May 30, 1933. J. T. FAIRHURST 1,911,225

WARDROBE

Filed Nov. 12, 1929 4 Sheets-Sheet 1

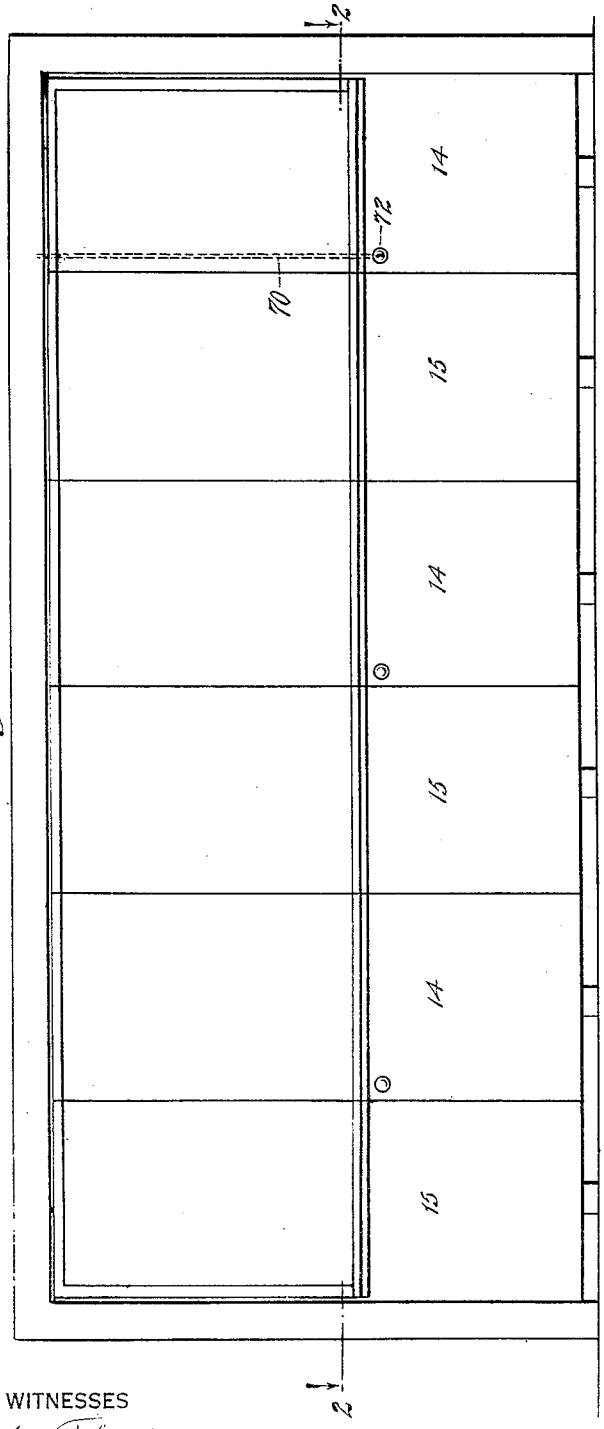


Fig. 1.

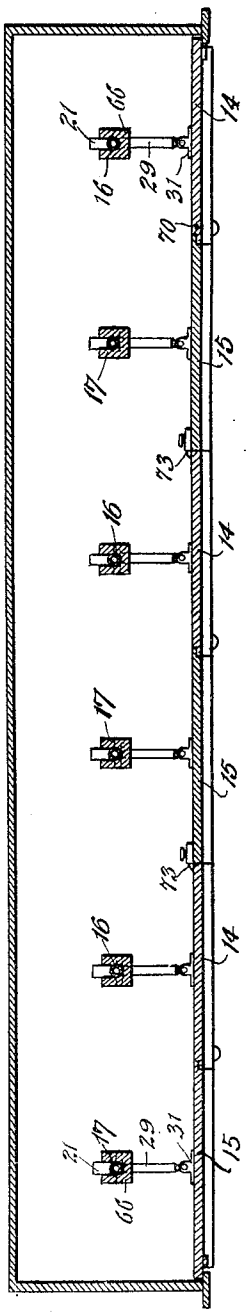


Fig. 2.

