March 19, 1929. J. A. LILEY 1,706,240

DISPLAY CABINET

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Fig. 6

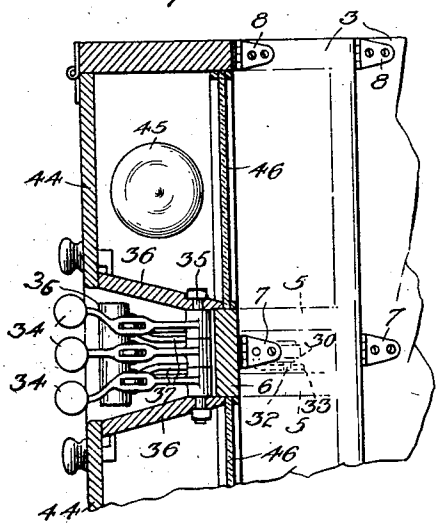


Fig. 1

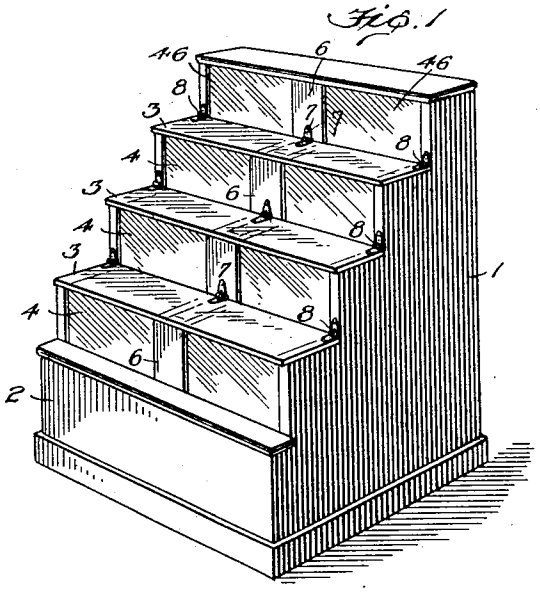


Fig. 4

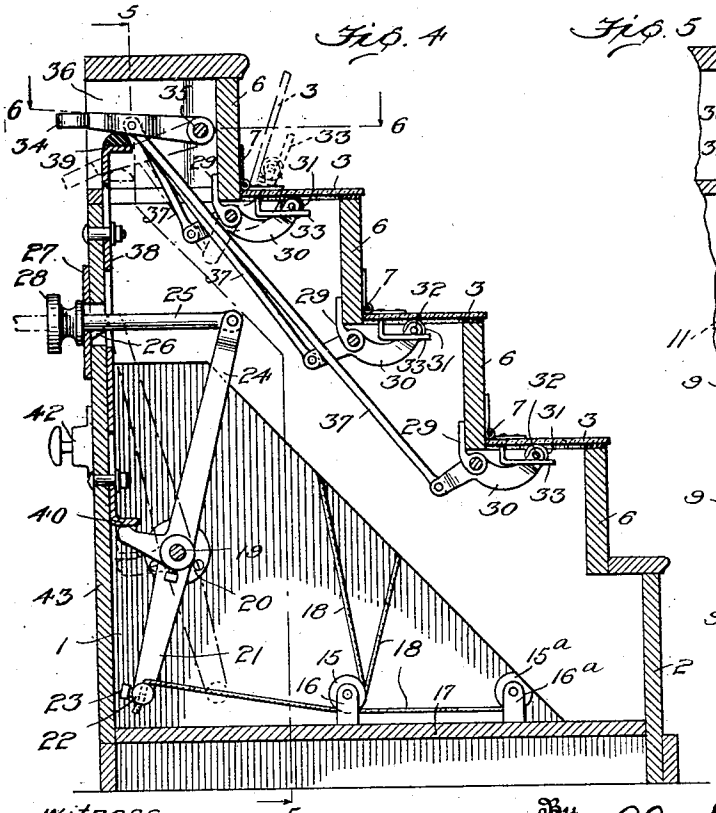
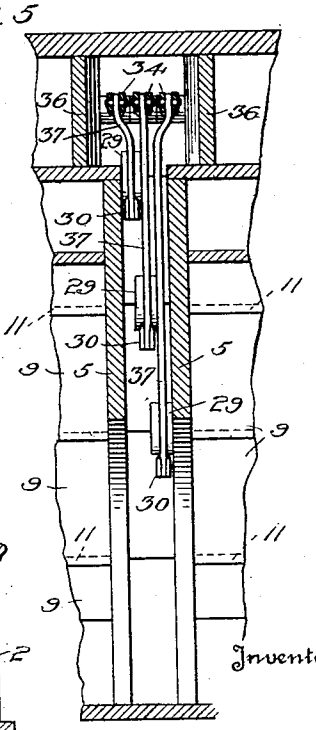


