

Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent home and foreign patents.

HARVESTER RAKE.—William H. Hurlbut, of Mirabile, Mo.—This invention relates to apparatus connected with reaping machines for the purpose of removing the cut grain from the platform of the machine, and consists in mechanism for operating the rake. The operating lever receives a vibrating motion from the reaper, produced in any of the well known ways, which is imparted to a plate and shaft by means of a curved rod and pivoted bar. This motion is equal to about one fourth of an entire revolution, and the rake is made to describe about one fourth of an entire circle by means of projecting lugs on the plate. In addition to this circular sweeping motion of the rake, it is necessary that it should have a revolving motion, in order to raise and depress the teeth. This is produced by means of a horizontal arm which is rigidly attached to the shaft, a curved arm which is rigidly attached to the rake head, and a connecting rod. As the shaft is vibrated, the rake head will be turned about one fourth of an entire revolution. This raises the teeth of the rake to an upright position when they sweep back from the cutter bar, and the revolving motion depresses them to a horizontal position when they return.

CAP BOX.—Albert F. Gove, of Lincoln, Vt., assignor of one half his right to James Henry Batchelder, of same place.—This invention consists in adapting a cap holder to deliver caps, either with or without flanges. For caps with flanges at the top, such as army regulation caps, the upper edges of the side walls are notched sufficiently to allow them to pass. As such notches do not affect the usefulness of the instrument for caps without such flanges, it can be used for both kinds.

SEED PLANTER.—David Lorriaux, of Ottawa, Ill.—This invention furnishes an improved seed planter, which is so constructed that the dropping device may be operated automatically by the advance of the machine, and so that it may be adjusted to work faster or slower by the driver while the machine is in motion. It consists of various parts and cannot be described in detail for want of space.

SCREW DRIVER.—John A. King, of Jamaica, N. Y., assignor to himself and G. L. Peck, of same place.—This invention is an improvement on that for which letters patent were issued to W. S. Goss, August 4, 1868. The parts composing the ratchet mechanism are so constructed and arranged that they occupy less space and are better adapted to endure severe strain or torsion of the instrument.

CANAL BOAT.—I. Joseph Hilgerd, of New York city.—This invention has for its object to improve the construction of canal boats, so as to enable them to be propelled through the water with greater velocity and without injury to the banks; it consists in the following construction: Two wheels, made in the form of frustrums of cones, placed apex to apex, are attached to the shaft to which the power is applied. They are made air and water tight, and have paddles or blades, slightly inclined or spiral, attached to their conical surfaces. The walls of the forward part of the boat at the sides of the wheels are made double, and air and water tight, to serve as floats to buoy up the bow of the boat. The boat is made with two keels, one upon each side of its bottom. The keels are made air and water tight, to assist in floating the boat. They also form a channel or water course along the center of the boat's bottom to receive the water from the wheels to prevent the banks from being washed by the swell. They also prevent the boat shaking. Two rudders are used—one at the rear end of each keel. They are made triangular in form to prevent them stirring up the sand or mud in the bottom of the canal in shallow water, and are connected by a cross bar to the center of which the tiller is pivoted. The tiller is pivoted to the tiller post at the center of the rear part of the boat. By this construction, the boat draws less water while carrying a heavier load than boats constructed in the ordinary manner, and at the same time the wheels cut down the water in front of the boat and force it inward and rearward through the channel in the bottom of the boat, so that it loses its force before being discharged at the stern, and thus prevents the formation of a swell which might injure the banks, and enables the boat to be propelled faster than ordinary boats can be.

