

the runner, and the tubes and cap, constructed and arranged to operate in connection with each other. When the umbrella is extended, and it is desired to adjust it for use as a cane, the handle is drawn down through the tube until the collar reaches, and is secured to the lower end of the tube. As the handle is being drawn it slides down through the runner until the stationary ferrule strikes the said runner. The stretchers are then pressed upward by the end of the tube, which closes or folds the umbrella upward, and the whole umbrella passes down into said tube. Another tube is then drawn upward and locked, and the cap is secured to its upper end, and the device is ready for use as a cane.

IMPROVED REMOVABLE TOP FOR SHOWCASES.

Thomas H. B. Parks, Arkadelphia, Ark.—This invention is a detachable front or cover designed for application to boxes containing goods. For example, when a grocer receives a box of crackers, raisins, or other articles whose contents he wishes to display, and at the same time to protect them from dust, also from thieves, and yet render them accessible for the purpose of removal of a portion to supply customers, the top of the box may be removed and the detachable front or cover applied to the same. In such case the box may be turned on its side, so as to better display the goods. By use of this improvement the dealer avoids the necessity of placing the goods in separate boxes for the purpose of exposing yet protecting the goods. In practice the dealer will keep on hand a number of the detachable box fronts or covers, and will transfer them from one set of boxes to another as occasion requires.

IMPROVED MEDICINAL COMPOUND.

Mary Catharine Peden, Caverna, Ky.—The object of this invention is to furnish an improved medical compound for purifying the blood and effectually curing scrofulous diseases. The inventor says: In preparing this compound I take burdock root, one and a half ounces; poke root, one and a half ounces; sarsaparilla root, one and a half ounces; and sulphur, one ounce. To these ingredients I add proof whisky, one pint, and allow it to stand twelve hours. I then add such a quantity of water that there will be one pint of the mixture when drawn off. The compound is then allowed to stand in a cool place for one week, when it is drawn off and bottled, and is ready for use and market.

IMPROVED STOPPER FASTENER.

John L. Stewart, Ellicott City, Md.—This is an improved form of bottle stopper, more particularly designed for bottles for holding aerated liquids, such as beer, ale, soda water, etc., but applicable to other uses. It belongs to that class of stoppers in which a yoke made of bent wire is screwed about the neck of the bottle to receive a swinging bail, which bail carries a rubber stopper that is forcibly pressed against or into the mouth of the bottle. The improvement consists of a tilting cam provided with a thumb piece and combined with the bail, the rubber stopper, and the support to which said cam is pivoted, whereby the fastening is made more secure, and the manipulation of the stopper is facilitated by permitting the same to be removed or applied with ease and rapidity.

IMPROVED STAKE HOLDER FOR PLATFORM CARS.

Owen Miner Avery, Pensacola, Fla.—This invention relates to an improved socket and stanchion for railway platform cars. The object of the invention is to obviate the difficulty usually encountered in removing the stanchion from the sockets when the car is to be unloaded. As ordinarily constructed, the stanchions have to be lifted vertically from their sockets, and when the car is loaded with lumber or other similar freight the lateral pressure exerted by the same against the stanchion jams the latter in the socket so that they can be removed only with difficulty. This invention consists in pivoting the stanchions in such a manner that they may be quickly turned laterally to a horizontal position and then down, or entirely detached if desired, and yet be locked in a rigid vertical position while upon the route.

IMPROVED COMBINED COFFEE ROASTER AND COOLER.

Joseph B. Underwood, Fayetteville, N. C.—This is an improved device for carrying out the method of roasting coffee for which letters patent were granted the same inventor May 16, 1876, by which method the volatile products that arise from the coffee being roasted are utilized by being conveyed to a closed communicating chamber for cooling the coffee, where said flavoring and aromatic exhalations, which are being given off from the roasting coffee, and restored to the hot roasted coffee as it is cooled, the method serving to preserve the roasted coffee and render it less susceptible to the managizing influences of the atmosphere, and at the same time preserving the full strength of the flavor and obviating loss in weight. The means consist generally in a revolving roasting cylinder arranged in combination with a revolving cooling and condensing cylinder, and so connected as to admit of the transfer of the generated volatile products of the first to the latter without condensation in transit, and finally of the transfer of the entire charge of roasted coffee from the roasting chamber to the cooling chamber. The improvement also consists in other details of secondary importance.