Fig. 5



Witness

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DISPLAY CABINET

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Fig. 8

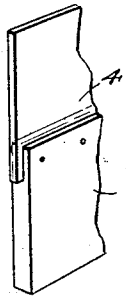


Fig. 2

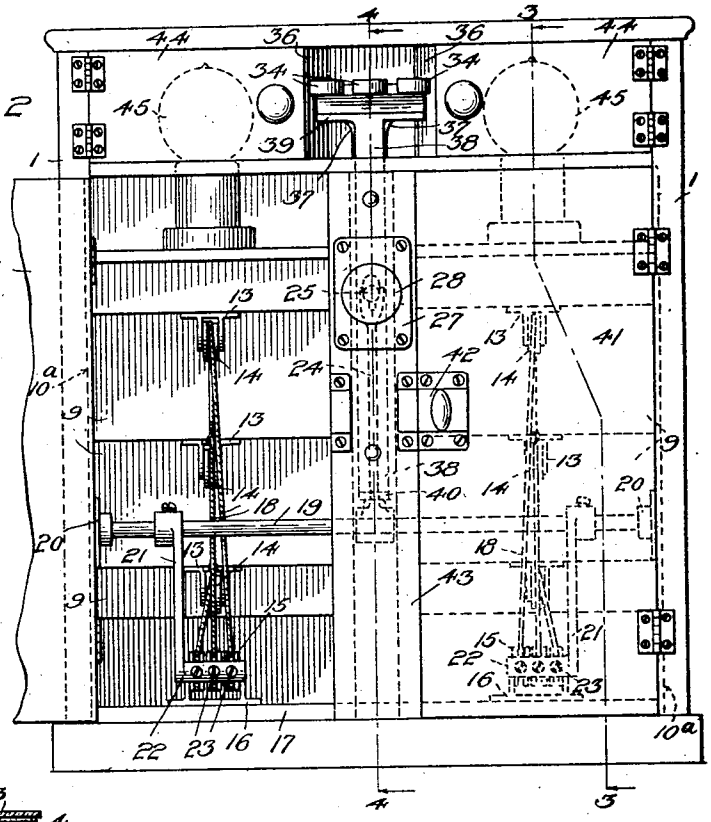


Fig. 3

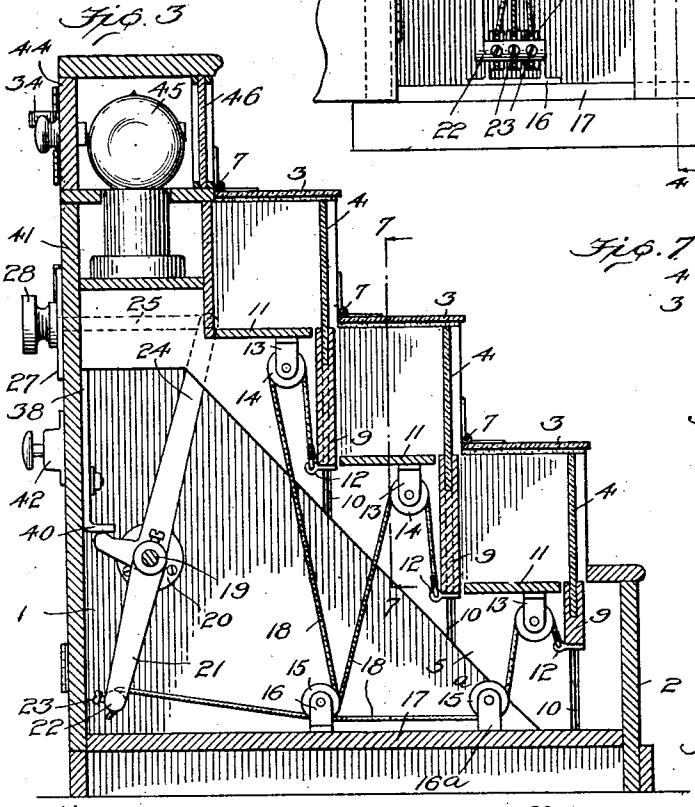
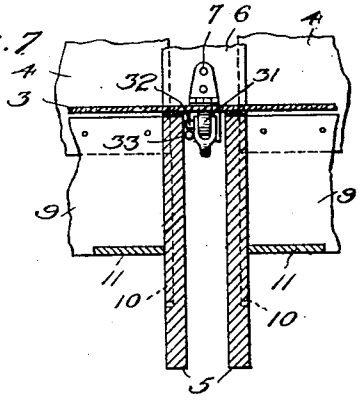


Fig. 7



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UNITED STATES PATENT OFFICE.

JAMES ARTHUR LILEY, OF MARBLE HILL, MISSOURI.

DISPLAY CABINET.

Application filed August 3, 1928. Serial No. 297,188.

My invention relates to display cabinets, and more particularly to display cabinets or showcases of the type which consists of a number of compartments disposed in stepped relation, each being provided with a glass front and top.

One object of my invention is to provide means for enabling said compartments to be opened by an operator positioned behind the cabinet by simultaneously or successively lowering the glass fronts and lifting the glass covers, and a further object of my invention is to provide means for locking said fronts in their raised or closed positions and causing thereby the covers to be locked in their closed positions, so that neither can be opened except by operation of control means located at the rear of the cabinet.

These and other objects of my invention are attained by the novel combination of parts which is described hereinafter, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings which form part of this application for Letters Patent, and in which like reference characters indicate corresponding parts in the several views,

