Oct. 30, 1956 M. R. LUTTER 2,768,409

WARDROBE

Filed June 8, 1953 3 Sheets-Sheet 1

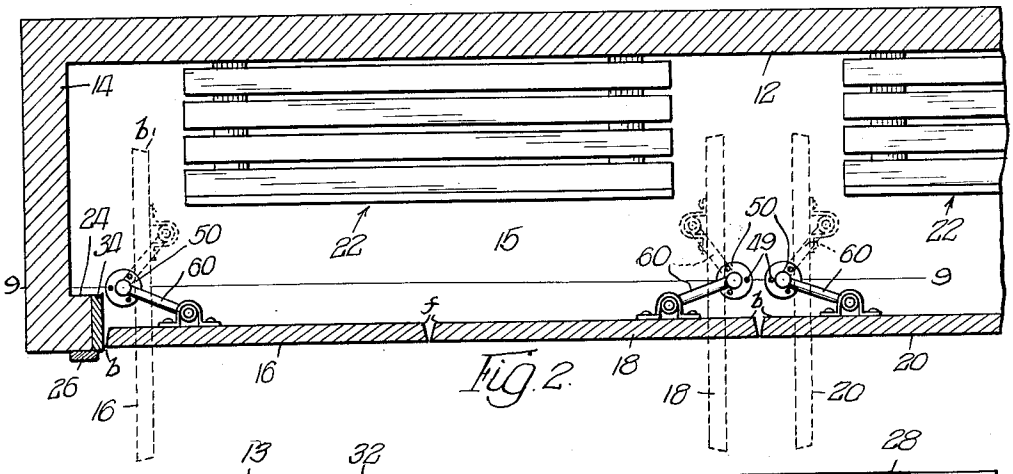


Fig. 2.

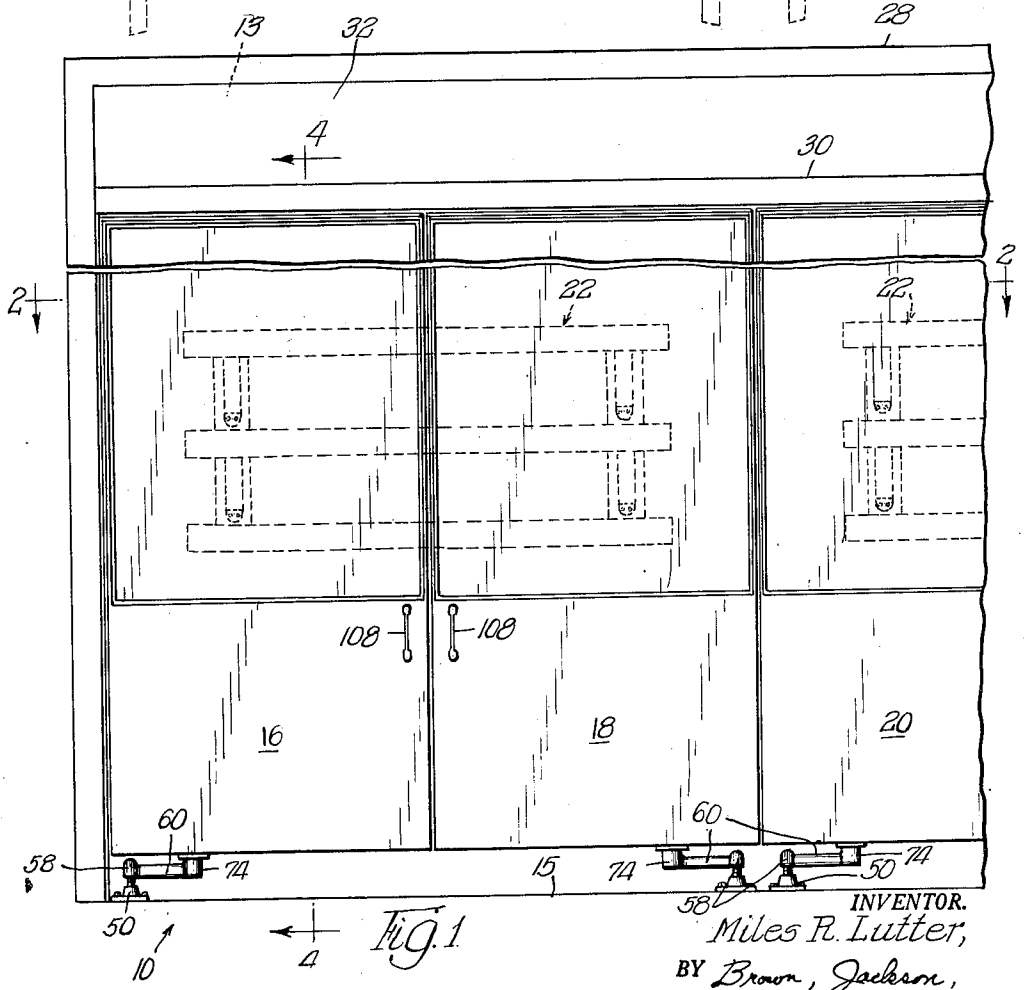


Fig. 1.

INVENTOR.
Miles R. Lutter,
BY Brown, Jackson,
Boettcher & Dienner
Attys.

