Oct. 26, 1926. 1,604,341

W. E. DUNCANSON

WARDROBE CONSTRUCTION

Filed Dec. 3, 1924 2 Sheets-Sheet 1

Fig. 1.

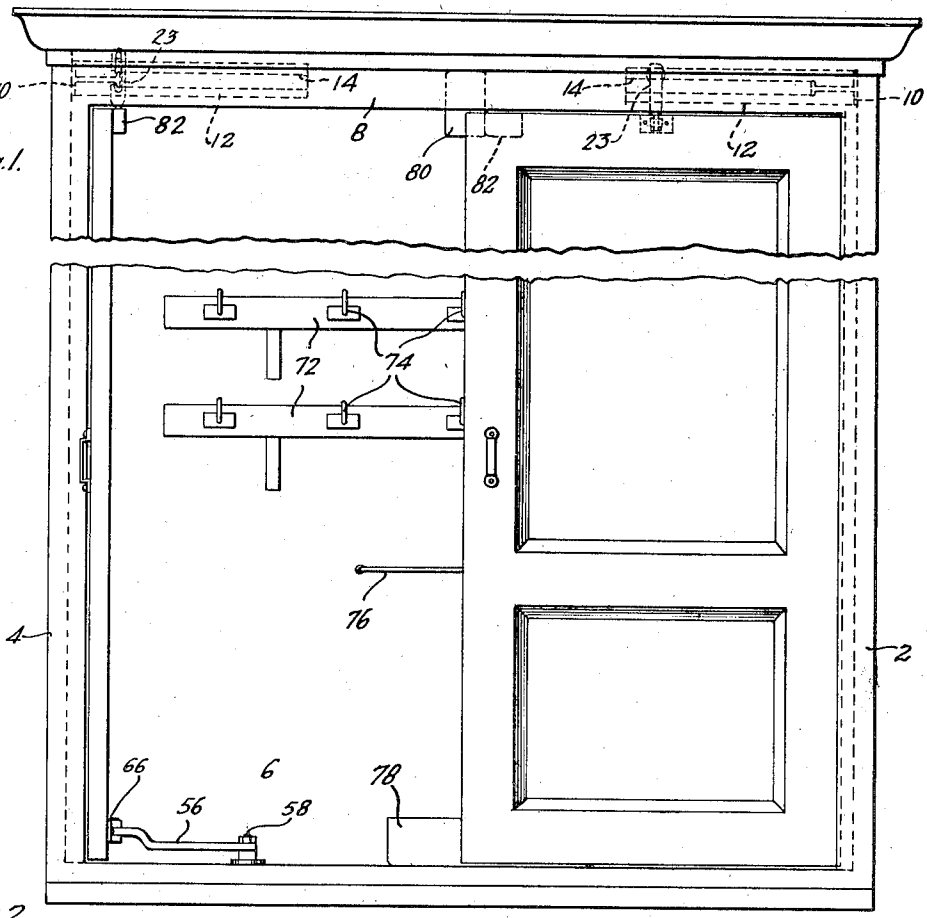
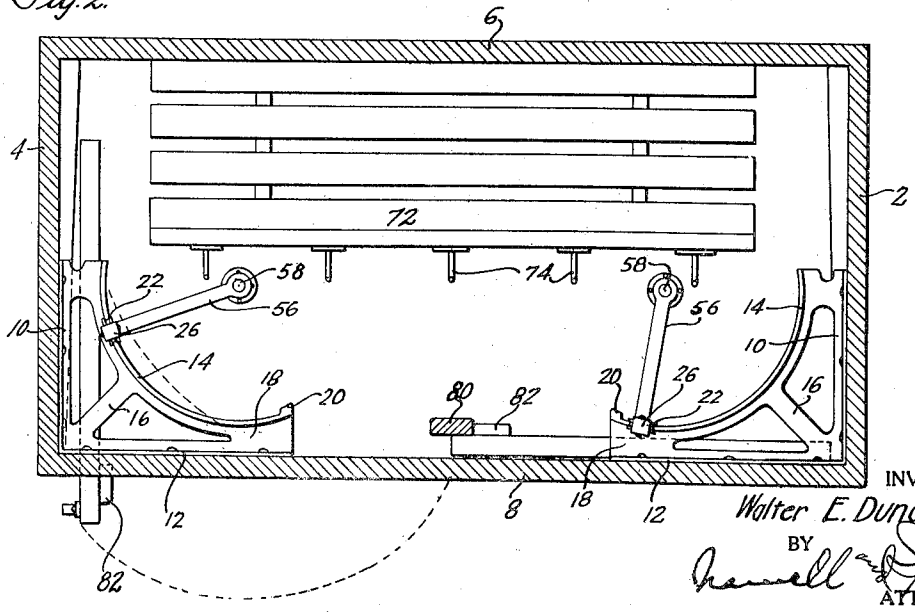



