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PATENTED JAN. 1, 1907.

J. HOFMAN.

MOVABLE SUPPORTING MEANS FOR DOORS, DISPLAY FRAMES, &c.

APPLICATION FILED AUG. 16, 1904.

2 SHEETS—SHEET 1.

FIG. 1.

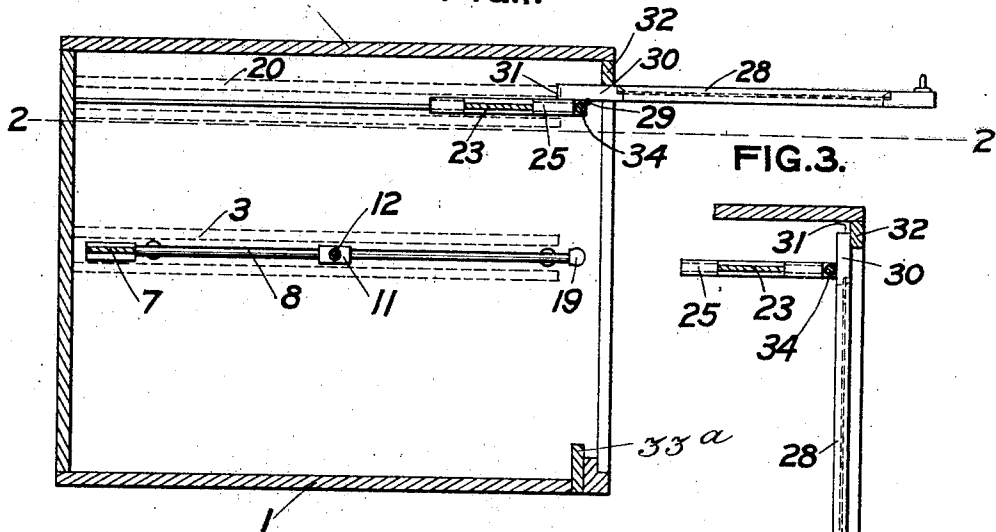


FIG. 2.

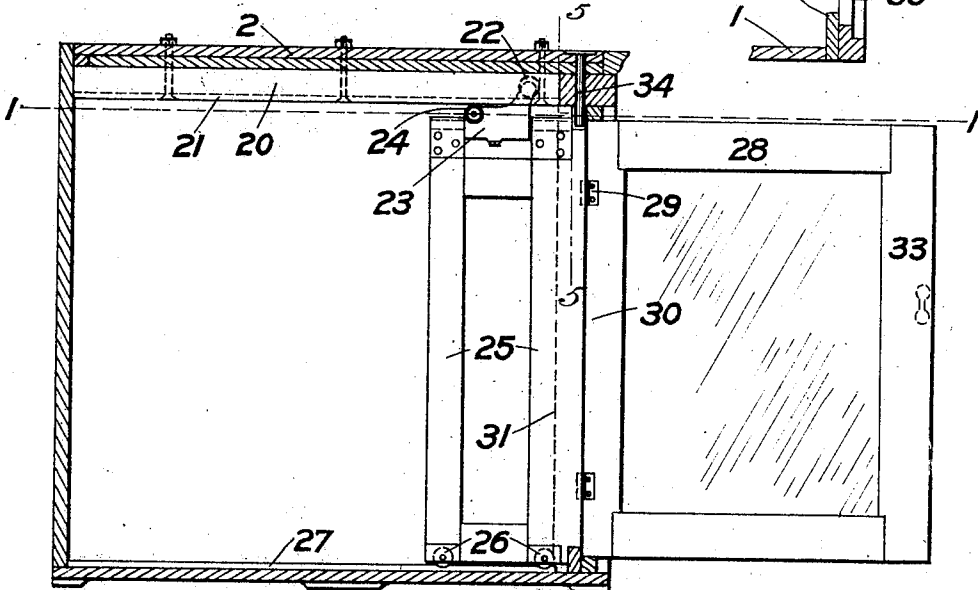
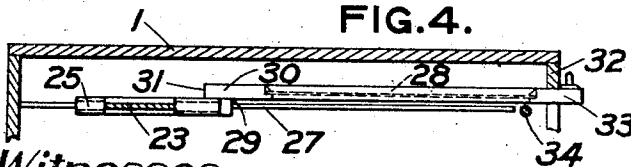


FIG. 4.