Figure 1 is a perspective view of a display cabinet embodying my invention;

Fig. 2 is a rear elevation with one of the rear doors shown open and partly broken away for economy of space on the sheet;

Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2;

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 2;

Fig. 5 is a section taken on the line 5—5 of Fig. 4, showing the central hallway;

Fig. 6 is a horizontal section taken on the line 6—6 of Fig. 4;

Fig. 7 is a vertical section taken on the line 7—7 of Fig. 3; and

Fig. 8 is a detail view showing the formation of one of the sliding fronts.

In the drawings 1, 1, indicate a pair of cabinet side walls, and 2 a cabinet front, all made preferably of wood and of any suitable size. The side walls are stepped along their front edges with a series of right angled faces, presenting the appearance of the stringers of a staircase. The two side walls form the ends of a plurality of compartments disposed in stepped relation, as best appears in Figures 1 and 3. Each compartment is provided with a hinged glass cover 3, and two sliding glass fronts 4, 4, the cabinet being divided vertically into two similar and equal portions by a pair of parallel stringers 5, 5, which form a central hallway. These stringers are stepped along their front edges by a series of right angled faces to conform exactly to the front edges of the side walls, 1, 1. The vertical edges of the stringer right angles are connected by the rectangular front pieces 6. Ordinary hinges 7, 8, connect the covers 3 with the front pieces 6 and the vertical edges of the side walls 1, respectively.

