C. C. KNUTTER.

STORE FURNITURE.

APPLICATION FILED MAY 27, 1910.

975,049.

Patented Nov. 8, 1910.

2 SHEETS—SHEET 1.

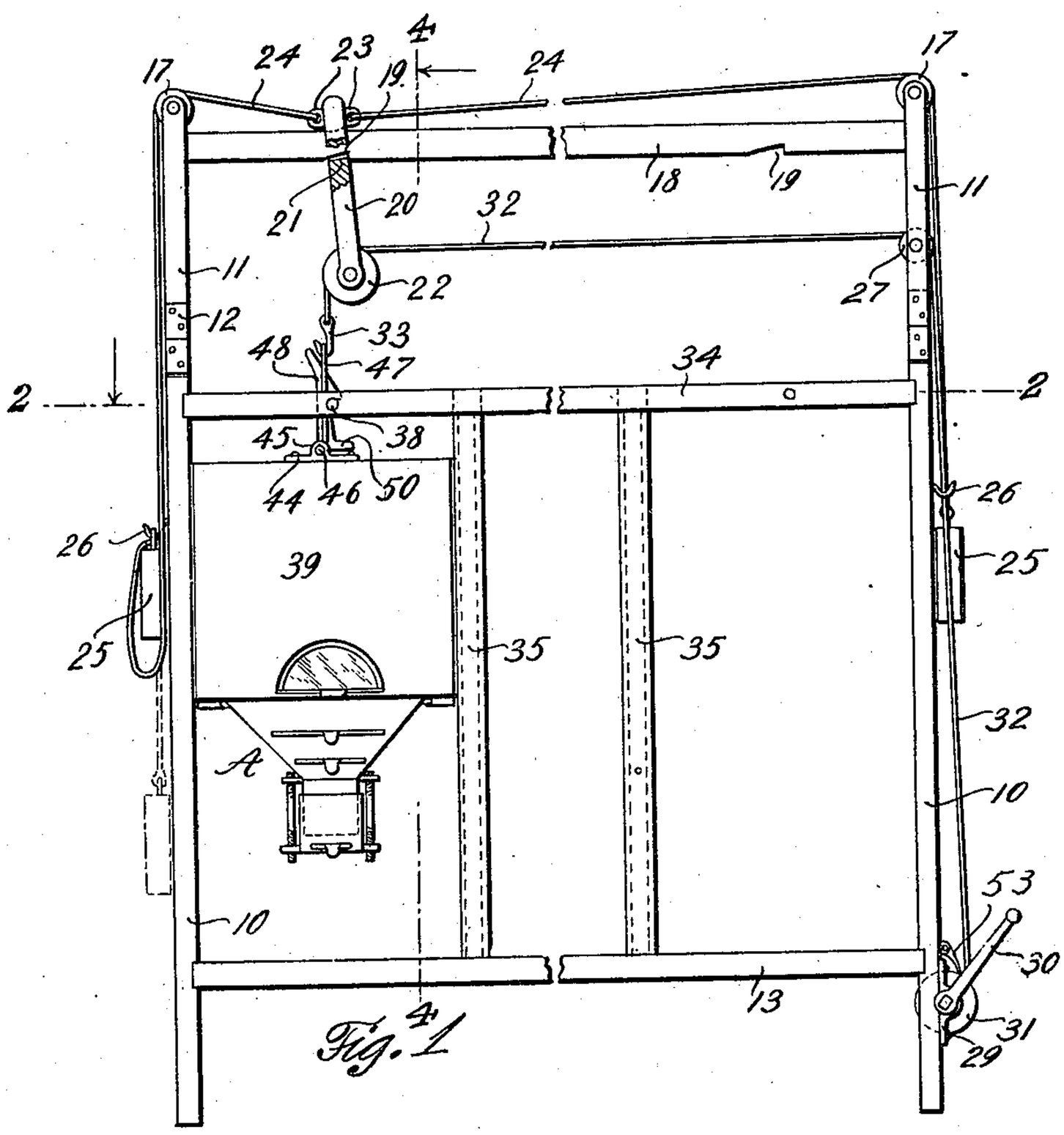

