J. F. REYMANN.

DOOR FOR DISPLAY CABINETS.

APPLICATION FILED JULY 12, 1917.

1,355,692. **Patented Oct. 12, 1920.**

2 SHEETS—SHEET 1.

Fig. 1.

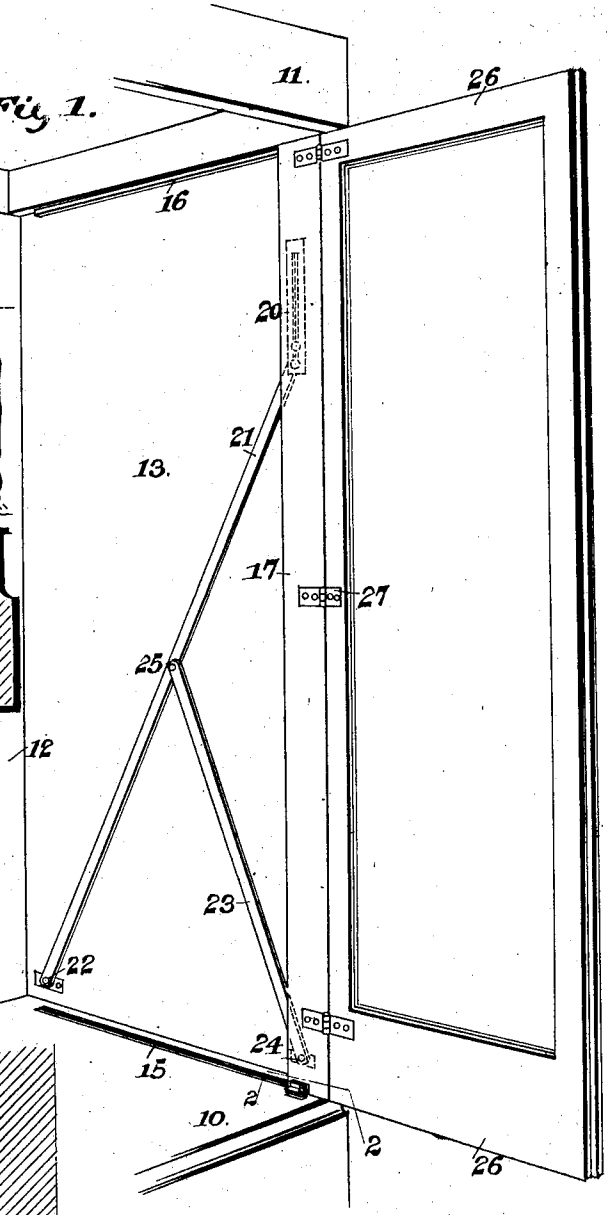


Fig. 2.

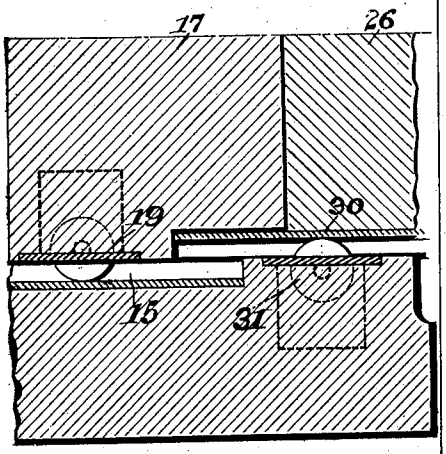
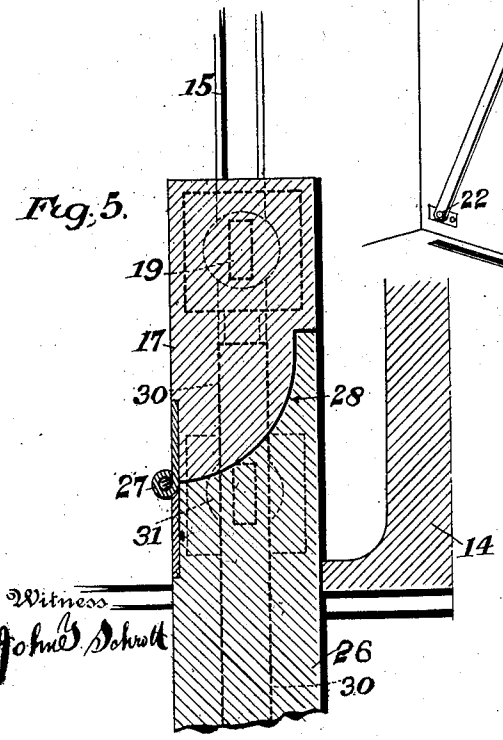