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2 SHEETS—SHEET 2.

FIG. 5.

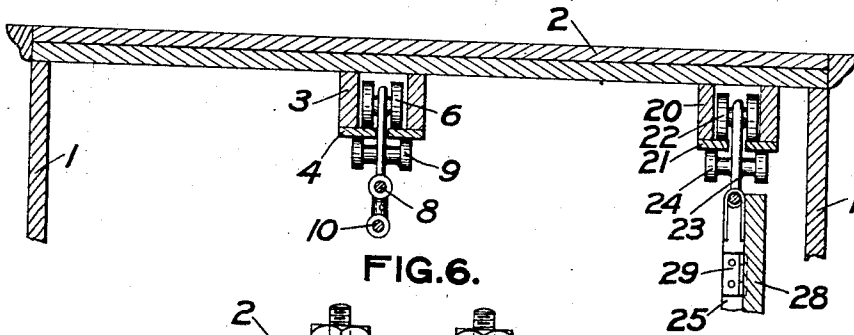


FIG. 6.

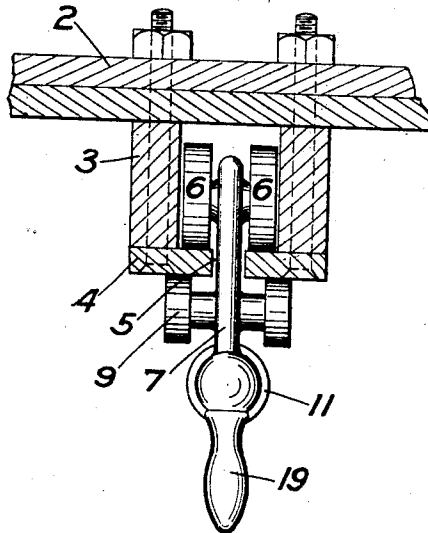


FIG. 8.

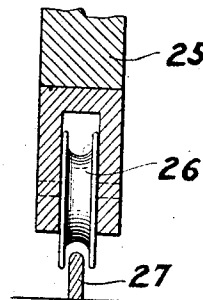
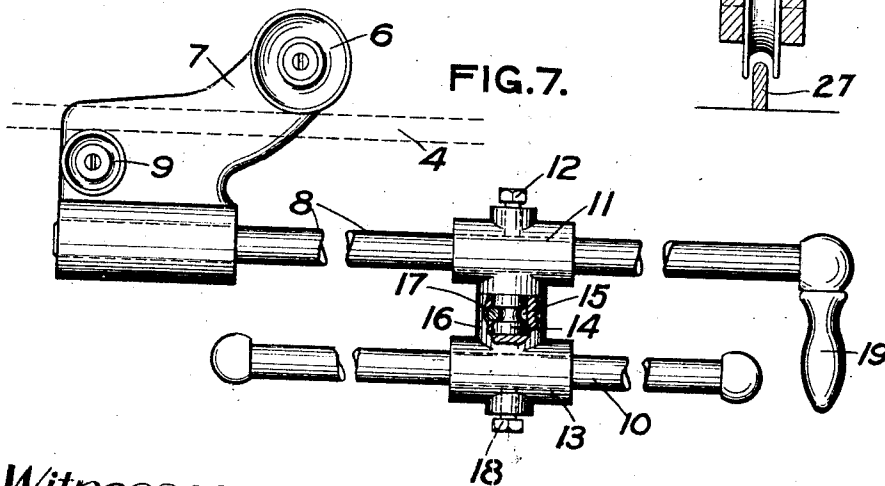


FIG. 7.



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UNITED STATES PATENT OFFICE.

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MOVABLE SUPPORTING MEANS FOR DOORS, DISPLAY-FRAMES, &c.

No. 840,061.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed August 16, 1904. Serial No. 220,980.