WITNESSES

Edw. Thorpe.

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WARDROBE

Filed Nov. 12, 1929 4 Sheets-Sheet 2

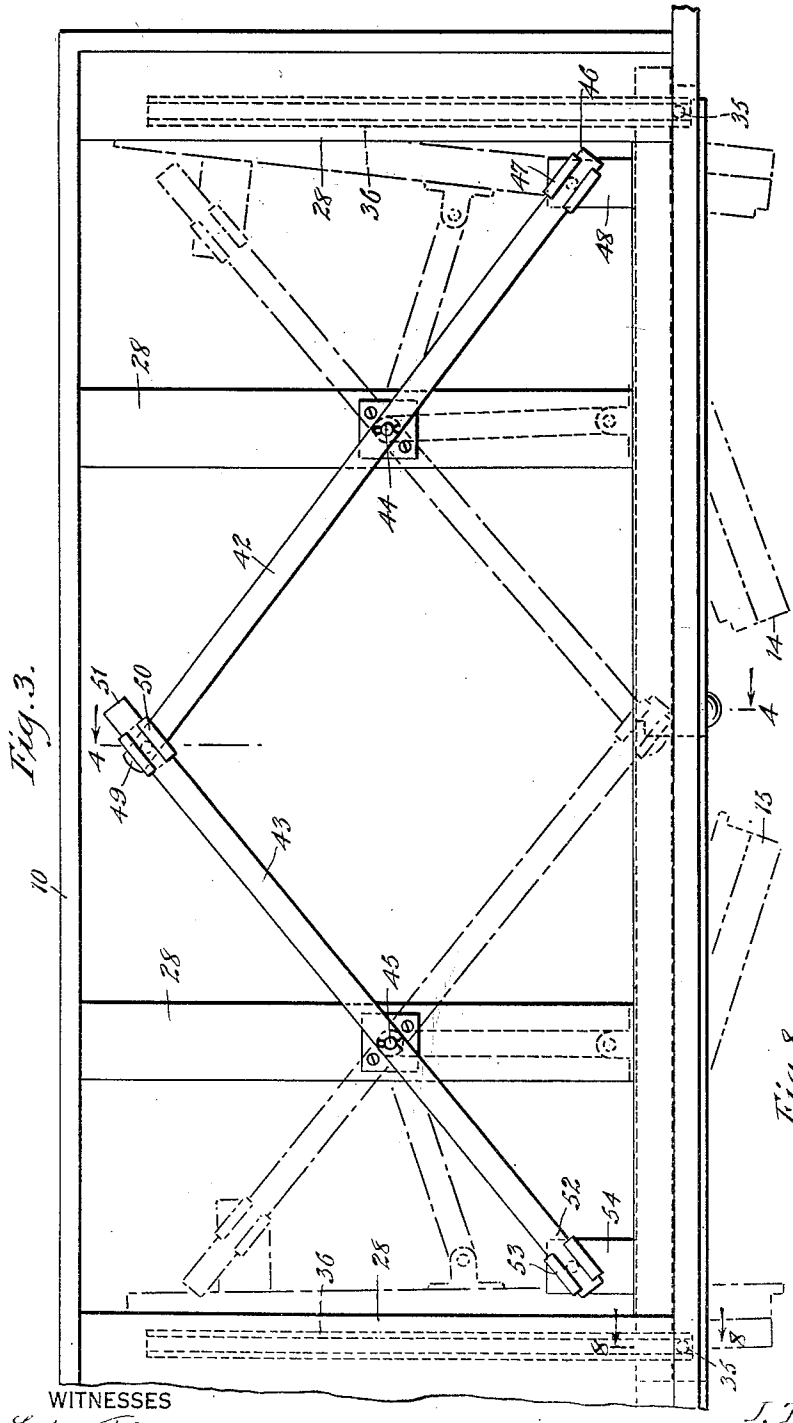


Fig. 3.

