

**RECENTLY PATENTED INVENTIONS.**  
**Agricultural Implements.**

**WHEEL ATTACHMENT.**—EDWARD C. FREMAUX, Mayne, La. Wheels of machines used in rice-fields are usually provided with lugs to grip the soft, muddy soil. These machines when drawn over hard roads or ground, are jarred so much that injury may result. The present invention provides an attachment for such wheels to overcome this difficulty. The inventor surrounds the periphery of the lugged wheel with a band of novel construction which enables the machine to be drawn over hard ground as readily as any ordinary wheeled vehicle.

**SUB-SOIL ATTACHMENT FOR PLOWS.**—ROBERT T. MILLER, Decherd, Tenn. The sub-soil plow can be attached to almost any ordinary plow, whether it have an iron or wooden beam, or whether it be a right or left hand plow. The sub-soil attachment consists of a long standard having a blade fixed at its lower end at right angles. A bent brace, pivoted at its lower end to the lower part of the subsoil standard, is extended up to the rear of the standard and provided with a series of holes. A right-angular bracket is bolted to the brace and to the lower side of the plow-beam. The inclination of the standard can be changed by bolting its upper end in any one of the holes in the brace.

**Mechanical Devices.**

**STOPPING DEVICE.**—WILLIAM FINN, Manhattan, New York city. The object of this invention is to provide a device for use in factories and mills to stop the machinery in a particular part of a building when an accident occurs. The stopping device comprises a carriage on which is a belt-shifter to shift a belt from a fast to a loose pulley. Traveling motion is imparted to the carriage by a screw-rod, driven by an electric motor. The circuit of this motor is closed by the attendant of a working machine to actuate the motor and impart a traveling motion to the carriage to shift the belt. A signal and alarm device is controlled by the carriage to give a signal.

**BOTTLE-WASHER.**—EMIL KERSTEN, Richmond, Va. The machine is designed for soaking and sterilizing bottles and consists of a tank containing the heated cleansing liquid, and a wheel mounted to turn and adapted to pass with its lower portion through the liquid. Supports on the face of the wheel are arranged at an angle to support the bottles to be soaked and sterilized. While on the supports the bottles are warmed and tempered by sprays before entering the heated liquid. After leaving the liquid the bottles are kept in a moist or wet condition by sprays in order to reduce the temperature. The wheel is sectionally constructed so that it can be trued by bolts or nuts.

**WINDLASS.**—DAVID B. CONCLIN, Highland, Ky. This windlass is designed for use in coo- perage and particularly in tobacco coo- perage. The inventor has provided a device of great strength and simplicity, which is adapted to all kinds of coo- perage. The rope and stick now commonly used to twist the joints together are dispensed with. Simply by turning a handle or releasing a pawl the operator is enabled to tighten or loosen the work. The device reduces the labor, since it holds the work just where it is desired.

**Vehicle Accessories.**

**AXLE-BOX.**—ANDREAS KATONA, PAUL VARGA, and JOHANN KROMPECHER, Buda-Pesth, Austria-Hungary. The usual axle-journal of railway cars is modified so that its front disk is removed and a separate sleeve mounted on the journal. For its major portion the sleeve is of simple cylindrical shape to give the axle increased thickness at its bearing surface. The sleeve is shrunk on the journal. In order to provide a new wearing surface it is necessary merely to renew the sleeve.

**EXTENSIBLE AXLE.**—PERLEY W. CARNEY, Portsmouth, Va. Since crops have different intervals between the rows or hills, the width between the rows of one crop does not correspond with the width of another; hence the desirability of a vehicle which can be adjusted to the various spacing of rows in order to avoid mashing down the growing crop. For this purpose Mr. Carney employs a vehicle-axle comprising a bolster having along its edge a strip of metal provided with fulcrum seats or sockets, and two metal axle sections provided with bearing-notches for a tool along their edges adjacent to the fulcrum-strip. Clamping yokes or clips hold the parts together in adjusted positions. The invention comprises essentially an extensible axle.

