

## IMPROVED EGG CARRIER.

Martin A. Howell, Jr., Streater, Ill.—The object of this invention is to provide an improved egg crate or box which shall be adapted to contain and safely transport a large number of eggs than those of the same size in common use, and which may withal be cheaply constructed. The racks for holding the eggs are provided with perforations and coated with glue (or other adhesive substance), and then covered with hay chaff.

## IMPROVED STOVEPIPE THIMBLES.

James Carhartt, Pontiac, Mich.—The object of this invention is to provide an improved stovepipe thimble which is securely retained in the wall, readily swung into open or closed position, and so arranged as to firmly retain the stovepipe in the thimble. The invention consists of a stovepipe thimble with swinging cover and ventilator, having cam below pivot, that binds on stovepipe when inserted. The thimble has an outwardly-bent flange at the inner end that locks the thimble, in connection with the face ring or moulding, rigidly to the wall. When the cover is held in position slightly sidewise of the vertical axis, the lug and cover clear entirely the hole and admit the ready inserting of the stovepipe. The cover is then allowed to assume a pendant position, so as to throw a cam, at end of the lug, to the inside of the circumference of the face ring and cause the same to bind tightly on the stovepipe, retaining the same in firm position in the thimble. For taking out the stovepipe, the cover is swung sidewise, so that the cam releases the pipe, which is then taken out and the cover replaced by being locked to the top hook. The thimble is provided at the inner end with an outer flange that binds on the wall of the chimney, while the face ring, which is riveted to the outer end of the thimble, binds on the outer surface of the wall, so as to secure the thimble in rigid position in the stovepipe hole.

## IMPROVED SLED PROPELLER.

George F. Shaver, Moorheadville, Pa.—Two bars are connected by a crossbar with front of sled, and at the upper end by another crossbar. The ends of the latter are extended to form pivots on which the propelling bars and their rigidly attached handles are journaled. It will thus be seen that if the handles are worked through the radius of the upper third of the stroke, great speed can be obtained on ice, where there is little resistance, while if the levers are worked at an obtuse angle, or in the radius of the lower third of the stroke, sufficient power is obtained to travel on a level or uphill, where considerable resistance is to be overcome.

## IMPROVED MUSIC SUPPORT.

Elan A. Marsh, Battle Creek, Mich.—The object of this invention is to so construct a walking cane that it may be readily and quickly adjusted to form a convenient and substantial music stand, and vice versa. The improvement consists in the construction and arrangement of the supporting legs with respect to a screw plug and the hollow tubular end of the cane forming a containing case, the construction of the rack for holding the music, and the means for securing the rack to the standard.

## IMPROVED BOAT-LAUNCHING APPARATUS.

Martin Bourke, Youngstown, O.—The danger incurred by launching life and other boats—more especially during the prevalence of storms or high seas—by lowering them directly alongside the ship is obvious and well known. It is the object of the patentee to avoid such danger by providing a compact but efficient apparatus for launching boats at a distance from the ship's side. This he effects by suspending the boat in a swinging frame pivoted to long bars which are pivoted to the side of the vessel and stand vertical. These bars are lowered by tackle, and the boat then detaches itself and floats free of the swinging frame. The launch may be controlled by the occupants of the boat, or by persons remaining on the vessel. The inventor proposes to use the apparatus in connection with an improved life boat, for which he has also obtained letters patent.

## IMPROVED TEMPORARY BINDER.

Paron England, Lincoln, Neb.—It is an improvement in that class of files which have two leaves connected by a flexible fullness of leather, so as to permit said leaves to fold like a book. The object of the improvement is to render the backs of the file automatically adjustable to the increasing contents of the same, and to provide means for removing and preserving the contents in their indexed order. To these ends the invention consists in arranging in one of the backs of the file a spring which is connected with, and exercises a tension upon, a set of cords which run through the index and connect the two backs, and is also connected with, and exercises a tension upon, a flexible strap running to the outer edge of the back and carrying a clasp for fastening the said backs. The invention also consists in the particular construction and arrangement of the index and the file whereby the said index is made easily removable with its orderly arranged contents, so that they may be preserved in this form and a second index substituted for the same in the file.