SCROLL SAWING MACHINE.—John D. Powers, of Orwell, Vt.—This invention consists of a hand power scroll or jig saw, in which a cranked driving pulley is mounted with the crank under the right hand end of the saw table, where it can be reached readily by the right hand for turning, while the left hand guides the work to the saw. From this driver a pitman shaft, directly under it, is driven by a belt and small pulley, and a pitman directly under the saw connects with the apex of a triangular frame pivoted at a considerable distance to the rear of the saw, and beyond the pivot connected by swivel jointed rods with the rear of a similarly constructed and pivoted frame, between which two frames, at the front ends, the saw is stretched by the swivel jointed rods. The saw is connected, at the lower end, to a rod, to the lower end of which the pitman is connected; and the upper end is connected to an iron plate capable of rising and falling, in the end of the upper frame, and having a short eccentric lever in the upper end, for raising and lowering it to make the saw fast and loose. A bellows is applied for blowing the dust away from the work, and it is so attached to the working gear that the blast is made when the saw is moving up, in order to divide and equalize the work between the up and down strokes.

CORN POPPER.—Albert F. Curtis and Orin N. Palmer, of Delaware, Ohio.—The corn popping vessel is a cylinder made of wire cloth or perforated metal with tight heads of tin or other sheet metal. One head is stationary, while the other is hinged, so as to open and close. The handle may be of wood or metal and of any desired length. It is connected with the cylinder by means of wires, the ends of which lap on to the handle, and are fastened by a sliding ferrule. The ends of the wires are turned and pointed so that they take hold of shoulders in the handle, and when pressed down the fastening is complete. These wires are bent so as to clasp and hold the stationary head to the cylinder. Other wires bend up and over the head and extend to the cover on the outside of the cylinder, forming the pintle of a hinge for the cover on one side, and a fastening hook on the other. The end of the fastening wire passes through a band at the end of the cylinder, and through a narrow radial slot in the cover near its edge. The hook projects beyond the surface of the cover and catches on the same at the inner edge of the slot, the elasticity of the wire on whose end the hook is formed, serving to retain it in this position. Thus the cover is held or clamped upon the band. To release the cover, the wire is pushed outward, which throws the hook into the slot and allows it to rise. Directly beneath the head, all the wires are brought nearly in contact with each other, where they are confined by a ring.

AXLE.—George W. Ray, of Rankin's Depot, Tenn.—In this invention the wheels are cast with or upon, or are shrunk upon, the ends of the axles or spindles, so as to be a solid part of, or immovably attached to them. One spindle is used for each wheel. The spindles are made long, and revolve in bearings attached to the under side of a wooden bolster. They are placed parallel with each other, and in the same horizontal plane. The spindle, when made long, may be made tapering or of uniform diameter, as may be desired, and they are kept from longitudinal movement in their bearings by collars formed upon their journals and working in grooves in their bearings.

NAIL EXTRACTOR.—Edward A. Franklin, of Brenham, Texas.—The object of this improvement is to produce an instrument for readily extracting nails, tacks, brads, etc., from the matter into which they have been forced, which will increase its effectiveness in equal ratio with the resistance offered by the object under operation. The invention consists in a novel arrangement of levers and claws which cannot be fully described without the aid of a drawing.

DRIVING BIT.—Charles Hule, of New York city.—This invention furnishes an improved horse's bit, which gives the driver full control over the horse, and at the same time is easy upon the horse's mouth; it may be so adjusted as to relieve his mouth when sore, and allow it to heal. It consists in bars, link plates, and rings, so constructed that the bars may be readily adjusted closer together or farther apart, or the link plates may be detached and re-

placed with longer or shorter ones, as may be required. The bars, when in use, lie loosely in the horse's mouth, and the horse is guided by pulling upon the lower one. Should the horse become frightened or be ugly or vicious, by pulling strongly upon the reins the bit acts as a lever to force the horse's jaws apart, and at once subdues him.

MACHINE FOR MANUFACTURING ICE CREAM.—Charles Gooch, of Cincinnati, Ohio.—This is an apparatus designed to be used in manufacturing ice cream in large quantities, and is adapted to the production of different flavors and qualities of the article in a more expeditious manner than heretofore. It consists of an arrangement of a horizontal driving shaft in such relation to a series of vertical drivingshafts and parallel horizontal ways, on which the cream receptacles are moved up to and away from the said vertical shafts, to allow their dasher stems to be coupled therewith, so as to adapt the driving shaft to operate the dashers singly and successively, or simultaneously.

