F. G. MERRITT.

DISPLAY BOX.

APPLICATION FILED AUG. 7, 1908.

922,498. **Patented May 25, 1909.**

2 SHEETS—SHEET 1.

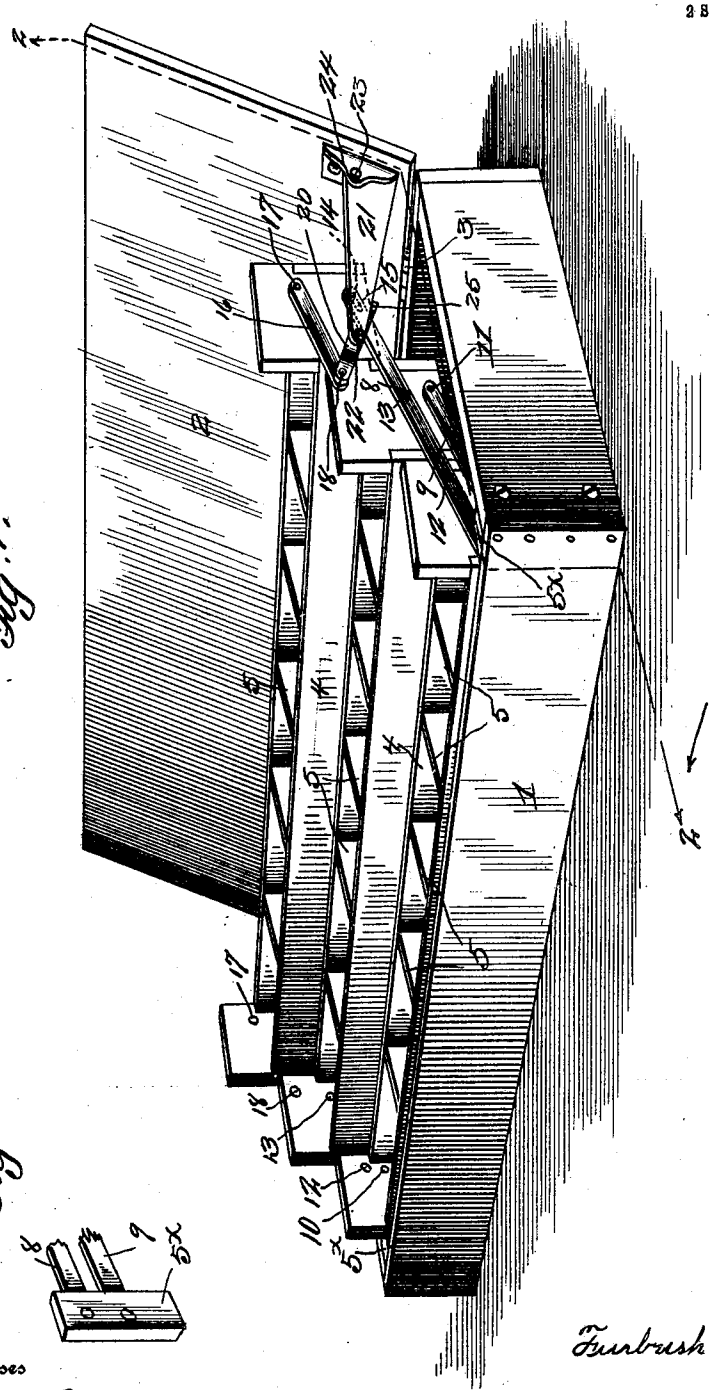


Fig. 1.

Fig. 5.