## IMPROVED TAX RECKONER.

George E. Burnett, Harrisburg, Ill.—This computer is chiefly designed for the use of assessors and collectors of taxes. It consists mainly of a cylinder adapted to rotate, and having strips attached on which are inscribed numbers representing values or assessments, also the tax rates, the amounts of the several taxes on the given values or assessments, and the aggregates of the several taxes. The strips are adjustable and detachable, being secured by screw clamps. The cylinder is rotated by a finger wheel and arrested or held by a friction brake arranged in a peculiar manner.

## IMPROVED FOLDING LADDER.

Algernon S. Riches, Gloubeulah, Wis.—This invention relates to an improved folding ladder designed for easy transportation, convenient handling, and compact storage; and especially adapted, by reason of such qualities, to use in stores, shops or dwellings, where the ordinary form of ladder could not well be used. The improvements consist, first, in forming inclined recesses in the inner sides of the side rails, so as to receive the rounds when the ladder is folded, and allow the side bars to be immediately adjacent to, and flush with, each other and the rounds hidden from view, the recesses also forming supporting shoulders when the ladder is disposed for use; secondly, in slotting one of the side bars at its pivot connections with the rounds in order to permit the side bars to be arranged convergently at the top; and thirdly, in the combination with the side bars and the pivoted rounds of a locking brace for holding the ladder stiff and rigid when the same is in use.

## IMPROVED FERMENTING VAT.

Christoph Klein, Brooklyn, N. Y.—This invention relates to a new construction of fermenting vat for breweries, distilleries, and similar works, and consists essentially of a vat having vertical walls, made of horizontal pieces, which are bound together by vertical bolts, the corners of the wall and bottom being connected by tongue and groove joints, and the walls firmly encircled by metallic bands or hoops, adjusted by right and left hand screw bolts. The vats may be readily manufactured and shipped in sections, being put up for use in perfectly tight manner by any one by bolting first the side pieces together, and connecting then the bottom and side walls by the outer bands. A fermenting vat of considerable strength, that is not liable to leak, and fully able to sustain the pressure of the large quantity of liquid, is thus furnished, which has the additional advantage that it takes up less room than the round vats, requiring only a small passage between two vats, and allowing, therefore, for a larger number of vats to be set up in a given space.

## IMPROVED STREET CAR AWNING.

Frank P. McIntyre, Philadelphia, Pa.—The object of this invention is to provide an awning for street cars, designed to extend over the horses and protect them from the excessive and exhausting heat of summer. The invention consists in a horizontal longitudinal supporting rod arranged in or

upon the top of the car, extending the whole length of the same, and a sufficient distance in front to cover the horses, which rod is hooked at its outer end, and supports a U-shaped marginal rod, the inner arms or branches of which are detachably fastened to the car, which device, together with a transverse brace, constitutes the supporting frame of the awning.

## IMPROVED MANUFACTURE OF BOOTS.

Henry Sauerbier, Newark, N. J.—This invention relates to a peculiar crimp, consisting of corrugations or creases formed at the junction of the upper proper with the front of the boot leg, the object being to increase the elasticity and flexibility of the boot at that point, and thereby render it easier to the wearer as well as enable it to be easily drawn on or off the foot.

## NEW AGRICULTURAL INVENTIONS.

## IMPROVED DITCHING PLOW.

Seth Furnas, Bridgeport, Ind.—This invention relates to certain improvements in ditching plows, and it consists, first, in the particular construction and arrangement of a scoop-shaped plow extended upwardly and rearwardly in the form of an inclined trough, and combined with the beam and handles; and secondly, in the particular construction and arrangement of devices for supporting and adjusting the handles upon the rear extension of the trough.