Fig. 2.




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Filed Dec. 3, 1924 2 Sheets-Sheet 2

Fig. 3.

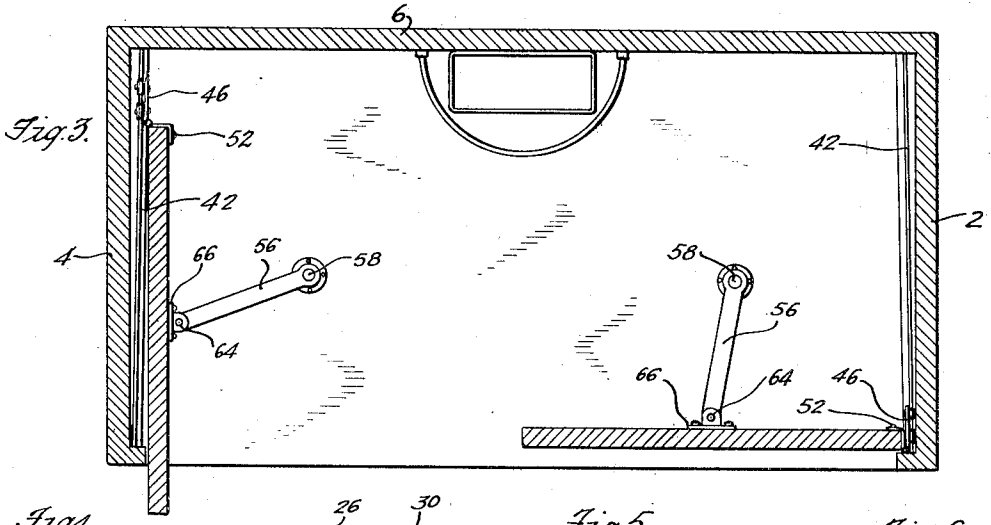



Fig. 4.

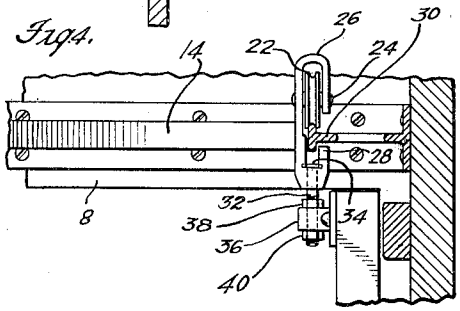



Fig. 5.

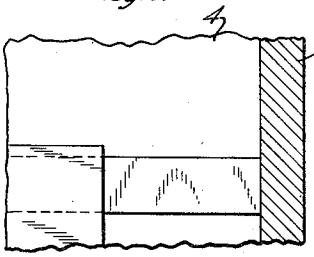



Fig. 6.