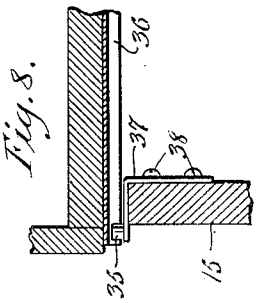


Fig. 8.

WITNESSES

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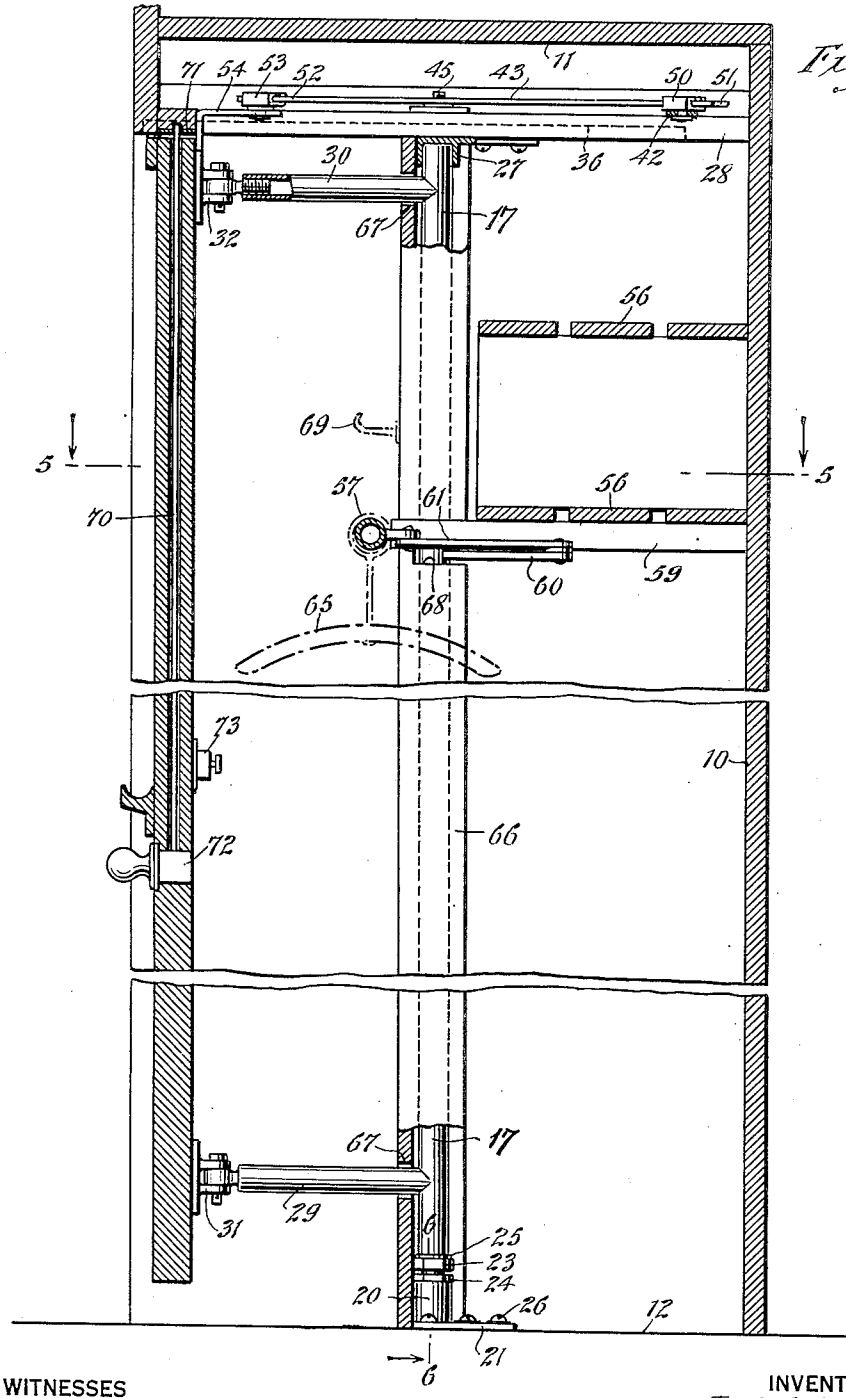
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WARDROBE

Filed Nov. 12, 1929 4 Sheets-Sheet 3

Fig. 4.



