

RECENTLY PATENTED INVENTIONS.
Engineering.

SMOKE CONSUMER.—Edson J. Hadlock, Big Spring, Texas. This smoke consumer is especially applicable for use on locomotives, causing the smoke to be returned from the stack to the fire box, also condensing the exhaust steam and heating the water in the tender. The locomotive smoke stack is curved, and a curved receiver is arranged to receive the smoke from the stack, while pipes lead from the receiver through the water tank of the tender and into the ash pit of the locomotive.

STEAM PUMP.—Daniel F. Lepley, Connelleville, Pa. In this pump the main slide valve is connected with a valve stem forming the rod for a piston of an auxiliary engine adapted to actuate the valve. The piston of the auxiliary engine slides in a cylinder supported from the steam chest, and in the inlet ports of the auxiliary engine are stop cocks, each having a valve stem extending to the outside of the cylinder, whereby more or less live steam may be passed to the cylinder of the auxiliary engine, so that the slide valve is actuated with greater or less velocity, regulating the speed of the entire pump. The construction is simple and durable, not liable to get out of order or become clogged, and the arrangement is designed to prevent undue jarring when the pistons reverse.

CONDENSING FLUE DUST.—Hiram W. Hixon, El Paso, Texas. This invention provides means for condensing and saving the flue dust passing with the waste gases through the chimneys of lead-smelting furnaces, such dust ordinarily carrying a quantity of silver and lead which would otherwise be lost. A closed vessel is connected with the flue of the furnace, and a series of pipes in its bottom extend into a water tank below the water line, above which an exhaust fan forms a partial vacuum, so that the gases from the furnace are passed through the water, and the flue dust is separated and condensed in the tank.

Railway Appliances.

GUARD RAILS.—Hiram H. Sponenburg, Mikado, Mich. This invention provides means for clamping the guard rails to the main line rails, whereby spikes are dispensed with and the length of the rails reduced to five or six feet, perfect security against accident being at the same time obtained. A bar clamp embraces the outer flange of one rail, and a block clamp embraces the opposite rail flange, with means for securing one end of the bar clamp, to which an intermediate rail clamp is adapted for attachment. In practice two sets of clamping devices will be used for each guard rail, one located nearly opposite the point of the frog and the other nearly opposite the knee of the wing rail on the frog.

STATION INDICATOR.—William S. Mallard, Darien, Ga. This invention provides a novel construction and combination of parts whereby separate sign cards or slides bearing the names of different stations may be successively shifted from one compartment to another of a dual casing and then returned to the compartment from which they were taken in a reverse order of succession. The mechanism by which the transposition is effected is automatic in its action, the passage of the final card in either direction reversing the transposing devices, and the indicator is designed to be less expensive and easier to manipulate than previous devices of this character.

Mechanical Appliances.

WATER WHEEL.—Joseph H. Choate, Jr., Stockbridge, Mass. An inner wheel with curved buckets is contained within an outer wheel having straight vanes discharging into the buckets of the inner wheel, and standing tangential to a circle of less diameter, the shaft carrying the inner wheel turning in the hollow trunnions of the outer wheels. A gear wheel is held on the shaft, in mesh with which is an intermediate gear wheel, while a main driving shaft carries two gear wheels, of which one is in mesh with the intermediate gear wheel and the other with a gear wheel on one of the trunnions of the outer wheel. The construction is designed to be very effective, utilizing the head of water to the fullest advantage.

CLUTCH.—Samuel B. Williams, Martin's Ferry, Ohio. This is an improved friction clutch to be used upon pulleys and drive wheels to throw them in and out of gear, or it may be employed as a cut-off coupling to throw a portion of a shaft in or out of motion. Combined with a central moving disk is a friction disk sliding upon a feather, slotted guide plates being attached to the periphery of the friction disk, while levers are pivoted to lugs attached to an abutting disk, link rods being connected with the levers and a sliding collar connected with the link rods.

SAWMILL CARRIAGE INDICATOR.—Isaac Burlingame, Fremont, Washington. This is a device adapted to be secured to the set shaft of the saw-mill carriage to clearly indicate the position of the knees of the carriage, and magnify any change in their position, so that the change will be readily discernible to the setter and to the sawyer. It consists of a cylinder to be secured to the set shaft and provided with parallel rows of indicating numbers upon its face, a block having pointers at each end being held to move longitudinally upon the face of the cylinder.

