentially its entire width and yet sustained against falling from the cabinet, it being possible also to remove the drawer from its place when desired without disturbing the attached device.

**WATER WHEEL.**—Thomas A. McDonald, Durham, Canada. This is an improvement in wheels adapted to be anchored in a stream, whereby the force of the current may be utilized to drive machinery, and the hub of the wheel is divided into vertical clutch sections between which are introduced tongue-like extensions of paddles of peculiar form, having pockets thereon.

**FOOT REST.**—John K. Phillips, South Orange, N. J. This is an improved article of manufacture designed especially for use in shoe stores in the fitting on of shoes, giving increased convenience with economy of space, and there being in connection with the foot rest a sliding knee rest for use by the salesman, the latter rest being moved into the foot rest when not required for use.

**KNITTING SEINES, ETC.**—Nathaniel D. Sollers, Sollers, Md. This invention covers an improvement on a former patented invention of the same inventor, and provides a new mesh plate for the use of seine knitters in forming the loops or meshes of the seine, being designed to permit of the formation of the weaver's knot by what is known as the French method by a single passage of the needle in a rapid and convenient manner.

**PERMUTATION LOCK.**—Alphonse Metzger, Milton, Pa. Combined with a tubular lock case having a longitudinally grooved portion and annular external grooves are radially apertured rings having interchangeable pins projecting their apertures into the grooves, and a bolt having a notched edge to be engaged by the inner ends of the pins, with other novel features, the lock being so constructed that the bolt may lock various devices.

**PIKE POLE.**—Alfred E. Creigh, Roncerverte, West Va. This invention provides a socket piece for the end of the pole, and a pike or point having its shank formed to fit the socket, and so that it may be easily slipped in or removed therefrom when the clamping band is removed, whereby the point may be readily renewed when it becomes dulled.

**PAVEMENT.**—Frederick C. Schmidt, New York City. This invention provides a form of construction by which a pavement may be readily laid, and designed to prevent sagging of the paving blocks, which are laid between the transverse ribs of cast metal plates, the ends of these plates having flanges which rest in channels in the top of supporting beams laid on the ground.

**FUNNEL.**—William R. Cole, Pottsville, Pa. This is a device designed particularly for filling oil lamps, and for other uses where the filling up of the vessel cannot be readily observed, there being combined with the funnel tube a float and indicator to be lifted by the liquid when the vessel is full or nearly so, the float being attached eccentrically to a rod movably attached to the spout.

**ATOMIZER.**—Josef Schoettl, Brooklyn, N. Y. The spray pipe of this device is secured to a neck piece on a coupling head by a rib and groove connection which permits the pipe and its nozzle to be rotated on the neck piece, the atomizer being designed to facilitate the spraying of medicinal liquid preparations within the head and throat, and being a compact device, readily separable into its component parts.

**DENTAL MALLET.**—William H. Dibble, Brooklyn, N. Y. This mallet has a plugger at each end, with means for pneumatically delivering a blow simultaneously on each plugger, so that one blow neutralizes the other, the handle remaining stationary, and the entire effective force of the stroke being imparted to the pluggers.

**VEHICLE WHEEL.**—Victor F. Mogk, Seattle, Washington. This wheel has an inner tire with an annular channel in its periphery, and an outer elastic tire, with springs interposed between the tires, whereby the percussion resulting from travel is absorbed, and shock or jar is obviated, the tires coming together when the wheel is subjected to excessive weight.

**FENCE.**—Aaron F. Dickey, Friedens, Pa. This is a truss-supported fence of novel construction, whereby the fence may be raised to any desired height by drawing on the ends of the truss wire, and a span of fence from ten to twenty rods in length may thus be held up.

**ORNAMENTAL NAIL HEAD.**—Otto F. Wegener, Seattle, Washington. This is an improvement in ornamental hangers designed for use as picture nails, nails or screws for supporting brackets, etc., against the wall, the invention covering a novel form and combination of parts.

**WINDOW SCREEN.**—Thomas Robinson, Minneapolis, Minn. This invention relates to removable window screens, and is composed of two similar frames which when taken from the window may be folded to occupy small space, the screen in place being entirely outside the sash, so that the latter may be raised and lowered without interfering with the screen.

**MOP WRINGER.**—John Frost, Omaha, Neb. This is a simple and durable device for easily wringing a mop without soiling the hands, while at the same time the pail or bucket is not liable to be upset.

**NOTE.**—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

SCIENTIFIC AMERICAN BUILDING EDITION. JANUARY NUMBER.—(No. 63.)

TABLE OF CONTENTS.

