

## RECENTLY PATENTED INVENTIONS.

## Agricultural Inventions.

**PROCESS OF SPRAYING TREES.**—ISAAC M. CLARK, Lompoc, Cal. The invention is a means of exterminating all kinds of insects—such as San José scale, Greedy scale, black scale, or any insect pest, microbe, or larva—that infest fruit or ornamental trees. The component substances of the spraying compound comprise kerosene oil or any mineral oil, caustic soda and water. The inventor has sent us a photograph which certainly speaks well for the efficiency of his process.

**CHECK-ROW ATTACHMENT FOR PLANTERS.**—PETER D. ANDERSEN, Minden, Neb. Mr. Anderson has provided a check-row attachment, including a marker, that can be applied to any type of planter. The seed-drop slide is operated at intervals from one of the ground-wheels. The drop-slide-operating mechanism is thrown into or out of working contact with the ground-wheel by simple means. A lever is provided for the marker-shaft, so coupled thereto that the driver can at any time lower or raise the marker.

**AGRICULTURAL IMPLEMENT.**—JAMES M. WATERS, Forney, Tex. It has been the inventor's purpose to devise an attachment for planters, cultivators and the like, whereby the implement is enabled to yield to uneven ground, thus causing the plows or points to form rows of even depth from one end to the other. The attachment comprises a frame and a plow or point-supporting frame movable vertically with relation to the first-named frame. At the forward end of the movable frame a wheel is carried. The attachment has connection with the members of the movable frame, and sliding connection relatively to the upper frame.

## Grain-Handling Apparatus.

**MACHINE FOR CLEANING WHEAT.**—ANTON LEIKEM, Chicago, Ill. This simply-constructed machine is designed thoroughly to separate all foreign matter from wheat. The screens are so made and so disposed that the kernels of wheat are not injured during the process of separation. The material is subjected to the influence of a suction-fan, not only while it leaves the hopper, but also when cleaned. The air supply or degree of suction can be nicely regulated and likewise the inward discharge of foreign material from the machine.

**STRAW-STACKER.**—ADAM J. MESSER, Ashton, Ill. The straw-stacker is a pneumatic stacker, in which the straw is forced up a tube by pneumatic action. The invention provides means by which to prevent the blast from discharging the straw with such force as to throw it about and prevent its accurate delivery at any desired point.

## Engineering Improvements.

**RADIATOR.**—GEORGE M. AYLSWORTH, Collingwood, Ont., Can. This radiator is particularly adapted for the heating of rooms by the radiation from hot air instead of steam or hot water as generally practised. The improved radiator has been devised with a view to simplicity and economy in construction, as well as efficiency in operation, and for use with hot air exclusively.

**REVERSING-GEAR.**—RICHARD F. WILSON, Albany, N. Y. The reversing-gear is to be used in connection with combustion-engines, or other engines or motors where the shaft is at all times rotated in one direction. The device is particularly adapted for the shafting of propellers for naphtha-launches. The gear comprises a driving-shaft and a reversing-shaft with bevel-gears loosely mounted on the shaft. An idler-gear meshes with the two bevel-gears. Clutch-blocks are movable on the two shafts and are designed to be engaged by clutch members on the bevel-gears, whereby the shafts are driven in opposite directions. The inner or adjacent ends of opposite clutch-blocks can be moved into engagement, whereby both shafts will be driven in the same direction.

**VALVE AND VALVE-GEAR FOR ENGINES.**—FRANK J. WILKE, Little Rock, Ark. The invention relates to the form and operating gear of the valves for reciprocating steam-engines. The inventor employs a rocking valve, with which any release or flyback valve works to uncover and cover the exhaust. The valve is driven from a rocker provided with an adjustable part, controlled by the governor and to which the valve-rod is so connected as properly to control the steam.

**ROTARY ENGINE.**—SIRUS E. KOCHENDARFER, Hollidaysburg, Pa. The engine is of that class in which the pistons are provided with sliding blades that operate within the cylinders. The inventor has provided ingenious improvements in the construction of the cylinders and in that of the piston, and other improvements in the general and detail construction of the engine. It is one of the novel features of the invention that the pistons are arranged to receive steam consecutively and to avoid the wear and tear incident to operating the engine on one side only, the steam operating upon the engine continuously on opposite sides.