Fig. 5.



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2 SHEETS—SHEET 2.

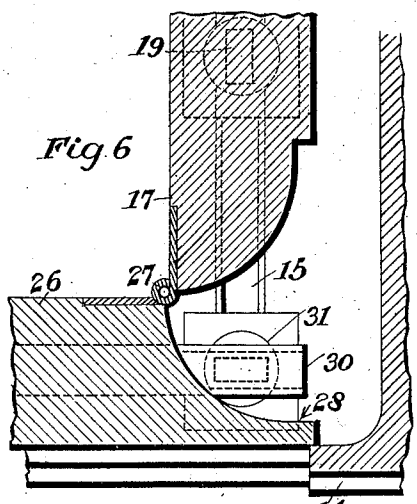


Fig. 6

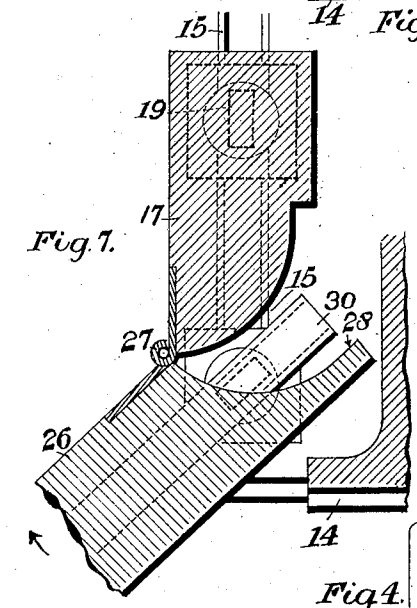


Fig. 7.

