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L. HOCHREINER

MULTIPLE SHOW CASE DOOR LOCK

Filed Nov. 25. 1922

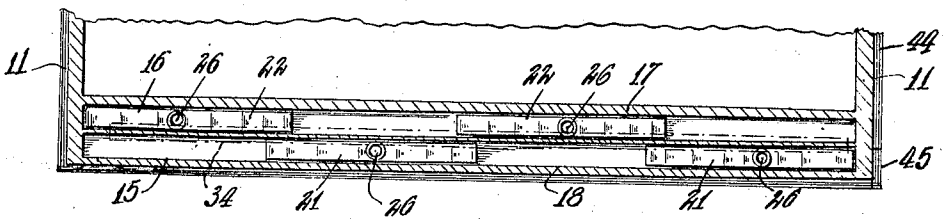


FIG. 1

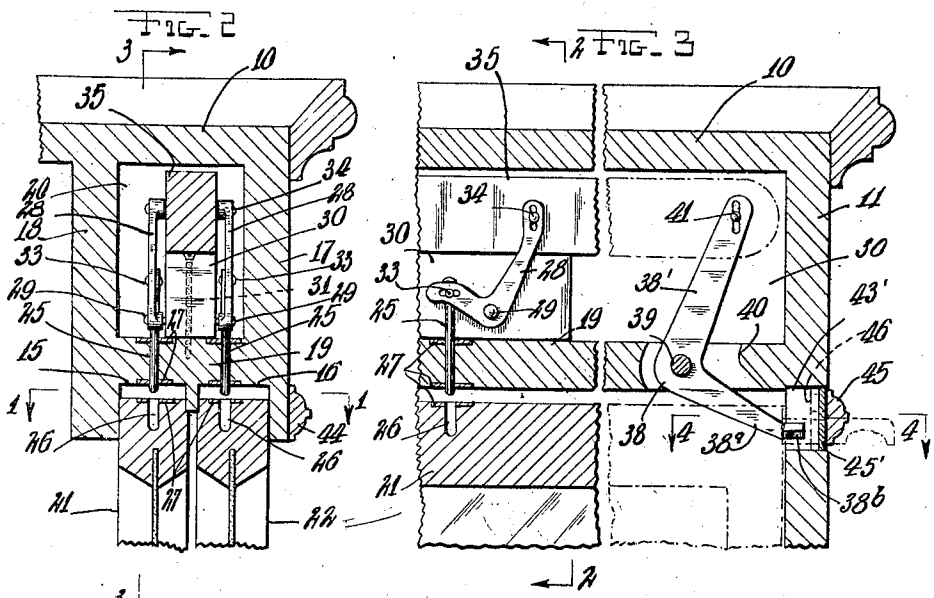


FIG. 2

FIG. 3

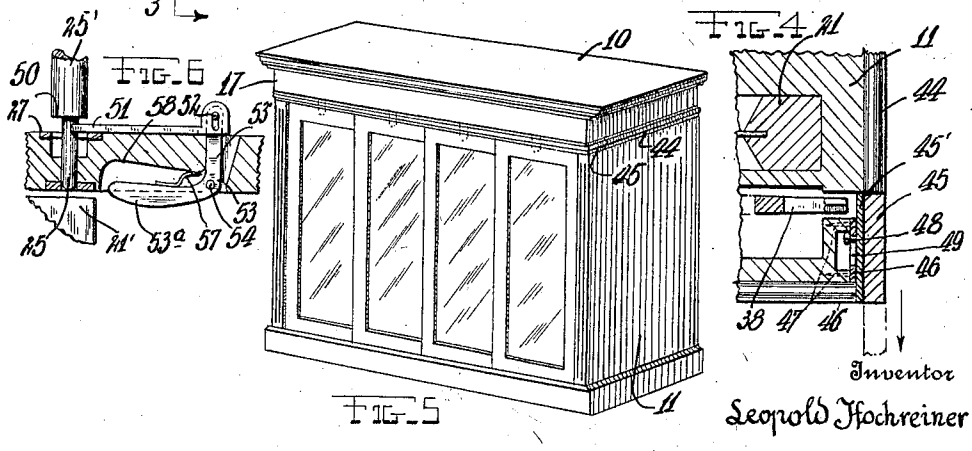


FIG. 6

FIG. 5

FIG. 4

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UNITED STATES PATENT OFFICE.