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Fig. 3

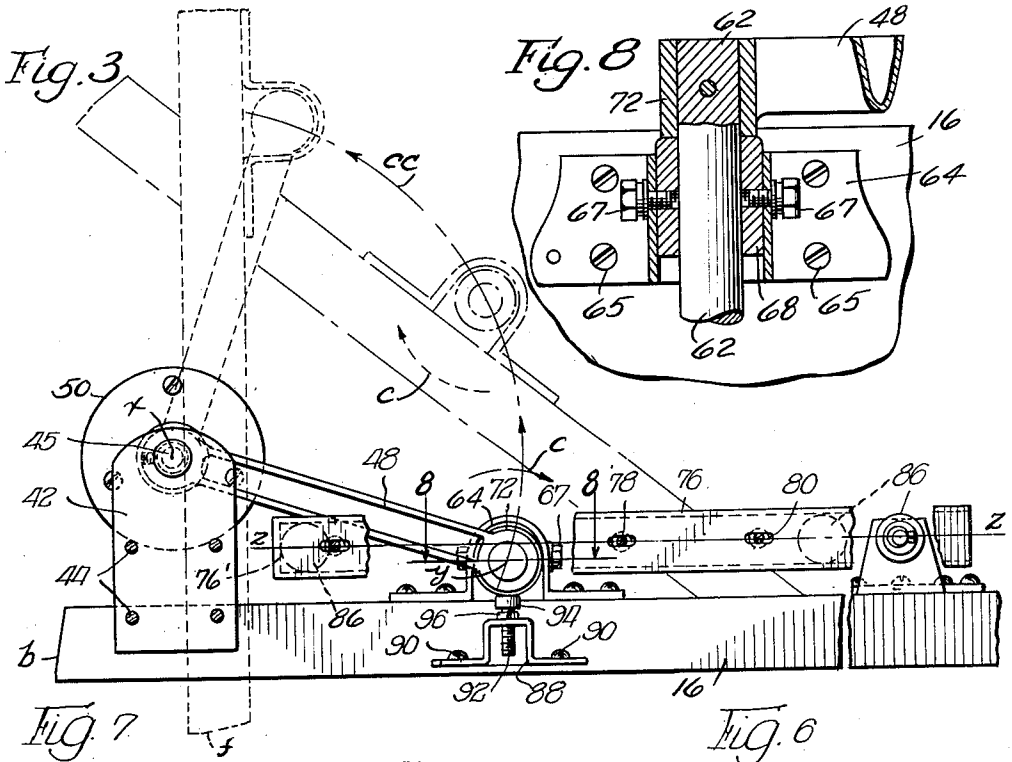


Fig. 8

Fig. 7

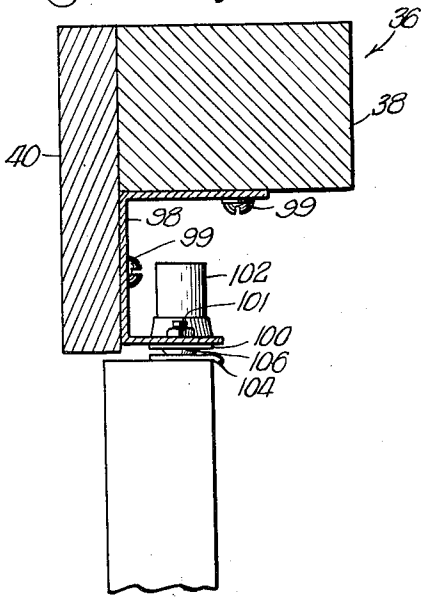
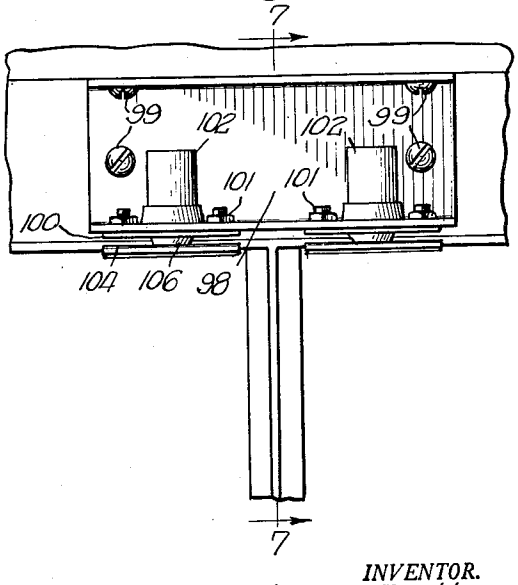


Fig. 6



INVENTOR.
Miles R. Lutter,
BY Brown, Jackson
Boettcher & Dienner
Attys.