WITNESSES

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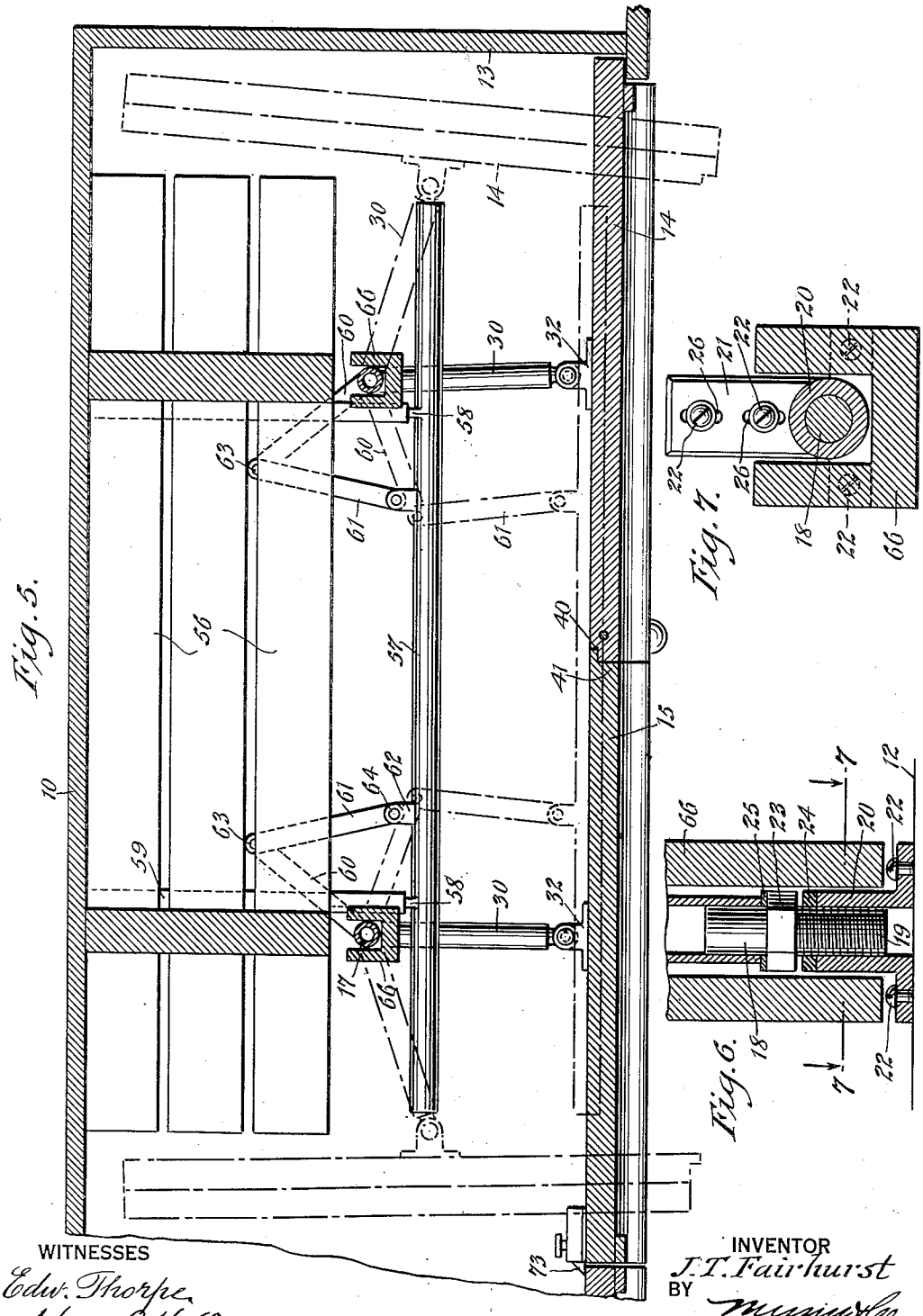
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May 30, 1933. J. T. FAIRHURST 1,911,225