To all whom it may concern:

Be it known that I, JOHN HOFMAN, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Movable Supporting Means for Doors, Display-Frames, and other Similarly-Operated Devices, of which the following is a specification.

This invention relates to movable supporting means for doors, display-frames, and other similarly-operated devices.

In the drawings, Figure 1 is a horizontal section of an apparatus embodying a door and a display-frame support on the line 1 1 of Fig. 2. Fig. 2 is a vertical section of the same apparatus on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section of a portion of the device, taken on the line 1 1 of Fig. 2, showing the door closed. Fig. 4 is a horizontal section on said line 1 1 of Fig. 2 of a portion of the apparatus, showing the door opened and pushed into the case. Fig. 5 is an enlarged vertical section on the line 5 5 of Fig. 2. Fig. 6 is a still more enlarged end view of the display device, the track and its support being shown in cross-section. Fig. 7 is a side elevation of said display device, and Fig. 8 is a sectional view showing a detail.

In shops where, for instance, clothing, and particularly women's clothing, is for sale it is important that the clothes shall be hung on suitable supports, such as coat and skirt hangers, and these supports hung on an apparatus which enables the clothes to be put away out of the dust and preferably into a dust-tight case and to be easily withdrawn for inspection. In the present embodiment of this invention such a display apparatus and such a dust-tight case are shown. The dust-tight case is closed by a door which can be slid out of the way by being pushed back into the case. The door and the display apparatus are supported by similar means running on tracks.

The apparatus is inclosed in a casing 1, comprising a top 2. To the top 2 is fastened a track 3 for a display apparatus. Only one such display apparatus is shown in the present case. This track has horizontal rails 4 4, with a slot 5, Fig. 6, running between them and in the line of movement of the display device. On the tops of these rails run rollers 6, carried by a support 7, which extends from the rollers through the slot 5 and in turn car-

ries the bar 8, which in the present instance is a rod or tube. The support or casting 7 has rollers 9, adapted to bear against the under side of the rails 4 or against some stationary part parallel with the tops of the rails 4. The lower surfaces of the rails 4 constitute such a stationary part in the present embodiment of this invention. The arm or bar 8 is unsupported except by the casting 7 and the rollers 6 and 9 on the track 4. The upper roller 6 is situated between the roller 9 and the outer end of the bar 8, so that the weight of the bar presses the roller 9 upward against the bottom of the track 4, because the roller 6 constitutes the fulcrum of the system.

It is obvious that only one upper roller 6 and one lower roller 9 are necessary for the operation of this device, provided the weight is not such as to pull said rollers off the track or rail 4. In the present case, however, pairs of rollers are shown and two rails. Upon the bar 8 may be hung the goods to be displayed, but the more easily to display the goods and to permit all sides to be examined by a customer without change of position of said customer a rotary bar 10 is supplied, hung from the bar 8 in any suitable manner, such as by a sleeve 11 on the bar 8, and having a clamping apparatus, such as the set-screw 12. The sleeve 11 is movable lengthwise upon said arm or bar 8 to the outer end thereof adjacent to the handle and constitutes a carrier for the horizontally-swinging or rotary bar 10. From the sleeve 11 is hung another sleeve 13, capable of rotation on a vertical axis, such as by the means shown—namely, a stud 14, extending downward from the sleeve 11 and having the circumferential groove 15. The sleeve 13 has an extension 16, fitting around the stud 14, and a pin 17 extends transversely into or through the extension 16 and rests in the groove 15, thus permitting revolution of the sleeve 13 with reference to the sleeve 11 and yet supporting said sleeve. Of course two or more pins 17 may be employed for greater strength. The sleeve 13 is fastened in any suitable way upon the bar 10—as, for instance, by the set-screw 18. A handle 19 on the end of the bar 8 may be employed, if desired.