TUBULAR WELL TOOL.—William Richards, Mayburg, Penn. This invention relates to devices for raising casing tubes or rods in oil or artesian wells, providing therefor a tool which is simple and durable in construction, readily applied to the tube or rod, and arranged for convenient attachment to the hoisting machinery for lifting the tubes or rods out of the well. The invention covers novel parts and details, and special combinations.

WOOD CLAMP.—Edward L. Still, New York City. Combined with a bed having tail and head stocks, each provided with a vertical screw having a longitudinal slot and a nut, is a longi-

tudinally-extending screw mounted on the bed with its inner end engaging the head stock to operate it, the invention also embracing various other novel features. The clamp is designed to be quickly adjusted to hold glued pieces of wood firmly together while the glue is setting, preventing them from warping while the pressure is applied to them, also providing means for attaching legs to the bed of the clamp, and thus making a horse of it.

CRIMPING MACHINE.—Richard Whitaker, New Brunswick, N. J. A gripper is held to slide in a tubular body having an open end with a tapering inner wall, the gripper being provided with a series of parallel spring fingers having thickened tapering outer ends and transverse grooves adjacent to these ends, a revolvable screw being journaled in one end of the body and fitting a threaded bore in the inner end of the gripper. The device is designed for crimping or fastening metallic caps upon nozzles, and is especially adapted for fastening caps upon the nozzles of varnish cans, being rapidly operated therefor and doing the work well.

NAIL PULLER.—Melville Loftin, Hildreth, Ill. Pivoted on the sides of a handled claw hammer is an arm extending in opposite directions from its fulcrum, the arm being forked at one end and having a point formed on its other single end. The device constitutes a tool of simple and durable construction for conveniently pulling nails, extracting staples, etc., and useful in removing wire from fences, and sealing strips from boxes, etc.

JOINT MOULD.—John C. Raymond, New Brunswick, N. J. This is a mould to facilitate the joining together of lead pipes, around which it may be quickly and nicely fitted to enable the molten metal to be cast around the joint, which will be quickly made and as nice as the "wiped" joint made by hand. The mould has been thoroughly tested by plumbers, and it is said a perfect joint can thus be made within three minutes, while the work requires no special skill, enabling every man to this extent to do his own plumbing. It is said a large plant is soon to be established for the manufacture of this mould and its adjuncts.

Agricultural.

PLANTER AND CULTIVATOR.—Henry M. Horne and Joseph W. Asbell, Annie, Ga. This is a combination machine of strong and simple construction, designed to be very effective in work. All the parts constituting the machine are bolted together, and the arrangement of the plows and manner of attaching them are such that the parts are readily detachable or can be adjusted for deep or shallow work in a few moments' time.

PEANUT PLANTER.—Finton F. Ferguson, Murfreesborough, N. C. This is a combined ridger, pulverizer, seed planter and fertilizer distributor, which is simple in construction, inexpensive to build, and designed to drop the peas without danger of crushing them. While the machine is especially adapted for peanut planting, by placing the ordinary cotton seed box in place of the pea box the machine will be in condition for planting cotton, or it can be readily adapted for planting corn and potatoes.

POISON DISTRIBUTER.—Charles H. Pickering, Houston, Texas. This is a device designed for attachment to a saddle, to be operated at either side of the animal by the rider, to distribute poison on cotton and other plants, to destroy insects and worms. The device has a bellows, a poison receptacle, and a spout through which the poison is blown; it can be quickly and conveniently attached to a saddle, and the driving shaft may be turned in either direction to operate the gearing of the forcing mechanism.

Miscellaneous.

HOISTING MACHINE.—John Cosgrove, Roanoke, Va. This invention relates more especially to hoisting machines used in the construction of buildings for elevating material to the workmen, providing therefor a machine that is simple, strong, inexpensive, and very practical. A mast is detachably connected to a main frame, so that it can be readily changed from one side of the frame to the other, to adapt the boom to work toward the scaffold on either side of the building, and the manner of bracing the frame is very effective when it is desired to lift very heavy material, additional weight being applied to the rear brace beams without applying any weight on the building proper.

INDICATOR LOCK.—Leonard T. Crabtree, Embarrass, Wis. This invention provides a new and improved recording door lock more especially adapted for use on railroad freight car doors and other doors, and arranged to automatically keep record of all opening and closing of the door, while the construction is designed to prevent the picking of the lock. The locking lever has an impression block over which passes a strip of paper, a key having a character marked at one end being adapted to press an inking ribbon on to the paper and press the latter on the impression block. The process of tracing off a sealed record, as now followed, will be avoided by means of this improvement, it being readily determined by the examining official by whom and between what stations the car door was last opened.

