

987,183.

O. L. SMITH.
DISPLAY RACK.
APPLICATION FILED OCT. 25, 1909.

Patented Mar. 21, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

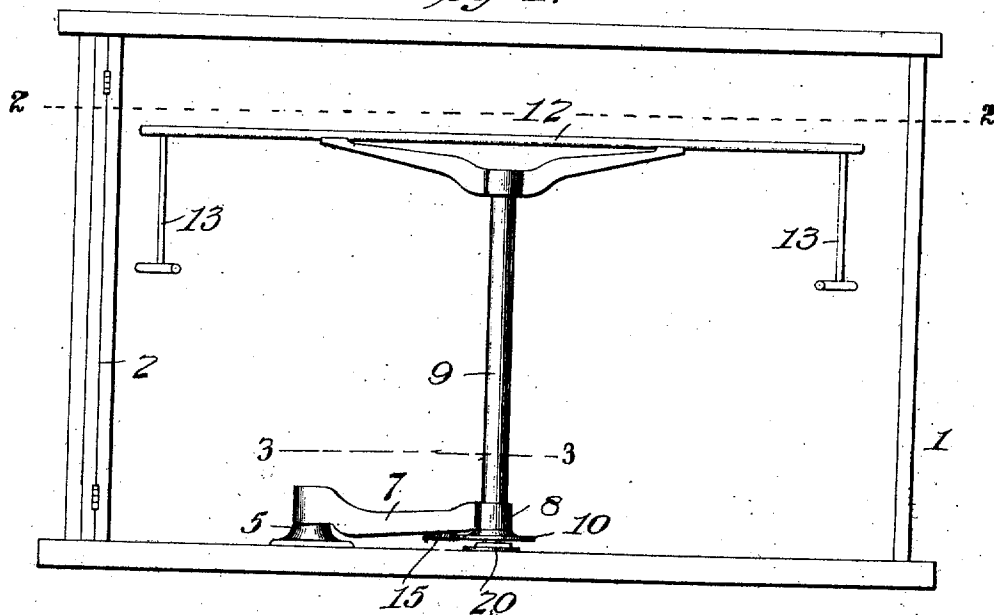
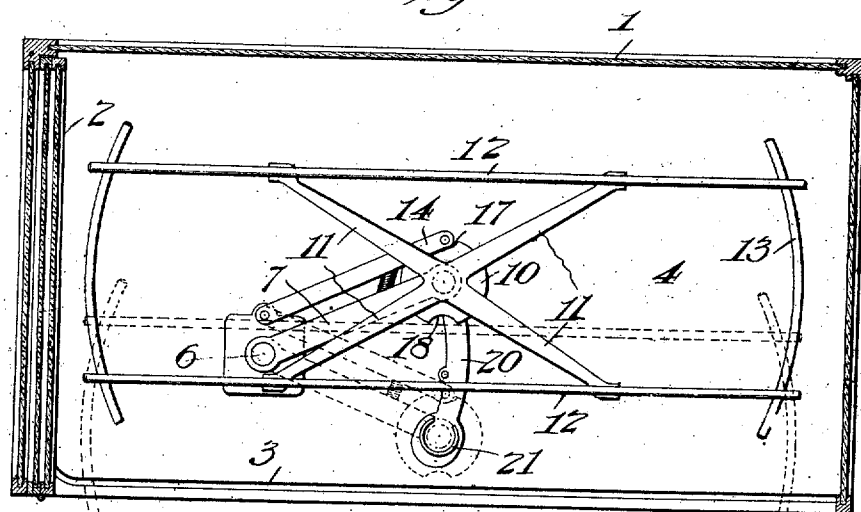


Fig. 2.