Witnesses

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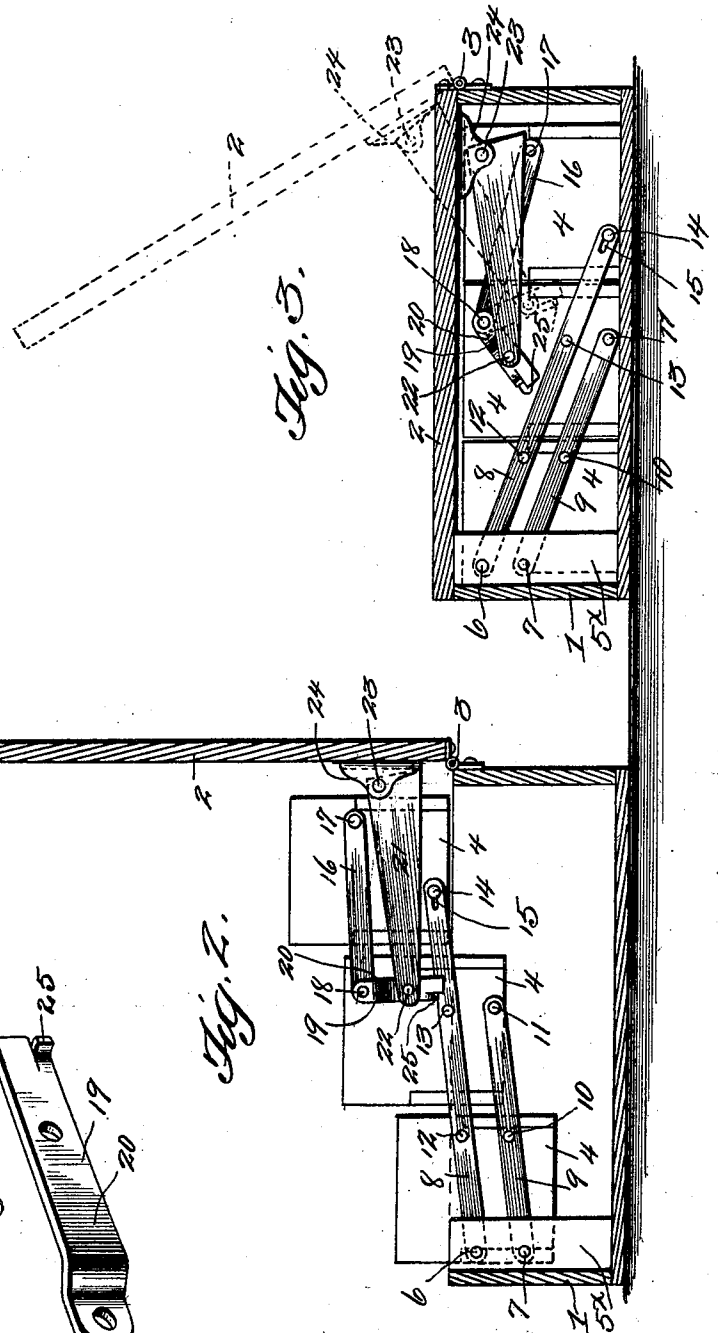


Fig. 2.

Fig. 3.

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

FURBUSH G. MERRITT, OF BROCKPORT, NEW YORK.

DISPLAY-BOX.

No. 922,498. Specification of Letters Patent. Patented May 25, 1909.

Application filed August 7, 1908. Serial No. 447,455.

To all whom it may concern:

Be it known that I, FURBUSH G. MERRITT, of Brockport, in the county of Monroe and State of New York, have invented a new and useful Improvement in Display-Boxes, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

This invention relates to certain new and useful improvements in display boxes of that general character in which are provided a plurality of drawers or other receptacles and means for simultaneously actuating them to bring them into position for the better display of the goods, garden seeds, or whatever the contents of the receptacles may be.

The present invention has for its objects among others to provide a simple and convenient display box of this general nature in which the actuating mechanism is designed not only to operate the drawers or receptacles but to temporarily lock the receptacles against descending or closing by their own weight. The mechanism is so constructed that a pressure downward upon the drawers or receptacles can not close them except by violence or breaking; at the same time they descend with the utmost ease by taking hold of the cover and bringing it toward a closed position. A lifting arm is connected with the cover and with the drawers in such a manner as to bring about this action.

I aim also at improvements in the details of the actuating mechanism whereby the drawers or receptacles have no movement till the lifting arm assumes a predetermined position with relation to the cover after which they act as one.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of a display box embodying my present invention. Fig. 2 is a vertical cross section through the box with the cover standing in a vertical position. Fig. 3 is a similar view in which the cover is shown in closed position by full lines and partially raised in dotted lines. Fig. 4 is a perspective detail, of the arm which connects the lifting arm with the drawers or receptacles. Fig. 5 is a detail of one of the corner pieces removed showing portions of the links pivotally connected therewith.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings 1 designates a box of any suitable dimensions adapted to contain any desired number of drawers or receptacles, and comprising a bottom, a back, a front, two ends and a cover. These of themselves, separately considered, may be of any of the well known forms of construction. The cover 2 is hinged to the back by hinges 3 in the well known way, as seen clearly in Figs. 2 and 3. Within the box are a plurality of drawers or receptacles 4, in this instance shown as three in number, although it will be understood that this number is not essential and may be varied as circumstances may require. These drawers or receptacles 4 are shown as sub divided by vertical partitions 5, the number of divisions also being a matter dependent upon the needs or uses to which the box is to be put. In the present instance I have chosen to represent a box designed more particularly for the display of seeds. The drawers or receptacles are of all the same height but designed to be thrown, by the peculiar mechanism soon to be described, into different vertical positions so that they will stand each elevated a little above the other for the better display of the contents of the receptacles. The drawers 4 are shown as having their ends extended above the backs and fronts, but this is not absolutely necessary although it is desirable for the purpose of better attachment of the actuating parts.