WARDROBE

Filed Nov. 12, 1929 4 Sheets-Sheet 4



WITNESSES

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Patented May 30, 1933 1,911,225

UNITED STATES PATENT OFFICE

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WARDROBE

Application filed November 12, 1929. Serial No. 406,692.

This invention relates to wardrobes which are especially designed for use in public buildings, such as schools, offices or the like.

The invention primarily aims to provide a wardrobe for the accommodation of a number of hats, cloaks or wraps in a minimum of space and to provide an improvement in the manner of mounting and controlling the opening and closing of the doors whereby to facilitate the gaining of access to the wardrobe for hanging of the garments therein or removing of the same therefrom.

Wardrobes of this character which have been heretofore devised and which are now in general use for the purpose specified have possessed certain disadvantages and have been open to certain objections which the present invention seeks to overcome.

In its broad aspect, the invention comprehends a wardrobe including a plurality of doors with a connection therebetween for causing the same to open and close in unison.

As a further object, the invention comprehends in a wardrobe including a plurality of doors having a connection therebetween for causing the same to open and close in unison, a garment hanger support slidably mounted within the wardrobe and provided with a connection between the doors and the hanger support operable to respectively project said support forwardly and to retract the same rearwardly coincident with the opening and closing of the doors whereby the hanger support is disposed in a position when the doors are opened to facilitate the hanging of the garments or the removal of the same.

The invention further embodies in a wardrobe structure which includes a plurality of pairs of interconnected doors movable in unison, a common means for locking all of said doors simultaneously, which means may further be selectively rendered inactive when desired.

The invention aims as a still further object to provide in a wardrobe structure, mounting means for doors whereby the same are moved from a closed position at the front of the wardrobe and parallel to the rear wall, to an open position lying within the confines of the wardrobe and parallel to its side walls or vice versa.

A still further feature of the invention resides in the provision of a wardrobe of the character set forth, in which the doors are supported by vertical rotatory shafts and in which vertically adjustable bearings are provided for compensating for sagging of the floor and in which covering and concealing means for the shafts are employed to serve as a means for supporting the garment hooks.

More specifically, the invention contemplates in a wardrobe of the character set forth which includes pairs of interconnected doors adapted to move in unison, controlling means therefor which causes one of the doors of each pair to close in advance of the other and to open subsequent to the other, whereby the meeting edges of the doors may be rabbeted to afford an interengaging overlap.

Other objects of the invention reside in the comparative simplicity of construction of the wardrobe, the economy with which it may be produced and installed and the general efficiency derived therefrom.

With the above recited and other objects in view, reference is had to the following description and accompanying drawings, in which there is exhibited one example or embodiment of the invention, while the claims define the actual scope of the same.

In the drawings:

Figure 1 is a front view of the wardrobe in closed condition.

Figure 2 is a sectional plan view taken approximately on the line indicated at 2—2 in Figure 1.

Figure 3 is an enlarged fragmentary top plan view illustrating the interconnection between each pair of doors and showing respectively in full and broken lines the opened and closed condition of the doors.

Figure 4 is a vertical sectional view taken approximately on the line indicated at 4—4 in Figure 3.

Figure 5 is a fragmentary horizontal sectional view taken approximately on the line indicated at 5—5 in Figure 4.

Figure 6 is an enlarged fragmentary vertical sectional view taken approximately on the line indicated at 6—6 in Figure 4.

Figure 7 is a horizontal sectional view taken approximately on the line 7—7 of Figure 6.

Figure 8 is a fragmentary detail vertical sectional view taken approximately on the line 8—8 of Figure 3.

