IMPROVED BRIDLE BIT ATTACHMENT.

Thomas M. Allen, Augusta, Ky.—This is an improved attachment bridle bit for driving hard-mouthed horses with great facility; and it consists of the driving lines being passed through a small pulley at the end of the bridle bit, and back through a loop in the saddle, and then downward to the shaft.

IMPROVED COMBINED PUTTY KNIFE AND SCREW DRIVER.

Charles Collins Bartlett, Medford, Mass.—This consists in combining a putty knife and screw driver in one implement, securing the sliding and spring-acted screw driver to the handle when not in use.

IMPROVED DENTAL FLASK.

William E. Buckman, Easton, Pa.—Thisis an improved dental flask,whichshall be so constructed that it may be readily emptied of the plaster without danger of breaking the teeth. By suitable construction, after the molding or hardening of the celluloid or other material has been completed, the few taps required to separate the parts of the flask crack the plaster in such a way that it falls away from the teeth without danger of breaking them, so that the plaster and teeth are readily removed from the flask and separated from each other.

IMPROVED THIMBLE.

Gilbert H. Finger, New York city.—This invention consists in a thimble made with a concave top, and with concave surfaces, one or more, upon its sides. The tops are made thicker than the sides. The object is to prevent the eye of the needle, while being used, from slipping from the thimble and injuring the fingers of the operator.

IMPROVED SOAP RE-MELTER.

Daniel Whitaker, Boston, Mass.—The object of this invention is to provide a vessel for re-melting the scraps or fillings of soap produced by the cutting up of the soap into bars while in the soap frames, whereby the said scraps are utilized by being re-embodied into a solid homogeneous mass, without burning or decomposing. It consists mainly in constructing a pot or cauldron with an open bottom adapted to be closed by a door or cut-off, and providing the interior with steam coils and a diaphragm of woven wire. The said vessels are heated by steam admitted through the steam coils, and also by a steam jacket; and as the scraps of soap are thrown into the vessel, their lodgment upon the coils and the woven wire diaphragm maintains them in suspension in a uniform steam heat until they are melted; and as soon as melted, they drop through the coils and woven wire out through the open bottom before the soap has time to decompose.

IMPROVED FEATHER RENOVATOR.

William M. Shelton, Williamsburgh, Mo.—This invention is an improvement upon the feather renovator constituting the subject of letters patent No. 108,161, and relates chiefly to a roll mounted upon a hollow perforated shaft, which is open at one end to adapt it to receive a perforated tube. Steam is admitted to the renovating chamberthrough the shaft and tube; but when the latter is adjusted in a certain position, the steam is prevented passing into said chamber and caused to pass into the hollow casing of the same, for heating it and thus drying the feathers.

APPARATUS FOR THE MANUFACTURE OF SULPHUROUS ACID.

William Maynard, New York city.—This invention relates to certain improvements in apparatus for hydrating gases, and it consists in the particular construction and arrangement of the condenser or chamber in which is effected the absorption of the gas by the water; the said chamber being provided with an inlet for the water above and an inlet for the gas below, and fitted interiorly with alternating inclined imperforate shelves, which are provided with ledges or cleats at their lower ends that dam up the water upon the shelves for the absorption of the gas, which water gradually weeps or trickles over the edge of the cleats from one to the other of the shelves. These ledges or cleats are also notched and sawn down to form slits or scores, which permit the draining of the shelves when the apparatus is not in operation.

NEW HOUSEHOLD INVENTIONS.

IMPROVED WASHING MACHINE.

James J. Daly, Bloomington, Ill.—This invention consists in placing in a wash box, between two inclined parallel arms, two wash boards with their ridged surfaces facing each other. The projecting ends of the arms are provided with slots in which projections on the upper wash board travel, thus giving the latter a reciprocating motion. The lower wash board is pivoted between short arms, which themselves pivot at their lower end in the inclined parallel arms, their upper arms being connected by a transverse rail. Immediately below the wash boards is a grooved roller, which has its bearings in the two inclined arms, and is provided with ratcheted ends, which are moved by pawls pivoted to the upper wash board. Motion is imparted to the machine by a crank handle or otherwise.

IMPROVED DRY YEAST COMPOUND.

Charles W. Gschwind, Egg Harbor City, N. J.—This consists of boiled hops, scalded wheat flour, malt, sugar, ginger, rice flour, and middlings. It is well adapted for bread making.

IMPROVED STOVE COVERING.