## IMPROVED COLTER AND PLOW STOCK.

Andrew H. Farmer, Oak Level, Va.—This colter is curved slightly forward at its point, and has a serrated cutting edge. Its back edge lies in contact with a bent stock or standard. It is therefore supported by the latter, and is also held in place by its bent arm, which enters the beam, and by lugs or ears formed on the stock itself.

## IMPROVED GATE.

Rev. Lewis T. Mason, Ellington, N. Y.—The object of this invention is to provide an improved device for unlatching and opening and for closing and latching a gate in a simple and convenient manner without descending from the vehicle. To this end the invention consists in the combination with the operating levers of two gates connected for simultaneous movement, and arranged to swing the one in and the other out to open the gate way for the vehicle, the said gates being also so geared as to open a single one of the gates a short distance for persons on foot or horseback, without moving the other.

## IMPROVED HORSE HAY RAKE.

Edward Huber, Marion, O.—This invention is an improvement in the class of wooden rakes which are prevented from revolving by means of spring catches attached to the front ends of the handle bars and bearing on the front teeth. The improvement relates chiefly to the construction of the device by which the two parts of the rake are pivoted together.

## IMPROVED PLOW.

Julius Hartmann, Louisville, Ky.—This invention relates to certain improvements in the construction of reversible or hillside plows, more particularly those in which a double mouldboard vibrates about a horizontal pivot. The objects aimed at are to reduce the weight and cost of such plows without lessening the strength, to increase their durability, and render them easier to handle, and also of lighter draft, by reason of being so constructed as to have a center draft.

## IMPROVED HARROW.

Lewis B. Coddington and William W. French, Westfield, N. J.—The object of this invention is to provide a harrow which will yield to inequalities of the ground, and which may be readily moved from place to place. The harrow bars are provided with ordinary harrow teeth, and are hinged on a rod that passes through the end pieces of the framener its front side. The rear crossbar of the frame is supported a small distance above the end pieces by standards, and between the said bar and the harrow bars springs are placed on rods that project upward from the said bars through the bar. The center bar is arranged at right angles to the axle of the harrow, and the adjacent bars attached to it near its forward end, and extend backward diagonally in opposite directions. The bars, as well as the ends of the frame, are arranged parallel to the bars, so that bars on opposite sides of the center bar diverge. The forward side of the frame is provided with two uprights, that pass through a bar that is hinged to the axle which is supported by wheels. Springs are placed upon the uprights which press against the bar and hold the frame down. Chains are attached to the ends of the frame and are connected with a chain that runs over a pulley at the side of the tongue, and is attached to a sheave formed on the end of the lever, and pivoted to a standard that projects upward from the axle. The arrangement of the bars is such that all of the ground over which the harrow passes is operated upon by the harrow teeth, and, by means of the springs, the teeth are held to the ground with sufficient pressure for ordinary work, while they are permitted to yield to the inequalities of the surface, or to obstructions. By drawing the chains, by means of the lever, the harrow may be held to the ground with additional force.

## IMPROVED CORN PLANTER.

William J. Nicholson, Paola, Kan.—The object of this invention is to furnish an improved corn planter, which shall be so constructed that the slide may be operated to drop the seed by the advance of the machine, and which shall be simple in construction and reliable in operation. To the inner side of one of the wheels that support the apparatus are attached arms or blocks, so that the distance apart of the hills may be regulated by varying the number of the said arms or blocks. As the wheel revolves, the arms or blocks strike against the teeth of a toothed wheel and revolve it. The upper end of the journal of this wheel revolves in a groove in the lower side of the axle, and its lower end revolves in a hole in a board which rests in stirrups. To the lower side of the toothed wheel is attached a cam wheel, made with several cams and which enters a recess in a plate placed upon the board, and is so made that the plate may be slid back and forth by the revolution of the cam wheel. To the sliding plate is pivoted the rear end of a lever, which is pivoted to a rod attached to the frame of the machine, and which serves as a fulcrum for the said lever. The forward end of this lever is pivoted to the dropping slide, so that the seed may be dropped by the vibration of the said lever.