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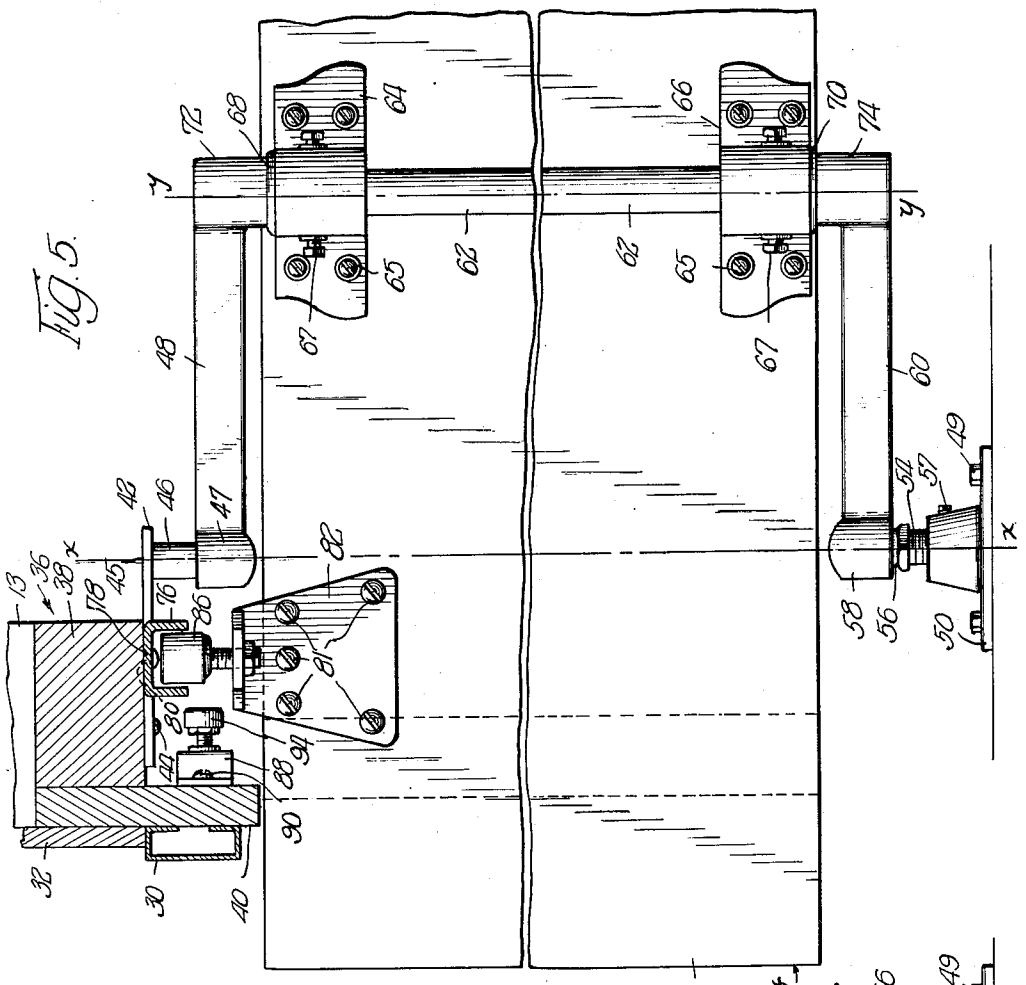


Fig. 5.

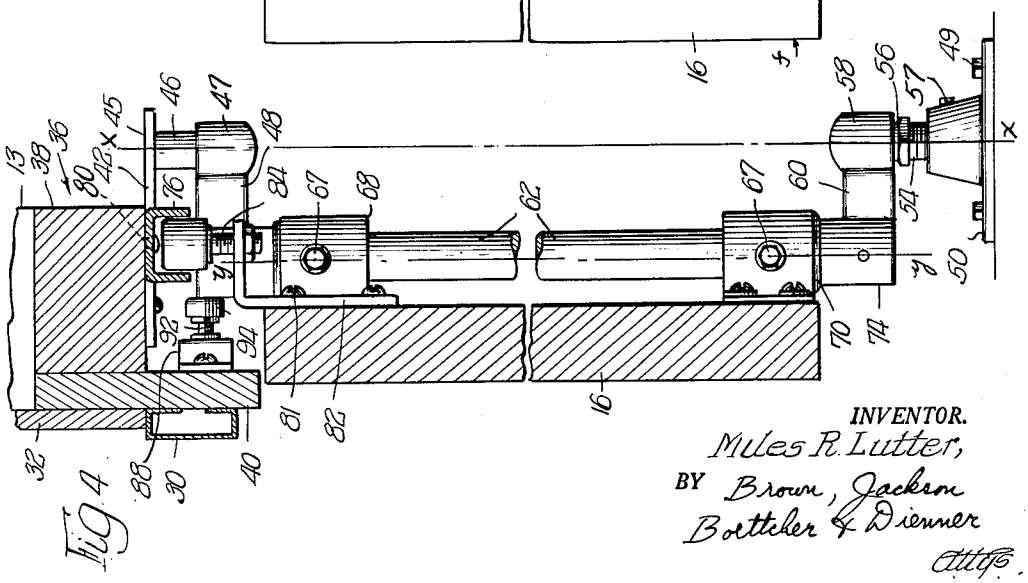


Fig. 4

INVENTOR.
Miles R. Lutter,
BY Brown, Jackson
Boettcher & Dienner
Attys.

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WARDROBE

Miles R. Lutter, Aurora, Ill., assignor to Richards-Wilcox Manufacturing Company, Aurora, Ill., a corporation of Illinois

Application June 8, 1953, Serial No. 360,297

10 Claims. (Cl. 20—16)

This invention relates to wardrobes and the like, and more specifically, it relates to school room wardrobes having receding doors.

It is a well known fact that the recent rapid growth of population in the United States has resulted in the crowding of the nation's schools. One of the many problems which this condition has raised has been the storing of student wraps, books and the like, as well as school equipment, during school hours. Wardrobes having receding type doors are now commonly being installed since the doors thereof take up a minimum of space when in the opened or closed positions, and they require very little operating space when being moved from one of those positions to the other. Wardrobes of this type are frequently provided with guide tracks for guiding the movement of the door and the door commonly has swinging arm supports. In the past it has been necessary to build down from the top of the inside of the wardrobe certain bases necessary for supporting the upper swinging arms and the guide tracks. Furthermore, the guide tracks commonly provided have been complicated and unwieldy. These former constructions have taken up badly needed space and were expensive and cumbersome to install.