LEOPOLD HOCHREINER, OF NEW YORK, N. Y.

MULTIPLE SHOW-CASE DOOR LOCK.

Application filed November 25, 1922. Serial No. 603,263.

To all whom it may concern:

Be it known that I, LEOPOLD HOCHREINER, a citizen of Germany, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Multiple Show-Case Door Locks, of which the following is a specification.

This invention relates generally to show-cases or cabinets used in stores to contain merchandise of a certain class such as clothing or the like, and which in general have their front walls formed by a number of sliding glass doors, the invention having more particular reference to a means for locking the said doors.

The invention has for an object to provide a simple form of unitary locking mechanism for the doors whereby manipulation of a simple member serves to simultaneously lock and release each door.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawings is a fragmentary horizontal sectional view of a show cabinet having the invention applied thereto, this view being taken at the point indicated by the line 1—1 of Fig. 2.

Fig. 2 is an enlarged fragmentary transverse sectional view thereof, taken on the line 2—2 of Fig. 3.

Fig. 3 is a fragmentary longitudinal sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary horizontal sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a perspective view of the cabinet.

Fig. 6 is a fragmentary longitudinal vertical sectional view showing a further development of the invention.

My invention may be applied to any ordinary type of cabinet such as that illustrated in Fig. 5. In the various figures of the drawing the top of the cabinet is numbered 10, and the end walls 11, and the back 12. The front of the cabinet is formed in the main by a number, as here shown four, of glass paneled doors, which are alined in pairs and are guided in pairs of grooves suitably formed in the front of the cabinet adjacent the top and bottom thereof.

The top ones of these grooves are shown at 15 and 16, in Fig. 3, being suitably formed between a headboard 17 extending along the front of the cabinet and a second board 18 depending from the top 10 of the cabinet a short distance behind the board 17. A horizontal partition element 19 extends between these boards near the lower ends thereof, dividing off, with the board 18 a small chamber 20 extending from end to end of the cabinet and which contains the lock operating means. The pairs of doors which engage in the respective grooves 15 and 16 are numbered 21 and 22.

To lock these doors I provide a series of vertically slidable bolts 25 extending freely through suitable borings in the member 19 and adapted to engage in sockets 26 in the doors, metal reinforcing washers 27 being provided on the faces of the member 19 and at the mouths of the sockets 26. The bolts 25 are adapted for operation by means of bell crank levers 28 which are fulcrumed as at 29 to a tongue 30 projecting upwardly from and extending along the member 19, and fixed thereto by screws such as 31, the levers connected to the bolts engaging the respective doors 21 and 22 being located on opposite sides of said tongue.

Each bolt 25 is connected, by a slot and pin connection such as 33, with one arm of its operating lever 28 while the other arms of these levers are connected by slot and pin connections such as 34 with a bar 35 lying slidably on the tongue 30. The first mentioned arms of the levers 28 extend in a generally horizontal direction, while the second mentioned arms extend in a generally vertical direction so that longitudinal movement of the bar 34 moves the bolts 25 vertically.

To move the bar 35 I provide another bell crank lever 38 fulcrumed as at 39 to the member 19, and extending through a slot 40 therein, one arm 38′ of this lever extending upwardly from its fulcrum point to engage, by a slot and pin connection 41, the bar 35. The other arm 38ª of the lever extends, below the member 19, toward the adjacent end wall 11 of the cabinet in which is an aperture 43 with which the end 38ᵇ of said last arm 38ª registers, this lever end being shown as squared to receive a suitable key.

