

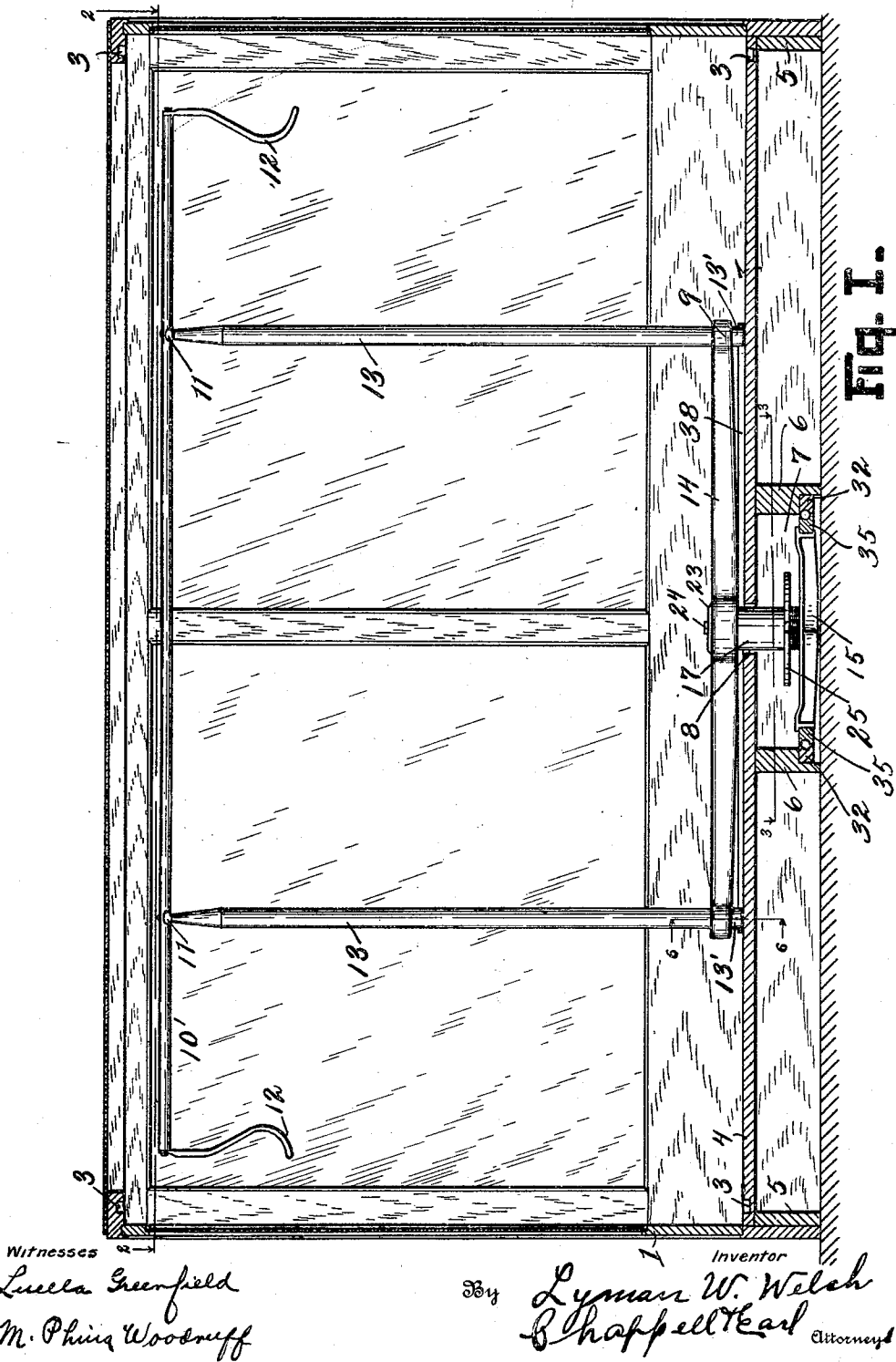
L. W. WELCH.
SHOW CASE.

APPLICATION FILED OCT. 20, 1911.