The operation of this display apparatus is as follows: On pulling out the bar 8 from the position shown in Fig. 1 the greater part of the rod 8 or 10 protrudes through the opening at the right-hand end of the casing 1 in Fig. 1. Coats or dresses upon the bar 8 can

now be displayed to the customer. If the rotary bar 10 is employed, the customer may stand in one position and the coats or clothes hung upon the bar 10 may be turned around to exhibit various sides thereof to the customer. In pulling the device out the rollers 6 run along the track or rails 4, and the rollers 9 prevent the bar 8 from tipping downward. By lifting the outer end of the rod 8 the rollers 9 may be separated from the track and only the rollers 6 will run along upon it, thus easing its movement. Consequently in place of the rollers 9 any other contact device for making contact with the under side of the supports or track may be substituted. Antifriction means, such as the rollers 6, are desirable and needful on the upper side of the track.

It is undesirable that the door of the casing 1 should when open project into the room, as it would interfere with the movements of the persons exhibiting or viewing the clothing, and for this purpose a door is employed which is dust-tight and which also slides into the casing 1. A track 20 is placed at one side of the casing and is supported from its top 2, as before. On the rail or rails 21 of this track run rollers 22, carried on a support 23, having a contact device, such as a roller or rollers 24, running on its bottom or on a stationary part parallel with the top of the track on which the rollers 22 may run. This support 23 is conveniently carried by a frame 25, which preferably has one or more rollers 26 at its bottom running in a track 27 in the bottom of the casing. To the frame 25 is hinged the door 28, as by the hinges 29. These hinges are fastened to the inner face of the rail 30 of the said door at a suitable distance from the edge 31 of said rail. When the door is shut, as shown in Fig. 3, the rail 30 fits against the inner face of a stop 32 on the door-casing, while the opposite rail 33 of the door fits against the outer face of a stop 33^a on the casing 1. This makes a tight case when the door is closed, as shown in Fig. 3. The frame 25 in this position of parts is pulled outward to its extreme position. When the door is to be slid out of the way, it is opened into the position shown in Fig. 2 and then is pushed straight back into the case, so that the frame 25 runs along the rails 21, being kept from sidewise movements by the guide devices 26 27. All strain, however, and friction occurs on the upper track 20.

In Fig. 8 is shown one of the rollers 26, running on the track 27, so as to prevent sidewise movement of the frame 25, and yet to permit a tilting of said frame, so as to relieve pressure of the roller 24 against the under side of the rail or rails 21.

A stop 34 prevents the frame 25 from being pulled too far forward, and a stop similarly prevents the support 7 from running off its track.

What I claim is—

1. In an apparatus of the class described, the combination of a track, a support having rollers traveling on the upper and lower sides of the track, with the upper roller in advance of the lower roller and the said support being spaced at its upper side away from the track to allow it to rock vertically and move said lower roller from contact with the track, a bar carried by the support and spaced away from the track, and a horizontally-swinging member carried by the said bar.

2. The combination with a track, of a vertically-rocking support having an upper and a lower roller; the latter being in rear of the former, a bar extending from the support, and otherwise unsupported, and spaced from the lower side of the track to allow its free end to be elevated to throw the weight on the upper roller, a carrier having unobstructed sliding movement from one end of the bar to the other, and a horizontally-swinging device depending from said carrier.

3. The combination with a track, of a vertically-rocking support having an upper and a lower roller; the latter being in rear of the former, a bar extending from the support longitudinally along and spaced away from the lower side of the track and otherwise unsupported to allow its free end to be raised and throw the weight on the upper roller, a carrier having unobstructed sliding movement along the said bar from one end to the other, a horizontally-swinging device depending from the carrier, and a second bar carried by said horizontally-swinging device.

4. The combination with a track and a vertically-rocking, sliding bar supported at its rear end only from the track, of a carrier adapted to slide along the bar, a horizontally-turning member depending from said carrier, and a bar carried by said horizontally-turning member.

5. The combination with a track, of a vertically-swinging bar spaced throughout its length from the track and provided at its rear end with an upper forward roller and a lower rear roller engaging opposite sides of the track, a carrier sliding along the bar and having a depending portion, a rotary device carried by said carrier, and a bar carried by said rotary device.

6. The combination with the track, of a bar or rod provided at its rear end with an upper forward roller and a lower rear roller; the said bar being otherwise unsupported and spaced throughout its length from the track to permit its free end to be raised and throw the weight on the upper forward roller.

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Witnesses:

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