

**RECENTLY PATENTED INVENTIONS.**

**Agricultural Implements.**

**ATTACHMENT FOR REAPERS OR MOWERS.**—J. F. SICKENBERGER, Manzanola, Col. Provided in this invention is a standing cutter-bar and sickle for grain or grass boards of reapers and mowers and operated through the movement of the main or horizontal sickle, which sickle will cut any tangled hay, grain, clover, grass, or field-peas which may fall over the board and have a tendency to catch in the rakes or choke the machine, thus leaving the path of the grass or grain board unobstructed.

**STUMP EXTRACTOR.**—O. J. DAHL, Anthony, Wis. This extractor can be anchored directly to a stump without the intervention of a cable, be easily shifted around a stump, and readily moved from place to place. Means are provided for readily taking up the slack in the cable by operating the drum by hand and while the sweep is at rest. By simple means the weight of the sweep is sustained when the machine rests, thus dispensing with a sweep-balancing device and relieving the horse.

**Electrical Devices.**

**LOCKING HANGER.**—L. STEINBERGER, Brooklyn, N. Y. The particular object of this invention is to produce a hanger provided with independent fastenings for holding a car and for securing the parts rigidly together. The cap, yoke, and cone, lock firmly together, irrespective of the clip. Thus the swaying of the trolley-pole cannot loosen the hanger parts, whereby lost time is avoided, and trouble and expense prevented.

**CIRCUIT-BREAKER FOR STORAGE BATTERIES.**—I. GARRETT, Dallas, Texas. The improvement in this case consists in the novel construction and combination of the several parts, and relates to a new circuit-breaker for storage-batteries—that is to say, an appliance whereby the circuit is automatically broken when the storage-battery has become fully charged.

**Engineering Improvements.**

**INTERNAL-COMBUSTION ENGINE.**—R. D. CHANDLER, Fairhaven, N. J. Owing to the absence of excessive vibration and also to its compact form, this engine is especially applicable to automobile and marine use. By means of this improvement the inventor avoids the use of heavy balance-wheels incident to engines involving the great negative work entailed in the high compression of the charge, and he utilizes the burning gases during the period of expansion. One impulse is imparted to every revolution of the shaft, but means are provided to increase this to two impulses.

**ROTARY ENGINE.**—F. A. PALLE, New York, and E. L. HAWN, Olivet, Wis. The invention relates to a rotary engine comprising a casing forming a circular passage equivalent to the engine cylinder, in which are arranged two pistons carried on disks loose on the engine-shaft. When the disk moves in one direction the piston is connected with the shaft by suitable clutches, and when it moves in the other direction the piston is stopped by connection with the casing. In operation steam is admitted between the pistons and tends to force them in opposite directions. The clutches, however, work oppositely so that the one piston acts as an abutment while the other is in motion.

**OSCILLATING VALVE.**—G. L. WACKEROW, Mellette, S. D. Novel and useful improvements in this invention provide increased advantages over similar valves as heretofore constructed. The mechanism consists of a peculiar oscillating valve extending from end to end of the cylinder and a special steam-chest and arrangement of steam passages or ports.

**HYDRAULIC PRESS.**—C. SEYMOUR, Defiance, Ohio. The claim of this improvement is the provision of a press, completely under the control of the operator to permit instant regulation of the pressure to be exerted, and one more especially designed for pressing axle-boxes upon the hubs of wheels, for pressing bands and flanges upon the wheel hubs, and for various other purposes.

**AIR-PUMP-OPERATING DEVICE.**—R. D. ALBRIGHT, Reynoldsville, Pa. This device is in the nature of an air-pump to be operated automatically by the movement of water through the various outlet fixtures of the building, such as urinals, water-closets, washstands, etc. The apparatus is to be located preferably at a point where the street-supply comes in the building, the apparatus working whenever water is drawn and stopping when the flow of water ceases, and the air pressure in the tank is to be regulated by safety-valves or blow-off appliances at any pressure.

**VALVE-GEAR.**—J. T. FENTON, Philadelphia, Pa. The object in view in this engine is to provide a new and improved valve-gear arranged to enable the operator to quickly reverse the engine, to cut off the admission of the motive agent to a nicety, to control the admission of the agent to and from the cylinders in proper succession and according to the speed desired and the load carried.

**ROTARY ENGINE.**—F. A. PALLE, New York, N. Y. This inventor claims for his object the provision of a new and improved rotary engine arranged to utilize the motive agent to the

fullest advantage and to allow of conveniently reversing the engine by the operator manipulating a lever. The engine has few parts and is not likely to get out of order.

