

RECENTLY PATENTED INVENTIONS.

Engineering.

ENGINE.—Adolf F. Stephenson, Stromsburg, Neb. Combined with a supporting frame in which a shaft is mounted are radially arranged cylinders within the frame, the pistons being connected to a single crank arm of the shaft, and the steam chests mounted on the frame outside the cylinders, the engine being designed to utilize the steam to the greatest advantage and be run at a high rate of speed.

STEAM ACTUATED VALVE.—Johann C. Grabner and Henri Ruperti, of Kupferhammer, near Brackwede, Germany. This invention relates to cylinder and piston motor engines, and is designed to dispense with the devices heretofore employed to distribute the steam, and to effect its distribution directly from the source of supply alternately to the ends of the cylinder and piston, the device being applicable to single and double acting engines.

FEED WATER HEATER.—Cleophas Cancienne, Bertie, La. Combined with a boiler feed pipe arranged in a furnace chamber is an independent detachable core having radial arms serving as supports for holding the core centrally in the pipe, the construction providing an unusually large area of heating surface relative to the quantity of water passing through the supply pipe.

REVERSING VALVE.—Augustus L. Engelbach, Leadville, Col. This invention consists of a slide valve and a semi-cylindrical valve seat on which the slide valve operates, and which is mounted to be turned in the steam chest, the valve being simple and durable in construction, effective in operation, and permitting of quickly reversing the engine at any time.

Railway Appliances.

PORTABLE STALL.—John W. Evers, Rahway, N. J. This is a stall for use in railroad cars, etc., for the transportation of horses and cattle, and designed to be readily set up and knocked down, consisting of a series of posts each having a screw rod for fastening them in place, partitions to be hooked on opposite posts to form the sides, an auxiliary post to lock the animals in place, and feed bags or troughs held on this post.

CAR COUPLING.—Robert L. Breth, Homer City, Pa. Combined with the drawhead is a gate, and a lever connected therewith through the medium of a link that works in a vertical slot in the drawhead, a housing covering the slot and having an aperture through which one arm of the lever passes, the invention being an improvement on a former patented invention of the same inventor.

Mechanical.

DIE STOCK.—James M. Carpenter, Pawtucket, R. I. This die stock has guides to hold a bolt in position so that the thread will be accurately cut thereon, the guides having an easy means of operation, there being also provision made for fixing the position of the guides and regulating their friction.

SHEARS.—William G. Koelsch, Albany, and Philip Shafer, Bath-on-the-Hudson, N. Y. By this invention novel means are employed to secure tension of the two blades in juxtaposition with and as they pass each other, a spring tension catch engaging with the joint pin, restraining the latter from turning and throwing the friction and wear upon the head of the pin.

CROSSCUT SAW.—William A. Miller, Wapinitia, Oregon. This invention covers a peculiar conformation of the teeth and the manner of setting them with regard to the blade of the saw, whereby the saw is designed to cut rapidly, with but little frictional resistance, the saw requiring less filing than saws in ordinary use, and being manufactured without increased expense.

PLANE.—Otto Skattebo, Hannaford, North Dakota. In this plane a longitudinal guide is adapted to be held parallel with or at any desired angle to the stock, a separable hinge joint connecting the two parts when the guide is to be held at an angle, and there being rods and set screws for holding the guide in the desired position, the device being equally efficient as a square or bevel plane, and one in which a great variety of tools may be inserted, as for matching, rabbeting, grooving, beading, etc.

KNIFE SHARPENER.—John Vermeulen, New York City. Combined with a casing having a transverse slot are transverse sharpening rollers within the casing at opposite sides of the slot, and having exterior to the casing toothed operating wheels, with means for locking the wheels against turning, the device being simple and durable in construction, convenient to use, and very effective.

KNIFE POLISHER.—John Vermeulen, New York City. This is a device in which the knife is polished by inserting and moving transversely its blade between two polishing straps, which are supplied with polishing material from an inclosed hopper, the pressure of the polishing straps upon the blade being adjusted by a screw as desired.