GRAIN MEETER.—Robert Rutherford, of Belleville, Ill., assignor to himself and Jasper Messenger, of same place.—This invention has for its object to furnish an improved apparatus for weighing grain as it comes from a thrasher, elevator, or other place, and consists in the combination of a box and a weighing lever or balance, and various other parts operating together as follows: When enough grain has been received in the box to overbalance the weight, the box descends and at once closes valves which prevent any more grain entering the box until the grain already there has been discharged. When the box has descended sufficiently, other valves drop down, allowing the grain to flow out into a receiver placed beneath the apparatus to receive the weighed grain. As the box is lightened by the escape of the grain and rises, the valves return to their places, closing the lower end of the box to again receive grain. By this arrangement, the operation of the weigher is automatic, and all the attendant has to do is to count the number of discharges to know the exact amount of grain weighed. The counting may be done, if desired, by an indicator connected with the apparatus.

WATER WHEEL.—Levi M. Sharps, of Alantus Grove, Mo.—This invention furnishes an improved water wheel, which is constructed to utilize the greatest possible per cent of the power of the water, by improving the construction of the buckets so as to produce the best effect, and the construction of the guide chutes so that they may support the weight of the column of water, and deliver it squarely against the faces of the buckets. It cannot be described in detail without the aid of drawings.

WOOD SCREW.—Edwin S. Wills, of 917 Ridge street, Philadelphia, Pa.—The first part of this invention relates to a spoon shaped point to the screw for forming a boring and tapping device, so as to dispense with the necessity of boring the wood previous to the insertion of the screw. The second part relates to a central bore of the screw from the concavity of the point throughout its whole length for the passage of the borings. The accompanying engraving fully explains the device. This screw will not split the wood, as the spoon point cuts through the fibers and the central bore allows ample space for the chips. Machine screws made on this principle are found to operate well. They are made with a square head instead of the slotted head represented in the illustration. In putting ordinary screws into hard wood, the friction attendant upon the thread crowding the fibers out of place is very great, and it is hard work to drive the screw. With the improved screw, the fibers are cut through by the tapping point sufficiently to remove a portion of the friction and to secure easy driving, but not enough to prevent the screw retaining a tight hold on the wood.—Patented April 30, 1872.



BOTTLE CAPPING MACHINE.—August C. Jordan, of New York city.—This invention relates to a machine for quickly and exactly applying tin foil or other thin caps over the corked ends of bottles or jars; and consists in the arrangement of rotary spring jaws for pressing the foil against the neck of the bottle, and of a sliding spring button for holding the head of the cap against the stopple or cork.

MODEL STAND.—George A. Gilbert, New York city.—This invention relates to a new apparatus to be used as a support for models, to be drawn, painted, or otherwise imitated by artists, and also for boards or stretched canvas to be drawn upon. It consists in the arrangement, on an upright rod or post, of a sliding plate and adjustable cross bar, the plate serving as a support for models, the cross bar as a means of steadying wider articles, or to suspend pendant things. By this means, a stand which can be used as a support for all sorts of articles is produced at small cost and in simple form.

BOLT THREADING MACHINE.—George W. Frost, Richmond, Va., assignor to Archer, Goodwin & Co., of same place.—This invention consists of an automatic reversing and stop motion for machines for screwing thread bolts. It is also applicable for nut tapping machines. The device is composed of so many parts as to render a description impossible unless aided by drawings.

COTTON PRESS.—James W. Miller, Shannon, Miss.—This invention consists of a lever toggle, jointed bars, and a windlass or capstan working the follower, the lever being connected by its short arm to a stem rising up from the follower, and by its long arm to the toggle jointed bars. A capstan is used to force the arms together by a rope and pulleys.

