

## ENGINEERING INVENTIONS.

A car heater has been patented by Messrs. John H. and Spencer W. Snyder, of Richmond, Va. The invention covers a novel combination and construction of parts, whereby, in case of accident, the heater will bend or mash up, rather than become fractured, and thus form vents for the coals, so that they will not be spilled out.

An automatic cut off valve gear has been patented by Mr. John W. Hayes, of Portsmouth, N. H. It consists essentially of a revoluble head carrying a slide, to which the crank pin for the valve rod is connected, a means for regulating the slide being provided, making a novel form of automatic cut off for slide valves.

A railway torpedo placer has been patented by Messrs. John C. F. and Leander K. Rishel, of Danville, Pa. It consists of a staff having a chambered ferrule with branched and notched arms in its lower end, with a plunger and spiral spring, whereby a torpedo may be attached to a rail from the rear end of a moving train without stopping.

A car brake and starter has been patented by Mr. Theodor Sanders, of Amsterdam, Netherlands. The brake mechanism is operated by friction wheels on the car axle, and the force expended in applying the brake is stored by accumulator springs, the invention being an improved construction by which this stored energy may be applied to start the car.

An apparatus for heating railway cars has been patented by Mr. John H. Ballard, Jr., of Cohoes, N. Y. It has a heating chamber within the boiler, and a subsequent superheater, a blower attached to the front axle of the tender to supply air to the coil in the heater, and a sealed blower attached to the rear axle to force the heated air to the cars.

A tire gauge for locomotives has been patented by Mr. Lewis Keen, of North McGreggor, Iowa. It is a profile gauge for measuring worn surfaces, and has a longitudinally slotted stock with marginal contour along one face corresponding to the original surface, separately adjustable wards passing through the slot, and a clamp for holding the wards in position when adjusted to the worn surface being measured.

## AGRICULTURAL INVENTIONS.

A combined cultivator and potato digger has been patented by Mr. Henry C. Moore, of Tama City, Iowa. It has a plow or ditcher shovel formed from a plate of metal, with its rear end slitted or cut, with opposite sides of the slit or cut bent upward, with other novel features, making an implement also applicable for cutting trenches and for other uses.

A plow and grubber has been patented by Mr. Henry C. Moore, of Tama City, Iowa. This invention covers a novel construction, combination and arrangement of parts in a plow designed to do a variety of work in cultivating and reclaiming brush lands, making irrigating ditches, etc., the plow having interchangeable parts variously adjustable.

A stubble cutter has been patented by Mr. Hilary P. Mathis, of Stockton, Ga. The cutting roller has a central annular concave groove and convex drums at the sides of the groove, with cutter blades extending across the central groove and connecting the inner ends of the drums, making an improved machine for cutting rice or other stalks or stubble standing in the field.

A potato digging machine has been patented by Mr. Frank M. Thorn, of Orchard Park, N. Y. This invention covers an improvement on a former patented invention of the same inventor, and provides a construction whereby carrying fingers or rods receive the mingled soil and potatoes turned on them by the plow, and, with an endless wheel, pulleys, etc., they are carried backward and upward and separated.

A stacker for hay or other material has been patented by Mr. David G. Woodworth, of Larkin, Kansas. Combined with an inclined frame is a discharging rake pivoted on the frame, a flat belt secured with one end on the rake, arms secured to the outer cross beam of the flat belt, and rods hinged to the arms, with other novel features, making a stacker designed to be simple in construction and very effective.

A plow has been patented by Mr. William H. Green, of Kingsbury, Texas. Its construction is such that a farmer can, by providing himself with the pole and attachments, readily convert his ordinary walking plow into a wheel plow, by the aid of the hind wheels, axle, and hounds of his ordinary farm wagon, the plow not being liable to choke up with weeds or grass, and being also adapted to work in stumpy and foul land.

## MISCELLANEOUS INVENTIONS.

A clevis has been patented by Mr. George W. Vinson, of Mayfield, Ky. The invention covers a simply made device, that can be readily attached to beams of different thicknesses, and in which the draught hook can be easily adjusted at any suitable height to regulate the depth of the plow.