SOLE TRIMMING MACHINE.—Jacob R. Scott, Nyack, N. Y. This is a machine designed to cut the loops of the fair stitching thread under the channel cover of the under side of the sole, so that the channel cover can fold on to and be fastened to a smooth surface, the invention consisting of a cutter mounted to turn, and provided with a flange and a spring-pressed table supporting the sole presented to the cutter.

MAKING CAST STEEL INGOTS.—Richard B. H. Leighton, Philadelphia, Pa. By this invention the mould pit, fitted with suitable moulds, is placed in a frame above or near rotatable rollers grooved to fit the ingots that fall from the moulds so that the metal may be released from the moulds and passed through the rollers before it becomes fully set

or hardened, whereby a solid rolled ingot or finished bar is produced, free from pipe or sponginess.

Miscellaneous.

WAGON BODY.—Zachariah F. Jones, Scottsville, Va. This is a wagon body so constructed as to be easily taken apart and put together section by section, thus enabling it to be handled by one man, and also permitting its storage in small space when taken apart.

AXLE LUBRICATOR.—John N. Pringle, Belleville, Ontario, Canada. This lubricator is for the axles of vehicle wheels, the hub having an opening with which the lubricator nipple communicates, a cap or top being threaded on the lubricator, while a screw presser is threaded within the lubricator body to force tallow, axle grease, or other lubricant out on the axle spindle, the turning of the wheel distributing the lubricant.

CARTRIDGE SHELL RELOADER.—Charles A. Husey, Fort Bidwell, Cal. This is a simple, cheap, and durable implement for quickly loading shells, providing means for the ready removal of the exploded cap, for placing in position a cap or primer, for imparting a steady and uniform pressure to wads arranged above the powder and shot and for the holding of the cartridge head when the exploded cap is removed and a new cap put on.

FLUX OR SOLUTION FOR COATING METALS.—Brady S. Richardson, Scottsdale, Penn. This invention provides a method of coating articles of iron or other metals with a regular, smooth, and even coating of lead, without previously giving to the metal any preparatory coating or galvanizing, the lead forming a closely adherent coating which amalgamates with the iron and renders it unoxidizable.

BRICK DRIER.—Phineas Arnold, Canal Dover, Ohio. This drier preferably has three compartments under one roof and independent of one another, whereby the process of drying may be carried on in one compartment while the next is being emptied and another filled, or the drying may be carried on in one while the others are idle, means being also provided for drawing off the saturated air from the material in process of drying.

A PUMPING ATTACHMENT.—Winfield S. Overton, Whitestone, N. Y. This is an automatic attachment to be applied to an ordinary buoy or to a vessel, to be operated by the movement of either as it rides upon the waves, to distribute oil upon the water when applied to a buoy, and when applied to a vessel to keep it free from water.

MAKING WIRE BRACES.—Luna J. Aderhold, Waco, Ga. This invention provides a machine comprising a bed or support, wire-holding devices, and a revolving lever carrying a fixed guide at one end and twisting devices at its opposite end, to quickly and effectually bend up and straighten wire into V braces suitable for use as bed and fence braces.

METAL CEILING.—Henry S. Northrop, New York City. This is a ceiling made of thin stamped sheets or plates, and is made by combining adjoining plates having parallel beads near their outer edges and flanges projecting beyond the beads, one of the flanges overlapping the other and bearing ornamentation in relief, the ornamentations being separated from each other to afford spaces for the attaching nails.

SHINGLING BRACKET.—Thomas Levi and James W. Murchison, New Westminster, Canada. This is a bracket adapted for connection with a shingle roof to support a beam or scantling against which the carpenter or other workman may rest in shingling or repairing or doing other work on a roof, the brackets being usually employed in pairs or sets.

INDICATOR OR DIRECTORY.—John F. Deeves and Richard U. J. Gauthreaux, New Orleans, La. By this invention a rotary frame carrying a series of spring rollers on which are wound bands, in connection with a vertically slotted cylindrical casing, are employed in forming a machine to be set in a public place, and contain, ready for easy inspection, lists of residents and their addresses, a city map, and such other information as may be useful to a stranger or citizen.