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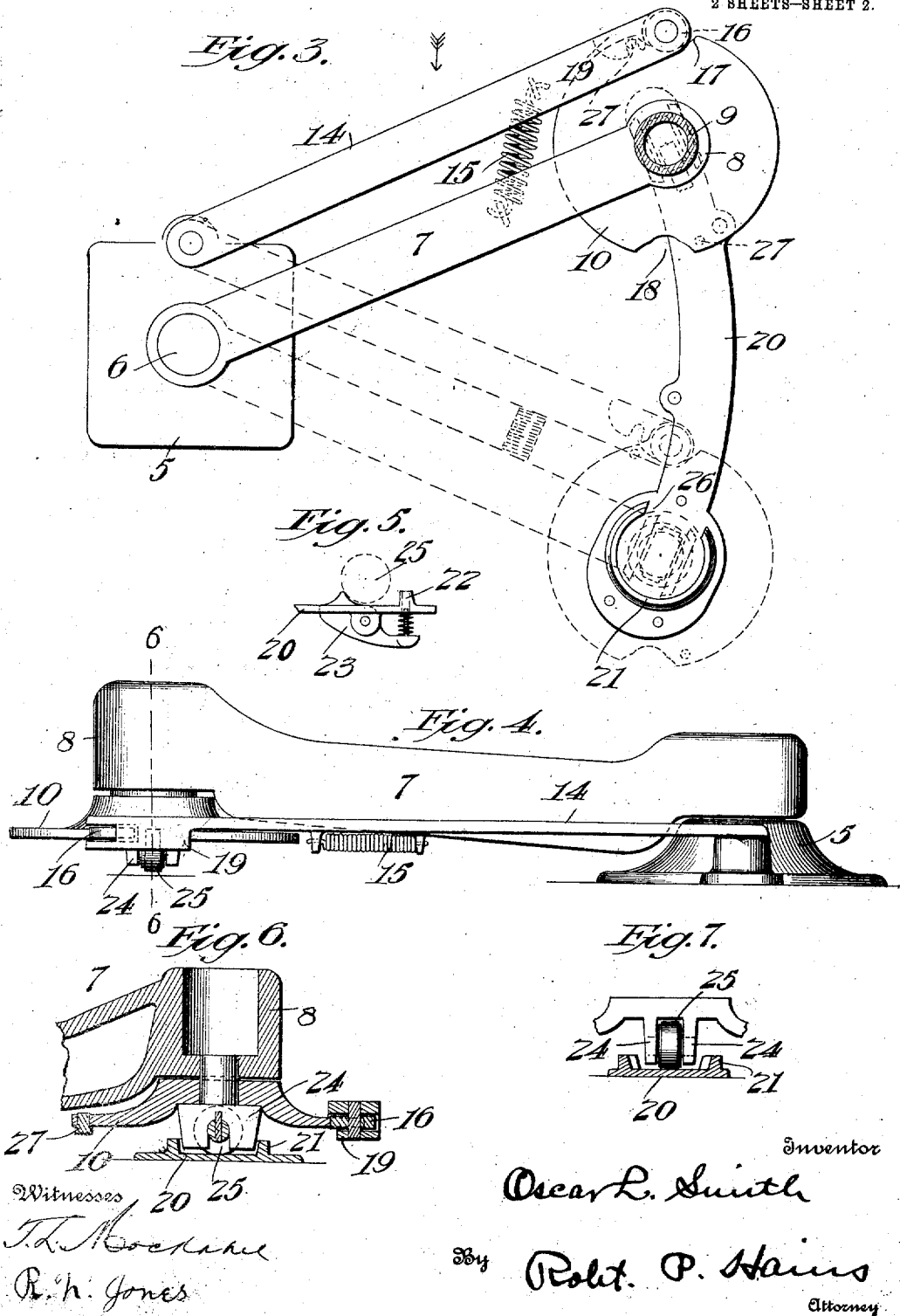
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UNITED STATES PATENT OFFICE.

OSCAR LEAVENWORTH SMITH, OF PHILADELPHIA, PENNSYLVANIA.

DISPLAY-RACK.

987.183.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed October 25, 1909. Serial No. 524,451.