STREET CAR.—John Stephenson, New York city.—These improvements are intended to apply more particularly to the front doors of cars which are under the control of the driver. They consist, first, in suspending the sliding door on ways (which are so placed as to conform to the shape of the car roof) and thereby securing ease of motion; and, second, in providing a sliding car door with sliding panels thereon, so that the car may be ventilated, and the driver easily communicated with by the passengers.

FRONT GEAR FOR CARRIAGES.—Charles L. Leonard, Wells' Bridge, N. Y.—This invention consists in the construction and arrangement of the various parts in such a way that the king bolt is supported laterally throughout so much of its length that it is prevented from vibrating or tilting over sideways, as it does when the hole or tube through which it passes is shallow. Very great strength is obtained, both vertically and laterally, with very light bars and stays, and the king bolt is firmly supported against being swayed laterally in its support by the carriage body.

HORSE SHOE NAIL.—Joseph Jorey, Norwich, Conn.—This invention relates to a new and useful improvement in the construction of nails for shoeing horses, and consists in forming the heads of such nails partly of iron or soft metal and partly of steel or hard metal, so that the heads may be made to serve as calks and be self sharpening, while they serve to hold the shoe to the horse's foot.

TICKET HOLDER.—John W. Rockafellow, Stockton, N. J.—This invention furnishes, for the use of railway or other ticket sellers, a ticket box or holder, so constructed that the withdrawal of tickets may be effected more readily than heretofore. The ticket box may be of any depth, according to the height of the pack of tickets it is required to hold; and in horizontal section, its internal size will be a trifle larger than the dimensions of the tickets. It is hinged to any suitable support, and has a slot through the lower back, just above the bottom, about as wide vertically as the thickness of a ticket, and also a slot through the front that will allow a ticket to come out. A thin plate or pusher extends into it above the bottom a quarter of an inch, more or less, in such manner that, when the box is swung forward at the bottom, the rear end of the ticket resting on the pusher is brought in front of the end of the pusher, and will fall to the bottom of the box, where it will be thrust out through the slot when the box goes back, so that it can be readily taken hold of to be pulled out.

BAG HOLDER.—Ethel L. Lyon, of Steamburg, N. Y.—This invention consists of a set of hooks or holding points on bars arranged on a table in such manner that the folds may be readily brought together over the center of the filled bag to fold the top for tying; when detached from the filled bag they are swung back to the positions for holding the empty bag open by a weight and spring, or other equivalent device. There is a treadle below the table, adapted for supporting long or short bags, to take the strain off the hooks and to raise the bag for detaching it from the hooks.

CHURN.—Josiah Mayes, Oxford, N. Y.—This invention pertains to an improvement in the class of reciprocating churns provided with guides for the dasher, and it consists in the combination of shoes of friction plates with the dasher and vertical guides by which friction is obtained; which, in connection with the agitation caused by the dasher, will bring the butter in a very short time, and will develop all the butter there may be in the milk.

Bow.—Ephraim S. Morton, Plymouth, Mass.—This bow consists of a straight piece of strong wood, and two springs of steel wire, one attached to each end of the central piece. This attachment is made by inserting the inward ends of the springs in holes in the central piece, and connecting their outer ends by the bowstring. These springs are coiled, near the ends of the center piece, to give greater elasticity; and beyond the coils they are curved suitably to constitute the bow, and they are made either double or single. The object of having the springs connected to the center detachably is that they may be taken out and packed in a box more compactly than they otherwise would be.

BAND SAW GANG.—William J. McLane, New York city, assignor to himself and Henry Silliman, of same place.—This invention relates to a new and useful improvement in machinery for sawing lumber and marble. The lower pulleys on which the saws run are made fast to the driving shaft, and are arranged on it in the form of a cone pulley. The upper corresponding pulleys are separate, and loose on an arbor. These pulleys are provided with recesses which allow the teeth of the saws to overhang the particular pulleys to which each saw is attached. This arrangement allows the plate of the saw to lie flat upon the pulley, and so that the set of the saw will not interfere. The gangs may be used either vertically, horizontally, or in an inclined position, as may be desired.