The glass portions of the sliding fronts are rabbeted in wooden bases 9 of slightly shorter length, so that the edges of the glass project to form tongues which slide in grooves 10 in the stringers 5, as shown in Fig. 7, and similar grooves 10^a channeled in the vertical edges of the side walls 1.

The compartments are provided with bottoms 11 secured at their ends to the stringers 5 and the side walls 1. These compartments are thus adapted to contain merchandise, to attractively display the same and render it readily accessible to a purchaser standing in front of the cabinet when the hinged tops and sliding fronts are operated by a salesperson behind the cabinet by means of the mechanism which I shall now describe.

Each of the bases 9 is provided along its bottom edge and at its longitudinal center with an eye 12, and each of the compartment bottoms 11 with a pulley bracket 13 containing a pulley 14 immediately behind its corresponding eye 12. In the same vertical line with each set of pulleys 14 is a triple sheaf of pulleys 15, in a bracket 16, fixed to the cabinet bottom 17. A cord 18 is fastened to each of the eyes 12 and passes through its proper pulleys 14 and 15. In order to allow proper clearance for the dropping of the middle pair of base portions 9, the cords 18 attached to the foremost or lowest pair of eyes 12 pass over additional pulleys 15^a set in brackets 16^a located just forward of the triple sheaf brackets 16. A rockshaft 19 is journalled in bearings 20 set in the cabinet side walls 1. This rockshaft carries fixed depending arms 21 provided at their lower ends with the horizontal extensions 22 in which the ends of the cords 18 are secured, as by means of set screws 23. Fixed to the rockshaft 19 at its center, and disposed at the same angle to the vertical as the depending arms 21, is an upstanding bellcrank 24.

The latter is forked at its upper end to receive the pull rod 25 which is therein pivoted to allow said pull rod to lie always in an approximately horizontal plane.

It will be apparent that when the parts just described are in the positions shown in Fig. 3 the sliding glass fronts will be held against gravity in their raised or closed position. When, however, the bellcrank 24 is allowed to assume the position shown in dotted lines in Fig. 4, the sliding glass fronts will drop by gravity, sliding in the grooves 10 and 10^a, to open the compartments. In order to hold the sliding fronts in their raised position, the pull rod 25 is provided with a latch in the form of a small stud 26 which slips behind the edge of a perforation in the plate 27 which is fixed to the jamb piece 43. This perforation is elliptical in shape, and a knob 28 is fitted to the end of the rod 25 whereby the latter may be lifted so that the latch 26 may pass through the perforation. In this way the rod 25 may be secured at its inmost position so that the sliding fronts will be locked against opening.

The hinged covers 3 are lifted by means of the mechanism which will now be described in detail. Fulcrumed in a bracket 29 secured to the rear of each of the front pieces 6 at its lower edge is a bellcrank 30. The forward arm of this bellcrank is forked to receive a roller 31 rotatable on a pin 32 which projects a little at one side to ride in the right angled guard 33 which is secured to the underside of the cover 3. A push on the rear arm of the bellcrank 30 will thus cause the cover 3 to be lifted, the roller 31 rolling back slightly along the bottom of the glass, as shown in dotted lines at the topmost cover in Fig. 4. Because of the positive connection between said cover and bellcrank afforded by the pin 32 and guard 33, the cover cannot be lifted without operating the bellcrank.

This operation is effected by depressing the proper one of three keys 34 pivoted on a shaft 35 journalled in a pair of uprights 36 in the top center rear of the cabinet. Each of these keys is connected at about its middle with the rear arm of one of the bellcranks by a rod 37, so that the keys form levers of the second order, and it is necessary to depress one of them to cause one of the covers 3 to be lifted.