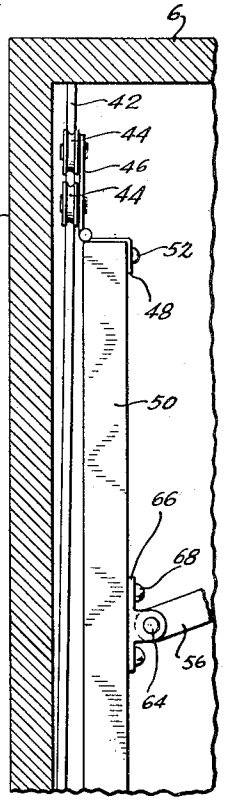
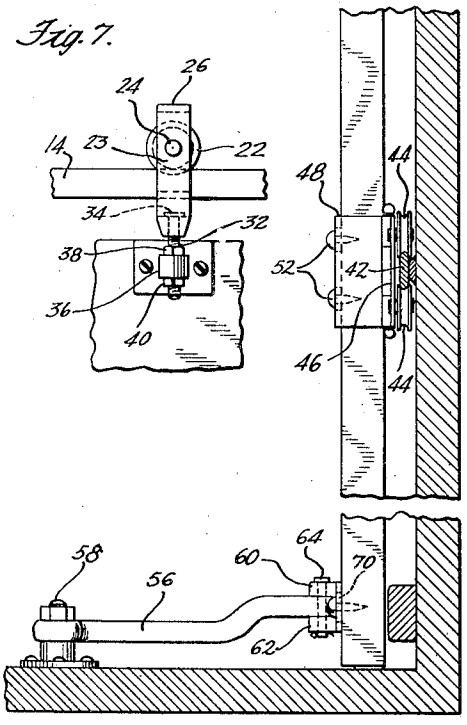
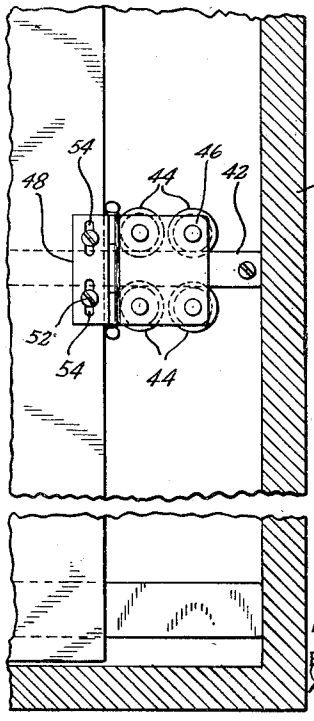



Fig. 7.




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# UNITED STATES PATENT OFFICE.

WALTER E. DUNCANSON, OF NEW YORK, N. Y., ASSIGNOR TO THE J. G. WILSON CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA.

## WARDROBE CONSTRUCTION.

Application filed December 3, 1924. Serial No. 753,598.

This invention relates to cabinets such, for example, as those used for wardrobes and particularly to cabinets of the type in which the door of the cabinet, by a combined swinging and pivoting movement, positions itself substantially inside the cabinet and along one side thereof when open, thus permitting the opening of substantially the whole front of the cabinet without obstructing the passage in front of said cabinet. The invention particularly relates to cabinets or wardrobes of the type shown in the co-pending application of J. F. Middledith, Serial No. 724,813, filed July 8, 1924, upon which Patent No. 1,535,127 dated April 28, 1925, has been granted.

In the construction of cabinets of the type to which the invention particularly relates, difficulty has been experienced in maintaining the parts of the cabinets which support the doors in such proper relation to each other and to the door supports that the doors will continue to operate easily after they have been initially adjusted to correct operating position. Whether or not these cabinets are made as an integral part of the building structure or are furnished separately and simply carried upon the floor of the building, the settling of the building and other distortions in the building due to drying out of parts, expansion of other parts, etc. tend to produce distortions in the cabinets or wardrobes such as to interfere with the proper operation of the doors thereof.

The present invention aims particularly to provide simple means for insuring and maintaining such proper relation between the door support or supports and the parts of the cabinet or wardrobe to which it is, or they are, attached that when the door and its support or supports are once installed in the cabinet and properly adjusted this adjustment will be maintained over a long period of years.