The lifting and actuating mechanism being the same at each end of the box a description of one end will suffice for both, and attention is now directed to Figs. 1, 2 and 3 in which it will be seen that $5^{\times}$ is a piece fixed within the box at the front edge and to this piece are pivotally connected as at 6 and 7 one end of the links 8 and 9. The link 9 connects the front drawer and the next adjacent one. It is pivotally attached as at 10 to the front drawer and pivotally attached at its other end as at 11 to the next adjacent or middle drawer. The link 8 is pivotally attached as at 12 to the front drawer, is pivotally attached as at 13 to the second drawer, and is

further pivotally attached at its other end as at 14 to the rear drawer. The end of the link 8 which is pivoted to the rear drawer is provided with a longitudinal slot 15 receiving the pivot pin so that the said link may have limited longitudinal sliding movement upon the said pin as the drawers move upward and downward. The three links 8, 9 and the link 16 which connects the rear drawer and the middle one are parallel as seen in Figs. 2 and 3. The link 16 is pivotally connected at one end as at 17 with the rear drawer and at its other end as at 18 to the middle drawer. On the pivot 18 is pivoted at one end a pivot link 19 which is shown as offset at 20 so as to allow it to pass the links 8 and 9 as the cover is closed and the drawers brought into their lowermost position. Pivotally attached to this pivot link at a point between the ends of the latter is an operating arm 21, the pivot 22 thereof being in the offset portion of the pivot link. This operating arm has its other end pivotally attached as at 23 to a bracket 24 secured to the cover 2 of the box as seen clearly in Figs. 1, 2 and 3. As seen best in Fig. 2 the larger end of the arm 21 is pivoted to the bracket 24 at one side of the middle line and in such a manner that when the cover is raised toward a vertical position the lower corner of the arm abuts squarely against the under face of the cover as seen in Fig. 3. When the two parts take this position the cover and the arm temporarily constitute a single piece, as it were, both together moving as a simple or single bent lever in the matter of lifting the drawers. There is no motion of the drawers till the cover and said arm assume the character of a bent lever, in which position they are seen in Fig. 3. 25 is a lug or pin or the like projecting from the side of the pivot link in position to meet and bear against the under edge of the arm 21 which prevents the cover from tipping over too far back. When the pin or lug thus stops the parts the pivot points 23, 22 and 18 are not in exact line, the pivot 22 being a little below the line connecting the pivots 23 and 18. This fact of the pivot 22 being below a straight line joining the pivots 23 and 18 admits of the cover being swung forward when it is wished to close the cover of the box. If these three pivots were arranged exactly in line the cover would be locked open and could not be closed readily. It is by this means and on this account that the cover although moderately locked open so to speak may yet be readily closed when desired, but at the same time no weight upon the drawers will cause them to descend. When the corner of the arm 21 is resting against the cover the arm and cover both move together upon the hinges as a pivot; otherwise the arm moves upon the pivot 23. The moment the cover is forced forward, the pressure is transferred from the end of the arm 21 to the pivot 23, the joint 22 is forced downward and the cover closed and the drawers brought to their lowermost position.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is;—

1. In a display box, a series of receptacles, and means comprising jointed members for raising and lowering said receptacles simultaneously, and a cover pivotally connected with said means and, when in closed position, out of contact with a lateral portion on the adjacent end of a member of said means but engageable therewith as the cover is opened.

2. In a display box, a series of receptacles, means for simultaneously raising said receptacles and to temporarily lock them against descending by their own weight, said means being pivotally connected with the cover of the box and with an end of one of its members normally out of contact with the under side of said cover, and a link having a lateral portion with which said member coacts as the cover reaches its open position.

3. In a display box, a series of receptacles, means pivotally connected with the receptacles for simultaneously raising them, said means embodying a link having a lateral member and an arm pivotally connected with the said link and with the cover and adapted for contact with said lateral member.

4. In a display box, a series of receptacles, means for simultaneously raising the same, said means embodying pivotally connected links, an arm pivotally connected with one of said links and with the cover, one of said links having a lateral member with which said arm contacts to lock the receptacles in raised position.

5. In a display box, a series of receptacles, pivoted means for raising the same and to temporarily lock them against descending by their own weight, said means being pivotally connected with the cover of the box and embodying a member eccentrically pivoted at one end and movable for a portion of its distance with its end out of contact with the cover and then its end directly engageable with the cover to raise the receptacles in the further movement of said member.

6. In a display box, a series of receptacles, pivoted means forming connections between said receptacles, means mounted on the pivot of one of said connections, and means having one end eccentrically pivoted at one end and its other end connected with said last-named means with its end mounted for direct engagement with the cover to cause the cover and means to first move together upon the hinges of the cover as a pivot and cause the cover and said means to move as a unit.