Therefore, it is an object of this invention to provide a wardrobe wherein all the upper operating hardware is fastened directly to the header member which defines the top of the door opening of the wardrobe.

It is a further object of this invention to provide a simplified guide track which may be fixed directly to this header member of the wardrobe.

It is yet another object of this invention to provide a door mounting which allows the door to operate in a minimum of space, and which, when the door is in the open position, does not leave a projection which students entering or leaving the wardrobe recess may accidentally trip over.

It is still another object of this invention to provide a door mounting which may be applied to a door regardless of the width or thickness of the door.

It is yet a further object of this invention to provide a wardrobe having a simplified door latch and stop means for positioning the door in closed position.

According to the present invention, I provide a wardrobe having enclosure walls, a door opening, side jambs, an upper header, and one or more doors. Each of the doors is mounted between upper and lower generally Z-shaped swinging arms. A single plate member for each door is fixed on the header of the wardrobe at one side of the door opening and a pivotal connection is provided between it and the upper swinging arm. A mounting fixed to the floor below and aligned with the single plate member comprises the pivotal mounting of the lower swinging arm for each door. The guide track for each door is a rectilinear channel shaped member which is fixed to the header, as are all the upper pieces of operating hardware. The guide track is positioned to be parallel to the door when same is in closed position. The doors are each provided with an antifriction roller which

cooperates with the channel member to guide same between the open and closed positions. This anti-friction roller is located on the door at a point between the outer edge of the door and the vertical swivelling axis around which the door swings relatively to the upper and lower door supporting arms. I also provide a novel door stop and latch means for positioning and releasably retaining the door in closed position. The stop and the latch means are also fixed to the header of the wardrobe.

In addition to the foregoing, it is an object of the present invention to provide a wardrobe and door mounting therefor which are economical of manufacture, convenient in use, capable of ready installation and removal, and which provide a maximum of storage space within the wardrobe.

Other objects and advantages will be obvious or become apparent from a consideration of the following description of a preferred embodiment of the wardrobe.

Now, in order to acquaint those skilled in the art with the present invention, I shall describe, in connection with the accompanying drawings, a preferred embodiment of the wardrobe.

In the drawings:

Figure 1 is a front elevation of a portion of a preferred embodiment of my wardrobe, three doors being shown, and the rest being broken away since the associated elements are merely repeated for each door;

Figure 2 is a cross sectional view, with parts broken away, along line 2—2 of Figure 1, looking in the direction of the arrows, with the open position of the doors being shown in dotted lines;

Figure 3 is a plan view of the upper operating hardware adjacent the top of one of the doors, with parts broken away to provide a more readily understandable illustration;

Figure 4 is a cross sectional view, with parts broken away, through the door and header along line 4—4 of Figure 1, with the door in closed position;

Figure 5 is a view similar to Figure 4 showing the door in open position;

Figure 6 is a rear elevational view of the latch means for releasably retaining the door or doors in closed position;

Figure 7 is a cross sectional view along line 7—7 of Figure 6; and

Figure 8 is a detail cross-sectional view through the upper bearing bracket on the inner side of the door, taken on the line 8—8 of Figure 3.

Referring now to the drawings, reference numeral **10** generally indicates the wardrobe comprising a preferred embodiment of my invention. For convenience of illustration and to avoid an unduly repetitious description, I have shown only one end of a preferred embodiment, since the door mountings and other hardware associated with the wardrobe are the same throughout the length thereof. The wardrobe is provided with a back wall **12**, a ceiling (if so desired, but not shown), a short upper front wall **13**, a side wall **14** at each end (only one is shown), and a floor **15**. The walls, ceiling and floor may be an integral part of the building, as shown, or may be an especially provided metal or wooden enclosure. The total length of the wardrobe will, of course, be governed by the available space in a particular room and the length thereof will be a deciding factor in determining the number of doors to be used. In the illustrated embodiment three doors **16**, **18** and **20**, of a series of doors are shown. While I prefer that the doors be installed in pairs and that each pair open up to expose a series of shelves **22** and coat hooks or the like (not shown) situated within the wardrobe, it is to be understood that space limitations may require that an odd (as distinguished from even) number of doors be used and I have found that

such an arrangement can be quite satisfactory. A short angle portion 24 of each side wall 14, the lower edge of front wall 13 and the floor 15 ordinarily define the space to be occupied by the doors and door jambs. Metal or wooden trim 26 may be provided to line the outside vertical edge of the door way and a similar type of trim may be fixed to the wardrobe at 28 adjacent the juncture thereof with the room ceiling or the like as well as at 30 above the top edge of the doors. A flat piece of metal or wood 32 may be fixed against the wall 13 between the trim pieces 28 and 30 if so desired, the lower part of this latter piece ordinarily covering parts of the hereinafter described head jamb construction. A wooden or metallic side door jamb 34 is preferably provided along each vertical edge of the door way.