A process of making potassium bichromate has been patented by Mr. William Simon, of Baltimore, Md. It consists in decomposing bichromate of sodium by sulphate of potassium and decomposing chromate of sodium by sulphate of potassium and sulphuric acid, according to a manner specified.

A bridge has been patented by Mr. George W. Coultas, of Calais, Ohio. This invention covers a construction specially adapted for short span country bridges, and provides a novel combination and arrangement of various parts and details for putting up a simple and durable structure.

A door closer has been patented by Mr. Edward H. Brown, of Bayonne, N. J. It consists of a lever pivoted to the door and having a weight arranged at one side of the pivot, with a rod pivoted to

the lever above its pivot, and a link hinged to the door post and pivoted to the rod adjacent to the door post.

A wardrobe attachment has been patented by Marion H. Cazier, of Chicago, Ill. The invention covers an improvement on a former patented invention of the same inventor, whereby more than the usual number of garments can be hung in a wardrobe in such way that any desired article can be readily removed.

A gate latch has been patented by Mr. Theodore P. Skellenger, of Morristown, N. J. It consists of a rotating bar fitted in the gate and bent to form a handle at one end and a catch at the other, opposite the handle, together with a latch plate attached to the gate post and formed with inwardly projecting lips.

A dumping cart has been patented by Mr. Nicholas F. Reilly, of New York City. This invention relates to carts made of sheet metal, that tilt bodily with the axle, to which the thills are connected by hinge joints, and provides a construction affording extreme lightness and economy with great strength and durability.

An end gate fastener has been patented by Mr. John L. Hammer, of Burlingame, Kansas. The invention consists of a spring attached across the end gate near its top, with a device for holding and locking the gate in place which is simple and durable in construction, and permits of removing the end gate quickly.

An end gate for wagons has been patented by Mr. John B. Buntin, of Burk, Iowa. It is designed to provide lumber wagons having a box top with a gate which may be set on a level with the wagon bed and used as a platform or extension thereto, being adjustable to various angles, and adapted to be locked and sustained in such positions.

A chair bottom has been patented by Mr. Edwin T. Wade, of Wesson, Miss. It has wires inserted in the frame and extending across the opening thereof at different angles, crossing at the center of the seat, with a central disk adapted to inclose the crossed portions of the wire, the frame of the chair bottom being preferably made of wood.

A flock machine feeder has been patented by Mr. Hayden M. Truesdell, of West Stockbridge, Mass. It consists of a series of flanged rollers mounted to extend across the bottom of a feed box or hopper, a stamp or plunger being arranged to force the stock to the flock machine in such quantities as may be required for the proper operation of the machine.

A clock winding mechanism has been patented by Mr. Abe Robinson, of Brooklyn, N. Y. It consists of a wind wheel actuating a train of gear wheels connected with the spring barrel of the clock mechanism, with an automatic wind wheel locking device, making an automatic winding mechanism for clocks actuated by springs.

A washing machine has been patented by Mr. Hiram Lawrence, of Salem, Oregon. It has a revoluble cylinder mounted in movable bearings, fitted to a tub, with gearing for imparting rotary motion to the cylinder, for washing the clothes without pounding or friction, and without the direct application of the hands to the articles being washed.

A hat hook has been patented by Mr. Augustus H. R. Guiley, of South Easton, Pa. It consists of a hook having a loop and a free end, with a ribbon or cord fixed to the hook, and a fastener held to the other end of the ribbon and passed between the hat body and sweat band, and bent from the ribbon between the body and band.

A suspension harness rack has been patented by Mr. Walter H. Robinson, of Fargo, Dakota Ter. It is particularly adapted for suspending harness from the ceiling of a carriage house, barn, etc., so that all parts of the harness may be conveniently hung and readily manipulated and cleaned, a covering being also provided to protect the harness from exposure.

A moistening partition for tobacco cases has been patented by Mr. Charles N. Swift, of New York City. It is a hollow, porous partition, adapted to receive a sponge or similar substance to be kept moist, and so made as to prevent the stock from coming in contact therewith, and from becoming wet from any drip or water that may be pressed out.