To all whom it may concern:

Be it known that I, OSCAR L. SMITH, of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Display-Racks, of which the following is a specification.

The invention to be hereinafter described relates to display devices for garments and other merchandise, and more particularly to such devices adapted for use in stores and like places for exhibition purposes.

It is desirable in exhibiting goods for sale in stores to economize space as far as possible, at the same time have the entire contents of the show case in which they are contained readily accessible, and the present invention provides means for supporting merchandise, such as garments and the like, in such manner that they can be readily exposed to view, as will hereinafter more fully appear.

In a store display device for garments and the like, it is desirable that a case or compartment be employed to protect the goods from dust and dirt, and prevent handling by unauthorized persons. It is likewise desirable that the goods be supported in such manner that the supporting device can be readily moved from a position within the case to a position at the front of the case; and that when at the front of the case, it be free for rotative movement, so that goods at both sides of the supporting device may be readily inspected. Where the supporting device, as for instance, a rack, is thus freely rotatable at all times, there is danger of injuring the case or compartment as the supporting device is bodily moved to and from a position within the case or compartment, and where the case or compartment is made of glass, breakage of the glass may result. One feature of the present invention, therefore, relates to means, whereby, as the supporting device or rack is being bodily moved to or from a position within the case, it is locked or prevented from free rotative movement. A further feature in this connection is the fact that when the supporting device or rack is in its outer position it is unlocked or freed to rotative movement, so that, when in outer position, the supporting device or rack can be readily turned to display goods on all sides of the device or rack, and yet when being bodily moved into or out of the case it is locked from such rotative capacity. It is desirable, also, that

when the supporting device or rack is in its outer position and is being turned or rotated, it be locked from bodily movement into the case, because such movement at this time would cause the injury to the case or breakage of glass hereinbefore noted; and it is also desirable that when within the case or compartment, the supporting device be locked from rotative movement and also locked from bodily movement, both of which features are contemplated within the present invention.

These and other features of the present invention will best be made clear from the following description and accompanying drawings of one form of means for carrying the invention into practical effect, it being understood, of course, that modifications and variations may be made in the particular means employed without departing from the real invention which is defined in its true scope by the claims.

In the drawings:—Figure 1 is a front view of a show case or display device showing one form of the present invention; Fig. 2 is a horizontal section on the line 2—2, Fig. 1; Fig. 3 is a sectional detail on an enlarged scale on line 3—3, Fig. 1, showing, by full lines, the disposition of parts when the supporting device or rack is in its inner position within the case or compartment, and, by dotted lines, the disposition of parts when it is in its outer position; Fig. 4 is a detail side elevation looking in the direction of the arrow, Fig. 3; Fig. 5 is a detached detail showing one form of lock that may be employed for locking or holding the supporting device or rack in its position within the case or compartment; Fig. 6 is a vertical sectional view on the line 6—6 of Fig. 4; and Fig. 7 is an elevation, partly in section, of the roller bearing shown in Fig. 6.

The show case or compartment 1, Figs. 1 and 2, may be of any preferred construction, and is preferably, though not necessarily, provided with doors 2 which may be moved to afford access to the case or compartment, such doors being herein shown as adapted to be folded against one end of the case, and guided in a suitable groove 3 in the floor 4 of the case to close the front thereof.

In the form of the invention shown for illustrative purposes, there is a casting 5 secured to the floor 4 of the case or compartment and having an upwardly projecting

stud 6, serving as a pivotal support for one end of an arm 7, the opposite end of which is provided with a sleeve 8.

Rotatably mounted within the sleeve 8 is a vertical shaft 9, which affords a suitable support for a frame or other sustaining means for the goods to be displayed. In the present form of the invention, this frame or sustaining means comprises arms 11 to which parallel rods 12 may be secured, and to these rods suitable hangers 13 may be hung. The particular form or character of the supporting frame for the goods is not of the essence of the present invention, and it may be variously modified, the essential in this respect being that such frame, which, for identification, will hereinafter be designated a rack, may be rotatably mounted, so that when in front position with respect to the case, it may be turned to display the goods on all sides.