IMPROVED ANIMAL TRAP.

John Crawford, Vanlue, O.—This invention covers certain improvements in animal traps of that form in which a cage or box is allowed to drop upon the animal enticed by a bait beneath the same. The improvement consists in a central axially-turning rod having notches formed in the same which are adapted to support a cage or box moving upon vertical guides until said central rod is turned axially by the animal in removing the bait from an arm attached to the same, when the notches will be removed from the catch on the cage and the latter allowed to drop bodily upon its guides over the animal.

IMPROVED VENTILATING BARREL FOR SHIPPING FRUITS, VEGETABLES, ETC.

William Crowell, Dennis, Mass.—The object of this invention is to provide, for the packing and shipment of fruits, vegetables, and other articles of perishable nature, an improved barrel or other package that is sufficiently ventilated at the center to prevent the decaying of the articles; and the invention consists of a barrel, box, or other package having a grooved center piece or partition for admitting air, and a sectional removable head, secured by a conical nut, binding on the head sections and turning on the threaded end of the center piece. As the decay of the articles commences generally in the center of the barrel, on account of the lack of air, this objectionable feature of the packing of fruits, vegetables, and other articles is prevented by the use of this ventilating center piece, post, or partition. By unscrewing the nut the head sections may be readily detached, and the contents of the barrel removed, and *vice versa*.

IMPROVED HORSESHOE ATTACHMENT.

George W. Price, Lakeland, assignor to himself and William H. Sanford, Hauppauge, N. Y.—The object of this invention is to provide calks for horseshoes that may be attached and detached at pleasure, and also to provide a device for preventing balling. An ordinary horseshoe is attached to the horse's hoof in the usual way. The calks, that are fitted to the horseshoe just in front of the usual heel calks, are each provided with an inwardly projecting arm, at the end of which a nut is formed. They are also provided with a lip that engages the edge of the horseshoe. The calks of the attachment, being longer and sharper than the calks of an ordinary horseshoe, prevent slipping, and by means of a plate balling is entirely prevented.

IMPROVED WEIGHING ATTACHMENT FOR HAND TRUCKS.

Daniel A. Beam, Newark, N. J.—This invention consists in the combination of scale levers and scale beam with an ordinary two-wheeled hand truck having an axle fitted in slotted bearings of the truck frame, so as to enable the latter to have a vertical motion relatively to the axle when

weight is applied. The invention is mainly designed for use where an approximation to the weight of several packages is required, when it would be impossible to weigh each package accurately upon regular scales.

NEW AGRICULTURAL INVENTIONS.

IMPROVED MILK PAIL.

William Heuermann, Sedalia, Mo.—This invention has relation to strainers for buckets, and the nature of the invention consists in combining, with the pouring spout of a bucket, a removable strainer, a hinged retaining cap, and a hinged cover. From the hood of the pail springs a pouring spout, near the end of which is formed a ring, forming a seat for a strainer. This strainer is preferably composed of gauze wire, suitably secured to a ring, and when it is adjusted on its seat is retained in position by means of a shoulder formed on a hinged cap. This cap forms the nozzle of the pouring spout, and its reduced end has a cover hinged to it, which cover will automatically open when the bucket is tilted, and close when it is set upright. The strainer can be quickly removed when it is necessary to clean it, and it can be quickly replaced.

IMPROVED FENCE.