INKSTAND AND PEN RACK.—George W. Lindsay, Gainesville, Texas. This is a combination device of one or more inkstands with pen-holding attachments adapted to close the lid of the inkstand when the pen is in position on the rack frame and permit the lid to open by gravity of attached parts when the pen is removed for use.

EASEL AND TRIPOD.—Kendall J. Minot, Galveston, Texas. This is a combination of a pair of cross bars, a hinged brace for supporting them at any required angle, and an adjustable arrangement for regulating the spread of the bars and of the brace, forming a device which may be used for holding photograph horns of different sizes at any desired height, or for holding a painting, or for the use of an article.

PIANO KEY BOARD ATTACHMENT.—Casper De Vibbiss, Shellsburg, Iowa. This is a device for mechanically playing a tune upon an organ, melodeon or piano, being a simple mechanical attachment to be set over the key board and operated by the revolution of a crank to play a selected piece of music, the music being formed by knobs on removable sheets of flexible material carried by rollers.

LAWN CLEANER.—Charles Bailey, Winnipeg, Canada. This is a light and durable machine designed to effectually clear the refuse, such as grass, leaves, etc., from lawns, tennis courts, and similar places, and, when made to follow a lawn mower, to take up all the grass cut, thereby leaving the lawn or ground perfectly clear.

CHURN.—Robert Campbell, Mancelona, Mich. In this churn the cream-holding vessel is supported on the upper end of a vertical spring plate, the churning being effected by bending the spring plate to one side by means of handles on the receiver, and then releasing the handles, when the spring causes the vibration of the receiver and the concussion of the particles of cream against themselves and the sides of the receiver.

FOLDING POULTRY CRATE.—Harry B. Cornish and Samuel M. Higgason, Rutherford, Tenn. This is a crate for the transportation of poultry, which, when knocked down, will form a compact bundle, and when set up may be made firm in such position, preventing abstraction of the contents and indicating if the crate has been tampered with when in use as a shipping box or coop for live poultry.

DIPPER HANDLE.—Henry Maycock, New York City. This is a vertical handle, running down to the bottom of the bowl of the dipper, and provided with gauge marks to indicate the amount of liquid in the receptacle.

EMBALMING AND COOLING APPARATUS.—Eugene D. Whipple, Creston, Iowa. This is an apparatus for undertakers' use, adapted to be packed in small space for convenience in transportation, and which, when arranged for use, may be adjusted to any desired size.

ARTIFICIAL TEETH.—Emory A. Bryant, Aspen, Col. This invention provides for the attachment of porcelain veneers of artificial teeth to the dummies or pivot teeth, so that in case the veneers are broken they can be easily replaced without discomfort to the patient, at a small cost, and even by a dentist who has had little or no experience with bridge work.

TRUSS.—John H. Brownlow and Joel S. Warner, Ogdensburg, N. Y. This invention provides a truss whereby the tissues adjacent to the inguinal canal and rings will be compressed from both sides, the truss being also designed to secure the greatest ease and comfort to the wearer.

TOY PUZZLE.—Alfred W. Hanington and Arthur E. Southward, New York City. This invention covers an improvement in the "pig and clover" class of puzzles, and comprises a series of pens inclosed by a gated wall surrounded by an unbroken wall, a number of balls or spheres being adapted to pass through the gates of the inner wall and enter the pens.

UMBRELLA HOLDER.—Frederick W. Strong, New York City. This is a device capable of attachment to the side of a car, to the back of a theater seat, or a church pew, or to a rack, in which an umbrella may be conveniently placed and removed therefrom, and consists of a tapering tubular body with a latch door hinged at one side, a key hole slot adapted to fit on a supporting headed stud, and tubes at the bottom to conduct away water accumulating.

SCIENTIFIC AMERICAN BUILDING EDITION.