Andrew J. Vandeventer, Martinsburg, Mo., assignor to himself and Archibald M. Vandeventer, same place.—The object of this invention is to improve the construction of the cook room refrigerator for which letters patent were granted to P. D. Vandeventer, November 8, 1870, to enable the cooking to be done with less fuel and with a more uniform heat. It consists in doors made in two parts, and with their adjacent edges overlapping each other, and at such a distance apart as to leave spaces between them for the entrance of cold air.

IMPROVED CLOTHES DRYER.

David J. Clark, East Elma, N. Y.—This consists of a series of horizontal bars, which are connected at their ends by cords, and provided with wires, for the suspension of the clothes beneath the bars. The latter are capable of being folded together or extended, and may be supported upon frames resting on the ground.

IMPROVED STOVE.

Charles R. Sipes, Arkansas City, Kan.—This relates to improvements on a class of stoves known as the "Tod" stove, by which the objectionable escape of the smoke in the same, when the doors are opened, may be avoided. There is an additional flue and damper at the highest part to prevent the escape of smoke on opening the door, and a swinging foot rail hinged to the lower part of the stove.

NEW AGRICULTURAL INVENTIONS.

IMPROVED WHEEL CULTIVATOR.

William N. Riddle, Caddo Grove, Texas.—This improved wheel cultivator is so constructed that it may be readily adjusted for use in marking the ground, covering the seed, and cultivating the plants. It is simple in construction and reliable in operation in either capacity.

IMPROVED COTTON CHOPPER.

Theodore C. Burnham, Burnet, Tex.—The essential feature of this improved cotton chopper is a contrivance of choppers on vertical rock shafts, with a cam wheel attached to one of the truck wheels, for closing them, and a spring for opening them, upon the row of plants, for chopping them out.

IMPROVED CHURN.

Sylvanus B. Robison, Allenville, Mo.—This churn may be readily put into place and detached, and the gear wheels may be readily adjusted to take up the wear.

IMPROVED BUTTER TUB.

James E. Higgins, Holland City, Mich.—This is a device for fastening covers to pails, and other similar packages, by means of a jointed hasp attached to the cover, which shuts over a staple in the pail, and a wedge placed between the hasp and cover.

COTTON FEEDER AND CLEANER FOR COTTON GINS.

George F. Colquitt, Bremond, Tex.—This invention has reference to devices for feeding seed cotton to cotton gins, and also for cleaning the same preparatory to ginning; it consists of a hopper having wires extending from side to side over a revolving toothed cylinder and a concave thrasher. It is made to reciprocate on a track by pinions on the ends of the thrasher cylinder, working in double rack bars, one in each side of the hopper, so contrived that the pinions run them over one way and under the other, making a simple and cheap mode of obtaining the motion.

IMPROVED GRAIN SEPARATOR.

William Holladay, Blairstown, Iowa.—This invention consists of contrivances for separating the light coarse matters, and also the dust, before the grain goes on to the sieves, and conducting them away in a tube out of the room containing the mill. By separating the straw, etc., before coming to the sieves, the capacity of the mill is greatly increased, in consequence of the sieves not being choked by such matters. The blast can be wholly turned on either device, or partly on both; there is a contrivance whereby a blast may be applied, by suction, to the grain as it passes off from the screen for separating light grain and like matters, not separated by the mill proper.

IMPROVED GRAIN ELEVATOR FOR HARVESTERS.

Ebenezer McFadden, Sparta, Ill.—This is a contrivance of the teeth, the apron, and the rollers which work the apron, for allowing the teeth to swing back automatically to pass the trough into which the grain falls, and in like manner take the required position for taking up the grain.

IMPROVED SULKY PLOW.

John W. Grimes, Appleton City, Mo.—This invention is an improvement in the class of sulky plows in which the plow proper is suspended from the wheeled frame in such a manner as adapts it to be raised and lowered at will, for the purpose of changing the depth of furrow, or for holding the plow entirely off the ground while being transported from one place to another. The improvement relates particularly to the construction and arrangement of parts, whereby the plow beam is held steadily while in use, adapted to be raised and lowered bodily, by means of a single lever, while in operation, and without changing the horizontal position or angle of the plow beam, and whereby the draft is applied in a direct line with the plow beam, whatever be its adjustment.

IMPROVED REAPER.

Solomon Rawson, Scott Thacher, and Isaac Rawson, Hornellsville, N. Y.—This invention relates to certain improvements in reapers for harvesting grain, and it consists mainly in making the platform and sickle-driving mechanism together, adjustable on the main frame, in raising and lowering the sickle, by pivoting the tongue to the main frame, just below the bearing or the main drive wheel, whereby the sickle and its driving mechanism are geared directly together without the intervention of a joint, and whereby also the draft is more in a line with the sickle. It also consists in the construction and arrangement of the devices for connecting and disengaging the sickle from its driving mechanism,and in the means employed for regulating the motion of the rake arms.