Nelson B. Gunn and Timothy Gunn, Elwood, Ind.—This invention relates to rail or worm fences, and the object is to afford greater strength and security to the fence at the angles thereof by rigidly tying the crossed ends of the rails together with wire or its equivalent, held under strong tension by means of a wedge. Instead of using posts or stakes at the points of the crossing of the ends of the rails, the rails of each section are firmly bound together by means of a strong wire loop, which may encompass all of the rails or only a few of them. A single band or loop will in all ordinary cases be found sufficient, although two loops may be used and arranged closed to the points where the rails cross each other.

IMPROVED STUMP PULLER.

Henry M. Stitzer, Cochran, Pa.—This invention relates to an improved device for pulling stumps, rocks, and other bodies in simple and effective manner, by making use of another stump or fixed body, close to the one to be pulled; and it consists of a single or double beam, attached at one end by a chain to a stump or other object, and of a draft link, connected by a chain to another stump and pivoted to a hand lever, combined with pivoted pawls and wedge links, of peculiar construction, that work the link forward on the beam by the rocking of the lever. These links being loosely arranged, also, they turn upon their recessed seats in the pawls in their progression along the plain bars, so that in advancing alternately along the bar to take a new hold they slip freely over the same; but when strained in the opposite direction, in exercising the draft, they turn and cramp against and bind with the bars, and thus give a purchase for the draft strain.

IMPROVED CATTLE-WATERING DEVICE.

William H. Hayes, Salisbury, Mo.—This invention has reference to an improved device for watering stock in stock cars or yards, in a superior and automatic manner from a common tank, without waste; and the invention consists of a bucket hung to a fulcrumed and weighted lever, with curved end, that is pressed by the weight of the water in the bucket against the hose, connecting tank, and bucket, so as to cut off the water supply and re-establish the same when the bucket is getting empty. The raising of the bucket takes off the pressure from the hose, and re-establishes the supply of water from the tank, until the weight of the water in the bucket overcomes again the balance weight and cuts off the supply. In this manner a continuous and automatic water supply for stock in cars and yards is obtained.

IMPROVED SULKY AND GANG PLOW.

John H. Goodwin and David Woodard, Lamar Station, Mo.—This invention relates to improvements in gang plows, and consists mainly of an axle with swinging plow beams that are raised or lowered by a pulley frame, chains, and lever to the required depth. The pulley frame is jointed, to admit the raising of the plow beams into upright position after work. The plow beams are retained in position by curved metallic brace pieces, that are hinged to the axle in front of and above the turning points of the plow beams, and seated in notches of the same, according to the higher or lower position of the beams. The pulley frame is made of two sections, of which the lower stationary part is secured, at suitable inclination, to the axle, while the upper section is pivoted, by its fork-shaped ends, thereto, in such a manner as to rest on a supporting extension or bearing of the lower part when the plows are dropped for work. After use, the plows are raised and thrown, with the upper section of the pulley frame, into nearly vertical position on the axle, so that the gang plow may be carried to and from the field with great facility. The shape of the plow beams produces a light draft, and the ready adjustment or entire raising of the same a gangplow of convenient construction and use. The plow may also be used as a sulky plow by using one plow only, taking off the others, the plow being thus a gang or sulky plow, as desired.

IMPROVED GATE.

John W. Harvey, Farley, Iowa.—This invention relates to gates which, when opened, will close by their own gravity; and the nature of the invention consists mainly in a foot plate for a swinging gate post having a convex bottom and crossed slots through it, in combination with studs on a post driven into the ground, which studs enter the said slots and keep the gate in proper position. A lever is pivoted to the post and connected to the gate by a pin and slot, so that a person can raise the gate bodily with very little exertion. This allows the gate to be opened and shut over snow drifts.

IMPROVED BEEHIVE.

Isham B. Burroughs, Tuscaloosa, Ala.—The object of this invention is to furnish improved beehives, which shall be simple in construction and convenient in use, enabling all the operations necessary in taking care of bees to be easily and conveniently performed, and thoroughly protecting the bees from moth. A drawer in the lower part of this hive is divided into compartments, in which are formed holes to allow the millers to pass through. With this construction the moths enter a forward dark compartment of the drawer, see a little light entering through the holes in the partition, and pass through said holes into the inner compartment of said drawer, where they lay their eggs, and from which they cannot find their way out.