## IMPROVED FRUIT PICKER.

Jesse C. Stribling, Penleton, S. C.—This invention consists in a wire frame, which is hinged to a curved wire fork attached to a pole or handle, the said frame being provided with a bag for receiving the fruit and with a cord by which it may be moved, and the fork is provided with a curved pivoted knife, that is connected by a link with the bag frame, and moves across the fork whenever the frame is moved. The manner of using the instrument is as follows: The fork is placed astride the stem which supports the fruit, and the fruit is pulled from its stem and falls into the bag attached to the frame. If it should be desirable to cut the stem, the arm is moved by the spring attached, which moves the knife sufficiently to cut the stem of the fruit. The instrument is light and portable and is inexpensive in its manufacture.

## IMPROVED CHECK-ROW ATTACHMENT FOR CORN PLANTERS.

Lewis S. Woodside, Riverton, Iowa, assignor to himself and Morris S. Sober, of same place.—The object of this invention is to furnish an improved attachment for corn planters, which shall be so constructed as to enable the seed to be planted in accurate check row without its being necessary to mark the ground in anyway. The invention consists in the combination of two chains, two pairs of hinged blocks, and wheels or rollers, with the lever that operates the seed-dropping slide, and with the driving wheels and their axles. The wheels are rigidly attached to the journals of the

axle, which revolves in bearings attached to the frame, and is made in two parts, coupled together at their inner ends by lugs and pins, to enable the machine to be turned around without one of the wheels having to slide upon the ground. The forward ends of the side bars of the frame project, and to their forward ends is hinged the frame, to which the tongue, runners, and seed hoppers are attached. The slide by which the seed is removed from the hoppers and dropped to the ground is provided with two dropping holes in each end, so that each end may drop a hill at each movement of the slide. Two rollers are placed upon the opposite sides of the axle, so that the dropping slide may be moved twice at each revolution of the wheels. The circumference of the wheels should be exactly equal to twice the required distance between the hills. To the rim of each of the wheels are attached two cross blocks in such positions as to mark the ground directly over each hill, to serve as guides to the driver and enable him to plant the field in accurate check rows.

## IMPROVED TOBACCO AND CABBAGE PLANTER.

John C. Tennent, Aquasco P. O., Md.—The apparatus is mounted upon wheels, and two parallel plates are pivoted toward their forward parts to the side bars of the frame by a shaft. To the shaft, between the plates, is pivoted a wheel, formed of four solid arms and four hollow arms alternating with each other, and the outer ends of all of which are made wedge-shaped. The solid arms are simply designed to keep the wheel revolving by coming in contact with the ground. The hollow arms are designed to receive the plants, carry them to the ground, open holes in the ground, and drop the plants into them. To enable the arms to do this the plates that form the rear face of their wedge-shaped ends are made loose, and to the side edges, near their inner ends, are pivoted the ends of two bars. The bars cross the arms, and are pivoted to them near their forward edges and at a little distance from the inner ends of the forward inclines of their ends. The plants are inserted roots outward in the hollow arms while the said arms are upon the upper side of the wheel, and before the valves have been closed. The soil is pressed in around the roots of the plants by plates which are attached to the lower ends of the standards.

## IMPROVED GRAIN TALLY, BAG HOLDER, AND WEIGHER.

Adam C. Lintz, Sweet Air, Md.—The operation of this improved apparatus is as follows: The support is adjusted on the standard to the proper height for the bags to be filled and weighed. A bag is then clasped between curved pieces. Grain is poured into the bag until the required weight is indicated by an index. The curved piece is then raised to release the bag, and at the same time the pawl is carried upward, moving a wheel one notch. The wheel makes a revolution for every fifty bags removed from the apparatus, and every revolution of the wheel is registered by a register wheel. This improvement is designed more particularly for the use of thrashers in measuring grain; but it may be employed for other purposes.