FERTILIZER DISTRIBUTER ATTACHMENT TO SEED DRILLS.

Lyman W. Shepard, Arcola, Va.—The invention relates to an improvement in the class of fertilizer distributers in which the material is fed through openings in the bottom of the hopper, by means of auger-shaped or spiral twist shafts. The improvement consists in the application of radial or curved arms to the feed shafts for the purpose of stirring or agitating the fertilizer and drawing it toward the feeders.

IMPROVED HORSE HAY RAKE.

Amos W. Coats, Alliance,Ohio.—This invention relates to certain improvements in horse hay rakes, and it consists in a cheap, simple, practical, and durable means of attaching a clearer for cleaning the rake teeth when elevated, the said clearer being held rigidly in an elevated position above the rake teeth upon supporting bars, projecting rearwardly from the driver's seat, and forming a part of the support for the same.

NEW MECHANICAL AND ENGINEERING INVENTIONS.

IMPROVED GLOVE TREE.

John B. Stevens, Littleton, N. H., assignor to Nelson Parker, of same place.—This invention is a glove tree, made double or in duplicate, the wrist portions of the two different sized parts being joined together, so that the fingers project in opposite directions. The tree is made in sections, and a spring is placed between them to make the tree expansible and compressible. The invention also includes a sliding clamp for holding gloves while being drawn on the tree. For holding the glove on the table on bench, for inserting the tree, a vertically sliding hook plate is hooked into the mouth of the glove to clamp it on the bench, together with a foot treadle for pressing it down, and a spring for raising it.

IMPROVED MOTIVE POWER.

Adam Graner, New Orleans, La.—This invention consists in combining a drive shaft, counter shaft, and saw shaft, the latter provided with a roll arrangedthereunder. The crank forturning the driving shaft, by hand, has a handle to which is attached a connecting rod, which, at the lower end, connects with a foot treadle, so that the operator may work with both. It is also proposed to apply these drivers to both ends of the driving shaft in practice.

IMPROVED WATER CUT-OFF.

Charles O. Wilson, Cincinnati, O.—This consists of a cap in combination with a crank, so applied to the cut-off pipe as to bring the mouth of the pipe squarely over the outlet, and make the communication and non-communication with the outlet perfect.

IMPROVED BARBED FENCE WIRE.

George W. Allen, Creston, Ill.—This is an improved barb for wire fences, so constructed and applied to the fence wire that it will keep its place firmly and securely, and will not slip or turn. It consists in a fence barb formed of two short pieces of wire placed parallel with each other upon the opposite sides of, and at rightangles with, the fence wire, and having their end parts twisted together, leaving their points projecting.

IMPROVED RAILROAD TRACK LIFTING MACHINE.

Robert Aldred, Glencoe, Ontario,Canada.—This machine consists of a truck adapted to run on the rails, and having clamping jaws or hooks, with which the rails may be seized and raised by levers suitably arranged for the purpose. The entire apparatus is simple, and apparently effective for the purpose.

IMPROVED DISCHARGING CAR.

James W. McDonald, Campbellton, New Brunswick.—This invention relates to a novel construction of cars, designed for distributing gravel and broken stone upon railroads for the purpose of ballasting the same while under process of construction. It consists in a car provided with a supplemental frame, carrying polygonal rollers at the ends, around which passes a continuous, endless belt of sheet or plate iron, which forms the upper surface of the car. This belt is provided with a detachable connection with the running gear of the car, by means of which it is set in motion at the proper time, and the supported load is evenly distributed at the end, a second endless belt being arranged at the end transversely to the car, and inclined to the earth so as to receive the gravel and stone and carry it from its own gravity to one side of the track whenever it is desired to fill in the road bed upon the side.

IMPROVED APPARATUS FOR CONDENSING STEAM.

William Walker, Manchester, England.—This invention is embodied in a cylinder or vessel having a valve for regulating the admission of water, a flexible (rubber) button, or diaphragm, a water supply pipe at the top, a stationary perforated spray plate, a water eduction orifice near the bottom, and a steam induction orifice directly beneath the spray plate. The amount of water admitted to condense the steam, by spraying through the perforated plate, is controlled by the valve whose rod is attached to the flexible diaphragm, and hence rises or falls as the latter is caused to bulge in or out. The object of the latter is to prevent the vessel being completely filled with water when the pump is running at either high or low speed, as the case may be, so as to ensure a vacuum in the vessel, which may be supplied by the exhaust steam.