**Miscellaneous Inventions.**

**ASSAYING DEVICE.**—ARCHIBALD CAMPBELL, Surf, Cal. It has been the inventor's main purpose to provide a sand or ore assaying device which can be conveniently carried in the pocket, and by means of which an assay can be made with very little water. The assaying device comprises a bottle-shaped receiver, with rifles on the inner side of one of its walls. The rifled wall is provided with an opening having a removable cover. By rocking the device back and forth, the heavy part containing the gold sinks to the bottom, and the water and sand flow out at the open end. The crushed ore or sand remaining in the device is then allowed

to run down, and is evenly distributed over the smooth side, where the particles of precious metals may be easily distinguished by looking through a magnifying or a plain glass formed in one wall of the device.

**FIREBOX FOR BOILERS OR FURNACES.**—GEORGE CHANTLER, Chicago, Ill. The coal is retained at a point near the front of the furnace until the maximum heating capacity has been exhausted. Air is freely supplied to this mass of coal in such a manner that the best possible results are obtained. The bed of coal is supported on an inclined support, so that the coke can pass down to the lower point of the inclined support to be supplied with oxygen in order that it may be further consumed. The waste gases are conducted from the firebox to a point below the support for the fuel and out through and beyond the structure.

**NAIL-GRIP.**—HASBROUCK ALLIGER, Kingston, N. Y. When nails are driven with their heads flush with the wood an ordinary claw-hammer cannot be used to withdraw them. The purpose of this invention is to provide means whereby such nails can be readily withdrawn. The nail-grip used has two pivoted sections, each provided with a jaw to engage the nail. A spring tends to push the jaws apart; and a thumb-screw works with the sections oppositely to the spring. The device is to be used in connection with a hammer.

**SPIKE.**—THOMAS J. W. HICK, Victoria, B. C., Canada. This railway spike comprises two diverging shanks located in the same plane. The upper ends of these shanks are connected by a head having its rear surface concave and flush with the shanks. A lip projects from the front of the head. The under surface of the head and the lip are inclined or beveled from the front edge of the lip to the rear face of the head. The diverging shanks enable a perfectly tight fit to be obtained in the wood. Consequently moisture is not liable to enter at the shank, and untimely decay of the wood is prevented. When the spike is driven home, the shanks do not tear or break the fibers of the wood.

**PENCIL-HOLDER.**—JAMES F. CALL, Felchville, Vt. The invention combines a holder for a lumber-marking lead, a holder for an ordinary lead-pencil and a rule to measure accurately and quickly the thickness of lumber or other materials. The invention is characterized by the simplicity of its construction.

**WINDMILL.**—THOMAS S. BARWIS, Vancouver, B. C., Canada. Mr. Barwis has devised a simple and effective construction of wheel adapted to be operated by either wind or water. In his mill, sails or wings are employed so mounted that they automatically feather and otherwise adjust themselves to the wind or water, and offer the least possible resistance when in the wind or in line with ebbing or discharged water.

**AUTOMATIC CUT-OFF VALVE FOR GASES.**—RALPH E. VAIL, Mount Vernon, Ohio. The casing of the automatic cut-off valve is provided with an inlet communicating with one end of a cylinder provided with a peripheral aperture. A piston fits in the cylinder tightly and is movable beyond the aperture, so that the latter will be between the piston and the inlet. The aperture leads into a connecting chamber provided with an outlet. A valve controls the outlet; and between the piston and the outlet valve is a tripping connection. By this means the supply of fluid can be regulated and its free flow insured as long as it is under pressure. But as soon as the pressure ceases the flow is at once shut off. When the pressure returns the valve must be moved off its seat with the hand.

**ANIMAL POKE.**—WILHELM SPECHT AND DIETRICH TIEKEN, near Clear Springs, Texas. To prevent cows from tearing down fences the inventors have devised a poke comprising a body portion, at the front end of which the poking device is carried. A pin is carried on the under side of the body near the front; and a yielding protector is arranged under the body at the pin to hold the pin normally out of engagement with the animal's head. The instant that pressure is applied to a fence the animal is pierced by the pin.

**COMBINATION KEY AND AUTOMATIC STOP-COCK.**—CHARLES T. RANDALL AND EDWARD G. HOLDEN, Dallas, Texas. The purpose of this invention is to provide an automatic arrangement for cutting off the water supply from hydrants when the temperature falls below the freezing point. To this end the inventors employ a device for actuating a cut-off valve, which device is controlled by the expansion and contraction of metals.