Fig. 1

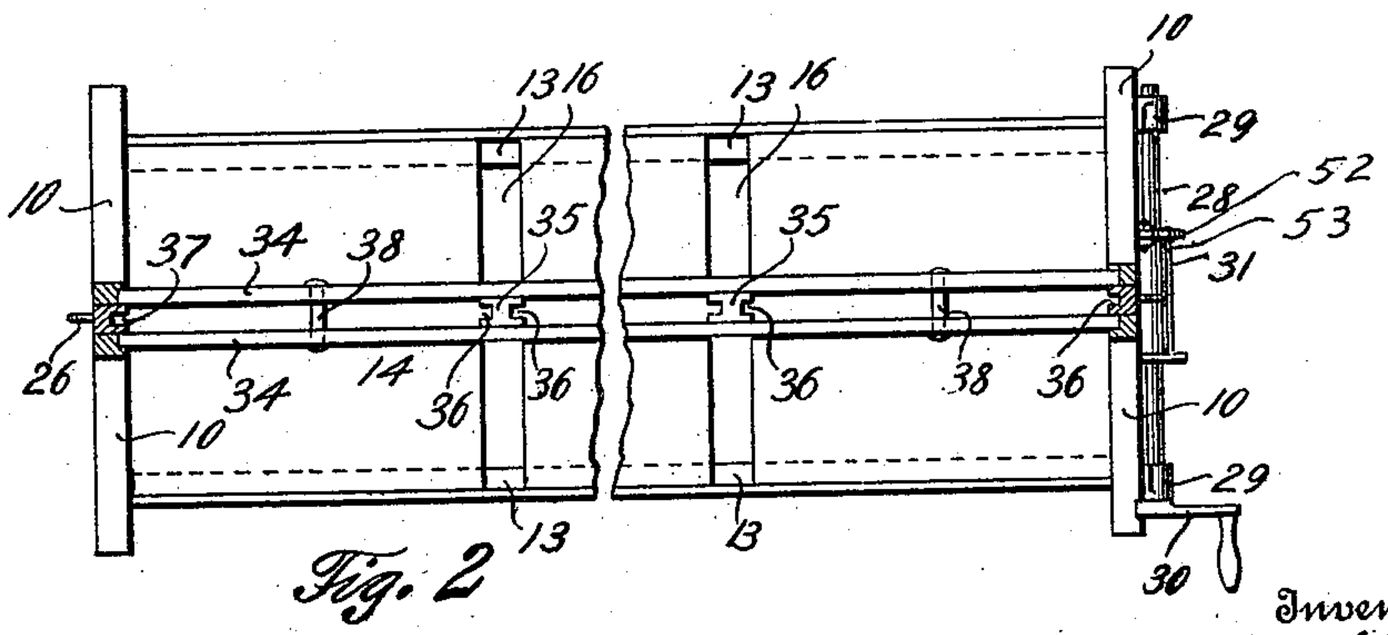

Fig. 2

Witnesses

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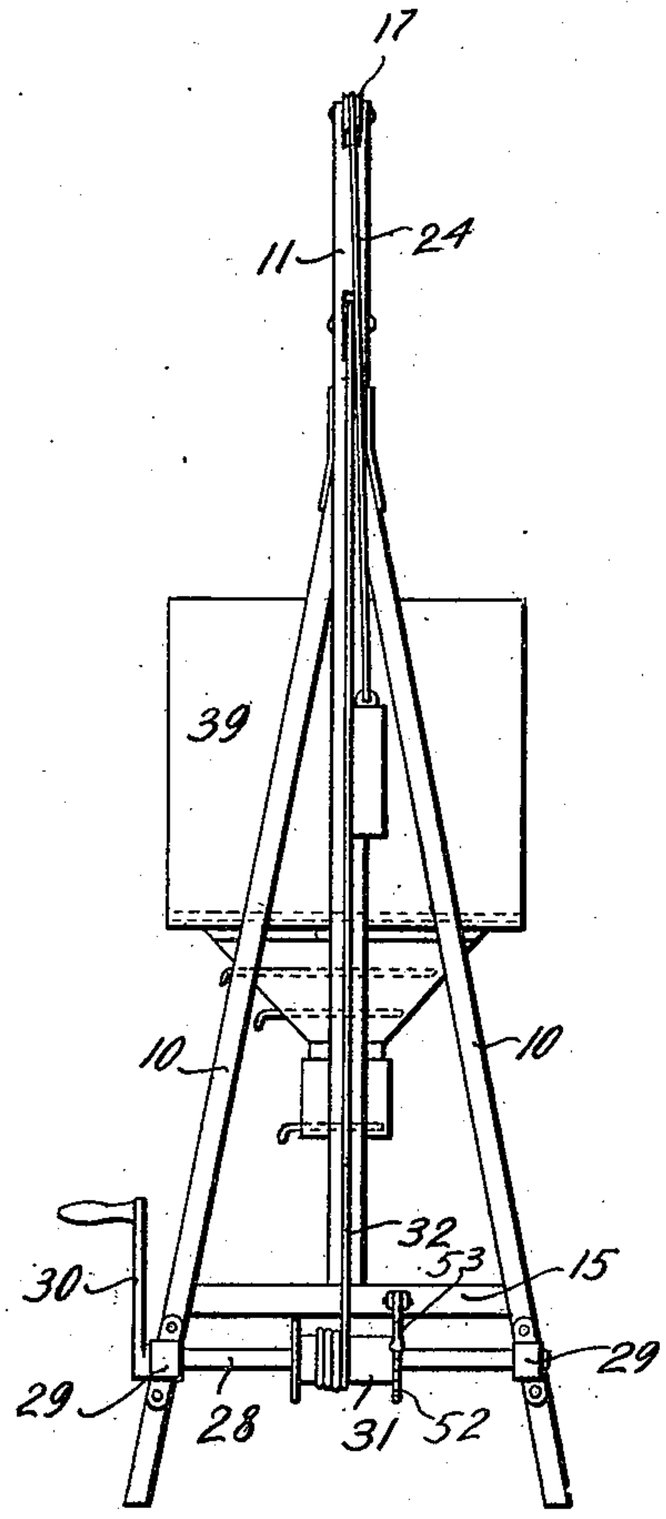