Patented May 4, 1915.

3 SHEETS—SHEET 1.

1,138,599.



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3 SHEETS—SHEET 2.

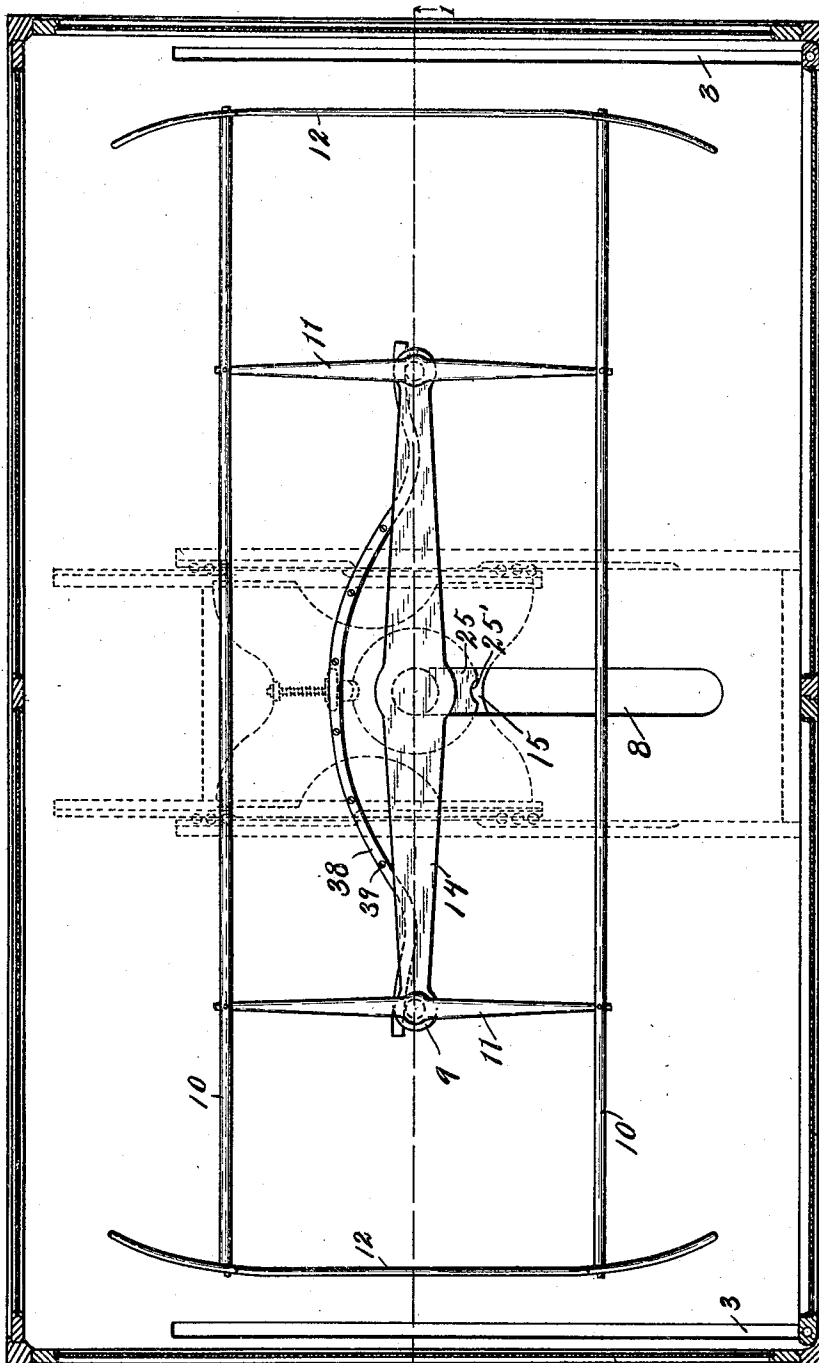


Fig. II.