Referring to Figures 4 and 5, it will be seen that all the upper hardware for supporting and guiding the doors is secured to the top or header member of the door way, generally indicated at 36. The header 36 may be of a conventional construction, and secured to the wall 13 in any suitable manner as by bolts or the like (not shown). For convenience of illustration only, I have shown a header comprising a generally horizontal portion 38 and a generally vertical portion 40 which are fixedly secured to the wall 13, and these portions represent elements generally found in conventional headers, as will be obvious to one skilled in the art. The door mounting hardware for each door comprises a single plate member 42 fixed to the portion 38 of the header by suitable screws 44. The plate member 42 is mounted toward one side and above the space to be occupied by a door (which, in Figures 4 and 5, is door 16), and said plate member projects inwardly into the wardrobe. The projecting end of the single plate member has fixedly riveted thereto at 45 a downwardly extending pivot stud 46 for establishing a vertical fixed pivot for an upper door supporting arm 48. In the preferred embodiment, the pivot portion 46 is fixed to plate 42 with the lower end thereof pivotally received in a cup-shaped bearing socket 47 formed at one end of the upper door supporting arm 48. Fixed to the floor directly below the projecting end of the plate 42, by suitable screws 49 (preferably three screws for each plate 42), is the floor mounting plate 50 provided with a central vertical tapped hole which is axially aligned with the vertical axis passing through the center of the stationary upper pivot stud 46.

This tapped hole in the floor mounting plate 50 receives a screw threaded shank 54 which carries a stationary lower pivot stud 56 at its upper end. The shank 54 is adapted to be screwed upwardly or downwardly in the floor mounting plate 50 for adjusting the height of the lower pivot stud 56, this adjustment being maintained by a set screw 57 adapted to lock threaded shank 54 in place. Pivotally engaging over this stationary lower pivot stud 56 is a cup-shaped bearing socket or head 58 formed at one end of the lower door supporting arm 60. As best shown in Figure 5, the door 16 is mounted for swinging pivotal movement between the upper and lower swinging door supporting arms 48 and 60. A supporting rod or spindle 62 is rotatively mounted on the back side of each door by upper and lower door brackets 64 and 66, having mounted therein suitable bearing sleeves or bushings 68 and 70 respectively, in which the vertical rod or spindle 62 is capable of relative rotary movement. As shown in Figure 3, these upper and lower door brackets 64 and 66 have U-shaped central loop portions provided with laterally projecting mounting ears for receiving attaching screws 65 which secure the brackets to the rear face of the door. The cylindrical bearing sleeves or bushings 68 and 70 are mounted in these U-shaped loop portions by set screws 67 which, as shown in Figure 8, pass through holes in the loop portions of the brackets and thread into tapped holes in the bearing sleeves. As shown in Figure 8, the upper end of the vertical connecting rod 62 extends beyond the upper end of the upper bearing sleeve 68 and has pinned attachment in the apertured boss 72 formed at the outer swinging end of the upper door supporting arm 48. Similarly, the lower end of the vertical connecting rod 62 extends down beyond the lower end of the bearing sleeve 70 and has pinned attachment in the apertured boss 74 formed at the outer swinging end of the lower door supporting arm 60. The weight of the door is transmitted downwardly through the lower bearing sleeve 70 against the upper end of the apertured boss 74 on the lower door supporting arm 60. The vertical connecting rod 62 is free to rotate and slide in the bearing sleeves 68 and 70, but this connecting rod in its pinned attachment to the upper and lower door supporting arms 48 and 60 compels these two arms to have the same direction and degree of rotative movement in the opening and closing movements of the wardrobe door. From the foregoing description, it will be seen that the upper and lower stationary pivot studs 46 and 56 define a vertically extending stationary pivot axis around which the upper and lower door supporting arms 48 and 60 have concurrent swinging movement, this stationary pivot axis being designated x—x, as best shown in Figure 5. It will also be seen that the connecting rod 62, bearing brackets 64, 66 and bearing sleeves 68, 70 establish a vertically extending swinging axis around which the door 16 can swivel or swing relatively to the door supporting arms 48 and 60, this swinging or swiveling axis being designated y—y, as best shown in Figure 5. This stationary pivot axis x—x and this swinging pivot axis y—y have certain unique locations with respect to the wardrobe opening and with respect to the door, which will be presently described.

The swinging door supporting arms 48 and 60 are referred to as Z-shaped arms since functionally they comprise two short vertical portions separated by a longer horizontal portion whether all the portions of each arm are fixed thereto or not. In the preferred embodiment the arm 48 pivots with respect to the upper pivot stud 46 and the arm 60 pivots with respect to the lower pivot stud 56. However, the lower stud 56 functionally comprises part of the short portion 58 of the lower arm 60, and the upper stud 46 functionally comprises part of the short portion 47 of upper arm 48, even though fixed to plate 42. Embodiments will be immediately obvious to one skilled in the art wherein the lower stud 56 will be integral with portion 58, the bearing surface which supports the weight of the door being in the floor mounting plate 50, and/or upper stud 46 will be integral with arm 48.

Fixed to the portion 38 of the header is the guide track 76 which guides the opening and closing movements of the door, this guide track extending substantially parallel to and spaced just inside of the vertical plane of the door when the door is in its closed position, as best shown in Figure 3. The guide track in the present embodiment comprises an elongated, rectilinear, channel shaped member 76 fixed to the header by screws 78, which may be provided with washers if so desired. Preferably the slots 80 (Figure 3) in the member 76 which receive the screws 73 are somewhat elongated for adjustment purposes as hereinafter described. As shown in Figure 4, I have found it convenient to locate the channel member 76 slightly inwardly of the door in its closed position. Fixed to the door by suitable screws 81 is the angle or L-shaped bracket 82 which carries the upwardly projecting stud 84 on the horizontal upstanding portion thereof. The upper end of the stud 84 rotatably carries the antifriction roller 86 which rides within the confines of the rectilinear channel member 76. Since, in most instances, it is desirable for the door to move approximately 90 degrees from the closed position to the open position, the relative length of the track must be such that at least this much movement of the door is possible. As shown in Figure 3, the guided line of travel of the guide roller 86 within the guide channel 76 is represented by the dash-dot line z—z.