Fig. 3

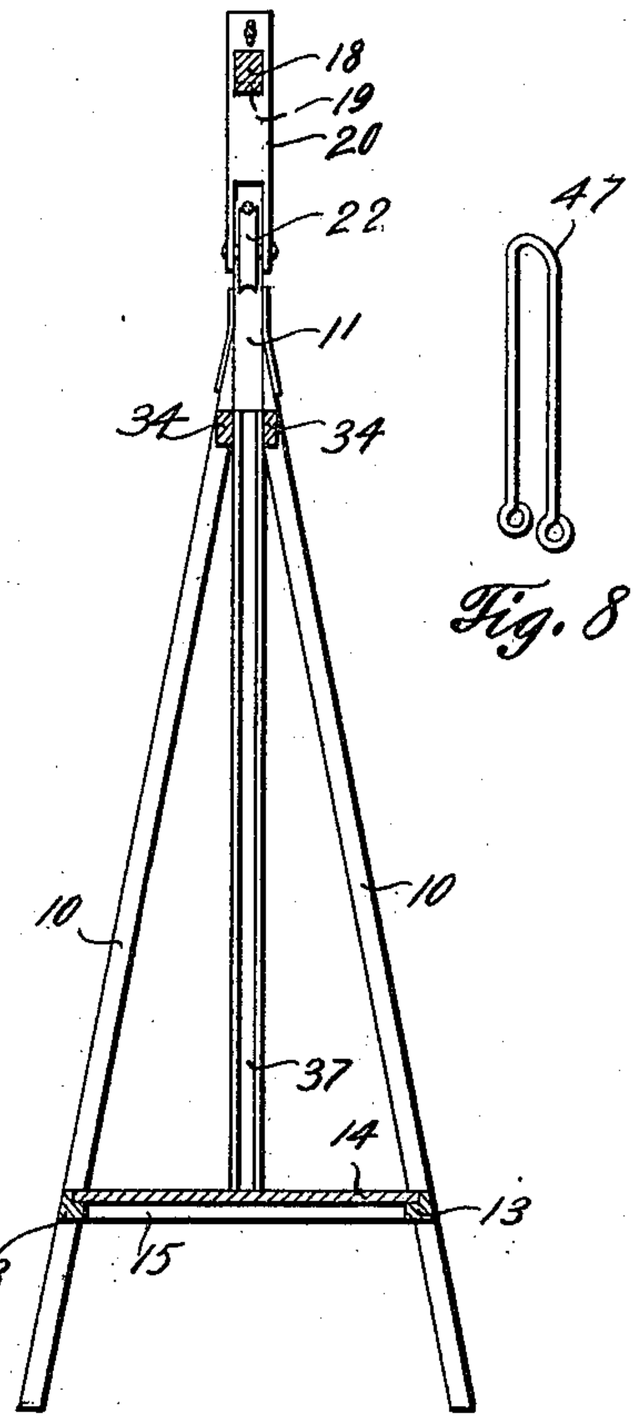

Fig. 4

Fig. 8

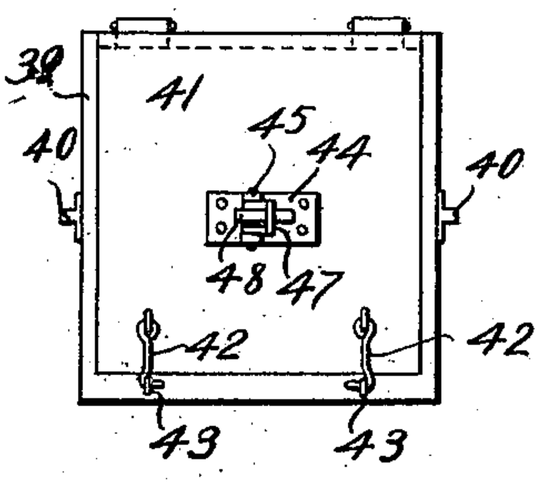

Fig. 5

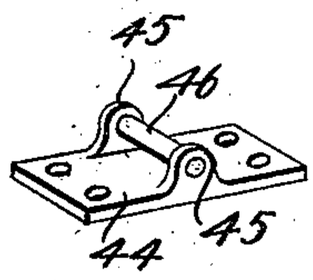

Fig. 6

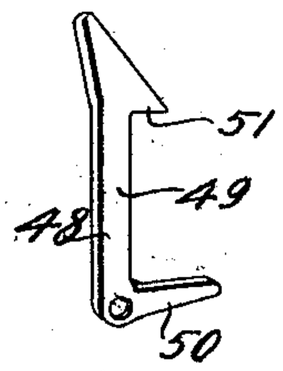

Fig. 7

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES C. KNUTTER, OF HENRYETTA, OKLAHOMA.

STORE FURNITURE.

975,049. Specification of Letters Patent. **Patented Nov. 8, 1910.**

Application filed May 27, 1910. Serial No. 563,753.

To all whom it may concern:

Be it known that I, CHARLES C. KNUTTER, a citizen of the United States, residing at Henryetta, in the county of Okmulgee and State of Oklahoma, have invented certain new and useful Improvements in Store Furniture, of which the following is a specification.

This invention relates to store furniture and is designed particularly to construct a means whereby bins containing sugar, flour, coffee, or the like, may be elevated for the purposes of removing the contents thereof.

A further object of this invention is to provide a means in a device of this nature whereby any one of a plurality of bins may be elevated by the same mechanism and said bins may be retained in elevated positions as desired.

With the above and other objects in view, this invention consists in the construction, combination, and arrangement of parts, all as hereinafter more fully described, claimed, and illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of a device constructed in accordance with the present invention, illustrating the same as adapted for use in a plurality of bins; Fig. 2 is a longitudinal section taken along the line 2—2 of Fig. 1; Fig. 3 is an end elevation of the present invention illustrating the windlass construction; Fig. 4 is a vertical section taken along the line 4—4 of Fig. 1, the bins being removed; Feb. 5 is a top plan view of one of the bins; Fig. 6 is a perspective view of the plate carried by the lid or cover of each bin; Fig. 7 is a perspective view of a hook pivotally connected to said plate; Fig. 8 is a similar view of a bail adapted to span the hook and be pivotally connected to the plate.