Referring to the drawings by characters of reference, 10 designates the rear wall, 11 the top wall, 12 the floor and 13 the side walls which define the wardrobe, the front of which is closed by one or more pairs of doors 14 and 15. In its practical embodiment, the wardrobe preferably includes three pairs of doors 14 and 15, although it is apparent that any number of pairs of doors may be employed in proportion to the length of the wardrobe with respect to its width. For the purposes of the present invention, each of the doors must approximate the depth or width of the wardrobe, and it is one of the objects of the invention to mount the doors so that they will swing to an open position where they lie approximately within the confines of the wardrobe without unduly interfering with the usefulness of the space defined by the wardrobe.

The door mounting means consists of a vertical rotatory shaft 16 for each door 14 and a vertical rotatory shaft 17 for each door 15. The shafts 16 and 17 are preferably of hollow cylindrical formation and the lower ends are supported for rotation by a vertically adjustable step bearing 18 which is in the nature of a trunnion protruding upwardly into the hollow lower end of the rotatory shafts. As illustrated, the step bearing 18 is formed with a threaded lower end 19 threadedly engaging in the upstanding internally threaded collar 20, which collar is provided with a substantially T-shaped base 21 anchored to the floor 12 in any suitable manner, such as by the screws 22. Between the upper end 18 and the threaded lower end 19, the step bearing is preferably formed with a multi-faced enlargement 23 in the nature of a nut for facilitating the turning of the step bearing to adjust the same upwardly and downwardly by virtue of its threaded connection with the collar 20. Obviously, this compensates for sagging of the floor. In practice, a lock nut 24 will be employed to secure the step bearing 18 in its adjusted position and, if desired, a washer 25 may be interposed between the enlargement 23 and the lower end of the shaft. It will also be observed that the T-shaped base 21 is slotted as at 26 to receive the screws 22 so that the bearing may be shifted forwardly or rearwardly to dispose the same in proper alignment with an upper bearing member 27 which is carried by the beams 28 in the upper portion of the wardrobe. The rotatory shafts 16 and 17 are respectively provided with vertically spaced horizontally disposed radially projecting door supporting arms 29 and 30, which arms are in turn pivotally connected at their free ends to the brackets 31 and 32 which are secured to the inner side of the doors. Under this construction and arrangement, it is apparent that the doors 14 and 15 are mounted to swing with respect to the arms 29 and 30 and to move the arms therewith to effect rotatory movement of the shafts 16 and 17.

In order to guide the doors in their movement so that they are caused to swing or move in a substantially arcuate path from a closed position at the front of the wardrobe and parallel to the rear wall 10, to an open position lying within the confines of the wardrobe and substantially parallel to its side walls 13, each door is provided on its upper edge and adjacent its outer edge with an upstanding trunnion 35, while a horizontally disposed channel shaped trunnion guide 36 is provided within the upper portion of the wardrobe and is supported by the under side of one of the overhead beams 28. The trunnion 35 is preferably carried by a trunnion bracket 37 which is attached to the door in any suitable manner, such as by the screws 38, and the trunnion 35 is located on a portion of the bracket 37 which extends slightly forward and beyond the front face of the door so that the outer edges of adjacent doors are guided into close proximity with each other without interference.

In order to connect each pair of doors 14 and 15 for movement in unison or approximately so, a connection is employed which permits one of the doors, as illustrated, the door 14, to open slightly in advance of the other door, and permits said first mentioned door to close slightly after the other door closes. This is to permit the meeting edges of the doors to be rabbeted as at 40 and 41 to form an overlap. The connection consists of a pair of levers 42 and 43 which are disposed in the upper portion of the wardrobe and are fulcrumed as at 44 and 45 respectively to swing in a horizontal plane. The fulcrums 44 and 45 are supported on the upper surfaces of the beams 28 and one terminal 46 of the lever 42 is slidably received in a flanged guide block 47 which is swiveled to an angle bracket 48 carried on the inner surface of the door adjacent its upper and outer edges. The opposite terminal 49 of the lever 42 has swiveled thereto a flanged guide block 50 in which the terminal 51 of the lever 43 is slidably arranged. The opposite terminal 52 of the lever 43 is slidably arranged in a flanged guide block 53 which is swiveled on the