A shaking apparatus has been patented by Mr. Charles Collins, of Doctor Town, Ga. (present address, 408 West 23d Street, New York City). It is designed to mix fancy drinks, such as lemonades, punches, etc., furnishing therefor an apparatus intended to be ornamental and attractive in a bar room or other public place, for quickly and efficiently mixing drinks.

A bedding protector has been patented by Mr. Benjamin L. Holladay, of near Holladay, Va. It consists of a vessel having in its upper surface elliptical grooves and apertures, with a mattress of open yielding material covering the surface, making an auxiliary bed for use with young children, whereby the bed or cradle clothing will be kept dry and clean.

A roller attachment for boats' gunwales has been patented by Mr. Perry S. Katsenys, of Astoria, Oregon. It is to facilitate paying out and hauling in nets without friction or wear, a divided sectional gunwale having slotted plates, one at each end of the opening formed by its division, and a roller with its journals being let into the slots of these plates.

A discharge mechanism for vacuum pans has been patented by Mr. Richard G. Peters, of Manistee, Mich. It is for removing the precipitate in salt and other vacuum pans. The forcible discharge is effected automatically when a carrier is driven by power, means being provided for maintaining a vacuum and obtaining it when lost.

A chain wrench has been patented by Mr. William H. Brock, of Brooklyn, N. Y. This invention covers a novel construction of chain wrenches and the form of yoke or dog to be used therewith, the strain of the dog being distributed over several spurs of

the chain, and slots in the arms of the dog allowing of considerable latitude of motion.

A tuning peg retainer has been patented by Mr. Frank B. Converse, of New York City. It consists of a spring fitted to the peg and formed with gripping teeth or serrations, the spring also having frictional resistance against walls of a chamber through which the peg passes to hold the peg where it is set, the invention being especially applicable to violins, banjos, guitars, etc.

A stump puller has been patented by Mr. Charles Sauer, of Easton, Md. It consists of a frame formed in sections, with connections for uniting them, fastenings to secure the frame to the base, journaled shafts geared together in the frames, an anchor guy, and other novel features, the apparatus being also adapted to move houses, rocks, and other heavy objects.

A machine for coating paper with sand, emery, etc., has been patented by Mr. Henry Slusser, of York, Pa. It has a roller journaled in a trough, and a roller journaled in the free end of a hinged frame resting upon the roller in the trough, with other novel features, whereby paper may be coated in long lengths, first with glue, and then with an abrasive material.

A machine for making wire rope has been patented by Mr. Robert S. Newall, of Gateshead, Durham County, England. The invention covers a novel construction, combination, and arrangement of parts in a machine in which the wires from each strand frame are kept separate, without torsion, and in separate strands or sets round a core, without being laid or twisted together, with various other novel features.

An attachment for squares has been patented by Mr. Jabez Klif, of Fergus Falls, Minn. The invention consists of a square and two slotted straight edges adapted to be fastened on the square by means of bolts, with various novel details and combinations of parts, making an improved measuring instrument, especially adapted for the use of carpenters, stair builders, etc.

A shutter fastener has been patented by Messrs. Alexander Cochard and Joseph Gano, of New York City. The invention relates to that class of window blind and shutter fasteners in which two lever hooks project beyond the ends of a cylinder or case fitted within the blind or shutter, one engaging with a fastening on the window sill and the other with a fastening in the wall to hold the shutter.

A curry comb has been patented by Mr. Samuel Norwood, of West Greene, Ala. It consists in a frame having longitudinal bars and series of comb teeth supported by a yielding frame, an adjusting screw being swiveled to the swing frame supporting the comb teeth, with a removable support for the adjusting screw, making a curry comb with yielding teeth which may be projected more or less.

A pump has been patented by Mr. Harry G. Bott, of Thomasville, Pa. It has a compound pitman made in two sections, lapped or extending past each other, with locking devices and a single lever handle extending across both sections of the pitman at their lapped ends, being especially adapted to be operated by a wind wheel, and also to be operated by hand without disconnecting it from the wind wheel.