IMPROVED MACHINE FOR TWISTING HAY FOR FUEL.

James S. Foster, Yankton, Dakota Ter.—This invention is an improvement upon that for which letters patent, No. 180,218, have been granted. It relates chiefly to the combination of a rotating hook, a sliding extensible frame, carrying the fixed or non-rotating head, and devices for locking said extensible frame and the rotating head when required in the operation of the machine. The machine forms a double twist of the hay or straw, which is compact and hard, so that it constitutes a good article of fuel, and is particularly serviceable as such in districts where wood and coal are scarce and dear.

RAISING AND LOWERING PROPELLERS.

Benjamin Mitchell, Hancock, Md.—This invention relates to means for raising and lowering the propellers of canal boats, so as to cause them to work equally well whether the boat is loaded or not. The invention consists in a propeller shaft supported in side plates and raised by adjustable hangers; in an auxiliary plate at the outer bearing, that moves with the bearing plate so as always to cover the slot in the latter and prevent the ingress of water. It also consists in a plate that simultaneously slides and revolves to close the slot in the fixed plate, in which the inner bearing moves, the pinion being adapted to be operated by the same drive wheel, in whatever position it may be placed.

IMPROVED MACHINE FOR BOTTLING AERATED WATERS.

George Wenker, St. Joseph, Mo.—This is an improved machine or pump for manufacture of soda and mineral waters, by which the exact quantity of sirup to be used in bottling may be measured for each bottle. It consists of a barrel with adjustable piston and valve, in connection, with a three-way cock for the sirup and aerated water pipes, and a swinging handle lever that opens and shuts the bottle.

MACHINE FOR TWISTING HAY AND STRAW FOR FUEL.

James S. Foster, Yankton, Dakota Ter.—In using the machine, a handful of hay or straw is placed in a box and its ends are secured to the heads by clamps. The crank is then turned; and as the hay and straw is twisted, its contraction draws one head and frame inward. The movable half of the box is folded over upon the stationary half, doubling the twisted hay, which is afterward allowed to twist itself into a wisp.

IMPROVED ELEVATOR.

Thomas K. Austin, New York city.—This consists in the arrangement of elevators working on guides in wells or shafts, provided at the front and rear of the building. The said elevators are connected above and below by ropes or chains, in such a manner that they may counterbalance each other, and are each provided with gearing, which can be operated by one or more persons on the elevator, to raise or lower it, as may be desired.

IMPROVED GATE LATCH.

Cirby J. Wallis, Troy Station, Tenn.—Thelatch has a curved rear arm, which is extended to a suitable length beyond the pivot to give the required weight for producing automatic locking. When the latch is applied to doors that are to be opened from both sides, knobs are arranged in connection with a lever that serves to raise the latch by turning either knob.

IMPROVED WEIGHING SCALE.

Hosea Willard, Vergennes, Vt.—The object of this invention is to contrive a lever and beam scale in a simple way that will allow of being suspended for use, and at the same time will be efficient in operation. The weight hook pivot is connected adjustably to the beam lever, and provided with a shifting screw to set the scale for net or gross weight. And there are other ingenious devices well suited to the ends in view.

MACHINE FOR SHAPING GRAIN CRADLE FINGERS.

Andrew Denney, Beverly, O.—This consists of a disk having a groove in the face, corresponding in form to one half the cross section of the finger, with a number of radial notches, in each of which is a cutter having a notch of corresponding form. The cutters are bolted to lugs of the disk projecting from its sides. The disk is made to revolve against the blank, which is first dressed on one side and then on the other.

IMPROVED TIME LOCK.

John B. Overmyer and James A. Huston, New Lexington, O.—This consists of a time piece having a screw connected with one of the posts of the time mechanism, to be turned thereby. On the screw is a nut, which is made to operate the releaser, which lifts the stop from behind the bolt of the lock, the screw being geared to the time piece by friction devices, and having a thumb disk to facilitate the setting of the nut. A graduated scale is arranged in connection with the nut, by which to set it to release the bolt in any predetermined length of time.

IMPROVED CAR COUPLING.

Hiram Pitcher, Fond du Lac, Wis.—This consists of a double coupling hook, that is hinged to the drawbar and united at the front part, to lock over the side extensions of the drawbar to be coupled. The double hooks are raised or lowered by rods extending to the top or side of the car.