bracket 54 attached to the inner surface of the door 15 adjacent its upper and outer edges. Sufficient lost motion is afforded between the terminal 46 and guide block 47 to permit the door 14 to initially open before the guide block 50 at the end 49 of the lever 42 imparts motion to the terminal 51 of the lever 43 for opening the other door 15. This permits the door 14 to be disposed in a position where the rabbeted edges clear each other during the opening operation. This lost motion also acts reversely in closing the doors to effect the closing of the door 15 to fully closed position slightly in advance of the movement of the door 14 to its fully closed position. From the construction and arrangement described, it will be seen that each pair of doors is provided with a connection which causes the same to move approximately in unison, and it is apparent that when the right-hand door 14 of each pair is moved, a corresponding movement is transmitted to the left-hand door 15.

Within the wardrobe, the customary hat shelves 56 are arranged extending forwardly from the rear wall 10. It is apparent under the present construction, that the hat shelves must be of a length so as not to interfere with the movement of the doors to their open position, and it thus follows that where a plurality of pairs of doors is employed to close the front of the wardrobe structure, the hat shelves must be subdivided to afford a space therebetween to accommodate the doors when moved to open position. The present invention also comprehends the provision of a garment hanger bar 57 which is supported for movement forwardly and rearwardly to facilitate the hanging of the garments thereon or the removal of the garments therefrom when the same is in its forwardly projected position and wherein said hanger bar is retracted to a non-interfering position with the doors when the wardrobe is closed. To accomplish this, the hanger bar, which is disposed horizontally and which is parallel to the rear wall of the wardrobe, is provided with rearwardly projecting supporting rods 58 which telescopically slide in tubular supporting guides 59 and which are rigidly supported in any suitable manner within the wardrobe, preferably by securing the same to the underside of the lower hat shelf 56. In order that the bar may be automatically moved coincident with the opening and closing of the doors, the rotatory shafts 16 and 17 are respectively provided with horizontally disposed radially projecting lever arms 60, the free ends of which lever arms are connected by links 61 to lugs 62 formed on the hanger bar 57, it being understood that the links 61 are pivotally connected at their opposite ends, as at 63 and 64, to the free ends of the lever arms 60 and to the lugs 62. It thus follows that when the doors 14 and 15 are swung from their closed position as illustrated in full lines in Figure 5 to their open position as illustrated in broken lines in Figure 5, that the lever arms will exert a thrust on the links 61 to project the hanger bar 57 forwardly where it will be disposed in a convenient position approximately in line with the open front of the wardrobe to facilitate the hanging of the garments on the garment hangers 65 or the removal of the same from the garment hangers which are obviously carried by the hanger bar. It is further evident that in moving the doors 14 and 15 to a closed position, that the lever arms 60 will exert a rearward pull on the links to retract the hanger bar 57 rearwardly to a non-interfering position with the doors as the same move to their closed position.

In order to cover and conceal the shafts 16 and 17 from view to add to the neatness of appearance of the interior of the wardrobe, channel shaped wooden columns 66 embrace the shafts and the columns 66 are suitably notched or cut away as at 67 and 68 in order to afford clearance for the movement of the arms 29 and 30 and the lever arms 60. It is also apparent that the wooden columns 66 may be employed to support garment hooks 69 if desired, upon which additional garments or hats may be arranged.