SEWING MACHINE.—Carlos Stebbins, Pike, N. Y.—This invention relates to improvements in regulating the tension on the threads used. A vibrating upper thread controller connects with the driving mechanism, and is governed in its movements by a peculiarly slotted double cam; while the shuttle is provided with a plate which confines the thread according to the degree of strength imparted by an enclosed spring.

HEATING AND COOKING RANGE.—William A. Greene, Brooklyn, N. Y.—This invention consists in arranging heating chambers at the sides, back, and front of the fireplace of the stove, in a manner which would require drawings to fully illustrate. It also includes an arrangement of fire brick on the top plates of the oven.

COMPOSITION FOR COVERING CIGAR TIPS.—John H. Harris, of Pittsfield, Mass.—The object of this invention is to protect the tips of cigars from contact with the mouth of the smoker, in order to prevent the saliva absorbing any injurious ingredients or injuring the tobacco. The substance used for this purpose is collodion mixed with any adhesive matter, such as gum shellac or rubber. This compound is formed into a paste and applied to the point of the cigar. Being waterproof, it separates the saliva and tobacco in an efficient manner.

PACKING CASE.—Thomas Scantlin, of Evansville, Ind., assignor to himself and James M. Scantlin, of same place.—This invention furnishes a case for inclosing and protecting cans of oil or other liquids or substances in the course of transportation, storing, or sale; and it consists in a case constructed of metal, or of metal and wood combined, provided with a gate for the discharge orifice or spout of the enclosed can. The discharge tube of the can is placed just below the top or end thereof, and projects through the case so that the contents of the can may be discharged without taking it from the case. A gate slides down over the end of the discharge tube so as to securely confine the cork which closes it.

MACHINE FOR SAWING FELLIES.—John B. Zimmerman, of Fort Seneca, O.—This invention consists in improving the construction of machines used for sawing both curved sides of a felly. The frame, gate, connecting rod, crank or driving wheel, and the table, are substantially like the ordinary sawing machines of this character. Two saws are arranged in the gate, as far apart as the depth of the felly to be sawed, so as to saw both the outer and inner curves at once; and they are arranged for adjustment toward or from each other by having the straining bolts fitted in slotted plates to vary them for fellies of different thicknesses; a circular carriage is pivoted at the side of the saws, the pivot being as far from the saws as the radius of the wheel for which the fellies are designed; the carriage is provided with numerous center holes for the pivot pin, to shift it for cutting fellies for wheels of different sizes. Spring clamps are arranged on the carriage so as to clamp the plank to be sawed at each end and hold it while sawing.

ATTACHING KNOBS TO THEIR SPINDLES.—Andrew S. Gray, of St. John, Canada.—This invention consists in the arrangement of a forked spindle, a knob with a tubular shank, and an eccentric or cam which can be turned to clamp the spindle and fasten the knob to it. This arrangement is a substitute for the screw fastening now in use, and dispenses with the necessity of perforating the spindle at certain places to fit the thickness of various sized doors.

GRAIN SEPARATOR.—John L. Custer, of Bonaparte, Iowa.—This invention furnishes an improved timothy and other grass seed cleaner, for attachment to thrashers and separators, and consists in the following construction: To the ordinary framing, casing and vibrating shoe are added a riddle and a carrier or stirrer, by the action of which chaff, stalks, etc., are carried back and the grain separated; part passing down through the machine to the floor or grain box, and the remainder being carried back to the thrasher.

WATER WHEEL.—Tension Chesher, of West Middleburg, O.—This invention relates to an improvement in water wheels, and consists in a construction and arrangement of parts which cannot be fully shown without drawings. Half the chutes are stationary and half movable, and when the movable chutes are drawn back from the stationary chutes, a wedge shaped opening between them is preserved at all times. The current of water is not broken before it strikes the bucket of the wheel, and the full force due from a small quantity of water as well as from a large is secured.

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