**ECCENTRIC.**—J. W. DAVIS, Salisbury, N. C. The eccentric invented by Mr. Davis is adapted especially for use on locomotives to operate the valve-gear thereof. The object is to construct the eccentric so that it may be fastened to the axle or shaft more securely than heretofore. In locomotives eccentrics are strained until they frequently become loose on the shaft and necessitate repairs. This invention seeks to overcome this disadvantage.

**Hardware.**

**SAW-FILING GAGE.**—S. J. GALLOWAY, Hillsboro, Ore. In the use of this device a frame is fitted over the saw, and means are provided to position the gage-plates properly with respect to the cutting-tooth to be filed. The plates are then adjusted so as to lie at the correct inclination in respect to each other and then the filing may be effected by running the file over the tooth and against the gage-plates. After the first tooth has been filed, readjust the gage so as to cover the next tooth and so on to the end.

**WRENCH.**—M. J. FITZGERALD, Salt Lake City, Utah. Novel details of construction are provided in this case for a combined nut and pipe wrench that adapt the tool for service as a parallel plain-jawed wrench or as a pipe wrench having serrated faces on the jaws for biting upon a pipe or bolt body to turn it. It is so made that the working parts of the wrench may be quickly changed in adjustment to adapt the implement for use as a nut-wrench or a pipe-wrench.

**Heating and Lighting Apparatus.**

**FLUE-STOPPER.**—M. L. GREENSTREET, Owensville, Mo. This invention comprises a collar with a number of pivoted sector-like sections arranged on its inner side, so that when these sections are thrown out into inactive position they lie back of the collar and do not appear. These sections are so constructed and arranged that they may be readily moved inward to fit tightly around a stovepipe or to extend completely over and close the central opening of the collar.

**LANTERN.**—E. F. WEIDIS, New Orleans, La. This invention relates to oil-lanterns of the tubular type; and its object is to provide a new and improved lantern simple in construction, cheap to make, and arranged to securely hold the chimney in place by wires secured to the base and engaging the crimped top of the chimney.

**FEED-WATER HEATER.**—F. L. PATTERSON, Brooklyn, N. Y. The apparatus in this patent is for heating feed-water for steam-boilers by the use of exhaust steam; and the object of the new improvement is to provide a feed-water heater which is simple and durable in construction, cheap to manufacture, very effective in operation, composed of comparatively few parts and not liable to easily get out of order.

**Mechanical Devices.**

**LIFT-CUTTING AND HEEL-BUILDING APPARATUS.**—D. M. BECK, Cincinnati, Ohio. In carrying out this invention, Mr. Beck employs a series of cutting-dies differing only in size, for which he provides an anvil. On this blows are given by a mallet to force the die into and through the leather. In connection with the die-head an attachment drives a nail through the several lifts held in the die and then ejects the lifts from the die. Means are provided to support the heel-lifts while the nail is driven through them, it being then retracted to allow the lifts to be ejected from the die.

**FRICTION-CLUTCH.**—G. W. RUTH, Norristown, Pa. This invention relates to a friction-clutch comprising a fast and a loose section having certain novel devices of simple construction for connecting them together, so that the loose section may be driven from the fast section. This is an improvement on a former patent of this inventor, and is intended for use in automatic knitting machines.

**ICE-CUTTER.**—J. DUCHARME, Roseton, N. Y. One purpose of this invention is to provide a machine motor-propelled and in which the saw is driven from the motor. Another, is to mount the forward portion of the machine upon runners and to provide such portion with toothed supporting wheels for engagement with the ice, and means for raising the forward portion and turning the ice-cutter around. Another, is to furnish means for elevating the saw, which is at the back portion of the apparatus.

**CABLEWAY FOR HOISTING AND CONVEYING.**—B. H. HARDAWAY, Columbus, Ga. In the present invention improved means are provided which obviate the traversing movement of fall-line carriers with a carriage by fixedly attaching the carriers to the equivalent of the button-line and by providing an improved construction and arrangement of devices wherein the carriers are opened and closed on the approach and passage of the carriage with the fall-line.

**WASHING-MACHINE.**—O. H. LARSON, Fort Dodge, Iowa. The washing-machine in this case belongs to the roller-and-bed-type, and the object in view is to provide the apparatus

indicated with novel details, which afford a very light-running machine that is highly efficient in operation, washing fabric of any kind thoroughly and expeditiously.