Where a plurality of pairs of doors is employed in connection with the wardrobe, a common key actuated lock mechanism may be employed to securely lock all of the doors in their closed condition by employing one of the doors 14 as the master door. This is accomplished by providing a locking bolt 70 extending upwardly through one of the doors for projection into a keeper 71, which locking bolt is controlled by a key actuated lock barrel 72. Obviously, on the master door 14, the lock bolt 70 when in locking position with the keeper 71 locks the door 14 while the rabbeted edges 40 and 41 interengage to prevent opening of the corresponding door 15 of the pair. The remaining pairs of doors are locked by a latch bolt 73 on the inner surface of the door 15 adjacent its outer edge which is projected beyond said outer edge to lie within and against the inner surface of the next adjacent door 14. The latch bolt 73 may be retracted and retained in its retracted position if desired so that the locking of the other pairs of doors may be selectively accomplished when desired.

What is claimed is:

1. In a wardrobe structure, a pair of doors, means for mounting the same for movement from a closed position at the front of the wardrobe and parallel to the

rear wall, to an open position lying within the confines of the same and parallel to its side walls and a connection between said doors for causing the same to open and close in unison, said door mounting means consisting of a vertical rotatory shaft, vertically spaced horizontally disposed radial arms secured to the shaft, a pivotal connection between the free ends of the arms on the inner side of the doors and cooperating guide means for causing the doors to swing on their pivots while moving with the arms.

2. In a wardrobe structure, a pair of doors, means for mounting the same for movement from a closed position at the front of the wardrobe and parallel to the rear wall, to an open position lying within the confines of the same and parallel to its side walls and a connection between said doors for causing the same to open and close in unison, said door mounting means consisting of a vertical rotary shaft, vertically spaced horizontally disposed radial arms secured to the shaft, a pivotal connection between the free ends of the arms on the inner side of the doors and cooperating guide means for causing the doors to swing on their pivots while moving with the arms, said latter means consisting of trunnions on the doors and stationary guide tracks within the wardrobe.

3. In a wardrobe structure, a pair of doors, means for mounting the same for movement from a closed position at the front of the wardrobe and parallel to the rear wall, to an open position lying within the confines of the same and parallel to its side walls and a connection between said doors for causing the same to open and close in unison, said door mounting means consisting of a vertical rotary shaft, vertically spaced horizontally disposed radial arms secured to the shaft, a pivotal connection between the free ends of the arms on the inner side of the doors and cooperating guide means for causing the doors to swing on their pivots while moving with the arms and a vertically adjustable step bearing supporting the lower end of each vertical shaft for compensating for sagging of the floor.

4. In a wardrobe structure, a pair of doors, means for mounting the same for movement from a closed position at the front of the wardrobe and parallel to the rear wall, to an open position lying within the confines of the same and parallel to its side walls and a connection between said doors for causing the same to open and close in unison, said door mounting means consisting of a vertical rotary shaft, vertically spaced horizontally disposed radial arms secured to the shaft, a pivotal connection between the free ends of the arms on the inner side of the doors and cooperating guide means for causing the doors to swing on their pivots while moving with the arms and a stationary column covering and concealing each of said vertical shafts and constituting means for supporting garment hooks.

5. In a wardrobe structure, a pair of doors having mating rabbeted meeting edges, means for mounting the doors for movement from a closed position at the front of the wardrobe and parallel to the rear wall, to an open position lying substantially within the confines of the wardrobe and parallel to its side walls, a connection between said doors to cause the same to open and close substantially in unison and interengaging guide means on the doors and on the wardrobe so constructed and arranged as to cause one of the doors to open slightly in advance of the other and to close subsequent to the other so as to compensate for the engagement and disengagement of the rabbeted meeting edges.

6. In a wardrobe structure, a pair of doors having mating rabbeted meeting edges, means for mounting the doors for movement from a closed position at the front of the wardrobe and parallel to the rear wall, to an open position lying substantially within the confines of the wardrobe and parallel to its side walls, a connection between said doors to cause the same to open and close substantially in unison and interengaging guide means on the doors and on the wardrobe so constructed and arranged as to cause one of the doors to open slightly in advance of the other and to close subsequent to the other so as to compensate for the engagement and disengagement of the rabbeted meeting edges, said guide means comprising fixed guide tracks on the wardrobe and vertical trunnions on the doors offset forwardly with reference to the front faces of the doors.

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