TRUNK.—Henry W. Rountree, Richmond, Va. This is an improvement upon a former patented invention of the same inventor, the trunk having at its ends tray-supporting strips inclined upward from front to rear and provided near their rear ends with rollers, the tray supported upon the strips being arranged to be moved when the cover is opened back partially, there being also a roller provided at the front lower corner of the tray. The tray is re-enforced by metal plates or bands to which the supports or brackets of the tray rollers are secured.

ICE VELOCIPED.—Isaac Dart, Swanzy, Mich. A frame is supported upon front and rear runners, and mounted in the frame between the runners is a wheel in the rim of which are spring-pressed spikes adapted to engage the track by the work of treadles on

the shaft of the wheel. The seat is attached to the upper part of the frame, a steering rod extending to within convenient reach, and the velocipede is designed to facilitate rapid traveling over ice or hard snow tracks.

CURTAIN FIXTURE.—William Doulin, Wheeling, West Va. This invention provides an adjustable bracket having an outward projecting arm, with vertically projecting arms forming a curtain-rod-receiving slot, for supporting the roller in the desired position in relation to the sash and frame, and so that when the upper sash is raised or lowered the shade and curtain will be correspondingly moved. Means are also provided for bringing the edges of the shade and curtain beyond the sides of the window frame, so that the window will be as nicely shaded as when the common form of fixtures is used.

SLIDING BLIND ATTACHMENT.—William H. Boyle, Oswego, N. Y. This is a simple, inexpensive, and convenient device to keep the blind from rattling, and which will enable the blind to be held at any desired height. The frame or casing has the usual vertical grooves in which the blind runs, and in the edge of the blinds are recesses with shoulders engaging the hooked ends of spring arms secured to a sliding abutment, this abutment sliding in the back portion of the grooves, and moving vertically with the blind, the pressure of the spring arms causing the blind to be held tight enough so that it will not rattle.

TYPEWRITER ATTACHMENT.—George F. Loar, Gibson City, Ill. A simple mechanism for operating the machine to make the necessary line spaces is provided by this invention. The mechanism may be readily applied to any variety of typewriter and may be worked by the foot or knee of the operator. The carriage is connected by a bell crank lever with a treadle, by pressing upon which the carriage is moved to the right hand end of the machine, by which also the line space lever is brought against a cam-like frame, whereby the feed cylinder is rotated in the usual way.

BOOK.—John E. Spears, New York City. Combined with a copying or other book, and a creased or jointed flexible strip attached to its cover to fold upward, is an index proper secured to the upper side of the strip at a point a short distance from the crease, whereby in folding the index the strip bends upward and folds inward directly under the cover, the index proper being also folded down upon and not within the portion of the strip that lies outside the crease, so that when fully closed within the book the lettered edge of the index is visible.

HORSESHOE.—Charles E. Howard, Leighton, Iowa. A sharp toe piece or calk of novel shape and a special attachment of the same to the shoe is the distinctive feature of this invention, whereby a very light racing shoe is produced. A much lighter plate is used for the shoe than is practicable where the steel toe piece has to be welded or secured by screws on to the plate, and a shoe is obtained adapted to facilitate the horse's travel either on a hard, dry track or on a wet or muddy and frozen track, one giving a firm footing and preventing slipping.

BRAKE SHOE.—Mark A. Penney, Ferris, Cal. This invention provides a brake shoe for road wagons, having a face which may be readily renewed. The brake shoe body is formed of a single casting, having on its inner face at opposite edges inwardly-projecting flanges, a stop ledge, and an external attaching flange, the upper end of the recess formed by the flanges being open to receive and permit the removal of wood brake blocks, which form the frictional face of the brake.

VEHICLE HEATER.—Andrew E. Jones, Richmond, Ind. This is an improvement in heater attachments which are suspended from the bottom of a vehicle, the foot board being provided with a heat-escape register of two elongated chambers, with parallel apertured walls, there being a casing below the apertures with a glazed opening, and a lamp hung within each casing. The light of the lamps also shines through the doors to illuminate the road ahead of the team.