A bread raiser has been patented by Mr. Charles J. Walthall, of Petersburg, Va. It consists of a receptacle made of poplar or other sweet wood, with a detachable lid which may be used as a dough tray, the door of the receptacle having a glass pane in alignment with which is a thermometer, and its bottom consisting of an air tight metal tank provided with water, beneath which is placed a lamp, there being also air openings in the ends of the receptacle.

A telegraph key has been patented by Mr. Alphonso S. Keating, of Corry, Pa. It has a switch for diverting the main line circuits from the contact points of the key, and at the same time allowing the current to pass through the key to the sounder and the earth, affording means for cutting off the current from the main line when the line is not in use, and allowing signals to be sent over the line from any station when desirable.

An adjustable socket for mortars has been patented by Mr. Edmund G. Purdy, of Ballston Spa, N. Y. It consists of a ring made in segments adapted to be drawn together or separated, so as to bring them into engagement with the outer surface of the mortar, the socket to be then secured to a counter or other support, whereby mortars of different sizes may be held while employed for pulverizing or triturating substances.

The laying of continuous electrical conduits forms the subject of a patent issued to Mr. Alexander C. Chenoweth, of New York City. The method consists in wrapping a core spirally with a casing, suspending the casing in a trench, then pouring and forming a conduit of plastic material around the casing, and withdrawing the core and afterward the casing, the conduit being preferably of asphaltum or other concrete, the core of wood, and the casing of wire or rope wrapped spirally.

A brick kiln has been patented by Messrs. Miles Kehoe and Anthony Zilker, of New Albany, Ind. This invention covers novel details and combinations of parts in a furnace, with openings in the bottom of the chamber containing the bricks set up to be burned, such openings being for the admission of heat from the furnace, while openings in the side walls allow of inspection of the progress of burning, and from these side openings covers can be placed over the openings, admitting heated air to the bricks.

A windmill has been patented by Mr. William H. Goff, of Council Bluffs, Iowa. It has a shaft with a wing attached for regulating the position of the vane of the wind wheel, and a wing for regulating the position of the wind wheel, the shaft being mounted independently of the wheel shaft proper, and the latter wing being secured to a tube adapted to revolve with the wheel shaft carrying bracket, the construction

throwing the wheel out of the wind when it is too strong and returning it automatically into action when the wind is moderate.

Improvements in velocipedes form the subject of two patents issued to Mr. James R. Triggwell, of Brixton, Surrey County, England. One invention relates to the pivotal joint by which the steering head is connected to the neck, and is chiefly applicable to machines in which the head is chambered at the back to receive the neck on the backbone of the machine. The other invention relates to the handle bars in which the steering is controlled by a transverse handle bar, and is designed to overcome the vibration felt in the hands and arms of the rider when riding over rough roads.

Patents have been issued to Mr. A. K. Owen, of Lake Geneva, Wis., to facilitate the blocking of bill heads, letter heads, etc. Holes are punched in the top of the paper near the edge and the sheets placed on pins, which are a proper distance apart, on a wood or card board. Guards are placed on the head of the board, reaching over the margin of the paper almost to the pins, but far enough from them to permit one sheet to slip out between the guards and pins when the free end is raised up and pulled a very little; but the paper will not come off any other way. This block saves the trouble of gluing the sheets do not come apart, and when a press copy is desired, there is no glue to stick to the press. One blocker will last a long time, and is designed to be very desirable for printers to furnish to their customers.

The other part of this invention is intended to facilitate the making of school tablets, merchants' bill books, doctors' prescription books, etc. To a wooden head block (which is fastened to the back of the book) two hooks are attached. They receive the punched paper, and can be opened to receive more paper, thus making a perpetual binder. The punched paper works freely on the hooks, which makes it very desirable for school tablets. A leaf can be taken from any part of the book without disturbing the other leaves. The books or tablets may or may not have a cover like a book. A sheet of carbon is hung on the same hooks with the paper, and after the bill and its duplicate are removed, the carbon is left still in the center of the book and between two sheets. As the leaves are punched near the edge, it is not difficult to jerk them out.

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