7. In a display box, a series of receptacles, means for moving them together consisting

of links arranged parallel with each other and connecting said receptacles, a fixed support for one end of a pair of said links, a cover, and means pivotally connected with said cover and with the pivot of one of the links for causing the receptacles to be raised simultaneously by the movement of the cover, the member connecting the means connected with the cover and the adjacent link having a lateral portion with which the means connected with the cover is engageable to temporarily lock the parts in their raised position.

8. In a display box, a series of receptacles, a link pivotally connected with two of the receptacles, links pivotally connecting the end and intermediate receptacles, a member connected with the uppermost link having a lateral portion, a cover, and a pivotal member connecting the cover with said member intermediate its ends and having one end thereof engageable with the cover in one position only.

9. In a display box, a series of receptacles mounted for simultaneous movement, a cover and means pivotally connected with the cover and receptacles to be acted upon by the weight of the receptacles when in their elevated position to temporarily lock the receptacles in such position, said means embodying an arm eccentrically pivotally connected with the cover at one end, whereby said end during a portion of the movement of the cover is out of engagement with the under side thereof, and means limiting the downward movement of said arm.

10. In a display box, a series of receptacles mounted for simultaneous movement, a hinged cover, an arm eccentrically pivoted to the cover and means pivotally connected with said arm and with one of the receptacles for coöperation with said arm to cause the said means and arm to move together upon the hinges of the cover as a pivot when the corner of the arm bears against the cover and allowing the arm at other times to move upon its pivotal connection with the cover.

11. In a display box, a series of receptacles mounted for simultaneous movement, a hinged cover, an arm eccentrically pivoted to the cover and means pivotally connected with said arm and with one of the receptacles for coöperation with said arm to cause the said means and arm to move together upon the hinges of the cover as a pivot when the corner of the arm bears against the cover and allowing the arm at other times to move upon its pivotal connection with the cover, the end of said arm adjacent the cover being at times out of engagement with the under side of the cover.

12. In a display box, a series of receptacles mounted and connected to move together, a hinged cover, an arm eccentrically pivoted to the cover and a member pivotally connected with said arm and with one of the receptacles and having a lateral lug for engagement with the underside of said arm.

13. In a display box, a series of receptacles mounted to move together, a hinged cover and means having one end eccentrically pivoted to the cover and the other end connected with one of the receptacles and cooperating with the weight of the receptacles and the movement of the cover to raise the receptacles and lock them in raised position said means embodying an arm pivotally connected with the cover at one end, which end is during a portion of the movement of the cover out of engagement with the under side thereof.

14. In a display box, a series of receptacles, a cover, and pivotal means eccentrically connected with the cover and movable for a portion of its movement without actuating the receptacles, then with the cover to act to raise the receptacles and then by the weight of the receptacles to lock the cover in raised position.

15. In a display box, a series of receptacles, means connecting them together for simultaneous movement, a link connected with one of said receptacles and with the adjacent receptacle, a link pivotally mounted on the pivotal connection between said link and the second receptacle, a cover and an arm pivotally connected with the last-named link and eccentrically pivoted to the under side of the cover.

16. In a display box, a series of receptacles, means connecting them together for simultaneous movement, a link connected with one of said receptacles and with the adjacent receptacle, a link pivotally mounted on the pivotal connection between said link and the second receptacle, a cover and an arm pivotally connected with the last-named link and eccentrically pivoted to the under side of the cover, the last-named link being provided with a lateral portion extending under said arm adjacent its connection with said link.

17. In a display box, a series of receptacles, means connecting them together for simultaneous movement, a link connected with one of said receptacles and with the adjacent receptacle, a link pivotally mounted on the pivotal connection between said link and the second receptacle, a cover and an arm pivotally connected with the last-named link and eccentrically pivoted to the under side of the cover, the last-named link being offset near its connection with said arm.

18. In a display box, a series of receptacles, means connecting them together for simultaneous movement, a link connected with one of said receptacles and with the adjacent receptacle, a link pivotally mounted on the pivotal connection between said link and the second receptacle, a cover and an arm pivotally connected with the last-named

link and eccentrically pivoted to the under side of the cover, the last-named link being provided with a lateral portion extending under said arm adjacent its connection with said link, the last-named link being offset near its connection with said arm.

19. In a display box, a series of receptacles mounted for simultaneous movement, a cover pivotally mounted, and connections between one of said receptacles and the cover and embodying means whereby the cover and said connections move together with the hinges of the cover as a pivot and then upon the pivotal connection between said connections and the cover as the pivot, and a lock for preventing downward movement of the receptacles when the cover is in its open position.

In witness whereof, I have hereunto set my hand this 6th day of August, 1908, in the presence of two subscribing witnesses.

FURBUSH G. MERRITT.

Witnesses:
E. B. WHITMORE,
A. M. WHITMORE.