**CUFF-HOLDER.**—ELBERT E. HAWKINS, Wilkes-Barre, Pa. The holder is a single piece of spring metal, and is so simple in its construction that it can be cheaply manufactured, easily applied, and arranged to hold the cuff in a desired position relatively to the sleeve.

**FISHING DEVICE.**—WILLIAM W. DWIGANS, Arkadelphia, Ark. This invention provides a novel attachment for a fishing-rod and line, which insures the hooking of a fish when the bait has been taken and which, simultaneously with the pull of the fish on the line sounds an alarm to warn the fisherman to capture his fish.

**SHOELACE FASTENER.**—HENRY A. FRYE, Manhattan, New York city. The fastener for shoelaces comprises a tubular body provided with holding prongs at the center of its bot-

tom, and a longitudinal slot at the top of the body extending from one edge. The prongs are driven through the leather and are then bent or clenched. The upper end of the slot is placed outwardly. The lace is passed through the tube and drawn into the slot and is thus clamped in place sufficiently to resist the ordinary pulling strain to which it is subjected. No knots are required to hold the lace in place.

**MATTRESS-SUPPORT.**—CHARLES L. FRIEDERICH, Hancock, Mich. In some sleeping-cars berths are formed by placing mattresses over the ordinary cushions of the seats. The mattresses are apt to sag between the rounded edges of the cushions. To overcome this objection a mattress-support is shown in this patent, which comprises a flat board placed over the meeting edges of two adjacent cushions, so as to form a kind of bridge between the two and to support the mattress evenly at this point.

**PLUMBER'S APPLIANCE.**—HERBERT N. KIRK, Keene, N. H. The invention seeks to provide an instrument which can be employed to clear the passages of sinks and bathtubs of solid matter. The device comprises a tapering nozzle, on which a yielding sleeve is fitted. A yielding washer is removably secured to the end of the nozzle adjacent to the sleeve. A washer of suitable size is fitted in the end of a nozzle and is inserted in the discharge opening. By turning on water, the obstruction is then forced out of the discharge-pipe.

**CLASP AND BELT-HOLDER.**—DR. WILLIAM W. BRUCE, 1307 West Fayette Street, Baltimore, Md. The inventor has devised an improved construction of combined clasp and belt-holder for men's shirtwaists. In carrying out the invention a main plate is provided having keepers for a belt; a clamping plate on one side of the main plate for securing the shirtwaist and trousers; and a lever and cover-plate on the opposite side of the main plate, which lever operates the clamping-plate and also forms a cover for the belt.

**Designs.**

**DESIGN FOR SILVERSMITH'S STOCK.**—PETER J. GORDON, Manhattan, New York city. The leading features of the design consist of a rocco scroll and fuchsia flowers.

**PAPER CLIP.**—CHARLES W. MOWEN, Plainfield, N. J. The body portion of the paper-clip has opposite members longitudinally curved and joined at the top. The lower ends are turned inwardly and rearwardly and are connected with a twisted tang, having a longitudinal curve reverse to that of the body members, and terminating in a ring or eye.

**BOTTLE.**—MORITZ RHEINAUER, Manhattan, New York city. Mr. Rheinauer has devised a pocket-flask divided into three compartments, each having a separate outlet or neck. The three necks are each provided with independent caps. Three different kinds of liquids can be carried in a flask of this construction.

**BOX-BLANK.**—CARL ENGBERG, St. Joseph, Mich. The designer has devised a box-blank which can be folded so that the parts interlock to form a strong box.

**BUTTON.**—JOHN D. PHILLIPS, Milford, Mich. The button is to be used in tying fodder and is fastened on the end of a cord which is wrapped around the bundle and then held by winding it beneath the button. An end slit in the button and a face depression at the inner end of the slit receive a knot on the end of the cord.

**LEATHER CHATELAINE BAG.**—LOUIS SANDERS, Brooklyn, New York city. The design provides a circular formation of the side faces of the bag; a semi-circular gusset at the bottom and lower side portions of the bag; welts for the gusset and its junction with its side faces; a semi-circular frame at the upper portion of the bag; and inclined surfaces where the ends of the gusset meet the frame.

**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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