IMPROVED WHEEL PLOW.

Stephen M. Harris, Forest Grove, Oregon.—The object of this invention is to furnish an improved plow, which shall be so constructed that either wheel may be raised and lowered, as required; which will turn under and thoroughly cover stubble; which will clear itself of vines and weeds, and may be readily thrown out of the ground when desired. Upon the outer arms of the crank axles revolve the wheels, which are unequal in size, the furrow wheel being the larger. Spring pawls are placed in such positions as to engage with the teeth of ratchet wheels, and thus hold the wheels securely in any position into which they may be adjusted. The plowed land end of the cross bar has a slotted crosshead formed upon it, to receive a bolt which passes through the slot of a bar, so that the said bar can be inclined forward or rearward, to adjust the cutter to take or leave land, as may be required. To the furrow end of the roller is attached a flange, which projects over the edge of the furrow, so as to bend down the projecting weeds and stubble into said furrow, and thus insure their being fully covered.

IMPROVED CENTRIFUGAL MACHINE FOR CREAMING MILK.

Wilhelm C. L. Lefeldt and Carl G. O. Lentsch, Schoeningen, Germany.—This invention consists of a revolving cylinder or drum, provided with

a fixed or detachable top flange or ring and with radial detachable partitions. The drum is inclosed by a guard casing or jacket, and revolved at uniform speed, being slowly started and stopped by means of a weighted idler bearing on the driving belt. The spindle revolves in a cushioned bearing of radial arms of the safety jacket and in a base step. The cream is separated from the milk by centrifugal force, and drawn off after the drum has been slowly brought to rest by taking off the idler from the driving belt. The apparatus is operated as follows: The milk is placed, in fresh state, in the drum, and the drum then gradually set in motion by pressing the idler first lightly against the driving belt until the maximum velocity is obtained. The milk is allowed to revolve with the drum for about twenty minutes, during which time the separation of the cream from the blue milk is obtained by the greater specific gravity of the latter, which is thrown up along the wall and against the top flange, while the lighter cream collects nearer to the center. The success of the operation depends now on the stopping of the machine in such a manner that this separation of the milk and cream is kept up, so that they may be separately drawn off. This is accomplished by stopping the drum slowly without jerks, which is obtained by raising the weighted arm of the elbow lever, so that the idler clears the belt and takes off the tension of the same. This causes the revolving drum and spindle by their own *vis viva*, and the gradual decrease of the speed of the same until they assume a state of rest. After a few minutes of rest the cream may be skimmed off, the partition walls being first carefully taken out for facilitating taking out of the cream. The cream may be churned sweet or sour. The extraction of cream from the milk is best done just after milking, and excepting the want of the creamy matter, say the inventors, after the extraction the milk will not be discerned from fresh milk.

IMPROVED HORSE HAY RAKE.

Adolphus W. Stevenson, Xenia, O.—The teeth of this rake are curved in the usual way, the points being bent upward, so that they will slide along, but will not scratch or catch upon the ground. The bodies of the teeth are flattened a little just below they reach the axle to give them greater elasticity and render them less liable to break should their points strike an obstruction. A spring latch rests against the convex surface of a curved bar attached to the axle, so as, when the teeth are in working position, to engage with a notch, shoulder, or catch formed in the said bar to prevent the teeth from rising and passing over any of the hay. When a sufficient quantity of hay has been collected the driver presses the upper end of the lever forward with his foot. The first effect of this movement is to draw the spring latch back from the bar to allow the teeth to rise. The next effect is to push the clutch outward to engage with the clutch teeth of the wheel to cause the said wheel to turn the axle and raise the teeth, leaving the hay in a windrow.

NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

IMPROVED THILL COUPLING.

John W. Anderson, New York city.—This invention relates to certain improvements in thill couplings of that class in which the thill iron is made in the form of a hook, and is fastened to the pivot pin by being hooked over the same in a certain position and afterwards turned to the working position in which the parts cannot be separated. The improvements consist mainly in constructing the hooked or open slotted thill iron with a notch upon its rear side, and combining the same with a rubber block and a detent held between the ears of the clip, whereby the devices are prevented from being accidentally detached if the position of the thill iron should be changed from the falling of the horse or from other causes. The improvement also consists in forming the clip with a lip just above and outside of the edge of the ears, for the purpose of retaining and holding the rubber block and locking detent in place. The improvement also further consists in combining the hooked thill iron with an oblong tumbler located upon an eccentric pin or rivet, whereby the thill iron is made to bind against the spring and rubber block when in the working position, and thus increase the tension to prevent rattling, the eccentric location of the pin serving to better adapt the parts to each other.

IMPROVED SHUTTER FASTENER.

George M. Mudgett, Edgartown, Mass.—This invention relates to fasteners for shutters, doors, etc., and it consists of a button upon the opposite sides of which nibs or catches are formed, which engage automatically with a pin in the window stool when the shutter is closed, or with an L-shaped hook projecting from the wall when the shutter is open, there being also a sector-shaped portion. The operation is as follows: As the shutter is closed the plate strikes the pin and is moved so as to throw the nib over the said pin. When the shutter is open the nib is made to engage with a hook that projects from the side of the building in a similar way. The plate not only moves the button, but it also limits its motion as it strikes the sides of the screw.

NEW HOUSEHOLD INVENTIONS.

IMPROVED BED BOTTOM.

William M. Ward, Eureka, Ill.—This invention relates to that class of bed bottoms in which the bed bottom is connected with and supported on the posts and end rails of the bedstead, so as to dispense with the strips on the side rails, and take off all strain from the same. The bed fastenings are provided with hooks, cast therewith, on which are hung by end eyes longitudinal rods, which are lengthened or shortened, to be exactly adjusted to the bedstead by a swivel connection, that turns on the flanged head of one rod section and the threaded end of the other. By shortening the rods the bedstead is braced and made firmer. In this manner a three-fold spring action is obtained, namely, in the rods, in the slats, and in the springs at the ends of the cross pieces. The slats "give" just enough to make the bed easy to rest on, and settle all alike whatever weight is placed thereon. No strain is thereby thrown on the side rails of the bedstead, but all on the posts, which are stronger and better fitted to bear the same. The bed bottom may be readily taken out for cleaning the bed, and forms, when in position, a connecting part of the same, being cheap, durable, and strong, and readily applied to old and new bedsteads with little additional expense.

IMPROVED WATERPROOF CELLAR BOTTOM.

James R. Anthony, Cedar Rapids, Iowa.—This bottom is designed for wet or any springy ground and for quicksand. In constructing the bottom, the timbers are first laid and upon them tapering boards are placed, a small distance apart. Laths are nailed transversely to the said boards, and upon the laths a layer of waterproof mortar or cement is laid, into which the bricks are embedded. The spaces between the boards lead to the well, and the water that rises while the bottom is in process of construction escapes to the well, and may be removed in any convenient manner. The wall should be continued upward above high water line, and it may with advantage be carried to the same height as the outer wall.

IMPROVED WASHING MACHINE.

Oscar Jurden, Ackley, Iowa.—This invention consists in the arrangement, in a suitable frame, of two vertically reciprocating pounders and gearing for operating the same. The clothes to be washed are placed in the tub and the pounders are rapidly moved by turning the wheel by means of a crank attached to its shaft. The tub containing the cloths is turned, as occasion may require, either by hand or foot. If there should be a greater quantity of clothes in one side of the tub than in the other, the rubber springs yield, and prevent straining any part of the machine or injuring the clothes.