**AUTOMATIC STOP AND EMERGENCY GEAR FOR MARINE AND STATIONARY ENGINES.**—HENRY J. TEIPER, Manhattan, New York city. The gear comprises a lever

receiving a continuous swinging motion from an operating part of the engine; a connection with the throttle-valve of the engine, to hold the valve normally open; and an actuating device on the lever, normally locked in a dormant position. A spring moves the device to actuating position, and a releasing device unlocks the actuating device and engages it with the connection, to actuate the connection upon a further movement of the lever and to release the throttle-valve. The gear will automatically close the throttle-valve if the engine should begin to race by reason of the breaking of a shaft or belt, or for any other cause.

**VALVE.**—TIMOTHY S. MARTIN, Butte, Mont. Mr. Martin has endeavored to provide an improved valve for the purpose of controlling several passages at the same time, as for instance, in radiators. The valve-casing has four ports arranged in pairs; a valve controls the connection between the ports of one pair; and another valve controls the connection between the ports of the other pair. By means of a connecting member the valves are compelled to move in unison. A third valve controls the connection between the port of one pair and a port of the other pair, the stem of the valve screwing into a stationary part and into the connecting members, the two screw-threads being of opposite directions and of different pitch. The device is positive in its movement.

## Mechanical Devices.

**WELL-DRILLING APPARATUS.**—FREDERIC W. BUSHNER, Neosho, Mo. In this apparatus for drilling wells the jerk-rope for actuating the drill is driven by a swinging arm or walking-beam. By this means the jerk-rope is operated in a more regular and effective manner than heretofore. The maximum amount of power is applied from a minimum of expenditure.

**DOOR-CLOSING DEVICE.**—MARTIN F. HINES, Brooklyn, New York city. The invention is useful in many connections, a notable example of which is in fire-engine houses, in which the doors are opened for the exit of the team and engine, and in which it is desired automatically to close the doors at a certain time after the passage of the team and engine and the firemen. In combination with a door and means for closing it, and means for holding it open, the inventor employs an inclined way on which a ball is arranged to run. A mechanism controlled by the door restrains and releases the ball. Means are operated by the ball for actuating the door-releasing means.

**SAW-FILING MACHINE.**—CHARLES YOUNG, York, Me. The machine is more especially designed for filing band-saws. The construction is simple and durable; and the operation is very effective. The saw is automatically and securely clamped in place during operation, the file moving back from the cutting point of the tooth at the end of the filing stroke to leave an accurately-filed tooth, and to permit the feeding of the saw forwardly during the return stroke of the file. Sufficient jar is given to the file to dislodge the filings, thus leaving the file in proper condition for accurate working.

## Miscellaneous Inventions.

**LOCOMOTIVE HEAD-LIGHT.**—JOHN S. HENDERSON, 219 North Market Street, Nashville, Tenn. The locomotive head-light is pivoted and is adapted to turn so as to throw the light upon the track when rounding a curve instead of throwing it at a tangent to the curve as happens when the light is fixed.

**CHIMNEY-BASE.**—JOHN KING, Quitman, Ga. The improved base supports the weight of a chimney where it starts from and is carried upon ceiling-joists, and receives the upper end of a stovepipe from the story below. The base consists of cast-iron plates which are connected with the joists whereby a practically fireproof construction is provided.

**POOL-TABLE.**—JACOB H. GENTER and JOSEPH BESCH, Albany, N. Y. The object of the invention is to provide a new pool-table designed for playing "cocked-hat pool." The pool-table has a cushioned rail, and has its head portion approximately semi-circular and formed with spaced pockets ranging radially. These pockets are of different sizes. An annunciator is provided, arranged to be actuated by a ball dropping through one of the pockets. A return-chute for the balls is provided, which chute receives the balls from the annunciator.

**FUNNEL-HOLDER.**—JULIUS R. and MARIE P. HOFFMAN, Canajoharie, N. Y. The invention provides a new holder for supporting filling funnels over the bung-holes of casks. The funnel-holder consists of a support for the funnel, and clamping arms, depending from the support and adapted to pass into a bung-hole to engage the wall thereof.

**HAND-CASE.**—JOSEPH A. CONBOIE, Virginia City, Nev. The device is intended to facilitate "laying out" or, in other words, properly disposing the hands of a corpse. The hand-case comprises two rigid sections arranged to encase the hand. Means are provided for removably fastening these sections together. A waterproof mit is arranged to inclose the sections of the case when a bleaching fluid is used.