When the door is moved into its closed position the arc of the swiveling axis *y—y* passing through the connecting rod **62** substantially intersects this guide line *z—z* or moves beyond the guide line, as shown in Figure 3. Conversely, when the door is moved from its closed position into its open position, this swiveling axis *y—y* moves away from the guide line *z—z*. It should be noted that the guide roller **86** is mounted on the door at a point between the door swiveling axis *y—y* and the front edge *f* of the door. This front edge *f* is the edge which is presented to the front, or outwardly of the wardrobe doorway, when the door is in its open position, such open position being shown in dotted lines in Figure 3. The opposite edge of the door is referred to as the back edge *b*, because this is the edge which is presented to the back when the door is in its open position.

By virtue of the location and arrangement of the stationary axis *x—x*, swiveling axis *y—y*, guide track **76** and guide roller **86**, the door supporting arms **48**, **60** and the door **16** always have opposite directions of rotary motion around their respective axes *x—x* and *y—y* in all opening and closing movements of the door. For example, in the door opening movement of left hand door **16**, as viewed in Figure 3, the door supporting arms **48**, **60** swing in a counterclockwise direction around their stationary pivot axis *x—x*, as indicated by the arrow *cc*, whereas the door **16** swings oppositely in a clockwise direction around the swiveling axis *y—y*, as indicated by the arrow *c*. These directions reverse, of course, in the closing movement of the door. These opposite directions of rotation apply to the right hand door **18** in the reverse sense.

Also provided is a stop device to aid in correctly positioning the door in its closed position. Fixed to the portion **40** of the header **36** is the generally U-shaped bracket **88** which carries the stop device. In the preferred embodiment the outer ends of the parallel arms of bracket **88** are bent at right angles and screws **90** retain the bracket on the header. Screw-threadedly mounted on the inner connecting portion of the bracket **88** (see Figure 3) is the stud **92** which carries a rubber cap **94** or the like adapted to cooperate with the boss portion **72** of the swinging arm **48** to stop the forward swinging movement of said arm about the stationary pivot axis *x—x*. This stop means, together with the action of the channel member **76** on guide roller **86**, assures the positioning of the door in the desired closed position. A suitable lock nut **96** may be provided to hold the cap **94** in adjusted position.

Figures 6 and 7 show the latching means which I have provided in my preferred embodiment to releasably retain the doors in closed position. A generally U-shaped bracket **98** is fixed by screws **99** to the header immediately above the opposite side of the door that the plate **42** is located above. Thus, in Figure 1, the bracket would be located inside the wardrobe and directly above handles **108**. Bracket **98** is secured so that its parallel legs are horizontally disposed, and the lower surface of the bottom parallel leg has secured thereto by suitable bolts **101** a plate **100** carrying a latch device **102** which projects upwardly through a suitable hole in the bottom parallel leg. The latch device **102** comprises a spring pressed ball **106** which cooperates with a notch in plate **104**, fixed to the door and located immediately below the latch device in the closed position, to releasably retain the door in closed position.

It will be seen that the above described wardrobe may be installed with a minimum of expense and time. The installation procedure which I prefer to follow consists of first, after the appropriate walls and ceiling are in place, installing the header **36** and the side jambs **34** of the wardrobe opening, making sure that the various elements thereof, and the accompanying trim, as for instance trim **30**, are level and squared. The top pivot plates, each comprising the single plate member **42**, are then located and fixed in place in the appropriate spot above the space where it is desired that the wardrobe door or doors will operate. After the plate **42** with portion **46** secured thereto is fixed in place, one should plumb down from the pivotal point **45**, in each of the plates **42**, to locate the bottom or floor mounting plates **50**. After locating the bottom pivotal point, the floor mounting plates **50** should be put in place and one of the three screws **49** tightened down. The single screw in each plate should be located along the line **9—9** shown in Figure 2, which line lies in the plane passing through the vertical pivot axis of rotation *x—x* of each pair of swinging arms **48**, **60**. The elongated rod **62**, upper and lower brackets **64** and **66**, bearings **68** and **70** and the swinging arms **48** and **60** should then be mounted in place on each of the doors, as should the roller bracket **82**, the roller therefor and the latch keeper plate **104**. Each door is mounted for swinging movement by first screwing down pivot shank **54** to its lowest position and engaging the bearing surface **56** of stud **54** with short portion **58** of the lower door supporting arm **60**. The door is raised so that the upper pivot stud **46** is received in the bearing socket **47** in the upper door supporting arm **48** by rotating the stud **54** so as to raise the bearing surface upwardly with respect to floor plate **50**. When the door is in proper position, the channel shaped guide member **76** should be located and fixed in place. Said member **76** should be so located that the door will be disposed, in the open position, at an angle of approximately 90 degrees with respect to its closed position. When the door is in fully open position extending back into the wardrobe substantially at right angles to its closed position, the guide roller **86** abuts against the end wall **76'** of the guide channel **76** (Figure 3). The elongated holes **80** in the channel member are provided so that some adjustment may be made when the screws are in place for the purpose of shifting this end stop wall **76'** to right or left for adjusting the closed position of the door, by mere loosening of the screws and sliding the member **76** in the desired direction. The latch device **102** and the bracket carrying the door stop **94** may then be located and fixed in place above each door. Each of the doors should be operated to test for proper clearance and alignment; adjustment may be made by moving the bottom plate **50** about the single screw **49** already in place, as for instance, inwardly or outwardly of the door opening. After the doors are aligned the other two screws **49** should be put in place in the bottom plates **50**. The bracket **98** and latch device **102** may then be installed above the latch plates **104**. After final adjustments have been made in the guide roller and the door stop, the lock nuts on each should be tightened, as should the set screws **57** in the bottom pivot plates.