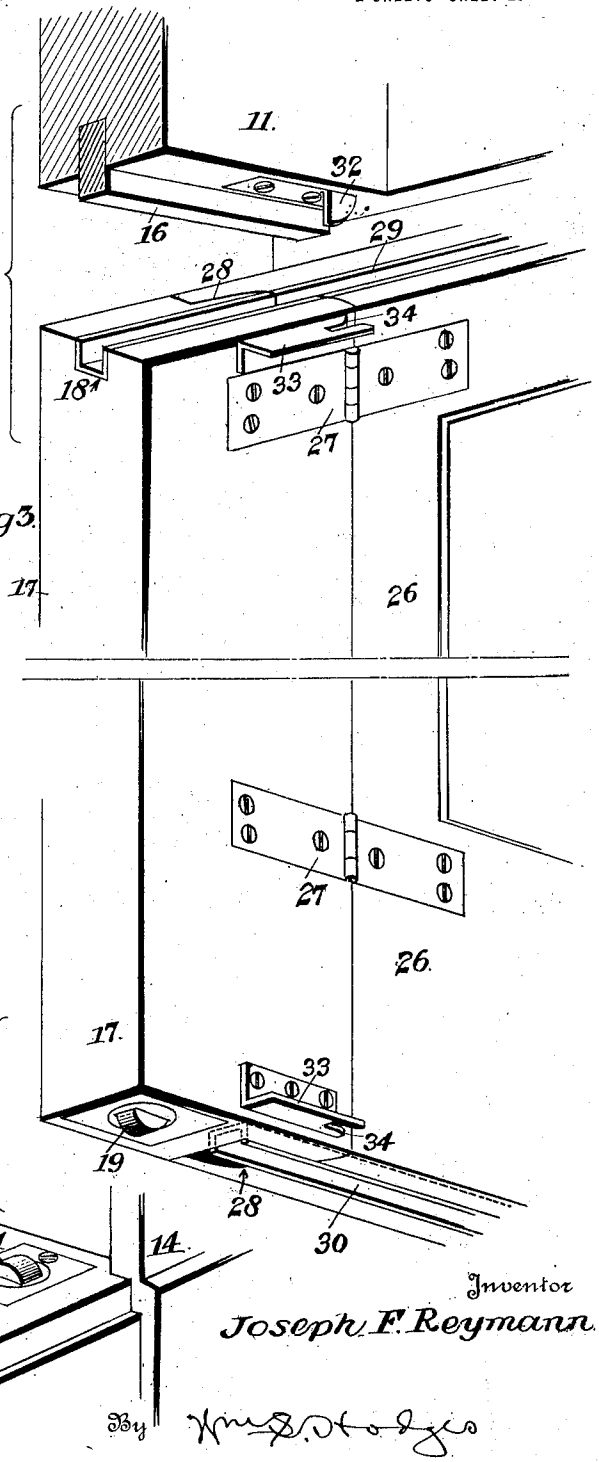
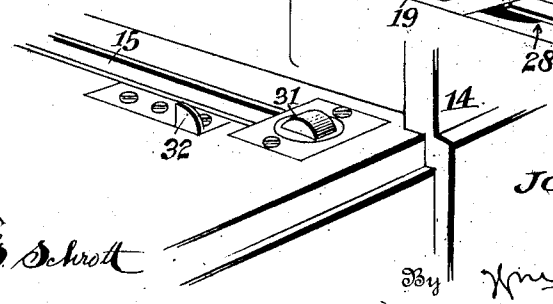


Fig 3.

Fig 4.



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UNITED STATES PATENT OFFICE.

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DOOR FOR DISPLAY-CABINETS.

1,355,692. Specification of Letters Patent. Patented Oct. 12, 1920.

Application filed July 12, 1917. Serial No. 180,225.

To all whom it may concern:

Be it known that I, JOSEPH F. REYMANN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in Doors for Display-Cabinets, of which the following is a specification.

This invention is an improved means for supporting reciprocable hinged doors of the type commonly employed in connection with the store furniture such as display cases and the like. In that class of display cases or cabinets which contain shelving for the storage and display of merchandise, it is desirable to provide the case at the front with doors which slide inwardly and outwardly inside of the case contiguous to the ends of the latter, and which may be swung to a position parallel with the front of the case to close the same. It is essential however, that the door must be capable of swinging outwardly without receding into the case, because of the presence of the shelving. One of the objects of the present invention is to provide means whereby the tracks commonly employed at the front of the case, to support and guide the doors, may be dispensed with, and the doors be mounted to operate close to the ends of the case. A further object is to provide means for firmly supporting the door when the carrier is in forward position, during the swinging of the door in its opening and closing movements. A further object is to provide a structure by means of which unsightly spaces between the doors and the ornamental pilasters at the ends of the case, are avoided when the door is in closed position, and to provide a practically dust proof joint at this point. A further object is to provide means for preventing substantial rearward movement of the carrier until the door is alined therewith during the opening operation. A further object is to provide ample stock to support casters or rollers on which the door and its carrier are supported. A further object is to provide means for limiting forward movement of the carriage.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings:—

Figure 1 is a perspective view illustrating one end of a case or cabinet with the invention applied thereto. Fig. 2 is a sectional view on the line 2—2 Fig. 1. Figs. 3 and 4 are enlarged detail perspective views illustrating the top and bottom of the door, respectively, and the guiding means for the carrier. Figs. 5, 6 and 7 are diagrammatic details illustrating the joint between the door and the pilaster.