**FIRE-EXTINGUISHER.**—EDGAR H. ELLIS, Brooklyn, New York city. The novel features

of this invention are to be found in a number of traps containing the fire-extinguishing liquid. When the extinguisher has been used then one or more of the traps are filled with liquid. Air cannot escape from the pressure-chamber beyond the first filled trap, no matter in what position the extinguisher may be placed—upside-down, for instance. Furthermore, when the traps are once filled they cannot all be emptied no matter in what positions the extinguisher may be placed. The strength of the solution in the outer receptacle and that which may be left in the traps is left unimpaired. There can be no escape of gases at any time. The device is positively hermetically sealed. The first portion of the solution is of the same strength as the last, which is not the case with most extinguishers heretofore constructed.

**CLAMPING DEVICE.**—FREDERICK C. BILLINGS, Macon, Mo. The invention relates to means for preventing the displacement of bed-coverings while the bed is in use, and has for its object to provide a simple and inexpensive clamping device for this purpose, which is cheap and strong, is fully concealed from view when applied for service, and is adapted for convenient adjustment to clamp the bed-clothing at the side edges of the bed.

**THILL-COUPLING.**—EDWARD P. BOWLES, Wolfville, Nova Scotia, Canada. The improved coupling device is intended for the connection of thills or shafts of a vehicle with the running-gear, so as to prevent looseness of the joints and obviate the rattling incident to couplings of ordinary construction. Convenient means are provided for adjustment of the working parts to take up wear in any direction.

**TESTER.**—EMIL A. STARZ, Helena, Mont. This instrument is a urine-tester of simple, compact construction and accurate in operation. The urine can be used in testing for albumen and sugar (glucose), both qualitative and quantitative.

**CIGAR-CONTAINER.**—ARTHUR Q. WALSH, Manhattan, New York city. This cigar-box is constructed of metal, the body section being provided with a gutter at its top, and the collar having a flange arranged to extend into the gutter. Wipers are provided for the flange. A cigar-container constructed as described can be made to hold a number of boxes of cigars and will effectually prevent the evaporation of moisture from the cigars, the gutter containing a dry seal. The cigars when removed will be in practically the same condition as when they were packed.

**WEATHER-STRIP.**—BARNET M. WHITING, Spokane, Wash. This invention relates to a weather-strip adapted especially for application to doors, or other swinging closures; and it comprises a strip mounted to have a parallel movement on the door or other part and arranged with a spring in a certain peculiar manner, so that as the door is closed the weather-strip is moved against the spring in a direction away from the door, so as completely to close any space between the door and the framing in which it is mounted.

**SUPPORTING-BAR FOR GLASS OR TILING.**—LEONARD SBORIGI, Manhattan, New York city. The purpose of the invention is to provide a supporting-bar for panes of glass or blocks or sections of tiling, so constructed that the bar will withstand great strain and will firmly hug the material received under shock or pressure, and to provide a construction of the character described, which will be simple, durable, and economic and applicable to outside or sash bars as well as to inside or intermediate bars.

**TANK FOR GAS-HOLDERS.**—OTTO INTZE, Aix-la-Chapelle, Germany. Of recent years it has been sought to construct specially large tanks of metal and at the same time reduce their weight to a minimum, so as to lessen their cost and the strength of the foundation on which they are placed. The present invention is an improvement in this direction and permits a tank to be made of any large diameter, while making the walls and other parts of relatively thin plates. The material can further be utilized up to its highest possible admissible strain-resisting capacity, and the tank can be erected in a simple way after the largest and heaviest parts or elements thereof have been almost wholly prepared in the shops. The simplifying of the erection enables the necessary time for the same to be shortened, and large tanks may be constructed in a much cheaper and more trustworthy manner.

## Designs.

**ABDOMINAL CORSET.**—PHILO B. SHELTON, Erie, Pa. Below and above the corset are two separated and parallel vertically-extended strips. From the upper portions shoulder-straps extend; from the lower portions a stomach-pad is suspended.

**TREE-PROP.**—ROBERT S. MCINTYRE, Riverside, Cal. The inventor has devised a simple and efficient prop for fruit trees, comprising essentially a shank terminating at one end in a curved saddle. The shank has a slot, and side portions of the shank are bent longitudinally in the lines of the slot walls to form flanges. At each end of the slot is a spur which serves as a means for holding the prop in place.

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

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