The invention aims further so to combine with the aforementioned means such provisions for simple adjustments as will compensate for slight distortions or sagging due to wear or age of the parts.

Other objects and important features of the invention will appear from the following description and claims when considered in connection with the accompanying drawings, in which—

Fig. 1 is a front elevation of a wardrobe or other cabinet having the invention embodied therein;

Fig. 2 is a horizontal section through the upper part of the wardrobe showing particularly the construction and arrangement of the combined wall bracing bracket and door supporting track;

Fig. 3 is a section showing the arrangement of the intermediate door stabilizer and the lower support and guide;

Fig. 4 is a vertical section looking, from behind, through one side of the cabinet, parts being broken away;

Fig. 5 is a vertical section through one end of the cabinet, looking from within toward the side wall, parts being broken away;

Fig. 6 is a sectional detail of the lower left hand corner of the cabinet, looking from the front; and

Fig. 7 is a detail view of the door hanger.

The illustrated cabinet, which is of the general type of that shown in the patent of J. F. Middledith hereinabove identified, has substantially complete side walls 2 and 4, a substantially complete back wall 6 and a front wall 8 provided with a door opening which, in the illustrated construction, is intended to be closed by two doors meeting substantially at the middle of the opening. As shown in the drawings and particularly in Fig. 1, the front wall 8 is continuous only across the top of the door opening and along the sides extends only a comparatively short distance from the side walls 2 and 4. The front wall preferably does not extend above the floor of the cabinet into the door opening.

To provide a cabinet such as described, having almost its entire front open when the doors are open, with sufficient rigidity and permanence of construction to permit the use of the doors which substantially disappear into the cabinet along the sides thereof and do not materially obstruct the passageway in front of the cabinet, is one of the principal objects of the present invention, as hereinabove pointed out.

One of the features of the present invention which contributes particularly to maintaining the parts substantially permanently in proper adjusted relation to each other is the formation of the door supporting track or guide as an integral or rigid part of a bracket, which not only serves to hold the track in proper relation to the side and

front walls of the cabinet, but also maintains these walls in proper relation to each other and in proper relation to the track. In the illustrated embodiment of the invention, the bracket comprises an arm 10 adapted to engage and position one side wall of the cabinet, and another arm 12 adapted to engage and position the front wall of the cabinet, these arms being connected by the curved track 14 which forms a brace between the arms and which is preferably formed integral with the arms, the arms being also formed integral with each other, and the connections between the track 14 and the arms being reenforced by any suitable cross brace 16 and webs 18. There is preferably also formed integral with the bracket a stop 20 for limiting the movement of the roller 22 of the door hanger, the other end of the track 14 being preferably without a stop so as to permit the ready assembling of the hanger upon the track.

The hanger, as shown in Figs. 4 and 7 of the drawings, is constructed to permit the door to swing thereon about a vertical axis as it moves from a position across the front of the cabinet to a position along one side wall thereof, the roller 22 of the hanger, Figs. 4 and 7, being carried upon a shaft 24 in the yoke-shaped upper end 26 of the hanger frame, the lower end of this frame being also yoke-shaped and having an upwardly extending arm 28 which hooks over the depending edge of the track to prevent the hanger from jumping off the track. The track, as shown in Fig. 4, is of T-shaped cross section with the head of the T forming the track proper and the stem of the T forming a reenforcing web 30 to which the brace 16 and the webs 18 are integrally connected, that portion of the head of the T lying below the web 30 serving, as above suggested, to cooperate with the arm 28 of the lower yoke to prevent the hanger from jumping off the track.

Swiveled in the lower yoke is a bolt 32 suspended by its head 34 from the yoke, this bolt extending through an eye 36 attached to the door and being clamped by nuts 38 and 40 above and below the eye to said eye. The bolt, as above suggested, is swiveled in the lower end of the hanger and may turn freely therein about a vertical axis as the door 50 swings on the hanger. The bolt is also threaded for a considerable distance above the nut 38, which permits vertical adjustment of the door with respect to the hanger. The roller 22 is preferably grooved to fit the track, as shown.