The present invention resides in the provision of a frame-work in which a plurality of bins are adapted to reciprocate vertically. A transverse pin is mounted above each of said bins and is adapted to retain the same in an elevated position through the instrumentality of a hook carried by said bins. An elevating means is provided which is reciprocatingly mounted above all of said bins and is adapted to elevate any one of said bins.

Referring more particularly to the drawings, the frame-work in which the bins operate vertically comprises the vertically converging bars 10 which at their upper terminals are secured to the upright 11 by the plate 12, said upright extending from the table to a point above the terminals of said converging bars 10. A pair of longitudinally extending bars 13 are interposed between the oppositely disposed converging bars 10 of each set, thus connecting said sets said bars being channeled on their inner surface as set forth in Fig. 4 for the purpose of supporting the table 14 which supports the bins when the same are lowered. A bar 15 is interposed between the converging supports 10 at each end of the frame and is disposed in the same horizontal plane as the horizontal longitudinal bars 13 and forms a means whereby the lower terminals of the bars 10 may be braced in spaced relation and further provides a means whereby the terminals of the table 14 may be supported. There is also provided a plurality of intermediate transverse supports 16 which tend to support the intermediate guides as hereinafter more fully described. The upper terminals of the bars 11 are forked and therein are mounted the pulleys 17, the said pulleys providing a means whereby the adjusting means of the elevating device may readily operate.

A horizontal bar 18 is mounted between the bars 11 below the pulleys 17 and is provided along its lower edge with the notches 19, one side of said notches being approximately vertical while the opposite side slopes thereto. A block 20 is slidably mounted on the bar 19 through the instrumentality of the opening 21 formed therein, the lower terminal of said block being bifurcated and has a pulley 22 rotatably mounted between the bifurcations. A pair of eyelets are disposed on each side of the upper terminal of the block 20 to which are connected the ropes or cords 24, said ropes or cords extending over the pulleys 17 and are adapted to rest normally vertical against the vertical bar 11 being provided at their lower terminals with the weights or counter-balances 25. A hook 26 is mounted on the bar 11 in such a manner that it may be readily reached and provides a means whereby the weights may be supported when so desired. These ropes or cords provide a means whereby the block 20 may be shifted on the bar 18 so that the same may be located over any one of the bins reciprocatingly mounted in the frame. A pulley

27 is mounted in the vertical bar 11 in the same horizontal plane as the pulley 22 and is so constructed that the same projects slightly on each side of the bar. A shaft 28 is mounted in the bearings 29 adjacent to the lower terminals of the converging bars 10 which are secured to the upright 11 carrying the pulley 27. This shaft 28 is provided with the crank 30 at one terminal thereof and the centrally disposed spool drum 31. A rope or cord 32 is secured to the drum 31 and is adapted to wind about the same, said rope extending upwardly over the pulley 27 and thence horizontally over the pulley 22 of the block 20 and has at its free terminal the hook 33, said hook adapted to engage a bail secured to the bin as hereinafter more fully described. From this it will be seen that upon winding the rope 32 about the drum 31 the bin secured to the hook 33 will be raised and by the weight of the bin upon the end of the rope 32 the block 20 which is loosely mounted on the bar 18 will swing slightly toward the frame carrying the windlass, causing the lower wall of the opening 21 to engage the notch 19 superposed above the bin which is being elevated.

A pair of parallel horizontal bars 34 are interposed between the upper ends of the converging bars 10 of the oppositely disposed end frames and are thereby spaced apart, said bars having the intermediate uprights 35 secured therebetween at one terminal thereof, said uprights being secured at their opposite terminal to the transverse intermediate bars 16. These intermediate uprights are provided with the grooves 36 on each side thereof, which provide a means for guiding the vertical movement of the bins while the bars 11 are also provided with grooves 37 extending from the horizontal bars 34 to the transverse bars 15.

A pin 38 is interposed between the bars 34 over each bin and is disposed centrally with respect to the distance between each pair of guides for each of the bins and provides a means whereby the hook carried by the bin may retain the same in an elevated position.