Extending around the cabinet, on a level with the aperture 43, is a molding strip 44 which has a short movable section 45 covering the aperture. This molding section 44 is fixed on a steel plate 45′ slidably posi-

tioned on a shorter steel plate 46 fixed as by screws 47 to the end wall 11 between the aperture 43 and the face of the cabinet. Outward displacement of the section 45 is prevented by a headed pin 48 fixed to the plate 45′ and projecting through a slot 49 in the plate 46.

As will be apparent, under normal conditions the lock releasing means is entirely concealed. When it is desired to unlock the doors the molding section 45 is slid forward to uncover the aperture 43, a suitable key is inserted therein and engaged with the end 38^b of the lever 38 and the arm 38^a of said lever swung downward, moving the bar 34 and raising the bolts 25 from engagement with the sockets 26.

In Fig. 6 I have shown a further development of the invention designed to prevent damage to the parts by someone first inadvertently throwing the bolts downward and then sliding the doors to closed position. According to this feature of the invention each bolt 25 has an enlarged upper portion 25′ providing a downwardly facing shoulder 50 which is raised slightly above the partition member 19 when the bolt is released. Slidable on the said member 19 is a flat bar 51 having one end, which may be suitably concaved, adapted to engage under the shoulder 50 and so prevent the bolt being moved to locking position.

The other end of this bar 51 has a slot and pin connection 52 with one arm 53′ of a bell crank lever 53 which extend downwardly through the member 19 and is fulcrumed as at 54 therein. The other arm 53^a of the bell crank lever presents a convexed under surface 56 which projects downwardly below the top edge of the door, a portion of one of said doors being indicated at 21′. A spring 57, located in a recess 58 formed in the member 19 to accommodate the lever, and bearing on the lever arm 53^a normally holds the parts in the above described position.

As will be apparent the bolts 25 cannot be depressed until the doors have been closed. As each door reaches locking position it raises the arm 53^a of a lever 53 and causes the bar 51 to be withdrawn from under the shoulder 50.

Having thus described my invention what I claim as new and desire to protect by Letters Patent of the United States is as follows:

1. A cabinet having a series of sliding doors, and having an aperture in one end wall thereof, locking means for said doors, a moulding strip extending around the cabinet on a level with said aperture, and having a movable molding covering said aperture, and a movable device in said cabinet registering with said aperture and operatively connected with the said door locking means.

2. A cabinet having a series of sliding doors, and having an aperture in one end wall thereof, locking means for said doors, a moulding strip extending around the cabinet on a level with said aperture, and having a movable molding covering said aperture, and a movable device in said cabinet registering with said aperture and operatively connected with the said door locking means, said movable molding section being slidably mounted on the end wall of the cabinet.

3. In a cabinet, a series of sliding doors, having sockets in their upper edges, vertically movable bolts adapted to engage in said sockets, bell crank levers operatively engaged with said bolts, a bar operatively engaged with all of said bell crank levers, an additional bell crank lever operatively engaged with said bar and having one end registering with an aperture in the end wall of the cabinet and a displaceable closure element for said aperture.

4. In a cabinet, a series of sliding doors, having sockets in their upper edges, vartically movable bolts adapted to engage in said sockets, bell crank levers operatively engaged with said bolts, a bar operatively engaged with all of said bell crank levers, an additional bell crank lever operatively engaged with said bar and having one end registering with an aperture in the end wall of the cabinet, and a slidable molding section normally covering said aperture.

5. A cabinet having a series of sliding doors, bolts adapted to engage said doors to lock the same, a unitary means for moving said bolts, and means preventing said bolts from being moved to locking position when the said doors are in open position, said means comprising for each bolt a slidable bar adapted to engage a shoulder thereon, and a bell crank lever engaged with said bar and having a curved arm adapted to be moved by the door to release the said bar.

In testimony whereof I have affixed my signature.

LEOPOLD HOCHREINER.