The movement of the door from open to closed position and vice-versa is preferably not only guided by the track and hanger hereinabove described, but also preferably guided by a stabilizer and a radial guide arm such as described in the patent of James F. Middledith, No. 1,535,127 referred to above. These parts are preferably of the same general construction as those shown in the Middledith patent, except that provision is made for adjustment of the door without unmounting it, this constituting an important feature of the present invention.

As in the Middledith patent above referred to the stabilizer herein shown comprises a track 42 extending from front to back of the wardrobe or cabinet along one side thereof and spaced slightly farther from the side wall at the back than at the front, upon which track run four grooved rollers 44, two engaging the upper edge of the track and two engaging the lower edge, the four rollers being mounted upon stud shafts carried upon a plate 46 forming part of a hinge, the other member 48 of which is connected to the rear edge of the door 50, the part 48 being preferably bent over one corner of the edge so that the attaching screws 52 pass through this part into the side face of the door, as shown in Figs. 5 and 6. To provide for vertical adjustment of the door on the hanger 23 without dismounting the door from the stabilizer, vertical slots 54 are provided for the screws 52.

The radial guide arm 56 connected to the door 50 near its bottom is similar to that shown in the Middledith patent, this arm swinging about a vertical stud 58 attached to the floor of the cabinet and having a hinge-like connection to the door, comprising upper and lower knuckles 60 and 62 between which the end of the arm 56 extends, the pintle 64 extending through the knuckles and through an opening in the end of the arm 56. The knuckles are formed upon a base 66 which is secured to the door by screws 68 passing through slots 70 which permit vertical adjustment of the door with respect to the radial arm 56 without dismounting the door from the arm.

The arrangement of the parts of the wardrobe other than those hereinabove described does not constitute a part of the present invention, the hat racks 72, the coat hangers 74, the umbrella rack 76, and the drip pan 78 being arranged substantially as shown in the co-pending application hereinabove identified and being adapted to be replaced by other interior arrangements for other uses.

From the foregoing description, it will be seen that provision is made for so hanging the door of a cabinet of the general type herein illustrated that the means for hanging the door in itself contributes to the rigidity of the cabinet construction requisite to the successful operation of the door, thereby substantially maintaining permanent the initial adjustment of the door. It will also be seen that such slight adjustments of the door with respect of its supports as may be necessary in time, due to

wear of the parts, can readily be made without dismounting the door.

To prevent accidental opening of the doors by an inward pressure instead of a movement sidewise, the track 14 is so arranged, and also the radial arm 56, that the door hanger is carried past the position in which the radial arm 56 is normal to the front of the cabinet whereby inward pressure on the door in its closed position tends to close the door more tightly instead of tending to move it toward open position. By the present invention advantage is taken of this arrangement of the track and the radial arm to positively stop the door in a definite location at the front of the cabinet so that no movement of the door either directly inward or toward the other side of the cabinet from that in which it is positioned when open is permitted after the door is once moved into closed position. In the illustrated embodiment of the invention a stop 80 is positioned near the front of the cabinet where it will be engaged on its front face by the back face of the door near one edge thereof and where it will be engaged on its other face by a stop 82 mounted upon the back of the door, the stop 80 having its corner slightly rounded or bevelled to engage a correspondingly rounded or bevelled corner of the stop 82 whereby the two stops are forced tightly together as the door slides and swings into its closed position. Where there are two doors, as shown in the drawings, each of the doors is provided with a stud 82 and the stop 80 has each of its front corners rounded or bevelled to cooperate with the correspondingly rounded or bevelled corners of each of the stops 82.

From an inspection of Figs. 2 and 3 of the drawings, which shows one of the doors in open position and one in closed position, it will be seen than when either of the doors is in open position the radial arm 56 is in a position between normal to the side wall of the cabinet and normal to the front. Fig. 2 also shows that the hanger frame 26, from which the door is suspended, is on a part of the curved track 14 which curves toward the front of the cabinet, these parts being located in this position when the door is open to permit the more ready closing of the door.