**HAT-SEWING MACHINE.**—E. G. O'DONNELL, Fall River, Mass. This machine is adapted for sewing sweat-bands into hats; and it provides means for holding the hat and allowing it to be fed properly and also for holding the band in position to be sewed into the hat. It is used especially in connection with stiff felt hats using a "beveled sweat" with a reed and cloth backing.

**CAM-RACE PIN FOR COTTON-COMBERS, ETC.**—A. C. ARRY, Jr., Utica, N. Y. The purpose of the device is to so construct the pin that it will not be inclined to wear to any appreciable extent the center stud or the cam-race in which it travels, no matter at what speed the cam may be driven. Another purpose is to furnish a pin comprising an inner cup-sleeve for attachment to the stud and an outer shell-section, between which two parts, balls are loosely mounted and guided, and an adjustable cone for the shell-section.

**COPY-HOLDER FOR TYPEWRITING MACHINES.**—E. C. PRICE, Goshen, N. Y. This copy-holder is adapted to book typewriting machines, such as, for example, the Elliot & Hatch machine, but also to the frame of any typewriter. The holder may be adjusted so that the member receiving the copy will be provided with a clamping arm, which serves not only to hold the copy in place, but also to mark the alignment of the matter to be copied.

**KEY-ACTUATED MUSICAL INSTRUMENT.**—V. BESSIER, Brooklyn, N. Y. This attachment is designed for instruments such as pianos and organs, to play these by pneumatic action controlled by note-sheets. The intention is to provide an attachment for pianos, or like instruments arranged to actuate the keys with comparatively little power and to allow the performer to manually play the keys independently whether the device is in action or not.

**WASHING-MACHINE.**—I. MARKS, New York, N. Y. The claim of this inventor is that he has in view the provision of a simple, cheap, and efficient contrivance adapted to be fastened in place on a suitable vessel and to be operated by hand for the purpose of subjecting the fabrics to a rubbing action in order to eliminate dirt therefrom.

**MACHINE FOR BALING FIBER.**—J. J. HAVENPORT, New York, N. Y. With a transverse action this mechanism winds fiber into compact bales. It winds hemp in open silvers so that when carried to a hackling-machine the fiber is presented straight and comparatively untangled. It will not pull the silvers apart while being wound and means are applied to give the bale a very small core, very compact, packing the greatest amount without injury in a small space. The bale stick in the core is easily drawn out, and guides for the tale and sticks are so made that sections of the guides may be readily placed to produce a track on which the completed bale may roll.

**Railway Improvements.**

**ADJUSTABLE HOUSING FOR CARS.**—J. A. DE MACEDO, Leventhorpe Hall, County of York, England. The object claimed by this inventor is to protect the outside passengers on cars from rain and rays of the sun; and the invention consists in a quickly adjustable housing adapted to wholly or partially inclose the upper portion of the car and to be conveniently and quickly extended for protection or withdrawn as the weather conditions change.

**CAR-BRAKE.**—C. A. KLEINER, New York, N. Y. The purpose in this claim is to provide an auxiliary brake, which is adapted to have bearings on the wheels diametrically opposite the ordinary brake and also upon the rails. Another purpose is to so construct the brake-shoes of the brakes that the braking surfaces of the shoes can be readily removed and replaced if they should become unduly worn.

**CAR-COUPLING.**—J. C. YEISER, Austin, Texas. This invention relates to car couplings of the Janney type and has for its object to provide details of construction which will greatly facilitate the connection of two car-couplings having the improvements and by means of a spring to adapt the knuckle of the coupling to automatically swing open when free to do so. The spring holds the coupling open and also binds the pin so that it cannot creep. There are no latches or locks in the drawhead to be cracked or broken.

**Vehicles and Their Accessories.**

**VEHICLE-JACK.**—H. P. F. REPPENHAGEN, New York, N. Y. The purpose of this improvement is to provide a jack which can be attached to and carried by the axle of a vehicle without interfering with the wheels and to so construct the jack that it will have a wheel-carrying base and clamping devices connected with the lifting-bar, whereby the jack may be substituted for a broken wheel and serve as a roller-support for the vehicle.

**Miscellaneous.**

**GAME-TABLE.**—J. L. PATTON and A. F. HOCHWALT, Dayton, Ohio. In play, the cue ball is placed on a spot near the lower end of the table. The ball is then struck with a cue to make it strike the head on an indicator and cause it to revolve, at the same time to

try and send the sphere through one of the pigeon holes. Should it pass through a hole, it enters the outer space and passes down one of the alleyways by gravity and out an exit toward the pockets at the bottom. If after striking the indicator-head the ball fails to pass through one of the pigeon holes, it rolls down toward the pockets and probably passes through one of the wickets. A scoring method is provided.