1. Handsome colored plate of an elegant residence on Riverside Avenue, New York City. Cost \$60,000 complete. Floor plans, two perspective elevations, etc. Mr. Frank Freeman, New York, architect.
2. Plate in colors showing an attractive cottage at Maplewood, Chicago. Estimated cost \$3,000. Perspective view and two floor plans.
3. A cottage at Rutherford, N. J., erected at a cost of \$6,000 complete. Perspective elevation, floor plans, etc.
4. An elegant residence at Chestnut Hill, Pa., recently erected for Mr. Alfred C. Rex. Cost \$30,000 complete. Floor plans, perspective elevation, etc.
5. Sketch and floor plans of a residence at Stockton, Cal. Estimated cost \$10,000.
6. Cottage at Englewood, Chicago. Perspective view and floor plans. Cost \$4,200.
7. Residence on Powelton Avenue, Philadelphia, Pa. Cost 30,000 complete. Architect Thos. P. Lonsdale, Philadelphia. Floor plans, perspective elevation, etc.
8. A cottage at Jackson Park, Chicago. Estimated cost \$4,000. Floor plans, perspective elevation, etc.
9. Cottage on Munroe Avenue, Chicago. Two floor plans and perspective view. Cost \$300.
10. Residence at Wayne, Pa., from plans prepared by W. L. Price, architect, Philadelphia. Cost \$7,000 complete. Floor plans, perspective view, etc.
11. An attractive country church of moderate size recently erected at Glen Ridge, N. J. Estimated cost about \$15,000. Perspective view and floor plan.
12. Cottage at Lakeview, Chicago. Floor plans and perspective view. Cost \$3,000.
13. A stable combining both beauty and convenience, erected for Mr. A. C. Rex, at Chestnut Hill, Pa. Cost \$1,800. Plans and perspective.
14. A cottage at Austin, Chicago, Ill. Cost \$4,300. Two floor plans and photographic view.
15. Sketches of park entrance lodges.
16. Engraving of the Woman's Temperance Temple, Chicago, Ill., as it will appear when finished. Estimated cost of the Temple \$1,100,000.
17. View of Whitworth Memorial Hospital.
18. Miscellaneous contents: The marble industry.—Lighting streets of London.—Mahogany ties and marble bridges.—Staining floors.—The Peruvian temple of Pachacamac.—How to catch contracts.—Black birch.—Some of the merits.—Improve your property.—The SCIENTIFIC AMERICAN a help to builders.—An improved article for plastering, tiling, and cement work, illustrated.—The Sinclair double rocker, illustrated.—An improved veneer press, illustrated.—Our last year's volume.—The Albany Venetian blinds, illustrated.—A convenience for hospitals, families, etc., illustrated.—The education of customers.—The Buffalo hot blast heating system, illustrated.—The "Willer" sliding blinds, illustrated.—Mueller's water pressure regulator.—Artistic wall decorations.

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Notes & Queries

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(2660) E. J. E. asks: 1. What will preserve a proof of a photograph to keep it from fading? A. Dip the proof in a solution of hyposulphite of soda, 20 grains, dissolved in 5 ounces of water for ten minutes, then wash in changing water for two hours. 2. How should a young Canary bird be treated as to food, and the best method in teaching to sing? A. We can supply you with "Canary Birds, a Complete Guide for their Breeding, Rearing, and Treatment," price 75 cents. Also "The Canary Book, containing Full Directions for the Breeding, Feeding, and Management of Canaries, etc.," by Wallace, illustrated, price \$2.

(2661) C. R. asks why gas formed in an explosion of coal gas, i. e., the exhaust of gas engines, is not used for inflating balloons, as I should think it necessarily would be lighter than coal gas. A. It is not only heavier than coal gas, but is heavier than air. It consists of carbon dioxide and nitrogen; the vapor of water condenses immediately, leaving the other two gases.

(2662) A Subscriber asks: Is the film of incandescent lamps a kind of carbon? A. Yes.

(2663) A. M. F. asks for the best formula for making "blue print" solution.—A. See SCIENTIFIC AMERICAN SUPPLEMENT, No. 584, for full directions.

(2664) S. A. R. asks: Can you tell me how to transfer prints, etc., on an enamel surface, so that they may be fired? A. See Henderson's method in SCIENTIFIC AMERICAN SUPPLEMENT, No. 382.

(2665) Health Officer asks: Do you know of any process for the destruction of the gases and smoke emerging from stacks resulting from burning copper ore and evolving large quantities of sulphur and sulphurous gas? A. There is no practical way of