A bin 39 of any suitable construction is reciprocatingly mounted between the uprights heretofore described through the instrumentality of the guides 40 carried on the oppositely disposed transverse sides of the bin, said guides adapted to engage the grooves 36 and 37 thereby operating vertically. This bin is provided with a cover 41 hinged thereto, said cover having the hooks 42 engaging the eyes 43 carried by the bin, thus retaining the cover in a closed position. A plate 44 is centrally secured to the cover 41 and is provided with the centrally disposed orificed ears or lugs 45 between which is interposed a rod 46. A U-shaped bail 47 is pivotally mounted to the rod 46 adjacent to the ears 45 and is adapted to be engaged by the hook 43 when it is desired to elevate the bins. A hook 48 is pivoted to the rod 46 between the arms of the bail 47 and comprises a vertical bar 49 having at its lower terminal the angularly bent weight portion 50 which is adapted to normally bear against the plate when the hook is engaging the pins 38. At the upper terminal of the bar 49 is provided a right angle hook 51 to which the upper terminal of the bar 49 slopes. From this construction it will readily be seen that the hook 33 by engaging the bail 47 and by winding the cord 32 about the drum 31 the bin will be raised in the grooves 36 and 37 until the sloping portion of the hook passes the pin 38 after which the weight of the angularly bent portion 50 by the weight thereof causes the hook 51 to engage the pin 38. If it is desired to retain the bin in its elevated position the windlass is operated in opposite direction causing the hook 33 to operate downwardly and bear against the sloping portion of the hook 48, thus as the bail bears against the pin 38 the same will remain vertical while the hook 33 travels to the right upon the sloping surface of the hook 48, thus releasing the hook 33 from the bail 47.

The bin 39 is of any suitable construction and is provided at its lower terminal with the measuring means indicated generally as A.

Particular attention is directed to the fact that the bins are lowered to be filled and are then raised by the elevating means forming the subject-matter of the present invention, and are retained in this position until it is desired to again fill them.

One terminal of the spool drum 31 is provided with a plurality of teeth 52 which cooperate with the gravity pawl 53 carried by the transverse end bar 15, thus retaining the bin 39 in any desired position.

Having thus described my invention, what is claimed as new is:

1. In a device of the class described, the combination with a frame, of a plurality of bins slidable vertically therein, a gravity hook carried by each of said bins, a bail carried by each of said bins adjacent to said hook, means adapted to coöperate with each bail and receive any one of said bins, and means whereby said last named means may automatically be released from said bail when the bin is in an elevated position.

2. In a device of the class described, the combination with a frame, of a plurality of bins movably mounted therein, a longitudinal bar superposed above said bins and carried by said frame having a series of notches along its lower surface, a block slidably mounted on said bar, a pulley carried by said block, and hoisting means extending over said pulley to one side of said frame,

said block adapted to engage said notches upon the operation of said hoisting means.

3. In a device of the class described, the combination with a frame, of a plurality of bins movable vertically therein, and hoisting means adapted to coöperate with any of said bins to elevate the same, and means whereby said bins will automatically be locked in an elevated position, said means adapted to automatically release said hoisting means upon lowering the same.

4. In a device of the class described, the combination with a frame, of bins movable vertically therein, a gravity hook carried by each of said bins, the upper portion of said gravity hook being beveled, a bail spanning said gravity hook, and a hoisting means adapted to elevate any one of said bins through the instrumentality of said bails, said hoisting means being automatically released by the beveled portion of said gravity hook upon the lowering thereof.

5. In a device of the class described, the combination with a frame, having a longitudinal bar located at the top thereof, said bar having a series of notches along its lower edge, and a pair of parallel bars disposed below said last named bar provided with a series of pins interposed therebetween, a series of bins movable vertically in said frame below said parallel bars, a gravity hook mounted on each bin adapted to automatically engage the pin between said parallel bars and retain said bins in elevated position, the upper end of said gravity hook being beveled, a bail adapted to span each of said hooks, a block and bail reciprocatingly mounted on said notched bar, the block adapted to engage said notches during the hoisting of any one of said bins, a flexible hoisting means operating over the pulley thereof, adapted to engage the teeth of any one of said bins, said flexible hoisting means adapted to be automatically released by the beveled portion of said hooks upon the loosening thereof, and means secured to each side of said block and extending to each end of said frame whereby said block may be caused to travel on said notched bar.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES C. KNUTTER.

Witnesses:
BARCLAY MORGAN,
BIRDIE MORGAN.