Secured to the floor of the case is a curved track 20 on which rides a roller 25 or like support connected to the shaft 9, the construction being such that as the rack is moved to and from a position within the case, the roller 25 will sustain the rack and its load. Obviously, the rack may be otherwise supported than by the particular means shown and obviously it may be guided in its movements toward and from its position within the case by other means than those shown, the invention not being circumscribed by these details, which are herein set forth as one convenient form of the invention. When the rack is thus bodily moved to and from a position within the case, it is desirable to prevent free rotative movement thereof in order that the case may not be injured by the rack, but when in position at the front of the case, it is desirable that the rack be freed to rotative movement, so that goods on all sides of the rack may be examined. As one means to this end, there is secured to the shaft 9, preferably at its lower portion, a disk 10, having pins 27 projecting from its under portion, two of such pins being indicated in the present form of the invention and disposed diametrically opposite each other, as indicated in Fig. 3. Pivotaly secured to the casting 5, see Fig. 3, is an arm 14 having near its free end a notched projection 19, and a spring 15 connecting the arms 7 and 14 normally acts to force the free end of the arm 14 toward the arm 7, as clearly indicated by Fig. 3. Mounted at the free end of the arm 14 is a roller 16 adapted to bear upon the periphery of the disk 10, and to enter one of two notches or recesses 17 and 18 formed in the disk at substantially diametrically opposite points, the construction being such that when the rack is bodily moved toward or from its position within the case and when within the case the

notched projection 19 will be engaged with one of the pins 27 and lock the rack from rotative movement, but when the rack is in its position at the front of the case the notched projection 19 and the pins 27 will be disengaged and thus free the rack to rotative movement, so that the goods carried by the rack may be conveniently examined, as shown by full and dotted lines, Fig. 3.

The disk 10 revolves in contact with the roller 16 when the rack is at the front position and when said disk is turned a half revolution the roller enters one of the notches 17 or 18, exerting a tendency to retard rotative movement of the rack, though not sufficient to prevent such movement by slight effort, and by disposing said notches, as shown, means are provided to indicate when the rods 12 of the rack are parallel with the front of the case and properly positioned for bodily movement of the rack inward of the case.

When the rack has been moved to the front of the case and is turned or rotated to show the goods supported thereby, it should be prevented from movement bodily into the case because such bodily movement would, at such times, probably cause injury to the case or to the rack, or both. To meet this condition, the invention in the form here presented provides two perforated lugs 24 depending from the underside of the disk 10 and, between said lugs, is mounted the roller 25 adapted to travel along the track 20. At its front portion the track 20 is provided with an upwardly projecting curved flange 21 which serves as a stop to limit the forward movement of the rack, said flange 21 having an opening 26 which permits the roller 25 and its supporting lugs 24 to freely pass when the rack is in rotative position such that the rack will not strike the case as said rack is bodily moved toward or from its rear position, but which prevents such bodily movement when the rack is turned or rotated from such rotative position. As a convenient form of means to this end, the lugs 24 are made wider than the space 26, but the distance between the lugs is made less than the space 26, as indicated by dotted lines, Fig. 3; thus a simple but effective lock is provided to retain the rack in forward position.

In order to provide a stop to determine the extent of inward movement of the rack, the inner part of the track 20 may be provided with a stud or projection 22, Fig. 5. Adjacent the said stud or projection is a spring catch 23, the upper end of which extends into the path of the roller 25 as the latter and the rack move to rear position, thus after the roller 25 has passed the spring catch 23, the latter rises in front of the roller and locks the rack in its inner position, yet

upon slight pressure due to a pull forward on the rack, the catch 23 will release the roller 25.