**COLLAPSIBLE BOX.**—L. A. McCORD, Laurens, S. C. This contrivance is an improvement in pasteboard boxes such as are commonly used by milliners for holding ladies' hats and bonnets and especially in collapsible or knock-down boxes intended for such purposes. It is a strong and practically rigid box, at the same time one readily foldable.

**BOTTLE ATTACHMENT.**—W. J. LOWENSTEIN, Statesville, N. C. The purpose in this case is to furnish means for utilizing the label of a bottle for holding a corkscrew or other tool, thereby dispensing with rubber bands, strings, wires, etc., for this purpose. The invention consists, essentially, in providing a bottle on the side to which the label is to be attached with a recess suitable for receiving, partly beneath the label, the corkscrew or other tool used with the bottle.

**HOOK AND EYE.**—J. F. SCHOEPL, Baltimore, Md. The invention in the present case has reference to a hook-and-eye or like connecting device, and has for its object the provision of improvements in devices that may be classified as intended more especially for use in trousers-fasteners at the waistband.

**CLOTHES-LINE.**—A. L. RICHARD, Denison, Iowa. To this metallic clothes-line clothes can be readily and conveniently secured without the use of pins or fastening devices, the means for fastening being such that the separate pieces cannot overlap or even contact with each other at points where they are secure to the line. This latter feature prevents the pieces of clothing from freezing together on the line in cold weather.

**PADDLE-WHEEL.**—J. ROURKE, New London, Conn. Mr. Rourke in this invention has designed improvements bearing on paddle-wheels for vessels; and his object is to provide a paddle-wheel of the feathering-blade type so constructed that the friction on the blades upon entering and leaving the water will be reduced to a minimum.

**BOILER-CLEANING COMPOUND.**—J. D. SCOTT, South Shields, and H. P. SCOTT, Poplar, London, England. Means are embodied in this invention for preventing and removing incrustations or like deposits from steam-boilers. The compound is inexpensive and efficient and will not involve the risk of corroding and otherwise injuring the plates, tubes or mountings of the boiler. The compound is storable in compact form and readily put in condition for use, thus making it especially adaptable to marine purposes.

**WATER-CLOSET.**—F. SCHUH, Albany, N. Y. The object in view in this case is to provide a flushing water-tank in direct connection with and forming part of the bowl, thus dispensing with the usual overhead tank. The valve is so constructed that upon relieving the closet-seat of pressure a thorough flushing of all parts of the bowl takes place.

**COAT.**—J. G. WELMER, New York, N. Y. This invention relates to outer garments, more particularly to rain and storm coats, such as worn by car-drivers and the like. The coat is simple and durable and permits the user to quickly and conveniently slip the garment on or off to protect against weather without interfering with his duties.

**BELT-BUCKLE.**—B. WILENTSHIK, New York, N. Y. The object of this invention is to provide a new and improved belt-buckle arranged to permit adjustment for wearing the belt either straight around the waist in the usual manner or with a dip at the front to produce the so-called "French" effect.

**INGOT-MOLD.**—T. DIXON, McKeesport, Pa. This ingot-mold relates to separable molds employed for casting into form ingots of steel or other metal, and has for its object to provide novel means for preventing the molten metal from burning out the bottom of the two-part mold when the metal is poured into the mold to be shaped as an ingot.

**SCAFFOLDING-SUPPORT.**—A. MENCZARSKI, New York, N. Y. In this case the invention relates to a scaffolding and support thereto, applicable in many branches of the building art, as will be apparent to persons skilled therein, and especially useful in connection with the building construction disclosed in another invention of Mr. Menczarski's.

**SHAVING-MUG.**—W. G. RIVERS, Attleboro, Mass. Mr. Rivers in making this new improvement, has for his object the provision of simple means in the cup for holding the soap cake out of contact with the water, but the arrangement is such that the soap may be forced into the water and be wet preparatory to forming a lather.

**SAP-SPOUT.**—G. H. GRIMM, Rutland, Vt. This invention has reference to the gathering of sap from trees, such as sugar-maples and the like, and consists of certain novel features and combinations providing a new and improved sap-spout arranged to allow the use of but one spout in the bore of a tree during the entire season and insuring proper and full extraction of the sap without danger of forming ice in the bore or causing the formation of sour