## IMPROVED SULKY STALK CUTTER.

Michael E. Roach, Rolling Prairie, Ind.—The object of this invention is to furnish an improved machine for cutting corn stalks into pieces in the field, so that they may be turned under by the plow, and will not impede or clog it, and which shall be simple in construction, convenient and effective in use, and may be readily drawn from place to place. The cutting plates are inserted in radial slots in the wheels, and are secured in place by pins passed through their inner corners beneath shoulders formed upon the outer sides of said wheels, so that they may be readily detached to be sharpened. To the opposite sides of the tongue are pivoted the upper ends of two rods, the lower ends of which drag upon the ground, and have hooks formed upon them to straighten the stalks, so that they will be cut by the cutter. As the tendency of the draft is to tilt the cutter frame forward, which tendency is resisted by the draft of the sulky, and is made to press the cutters into the ground. The machine is adjusted for being drawn from place to place by detaching the reach and running the sulky forward until the rear crossbar can be raised and hooked upon the hooks. The forward end of the reach is then placed upon the rear end of the tongue, and the lower arm of the U-bolt is passed through the socket and tongue, and its upper arm is passed above the reach, so as to make the tongue rigid and secure the reach at the same time.

## IMPROVED APPARATUS FOR BENDING AND TEMPERING MOULDBOARDS.

Dan Franklin, Tama, Iowa.—The hot mouldboard receives its intended form between dies, its position between them, by which its "twist" is determined, being governed by the position of guide pins which are set in the lower die and enter the bolt holes of the mouldboard. The guide pins may be interchanged to vary such position, or set in new holes, as required. When the mouldboard has been shaped by the dies it is removed therefrom (while still red-hot), and quickly clamped in a two-part tempering form, through which water or other tempering mixture is then forced under pressure. The form preserves or restores the curvature previously imparted by the dies, and the mouldboard is tempered in the desired manner. It will, therefore, when removed from the form, retain the exact shape desired, so that it may be applied to a plow frame without the labor, delay, and expense ordinarily attending such operation.

## IMPROVED CHURN.

Jacob Weider and John S. Weider, Burlington, Iowa.—This invention relates to rotary churns, and it consists mainly in a dasher of peculiar form, in which fingers projecting downward from a horizontal centrally pivoted bar are employed to stir the cream and to break the oil globules. The cover is made in two parts. The smaller one is provided with a window, and may be removed without disturbing the gearing. The larger part supports the gearing, and may be removed when the churn is cleaned. Both parts are provided with pins that project over the edge of the cover and engage eyes attached to the body of the churn. An aperture for drawing off the milk is made in the side of the churn just above the bottom, and a spout is placed below it. In this improved churn the cream is thoroughly acted upon by the fingers as they are rotated by means of the gearing, so that the greatest possible percentage of butter is produced. By observing the condition of the cream as it is thrown against the window the progress of the churning may be known. After churning, the butter may be washed and worked without removing it from the churn.

## NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.

## IMPROVED THILL COUPLING.

Alonzo Gandy and Henry W. Wilson, Freeport, O.—This invention relates to an improved thill coupling that admits the ready removing and replacing of the shafts, and also the support of the same in raised position, which forms an important feature of this thill coupling, the same combining, furthermore, neatness, lightness, and durability. The invention consists of parallel supports or lugs of the axle clip, of which one support has an eye and extension recess or notch; the other a rigid pivot pin, extending centrally into the eye, and carrying the sleeve attached to the shaft end. The sleeve has a shoulder and fits into the eye, turning on the pivot when inserted into the supporting plates. By allowing the shoulder to rest in the notch the thill is supported in raised position, which forms a very convenient feature of the same, as the shafts may be retained in raised position, and lowered when the horse or horses are harnessed. By pushing the sleeve in so that the shoulder is between the supporting plates, the shaft may be lowered, and is thereby securely coupled. The sleeve turns in the eye around the pivot, which facilitates the coupling, while the front part of the recessed support secures the desired resistance to the draft. The shafts are, by the use of this coupling, easily coupled and uncoupled, and also supported in raised positions when required.