From the construction herein described as one of the many forms of means in which the invention may be embodied, it will be noted that there is a suitable form of case or compartment adapted to contain a rotary supporting device or rack for sustaining goods to be exhibited; that the rotary supporting device or rack is bodily movable to and from a position within the case or compartment and is locked from rotation while being so bodily moved. It will also appear that the supporting device or rack need not necessarily swing to and from its position within the case but may be moved otherwise to and from such position, the essential in this respect being that while it is bodily moved to or from its position within the case, it shall be locked from rotative movement by some form of locking device, regardless of whether it swings or moves rectilinearly to and from its position within the case, and when it reaches its outer position, it will be freed to rotative movement. It will also be understood that when the rack is in its outer position and free to be rotated to show the goods on all sides of the rack, it is locked in such outer position, and that the invention is not restricted to the particular form of the locking means herein shown as one practical embodiment of this feature of the invention. It will be further noted that not only is the rack free to be rotated when in outer position, and locked from such rotative movement when it is bodily moved to and from its position within the case, but it is also locked in its inner position.

From the description of the invention, it will be noted that in the form thereof shown, the rotatable rack cannot be moved into the case except when it is in position such that the inward movement will not cause the rack to contact with the case; and that the lock to prevent rotative movement of the rack as it is bodily moved into the case acts automatically to lock the rack as the rack is bodily moved toward its inner position; and as the rack is moved to and reaches its outer position, it is automatically unlocked to rotative movement.

What is claimed is—

1. A display device comprising a case or compartment, a rotatable rack for supporting goods rotatable about a substantially vertical axis to present different supporting portions of the rack to front position as the rack is rotated, said rotatable rack being bodily movable to and from a position within said case or compartment, and means to prevent bodily and free rotative movements of said device concurrently.

2. A display device comprising a case or

compartment, a rotatable rack for supporting goods rotatable in substantially a horizontal plane and bodily movable to and from a position within said case or compartment, and means to prevent bodily and free horizontal rotative movements of said device concurrently when the device is away from said position within the case or compartment.

3. A display device comprising a case or compartment, a rotatable rack for supporting goods mounted for rotative movement in substantially a horizontal plane and bodily movable to and from a position within said case or compartment, and means to prevent bodily and free horizontal rotative movements of said device concurrently and permit the said movements non-concurrently.

4. A display device comprising a case or compartment, a rotatable rack for supporting goods, bodily movable to and from a position within said case or compartment, and mounted for rotative movement to successively present different supporting portions of the rack to front position and means to prevent bodily and free rotative movements of said device concurrently and permit the said movements non-concurrently when said device is away from said position.

5. A display device comprising a case or compartment, a rotatable rack for supporting goods, bodily movable to and from a position within said case or compartment, and means to permit free, rotative movement of said device when in its outward position to enable different supporting portions of the rack to be moved to front position and to prevent initiation of rearward bodily movement of said device except when in a predetermined angular relation to said case or compartment.

6. A display device comprising a case or compartment, a rotatable rack for supporting goods, bodily movable to and from a position within said case or compartment and mounted for rotative movement to present different supporting portions of the rack to front position as the rack is rotated, connections between the case or compartment and said rotatable rack to determine the path of bodily movement of said rack as it is moved to and from its position within the case, and means to prevent bodily and free rotative movements of said device concurrently.

7. In a display device, the combination of a case or compartment, a rotatable rack for supporting goods, a guideway with relation to which the rack travels as it moves to and from a position within the case or compartment, said rack being mounted for rotative movement to present different supporting portions of the rack to front position as the rack is rotated, and means acting as the rack is moved to and from its position within the

case or compartment to prevent free rotative movement of the said rotatable rack and to free it to rotative movement when it reaches a position at the front of the case.

5 8. In a display device, the combination of a case or compartment, a rotatable rack for supporting goods rotatable in substantially a horizontal plane to present different supporting portions of the rack to front position as it is rotated, said rack being movable to and from a position within said case or compartment, means to restrain the rotatable rack from free rotative movement as it is moved to and from its position within the case or compartment and to free it to rotative movement as it reaches a position at the front of the case or compartment, and connections between the case or compartment and said rotatable rack to determine the path of travel of the rotatable rack as it is moved to and from its position within the case.