Referring to the drawing, 10 designates the floor of a display case or cabinet, 11 the top thereof, 12 the rear wall, and 13 one of the end walls, and provided with corner pilasters 14. Secured to the base 10, is a track 15, in the form of a channel, and extending close to and parallel with the end wall of the case. A similar track 16, preferably in the form of a solid strip is secured to the top wall 11 directly above the track 15, said tracks being relatively positioned to engage and guide a carrier or carriage 17, comprising a perpendicular strip, channeled at its upper end, as indicated at 18, to receive the strip 16, and provided with a caster 19, swiveled in its lower end, and engaging the channel 15. The carriage 17 is provided with a longitudinal slot 20, which is engaged by a suitable device on the upper end of a rod or bar 21, pivotally attached to the end wall of the case, as indicated at 22, a brace bar 23 being provided, having its lower end pivotally connected to the carriage at 24, and its other end pivotally engaging the bar 21 as indicated at 25. The arrangement thus described permits of the carriage reciprocating back and forth between the tracks 15 and 16, the bar 21 acting to counter-balance the weight of the door and to cause the latter to move to open position when movement in that direction has been started

The door 26 is connected to the carriage 17, by means of hinges 27 of any desired construction, the joint between the inner edge of the door and the outer edge of the carriage being on a curved line as indicated at 28, so that when the door is in closed position the inner edge thereof will fill the space between the hinges and the pilaster 14, as will be more clearly understood from Fig. 6. The upper edge of the door is provided with a channel 29 which engages the strip 16, and the lower edge of the door is provided with a channel 30, which engages a caster 31, set into the floor 10 of the case,

and in alinement with the track 15, said caster being free to swivel in any direction. The casters 19 and 31 may be of any desired construction, such for instance as that disclosed in Letters Patent 1,175,885, of March 14, 1916. It will be observed that the tracks 15 and 16 are of such length as to engage the carriage 17 until the latter has reached its outermost position, and the door is in position to be swung into closed position, the length of the tracks being such that the door moves out of engagement therewith when the carriage is at its extreme forward position. It is preferred to construct the channel 30 in the form of a channel bar set into a channel formed in the bottom edge of the door 26, and having a portion overlapping the lower end of the carrier 17. The latter is cut away at one side to provide sufficient clearance to permit the overlapping portion of the channel bar to swing with the door during the opening and closing movements of the latter. Forward or outer movement of the carriage 17 is limited by stops 32 which engage abutment members 33, attached to the carriage, and slotted at 34 to straddle the stop lug 32.

In operation, assuming the door to be in open position and the carriage to be in its rearward position, when it is desired to close the door, the operator grasps the same and slides it along the tracks 15 and 16, by drawing it forward, the carriage 17 traveling with the door until the slots 34 of the abutment members, engage the lugs 32, whereupon further movement of the carriage in the outer direction is arrested. The door is then swung on its hinges to closed position, also swinging upon the caster 31, which by reason of its engagement with the channel 30, rotates upon its vertical axis. The caster 31 being slightly out of alinement with the hinges 27, would normally prevent this swinging movement, but there is enough lost motion provided between the caster and the door to cause the carriage to move slightly back until the caster is substantially alined with the hinge, thereby permitting the swinging of the door. By this arrangement the door is supported partially by the carriage 17 and partially by the caster 31, the caster being so positioned that it supports the overhanging weight of the door in a manner to prevent the weight of the door from shifting the carriage inwardly during closing movement of the door. By reason of the angular relation of the caster 31 with respect to the track 15, resulting from any swinging movement of the door upon its hinges, it is impossible for the carriage 17 to move inwardly during the opening movement of the door, until track 15 and channel 30 are brought into alinement. In other words, the caster acts as a positive lock for the carriage in all positions of the door except the extreme open position with the door and carriage in alinement ready for reciprocation of the carriage. As will be apparent from Figs. 5 and 6, the door works very close to the end wall of the case, and the curved joint between the door and the carriage provides a projection which closes the space between the pilaster and the forward end of the carriage, thereby making a substantially dust proof joint and obviating an unsightly appearance.