With this location of the parts and both doors in open position, a mere pressure on both doors tending to move them toward each other causes them to swing and slide into closed position.

What I claim as new is:

1. In a wardrobe or cabinet having a door mounted for combined sliding and pivotal movement from a position across an opening at the front of said cabinet to a position inside said cabinet along a side wall thereof, the combination with said door of a rigid bracket mounted in the angle between the front and side walls of the cabinet to maintain said walls in proper angular relation to each other, means for attaching each wall of the cabinet at two or more relatively widely separated points to the bracket so as to hold the walls of the cabinet rigidly in predetermined angular relations, a curved track rigidly attached to said bracket, and means for suspending the door for sliding movement upon said track.

2. In a wardrobe or cabinet having a door mounted for combined sliding and pivotal movement from a position across the front thereof to a position along one side wall, the combination with said door, of a rigid bracket having substantially plane faces arranged at a predetermined angle to each other and respectively-extending outwardly from points adjacent the corner between the front and side walls of the cabinet for a substantial distance along each wall, means for attaching respectively the front and side walls of the cabinet rigidly to said faces of the bracket to hold said walls in predetermined angular relations, and a curved track rigidly attached to the bracket.

3. In a wardrobe or cabinet having a door mounted for bodily and pivotal movement from a position across the opening of said cabinet to a position inside said cabinet along the side thereof, the combination with said door of bracket members adapted to maintain the side and front wall of said cabinet in proper angular relation to each other and means for supporting the door for bodily and pivotal movement comprising a curved track for said door connecting and forming a brace for said bracket members and supported thereby, said bracket being rigidly attached at a plurality of points to said front wall and also to said side wall.

4. In a wardrobe or cabinet having a door mounted for combined sliding and pivotal movement from a position across an opening at the front of the cabinet to a position along one side wall, an integral bracket fitted in the angle between the front and side walls of the cabinet and having arms extending from points adjacent the corner between said walls for some distance therefrom respectively along each of said walls, a web rigidly connecting said arms, a track formed on said connecting web, and means for slidably suspending a door upon said track.

5. In a wardrobe or cabinet having a door mounted for combined sliding and pivotal movement from a position across an opening at the front of said cabinet to a position inside said cabinet along a side wall thereof, the combination with said door of a rigid bracket mounted in the angle between the front and

side walls of the cabinet to maintain said walls in proper angular relation to each other, means for attaching each wall of the cabinet at two or more relatively widely separated points to the bracket so as to hold the walls of the cabinet rigidly in predetermined angular relations, a curved track rigidly attached to said bracket, and means for suspending said door from said track adapted to travel on said track, said track being slightly recurved toward the rear at its forward end where the door suspending means rest when the door is in closed position, whereby an inward thrust on said door tends to close it more tightly.

6. In a wardrobe or cabinet having a door mounted for combined sliding and pivotal movement from a position across an opening at the front of said cabinet to a position inside said cabinet along a side wall thereof, the combination with said door of a rigid bracket mounted in the angle between the front and side walls of the cabinet to maintain said walls in proper angular relation to each other, means for attaching each wall of the cabinet at two or more relatively widely separated points to the bracket so as to hold the walls of the cabinet rigidly in predetermined angular relations, a curved track rigidly attached to said bracket, means for suspending said door from said track adapted to travel on said track, said track being slightly recurved toward the rear at its forward end where the door suspending means rest when the door is in closed position, whereby an inward thrust on said door tends to close it more tightly, and means for guiding the lower end of said door comprising a radial arm connected to the door and having its pivotal center so located that the arm swings past the point at which it would be normal to the door opening as it guides the door to closed position, whereby the arm serves both to prevent inward movement of the door and to prevent inward thrust from causing the door to travel on the track toward open position.

Signed at New York, New York, this 15th day of November, 1924.

WALTER E. DUNCANSON.