Witnesses

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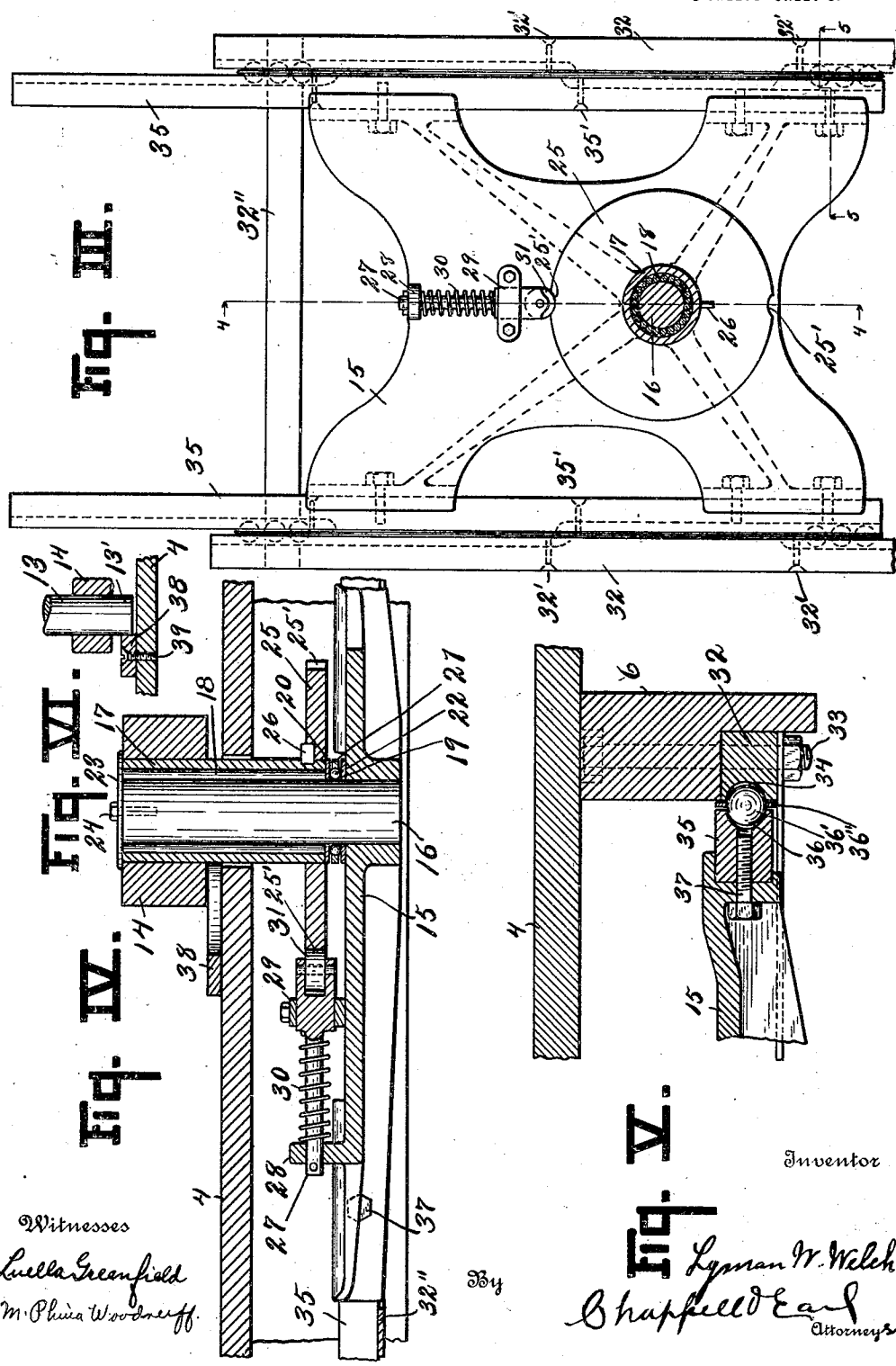
By

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UNITED STATES PATENT OFFICE.

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SHOW-CASE.

1,138,599.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LYMAN W. WELCH, a citizen of the United States, residing at Grand Rapids, Michigan, have invented certain new and useful Improvements in Show-Cases, of which the following is a specification.

This invention relates to improvements in show cases.