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1. **Elegant plate in colors showing perspective and floor plans of an attractive little cottage recently erected at a cost of only \$900 at Sunapee, N. H., from plans by Munn & Co., architects, New York.** Sheet of details, etc.
2. **Plate in colors of Mr. Charles Barnard's cottage at Stamford, Conn.** Perspective elevation, floor plans, sheet of details, etc. Cost \$2,000.
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5. **A residence on Chester Hill, Mount Vernon, N. Y.** Cost \$5,500 complete. Perspective view and floor plans.
6. **A block of city residences erected for Dr. F. E. Robinson, on West End Avenue, New York City.** Floor plans and perspective view.
7. **General view and details of Festival Hall of the Union of German Singers at Vienna.**
8. **Residence at Greenwich, Conn.** Cost \$7,800. Perspective and floor plans.
9. **Dwelling at Stamford, Conn.** Cost \$5,000. Plans and perspective elevation.
10. **A dwelling at Holyoke, Mass., erected at a cost of \$9,500 complete.** Rossiter & Wright, New York, architects. Floor plans and perspective view.
11. **Dwelling and store at Mount Vernon, N. Y.** W. S. Stuckles, architect, Mount Vernon. Cost \$5,600 complete. Plans and perspective elevation.
12. **An elegant residence erected on the Highlands, Springfield, Mass., at a cost of \$6,000.** Floor plans and perspective view.
13. **Attractive stable at Montclair, N. J.** Cost complete \$3,200. J. C. Cady, New York, architect.
14. **Miscellaneous:** Steam as a fire extinguisher.—Trees and streets.—Portrait and biographical sketch of John Ruskin.—A porch covered with clematis montana, illustrated.—Prevention of decay in stone.—The porcelain tower at Nankin.—The Howard heater, illustrated.—Effective lightning rods.—An improved square chisel mortiser and borer, illustrated.—Zinc and brick work.—The Hartman sliding blinds.—An improved mitering machine, illustrated.—An improved twisting machine, illustrated.—An improved heater, illustrated.—A perfect sanitary wash tub, illustrated.—An improved bench plane, illustrated.—A large contract for steel roofing.—New York Central Iron Works Company.

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Notes & Queries

HINTS TO CORRESPONDENTS.

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(2403) "Old Reader" asks: 1. How to make a good silver plating fluid, that will last for a week or ten days, and that will not tarnish when touched. A. Add ammonia to a solution of nitrate of silver until the precipitate first formed is just redissolved. 2. The cheapest and best way to clean tombstones, without injury to the hands, and how to apply it? A. See query 2179. 3. How to clean gilt frames. A. Wash with beer. 4. What will remove ink from paper, without injury to the paper, and how applied? A. A mixture of oxalic and tartaric acids, applied with a camel's hair brush, then wash with water applied insame way and blot with thick blotting paper. 5. What is a real good, reliable remedy to keep the hair from falling out? A. There is no universal remedy. See SCIENTIFIC AMERICAN SUPPLEMENT, Nos. 102 and 388, on the hygiene of the hair and proper manner of preserving it. 6. How to make a preparation for etching names on steel, and will it injure the hands? I want something that will penetrate the steel enough to leave a lasting mark. How is it applied? A. Apply dilute sulphuric acid. It will not injure the hands. 7. How to prepare a liquid or powder to cure perspiring of feet, and is it harmless? A. See query 2354.

(2404) H. S. asks: 1. What is meant by vulcanized fiber? A. Fiber made by grinding or otherwise reducing wood, which is then made into shape with an intermixture of pitch and heated to make it waterproof. 2. Is parchment paper vulcanized fiber? A. No. Parchment paper is made by treating paper with a mixture of sulphuric acid 2 vols., water 1 vol.

(2405) J. W. N. asks how to make a quick-drying polish to finish wood applied without friction. A. Dissolve 4 ounces best shellac in two pints strong alcohol, add 2 pints linseed oil and 1 pint spirit of turpentine, shake and add 4 ounces sulphuric ether (common ether) and 4 ounces aqua ammonia. Shake when used and apply with a sponge lightly.