Having thus explained the nature of the invention, and described an operative manner of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the forms of its use, the following is claimed:

1. An improved door for display cabinets comprising a reciprocable carriage, means for supporting the same, a door hinged to said carriage, and a relatively stationary member in engagement with the door at all times, said member being rotatable upon a vertical axis, and means for preventing lateral movement of the door relative to said stationary member, whereby swinging movement of the door will bring said member into angular relation to the carriage and temporarily lock the same against reciprocation.

2. An improved door for display cabinets comprising a reciprocable carriage, tracks for supporting and guiding said carriage, and a relatively stationary member in engagement with the door at all times, said member being rotatable upon a vertical axis, and means for preventing lateral movement of the door relative to said stationary member, whereby swinging movement of the door will bring said member into angular relation to said tracks and temporarily lock the carriage against reciprocation.

3. An improved door for display cabinets comprising a reciprocable carriage, a bottom guide channel, means carried by the carriage for engaging said guide channel, means for guiding the top of the carriage, a door hinged to the carriage, and a relatively stationary member contiguous to the end of the guide channel and in engagement with the door at all times, said member being rotatable upon a vertical axis, and means for preventing lateral movement of the door relative to said stationary member, whereby swinging movement of the door will bring said member into angular relation to the guide channel and temporarily lock the door against reciprocation.

4. An improved door for display cabinets comprising a reciprocable carrier, means for supporting and guiding the

same, a door hinged to said carrier, and relatively stationary means independent of the carrier and engaging and supporting the door at all times, said means being movable with the door when the latter swings on its hinge connection, said door having means coöperating with said relatively stationary means to temporarily lock the carriage during swinging movement of the door.

5. An improved door for display cabinets comprising a reciprocable carriage, a guide for the lower end of the carriage, a guide for the upper end of the carriage, a door hinged to said carriage, a relatively stationary caster contiguous to the first mentioned guide and sustaining a portion of the weight of the door, said caster being rotatable upon a vertical axis, and means for preventing lateral movement of the door relative to said stationary member, whereby swinging movement of the door will swing the caster into angular relation with respect to said guides and temporarily lock the carriage against reciprocation.

6. An improved door for display cabinets comprising a reciprocable carriage, a guide channel located in the bottom of the case and engaged by the lower end of said carriage, means for guiding the upper end of the carriage, a door hinged to said carriage, a relatively stationary caster located in alinement with the outer end of said guide channel and supporting a part of the weight of the door, said caster being rotatable upon a vertical axis, and means for preventing lateral movement of the door relative to said stationary member, whereby swinging movement of the door will swing said caster into angular relation to the guide channel and temporarily lock the carriage against rotation.

7. An improved door for display cabinets comprising a reciprocable carrier, a bottom guide channel, a caster mounted in the lower end of the carrier and engaging said guide channel, a door hinged to said carrier, and means independent of the channel for guiding the lower end of the door, means on the door coöperating with the last mentioned guiding means for locking the carriage against reciprocation during swinging movement of the door, and means for guiding the upper end of the door.

8. An improved door for display cabinets comprising a reciprocable carrier, a bottom guide channel, a caster carried by the carrier and engaging said guide channel, a door hinged to said carrier, a relatively stationary caster mounted contiguous to the end of said channel, a channel carried by the lower edge of the door and engaging the last mentioned caster, and means for guiding the upper end of the carrier and the corresponding edge of the door, said relatively stationary caster being rotatable upon a vertical axis whereby swinging movement of the door will bring the caster into angular relation with said guide channel and temporarily lock the carriage against reciprocation.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSEPH F. REYMANN.

Witnesses:
WM. J. MURRAY,
JAMES BIMESTEFER.