The invention relates particularly to that class of show cases for displaying garments on racks, in which the racks are adapted to be withdrawn, or partially withdrawn from the case and rotated to make the rack completely accessible.

The objects of this invention are, in a general way, to provide an improved carriage and supporting and retaining means for the rack, and to provide improved guard means for protecting the glass of the show case from injury by a blow from the revolving rack.

Further objects, and objects relating to economies of construction and operation will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure which constitutes a preferred embodiment of my invention is fully illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a longitudinal detail sectional elevation of one of my improved show cases taken on a line corresponding to line 1—1 of Fig. II. Fig. II is a detail sectional plan view taken on a line corresponding to line 2—2 of Fig. I, the carriage and certain of the devices and parts being indicated by dotted lines. Fig. III is an enlarged detail sectional plan taken on a line corresponding to line 3—3 of Figs. I and IV, the floor joists being omitted. Fig. IV is an enlarged detail sectional elevation taken on a line corresponding to line 4—4 of Figs. II and III. Fig. V is an enlarged detail sectional view, showing the guideways and ball races, taken on a line corresponding to line 5—5 of Fig. III. Fig. VI is an enlarged detail sectional view on a line corresponding to line 6—6 of Fig. I, showing details of the

guard rail and the operation of the same in protecting the case from injury by the revolving rack.

In the drawing, all sectional views are taken looking in the direction of the little arrows at the ends of the section lines, and similar numerals of reference refer to similar parts throughout the several views.

Considering the numbered parts of the drawing, the case 1 is of the usual oblong construction for this purpose, and is open at the front where it is provided with doors 2—2 which open and preferably recede into the ways 3—3 when they are opened. The floor 4 of the case is supported on end joists 5—5 and centrally-disposed joists 6—6 spaced to form a recess 7 between the same. The floor is slotted at 8 transversely to the length of the case to permit the movement of the rack and carriage.

The rack 9 consists of a pair of parallel carrying bars 10—10 joined by cross arms 11—11 and provided with guards 12—12 at each end. The arms 11—11 are supported on posts 13—13, which are carried on opposite ends of the base bar or arm 14. This rack is supported on the carriage 15 on which there is a fixed upright shaft 16 suitably secured therein, preferably by a drive fit. The arm 14 is provided with and carries a vertical sleeve 17, which is preferably a drive fit into said arm. Between the sleeve and the vertical shaft 16 is disposed a roller bearing 18. A thrust bearing is provided for the lower end of the sleeve 17, consisting of thrust rings 19 and 20, between which is disposed a ball retainer or carrier 21 within which are bearing balls 22, as clearly appears from Fig. IV. A washer or plate 23 is secured to the upper end of the shaft 16 by a screw 24, and prevents the upward movement of the sleeve 17 and retains the parts effectively in position. A circular disk 25 is secured to the lower end of the sleeve 17 by a key 26, so that the same rotates therewith. The disk 25 is provided with diametrically opposite peripheral notches 25', (see Figs. II, III and IV).

Disposed on the carriage 15 is a spring bolt 27, carried in the bearings 28—29 and urged inwardly toward the disk 25 by the spring 30. On the inner end of this bolt is a roller 31 revolving on a vertical axis and disposed to engage the notches 25' for re-

taining the revolving parts yielding in position, the particular relation of the parts to the rack clearly appearing in Fig. II. The purpose is to retain or lock the rack in central position when moving out and into the case, and to prevent rotation when removing or hanging articles thereon. Secured to the joists 6—6 at each side of the recess 7 are guideways 32, retained in position by bolts 33 therethrough. The guideways at each side are joined and properly spaced by the cross bars 32''. Vertical bolts 33 extend through these parts and secure them to the joist 6 which is rabbeted to receive the same. Ball races 34 are formed inside these guideways, stop pins 32' being provided at the ends of these races. On the sides of the carriage 15 are also supported guide members 35 corresponding to the guideways 32, the same being provided with ball races 36 and being retained in position by screws 37, as clearly appears in Fig. V. Stop pins 35' are at the ends of these races. Balls 36' are in the said races and serve as a bearing means between the guide members. Ball retainers and spaces 36'' are provided for the said balls. It will thus be seen that the reciprocating carriage 15 is carried on ball bearings and moves very freely and easily. Also, that the display rack is supported on a roller bearing with a ball thrust beneath, and consequently runs very evenly, and owing to the length of the bearing rolls 18, the rack is very firmly supported and yet revolves very freely and easily, except when it is engaged by the rollers 31 on the spring bolt 27. When this occurs, however, comparatively light pressure will overcome the resistance, yet the same is retained with sufficient rigidity to serve its purpose so far as hanging any article to be displayed is concerned, and to insure even carriage of the rack out and into the case.