The doors may be operated by merely grasping the suitable handle **108** provided on each and pulling outwardly; the doors will recede inwardly of the door way from the full line position shown in Figures 2 and 3 to the dotted line positions shown therein. In Figure 3 I have also shown in dash-dot lines an intermediate or transitional position between the closed and open positions of each door. The doors may be closed by applying a pressure normal to the door; the protruding or front edge *f* of the door will move inwardly, while the inner or back edge *b* will move outwardly until the door is again in the full line position shown in Figures 2 and 3.

I have found that the above described wardrobe has a number of important advantages. For instance, all the upper operating hardware, such as the top door pivot plates, the door stops, the latches and the guide tracks, is fastened directly to the header of the wardrobe, which eliminates the necessity of building down from the header bases for supporting the wardrobe door pivots and other hardware, and lends itself to a much more simplified installation. Moreover, all of the hardware may be mounted on the header the same distance from the back edge *b* of the door regardless of the door thickness, which means the same size hardware elements may be applied

to a series of wardrobes or the like irregardless of the thickness of the doors already present in such wardrobes. The rectilinear guide means provided greatly simplifies installation and repair problems and provides additional space within the wardrobe which was formerly occupied by complicated curved guides or straight guides which ran from the front to the back wall of the wardrobe. Particular attention is also directed to the fact that by locating the floor mounting plate **50** and the single plate member **42** in their relative positions shown in the drawings, the upper and lower fixed axis pivots **46**, **56** and the upper and lower door supporting arms **48**, **60** lie substantially within or beyond the plane of the door when the door is in open position. For example, it will be seen from Figure 3 that the floor plate **50** lies substantially within, or with its major portion beyond, the vertical plane of the open door; and that the vertical pivoting axis *x*—*x* lies closely adjacent to or in the vertical plane of the rear surface of the open door, with the door supporting arms **48**, **60** extending slightly diagonally of the vertical plane of the door, but contained substantially entirely within the vertical plane of the door. The swinging arms and plates **50** therefore do not provide dangerous projections which students may accidentally trip over when entering or leaving the wardrobe.

The foregoing description and the drawings are given merely to explain and illustrate my invention, and the manner in which it may be performed, and the invention is not to be limited thereto, except in so far as the appended claims are so limited since those skilled in the art who have my disclosure before them will be able to make modifications and variations therein without departing from the scope of the invention.

I claim:

1. A wardrobe comprising a header, a door opening and a door, upper and lower substantially Z-shaped arms between which said door is pivoted, a single plate member fixed to said header adjacent one side of said door opening and projecting inwardly of said door opening, a spindle secured in vertical position adjacent the inside surface of said door, a pivotal connection between said spindle and the short portion on one end of said upper Z-shaped arm, a pivotal connection between the other end of said upper arm and the projecting end of said plate member, a mounting plate secured to the floor inwardly of the door opening and in alignment with the projecting end of said plate member, said mounting plate having an internally screw threaded hole, a screw threaded stud received in said hole, said stud having an upper bearing surface, a pivotal connection between the short portion on one end of said lower arm and said spindle, a pivotal connection between the other end of said lower arm and said bearing surface, a channel shaped member fixed to said jamb parallel to and inwardly of the door in its closed position, an L-shaped bracket secured to the door in inverted L-shaped position, a roller stud received by the upstanding short portion of said L-shaped bracket, an antifriction roller carried by said stud for cooperation with said channel shaped member to guide the opening and closing of the door, a generally U-shaped bracket fixed to said header in the plane of said short portion on said one end of said upper arm, a screw threaded stud received in the connecting portion of said U-shaped bracket, said stud projecting toward said short portion of said one end of said upper arm, and receiving an impact resisting cap for cooperation with said short portion of said one end of said upper arm to stop the closing movement of said door, a second U-shaped bracket fixed to said header adjacent the other side of said door opening, said last mentioned bracket being so fixed to said header that the parallel sides of said bracket are horizontally disposed, a plate member fixed to the lower of said parallel sides, aligned holes being provided in the last mentioned plate member and said lower of said parallel sides, and a latch positioned to act through said aligned holes and cooperate with a notch in said door to releasably retain the door in closed position.

2. In a wardrobe of the class described having a door opening therein defined between a header and a floor of said wardrobe, the combination of upper and lower stationary pivots secured to said header and to said floor adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis therebetween, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door defining a substantially vertical swiveling axis therebetween, said upper and lower bearing brackets having pivotal connection with the swinging ends of said door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track carried by said header and extending substantially parallel to said doorway and to the closed position of said door therein, and a guide follower mounted on said door for traveling in said guide track, whereby in the opening movement of the door the direction of rotation of the door around said swiveling axis is opposite to the direction of rotation of said door supporting arms around said stationary pivot axis, and whereby in the open position of the door said arms lie substantially within the vertical plane of the door.