METALLIC SHINGLE.—Herman H. Bohen, Leavenworth, Kansas. A male lock is formed on one side of this shingle, with three flanges, and a female lock on the other side, with a hook-shaped interlocking flange adapted to be engaged by the flanges of the male lock of the next following flanges. The shingle is simple and durable in construction, can be easily applied by any one of ordinary skill, and forms a double lock to prevent rain driven by a storm from passing underneath, at the same time permitting free expansion and contraction.

GATE.—Hiram Barker, St. Joseph, Mo. This gate is so constructed that it will swing upward and backward upon a pivot in opening and upward and forward in closing, and it is provided with a movable weight, which, in conjunction with levers connected with the gate, will admit of its being opened or closed by a child. It is designed as a field or yard gate, and means are provided whereby it may be adjusted to clear it from snow and ice in the winter.

POCKETBOOK SUPPORT.—John G. Gareis, Brooklyn, N. Y. This is a device for attaching the pocketbook to the hand of the owner, to prevent it from being snatched or misplaced, at the same time permitting the book to be readily opened and closed. A ring to be worn on the finger is connected by a swivel with the back of the pocketbook, the swivel permitting the book to be turned in any direction. The swivel is formed with a pin passing through a metallic plate on the inside of the back of the pocketbook, and the ring is made adjustable and split to fit on differently sized fingers.

TROUSERS STRETCHER AND HANGER.—George E. Hamlin, New York City. A series of horizontal fork-like arms are pivoted in a body section, the members of the arms having more or less spring action, and having their outer extremities flared in opposite directions. The trousers are so suspended that their own weight while in suspension will effectually relieve them from wrinkles and bagginess at the knees, and a number of pairs may be hung up and stretched in a small space.

DRAWERS.—Emma Walker, Jersey City, N. J. This invention relates more particularly to men's drawers, of jean, flannel, or inelastic material, having a slit in the lower end of each leg, and provides means of snugly closing the slitted portion upon the leg. An elastic band is secured to the drawers leg beyond the slit, with fastening devices engaging the leg at opposite sides of the slit. The attachment is very simple, no stitching of any kind being absolutely necessary, and the elastic or band is readily renewed when required.

WASHING MACHINE.—William H. Hornby, Toronto, and Lucas M. Lent, Ridgetown, Canada. This invention relates to improvements in machines which have a concave rubber bed and a convex rubber rocking above the bed. The machine is simple, and its construction affords complete control of the rubber, to rock, elevate, depress, remove and replace it without disconnection of any attached parts. A convenient clothes receptacle or tray is also provided for receiving clothes passed through the wringer, the tray folding within the machine when not in service.

MOTOR FOR CHURNS.—Wilson Omer, Cainsville, Mo. The motive power of this device consists of a weight which by its descent actuates gearing, the weight descending along a spirally coiled wire rod forming its track around a vertical shaft. The rotation of the latter, through suitable gearing, rotating screw-twisted dasher blades. The weight is elevated by the use of handles or a crank lever, and the height of the standards and driving shaft are designed to be such that the time of descent of the weight will be sufficient to effect a churning without further aid of the operator.

BEVERAGE.—William M. Myers, Hannibal, Mo. This is a non-intoxicating effervescent beverage having medicinal qualities. It contains hops, starch, molasses, sarsaparilla, citrate of magnesia, turmeric, and other substances, compounded as described. The beverage has the appearance of ordinary beer, but is designed to be much more pleasant to the taste.

GAME APPARATUS.—Grant B. Nichols, Wapakoneta, Ohio. This invention provides a game to be styled "ringing the bells," there being arranged on a board or table a series of bells having peculiarly constructed handles, and a cue being employed to which a ring is attached by a line: the cue is to be manipulated in such a way as to whip the ring over the handle of a bell, and lift the bell from the table, ringing it at the same time.

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.

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2. Plate in colors of a residence at Bensonhurst, Long Island, N. Y. Perspective elevations and two floor plans, an excellent design.
3. A summer cottage on the Maine coast, near Portland. Floor plans and perspective elevation. Cost \$1,470 complete.
4. A handsome residence at Sea Side Park, Bridgeport, Conn., recently erected for Col. Mason. Cost about \$25,000 complete. Two perspective views and floor plans. F. H. Kimball, architect, New York.
5. A residence at Montclair, N. J., from plans prepared by Munn & Co., architects, New York. Two perspective views and floor plans. Cost \$8,500 complete.
6. A mountain side residence erected for W. A. C. Chase, at Montclair, N. J. An excellent design. Floor plans and two perspective views, also an interior view. Cost \$6,500 complete. Munn & Co., architects, New York.
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