9. A display device, comprising a case or compartment, a rotatable member for supporting goods mounted for rotative movement to successively present different supporting portions of the rack to front position, a support for said rotatable member adapted to permit the said member to be moved toward the front of the case and back again to rearward position, and means rendered effective for preventing free rotation of said member upon moving the said member bodily with relation to the case.

10. A display device, comprising a case or compartment, a rotatable member carrying means for supporting goods and mounted for rotative movement in substantially a horizontal plane to present different supporting portions of the rack to front position, a support for said rotatable member adapted to permit the said member to be moved toward the front of the case and back again to rearward position, and means for preventing said member from rotating during said movement, said means acting to free the said member to rotative movement when said member is moved to the forward position, and to prevent free rotative movement of said member as said member is moved from the forward position.

11. A display device, comprising a case or compartment, a rotatable member carrying means for supporting goods and mounted for rotative movement in substantially a horizontal plane to present different supporting portions of the rack to front position, a support for said rotatable member adapted to permit the said member to be moved toward the front of the case and back again to rearward position, and means for locking and unlocking the said rotatable member operated by movement of said support.

12. In a store display device, the combination of a show case, a rotatable display rack for supporting goods to be displayed adapted to be rotated when at the front of the case to successively present different supporting portions of the rack to front position, means connected to the show case for supporting the rotatable display rack and permitting it to be bodily moved to and from a position within the show case, and means acting during such bodily movement of the rotatable rack to prevent free rotative movement thereof and avoid contact of the rack with the show case as it is being so bodily moved.

13. In a store display device, the combination of a show case, a rotatable display rack for supporting goods to be displayed, rotatable in substantially a horizontal plane to present different supporting portions of the rack to front position as the rack is rotated, means connected to the show case for supporting the rotatable display rack and permitting it to be bodily moved to and from a position within the show case, means acting during such bodily movement of the rotatable rack to prevent rotative movement thereof and avoid contact of the rack with the show case as it is being so bodily moved, and means for locking the rotatable rack from such bodily movement when in outer position.

14. In a store display device, the combination of a show case, a rotatable display rack for supporting goods to be displayed, an arm pivotally joined to the show case and connected to the display rack, permitting it to be bodily moved to and from a position within the case, and means acting on rotation of the rack when in its outer position to lock the same from bodily movement into the case.

15. In a store display device, the combination of a show case, a rotatable display rack for supporting goods to be displayed rotatable in a substantially horizontal plane to present different supporting portions of the rack to front position as the rack is rotated, means connected to the show case for supporting the rotatable rack and permitting it to be bodily moved to and from a position within the show case, and means acting during such bodily movement of the rotatable rack to prevent rotative movement thereof and to permit the rotatable rack to be rotated when it reaches its outer position.

16. In a store display device, the combination of a show case, a rotatable display rack for supporting goods to be displayed rotatable in a substantially horizontal plane to present different supporting portions of the rack to front position as the rack is rotated, means connected to the show case for supporting the rotatable rack and permitting it to be bodily moved to and from a position within the show case, means acting during

such bodily movement of the rotatable rack to prevent rotative movement thereof and to permit the rotatable rack to be rotated when it reaches its outer position, and means to lock the rotatable rack from bodily movement into the case when it is in outer position and rotated.

17. A display device, comprising a case or compartment, a rack for supporting goods movable to and from a position within the case or compartment and rotatable to successively present different supporting portions of the rack to front position, means for preventing said rotatable rack from rotating when being bodily moved with relation to the case and permitting rotative movement when in front position with relation to the case, and means for also locking the rotatable rack in front position with relation to the case when the rotatable rack is free to be rotated.