3. In a wardrobe of the class described having a door opening therein defined between a header and a floor of said wardrobe, the combination of upper and lower stationary pivots secured to said header and to said floor adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis therebetween, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door, a connecting rod journaled in said bearing brackets and defining a substantially vertical swiveling axis for said door, said connecting rod being connected with said upper and lower door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track carried by said header and extending substantially parallel to said door opening and to the closed position of said door therein, and a guide follower mounted on said door for traveling in said guide track, whereby in the opening movement of the door the direction of rotation of the door around said swiveling axis is opposite to the direction of rotation of said door supporting arms around said stationary pivot axis, and whereby in the open position of the door said arms lie substantially within the vertical plane of the door, said guide follower being mounted on said door at a point between said swiveling axis and the front edge of the door which is presented outwardly of the wardrobe when the door is in open position.

4. In a wardrobe of the class described having a door opening therein defined between a header and a floor of said wardrobe, the combination of upper and lower stationary pivots secured to said header and to said floor adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis therebetween, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door, a connecting rod journaled in said bearing brackets and defining a substantially vertical swiveling axis for said door, said connecting rod being connected with said upper and lower door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track carried by said header and extending substantially parallel to said door opening and to the closed position of said door therein, and a guide follower mounted on said door for traveling in said guide track, whereby in the opening movement of the door the direction of rotation of the door around said swiveling axis is opposite to the direction of rotation

of said door supporting arms around said stationary pivot axis, and whereby in the open position of the door said arms lie substantially within the vertical plane of the door.

5. In a wardrobe of the class described having a door opening therein defined between a header and a floor of said wardrobe, the combination of upper and lower stationary pivots secured to said header and to said floor adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis therebetween, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door defining a substantially vertical swiveling axis therebetween, said upper and lower bearing brackets having pivotal connection with the swinging ends of said door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track carried by said header and extending substantially parallel to said doorway and to the closed position of said door therein, and a guide follower mounted on said door for traveling in said guide track, whereby in the opening movement of the door the direction of rotation of the door around said swiveling axis is opposite to the direction of rotation of said door supporting arms around said stationary pivot axis, and whereby in the open position of the door said arms lie substantially within the vertical plane of the door, said guide follower being mounted on said door at a point between said swiveling axis and the front edge of the door which is presented outwardly of the wardrobe when the door is in open position.

6. In apparatus of the class described for mounting a swinging door adapted to move into and out of closed position in a door opening, the combination of upper and lower stationary pivots located adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door defining a substantially vertical swiveling axis therebetween, said upper and lower bearing brackets having pivotal connection with the swinging ends of said door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track extending substantially parallel to said door opening, and guide follower means mounted on said door for traveling engagement with said guide track, whereby in the opening movement of the door the direction of rotation of the door around said swiveling axis is opposite to the direction of rotation of said door supporting arms around said stationary pivot axis.

7. In apparatus of the class described for mounting a swinging door adapted to move into and out of closed position in a door opening, the combination of upper and lower stationary pivots located adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door defining a substantially vertical swiveling axis therebetween, said upper and lower bearing brackets having pivotal connection with the swinging ends of said door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track extending substantially parallel to said door opening, and guide follower means mounted on said door for traveling along said guide track to guide the swinging movement of the door, said pivot axes, said guide track and said guide follower means being arranged so that in the open position of the door said door supporting arms lie substantially within the vertical plane of the door.

8. In apparatus of the class described for mounting a swinging door adapted to move into and out of closed position in a door opening, the combination of upper and lower stationary pivots located adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door defining a substantially vertical swiveling axis therebetween, said upper and lower bearing brackets having pivotal connection with the swinging ends of said door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track extending substantially parallel to said door opening, and a guide follower mounted on said door for traveling in said guide track, said guide follower being mounted on said door at a point between said swiveling axis and the front edge of the door which is presented outwardly to the front of the door opening when the door is in open position.

9. In apparatus of the class described for mounting a swinging door adapted to move into and out of closed position in a door opening, the combination of upper and lower stationary pivots located adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door defining a substantially vertical swiveling axis therebetween, said upper and lower bearing brackets having pivotal connection with the swinging ends of said door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track extending substantially parallel to said door opening, guide follower means mounted on said door for travelling engagement with said guide track, whereby in the opening movement of the door the direction of rotation of the door around said swiveling axis is opposite to the direction of rotation of said door supporting arms around said stationary pivot axis, and a stop carried by said guide track adapted to be engaged by said guide follower mens for predetermining the fully open position of said door.

10. In apparatus of the class described for mounting a swinging door adapted to move into and out of closed position in a door opening, the combination of upper and lower stationary pivots located adjacent to one side of said door opening and defining a substantially vertical stationary pivot axis, upper and lower door supporting arms mounted on said upper and lower pivots to swing around said stationary pivot axis, a door, upper and lower bearing brackets on said door defining a substantially vertical swiveling axis therebetween, said upper and lower bearing brackets having pivotal connection with the swinging ends of said door supporting arms for swiveling movement of the door between said arms around said swiveling axis, a guide track extending substantially parallel to said door opening, a guide follower mounted on said door for travelling in said guide track, said guide follower being mounted on said door at a point between said swiveling axis and the front edge of the door which is presented outwardly to the front of the door opening when the door is in open position, and a stop carried by said guide track adapted to be engaged by said guide follower when the door is in its open position.

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