The vertical posts 13 project downwardly at 13', the bar 14 being supported at a little distance above the floor 4. A guard rail 38 is secured on the floor 4 by screws 39, and is disposed to the rear of the center of the case. The central portion of the guard rail is in the arc of a circle, and the outer portions toward each end are extended beyond the line of movement of the downwardly-projecting stud 13', and being suitably curved, cooperate therewith to prevent the display rack striking the wall of the case. It will thus be seen that if the rack is left to revolve freely, it will not be possible for the same to come in contact with the walls of the show case, thus endangering the glass, but the guard rail will engage one or the other of the projecting studs 13' and swing the rack to the central position automatically, when the carriage is moved into the case. This expedient will very rarely be brought into play for the reason that owing

to the anti-friction bearings made use of, the structure will operate so easily that there will be no occasion for swinging the rack out of engagement with the retaining roller 31 in an accidental manner.

I have described my improved show case in the form preferred by me. I desire to state, however, that many of the details can be modified without departing from my invention. While I have shown the entire frame work on a short shaft 16, I am aware that this upright shaft can be lengthened and the same or substantially equivalent devices be made use of. When the vertical shaft is thus lengthened, the posts 13—13 will be correspondingly shortened, or they may be omitted if the shaft 16 is made tall enough. This feature is so clear that I have not attempted to make illustration of the same, because I do not care to claim the taller shaft specifically. I desire to claim the structure precisely as I have shown it, and also to claim the same broadly as pointed out in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a display device, the combination of a case, a rotatable rack movable to and from a position within the case, a guard rail extending substantially longitudinally of the case, and means carried by the rack and adapted to engage said guard rail as the rack is moved from front position inward of the case to prevent contact of the rack with the case.

2. In a display device, the combination of a case, a rotatable rack movable to and from a position within the case, a guard rail extending substantially longitudinally of the case back of the longitudinal median line of the case, and means carried by the rack and adaptable to engage said guard rail as the rack is moved from front position inward of the case to prevent contact of the rack with the case.

3. In a display device, the combination of a case, a guard rail secured to the case back of the longitudinal median line of the case and extending substantially longitudinally of the case, a rotatable rack having projecting portions at each side of the center of rotation of the rack to engage said guard rail and turn the rack into non-contacting relation with the case as the rack is moved from the front toward inner position.

4. In a display device, the combination of a case, a guard rail secured to the case back of the longitudinal median line of the case and extending substantially longitudinally of the case, said guard rail having a curved central portion, a rotatable rack having projecting portions at each side of the center of rotation of the rack to engage said guard rail and turn the rack into non-

contacting relation with the case as the rack is moved from the front toward inner position.

5 In a display device, the combination of a case or cabinet, a rotatable rack movable to and from a position within the case or cabinet and having projecting portions at opposite sides of the axis of rotation, and a longitudinally extending guard rail se-
10 cured to the case back of the longitudinal median line of the case and adapted to be engaged by one or the other of said projecting portions of the rack to turn the same

into parallelism with the case when the rack is moved toward the inner position while 15 diagonal to the case, said guard rail having a central portion to prevent inward movement of the rack when the latter is at right angles to the length of the case.

In witness whereof, I have hereunto set 20 my hand and seal in the presence of two witnesses.

LYMAN W. WELCH. [L. S.]

Witnesses:

LAURA P. LYON,
M. B. TINTERMAN.

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