18. A display device, comprising a case or compartment, a rotatable member carrying means for supporting goods, and member being rotatable in substantially a horizontal plane to successively present different supporting portions thereof to front position, a support for said member movable toward the front of the case and back again to rearward position, and means for locking said support when in forward position operated by rotation of said member.

19. A display device, comprising a case or compartment, a rotatable member carrying means for supporting goods, said member being rotatable in substantially a horizontal plane to successively present different supporting portions thereof to front position, a support for said member movable toward the front of the case and back again to rearward position, means operative for locking said support upon rotating the said member when the support is in forward position and operative to lock the said rotatable member by rearward movement of the said support.

20. In a store display device, the combination of a case or compartment, a rotatable display rack for supporting goods, an arm pivoted to the case and connected to said rotatable display rack and permitting the said rack to be moved to and from a position within the case, means for locking the rack from free rotative movement while being moved bodily to or from its position within the case or compartment and freeing it to rotative movement when in outer position.

21. In a store display device, the combination of a case or compartment, a rotatable display rack for supporting goods, an arm pivoted to the case and connected to said rotatable display rack and permitting the said rack to be moved to and from a position within the case, means for locking the

rack from free rotative movement while being moved bodily to or from its position within the case or compartment and freeing it to rotative movement when in outer position, and means to prevent bodily movement of the rack into the case or compartment while being rotated.

22. The combination with a case or compartment, of a display rack comprising an arm pivotally secured to the case, a vertical shaft carried by said arm, a track over which said shaft is adapted to move, means for limiting the rotary movement of said shaft, and means connected to said arm for engaging said limiting means.

23. The combination, with a case or compartment, of a display rack, comprising an arm pivotally secured to the floor of the case, a vertical shaft carried by said arm, a disk mounted on said shaft, a roller below said disk, a curved track on which said roller is adapted to travel, means for engaging the periphery of said disk, and stop devices for limiting the movement of said arm.

24. The combination, with a case or compartment, of an arm pivotally supported on the floor of the case, a vertical shaft carried by said arm, a curved track over which said shaft is adapted to move, a disk mounted on said shaft, a roller below said disk, a pivoted bar arranged parallel with said arm and having a spring connection therewith, means carried by said bar for engaging said disk, means for limiting the movement of said arm, and means for limiting the rotary movement of said shaft.

25. The combination, with a case or compartment, of an arm pivotally supported on the floor of the case, a vertical shaft carried by said arm, a curved track over which said shaft is adapted to move, a disk mounted on said shaft, a roller below said disk, a pivoted bar arranged parallel with said arm and having a spring connection therewith, means carried by said bar for engaging said disk, means for limiting the movement of said arm, and means for limiting the rotary movement of said shaft consisting of a projection on said disk and a catch device on said bar.

26. The combination, with a case or compartment, of an arm pivotally secured to the floor of said case, a rotary vertical shaft carried by said arm, a disk mounted on said shaft, a roller below said disk, a curved track over which said roller is adapted to travel, a pivoted bar parallel with said arm, and means carried thereby for engaging said disk.

27. The combination, with a case or compartment, of an arm pivotally secured to the floor of said case, a rotary vertical shaft carried by said arm, a disk mounted on said shaft, a roller below said disk, a curved

track over which said roller is adapted to travel, a pivoted bar parallel with said arm, means carried thereby for engaging said disk consisting of a roller adapted to enter 5 notches in the disk, and means on said track for locking said shaft in its forward and rearward position.

28. The combination, with a case or compartment, of a display rack comprising a 10 swinging arm, means carried thereby for supporting garments and the like, a curved track over which the arm is adapted to

travel, a roller below said arm, and means for preventing inward movement of said arm consisting of a curved flange on said 15 curved track with which the supports of said roller are adapted to engage.

In testimony whereof I hereunto set my hand this 21st day of October, 1909, in the presence of two attesting witnesses.

OSCAR LEAVENWORTH SMITH.

Witnesses:

BENJ. H. RENSHAW,
M. M. RENSHAW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