It has been seen that the front slides 4 are locked in their closed position by pushing the rod 25 to its inmost position and dropping the latch 26 behind the plate 27. When these parts are thus locked the covers 3 are also locked against lifting by the sliding plate 38, which is slidably connected to the rear wall of the cabinet, and is provided with a horizontal lock bar 39, which may be provided with a cushion, and a lower flange 40. When the front slides are lifted to their closed position, the lower arm of the bellcrank 24 raises the sliding plate 38 so that the horizontal lock bar 39 bears up against the under side of the keys 34 and secures them against depression. With the keys thus secured, the covers 3 cannot be lifted from the front of the cabinet because of the positive connection between cover and key provided by the guard 33, pin 32, bellcrank 30 and rod 37.

The rear of the cabinet may be closed by a pair of hinged doors 41, which may be latched as at 42 to the jamb piece 43 connecting the upper rear edges of the stringers 5 and the cabinet bottom 17. A pair of smaller doors 44 may be used to close the upper part of the rear of the cabinet, and a pair of electric bulbs 45 may be placed inside this part of the cabinet to illuminate advertising matter or the like behind the fixed glass front 46.

It is to be understood that the structure shown and described in this application for Letters Patent embodies but one form of my invention, the principle of which is the combination in a display cabinet of means for lifting the covers of the compartments and lowering their fronts, so that by locking the front lowering mechanism the tops are secured against opening. Other embodiments of this invention will readily suggest themselves to persons skilled in the art and are therefore to be considered within the scope of the claims hereto appended.

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

1. A display cabinet comprising a plurality of compartments in stepped relation, each compartment being provided with a hinged cover and a sliding front, means for lifting said covers and means for lowering said fronts, in combination with means for preventing the lifting of said covers when said fronts are in raised position.

2. A display cabinet divided into twin sections by a central hallway, comprising a plurality of compartments in stepped relation, each compartment being provided with a hinged cover and a pair of sliding fronts, means in said central hallway for lifting said covers and means for lowering said fronts, in combination with means for preventing the lifting of said covers when said fronts are in raised position.

3. A display cabinet comprising a plurality of compartments in stepped relation, each compartment being provided with a hinged cover and a sliding front, means for operating said covers and means for operating said fronts, in combination with a sliding plate adapted to be raised by said front operating means so as to lock said covers in their closed position when said fronts are in their raised position.

4. A display cabinet comprising a plurality of compartments in stepped relation, each compartment being provided with a hinged cover and a sliding front, means for lifting said covers and means for lowering said fronts, means for locking said fronts in their lifted position comprising a stud formed on said front lifting means and a plate fixed to said cabinet perforated to form a catch for said stud, in combination with means for preventing the lifting of said covers when said fronts are in lifted position.

5. A display cabinet comprising a plurality of compartments in stepped relation, each compartment being provided with a hinged cover and a sliding front, means for lifting said covers, means for lowering said fronts comprising cords connected to said fronts respectively and to an arm, a rockshaft carrying said arm, a bellcrank fulcrumed upon said rockshaft, and a sliding plate adapted to be moved by said bellcrank to lock said cover lifting means.

6. A display cabinet comprising a plurality of compartments in stepped relation, each compartment being provided with a hinged cover and a sliding front, means for lifting said covers comprising bellcranks positively connected to said covers, keys adapted to be manually actuated, rods connecting said keys with said bellcranks, in combination with means for lowering said sliding fronts and means for preventing actuation of said keys when said fronts are in raised or closed position.

7. A display cabinet comprising a plurality of compartments in stepped relation, each compartment being provided with a hinged cover and a sliding front, means for lifting said covers comprising bellcranks positively connected to said covers, keys adapted to be manually actuated, rods connecting said keys with said bellcranks, means for lowering said fronts comprising cords connected to said fronts respectively and to an arm, a rockshaft carrying said arm, a bellcrank fulcrumed upon said rockshaft, and a sliding plate adapted to be moved by said last mentioned bellcrank to lock said cover lifting means.

In testimony whereof I affix my signature.

JAMES ARTHUR LILEY.