Dec. 27, 1966 H. LEW 3,294,464

KNOCKDOWN WARDROBE OR THE LIKE

Filed May 12, 1965 2 Sheets-Sheet 1

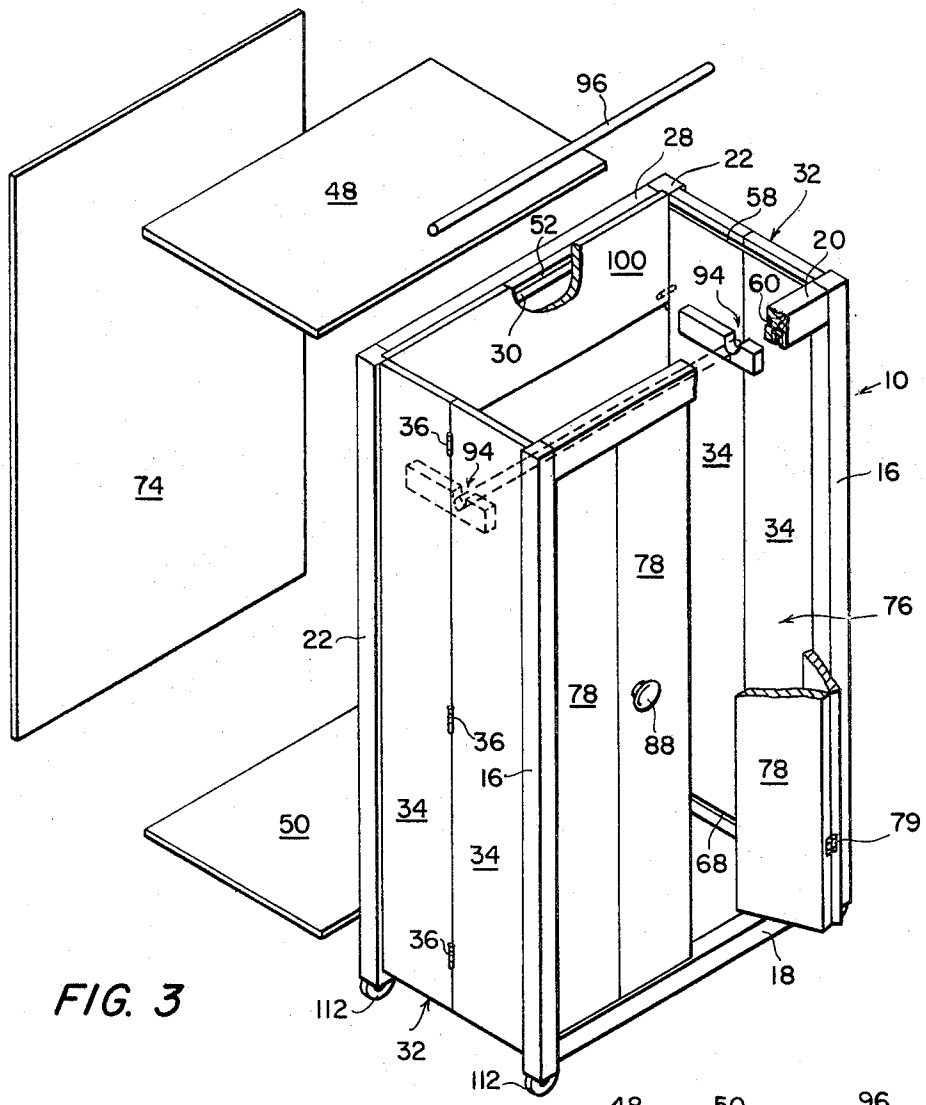

FIG. 3

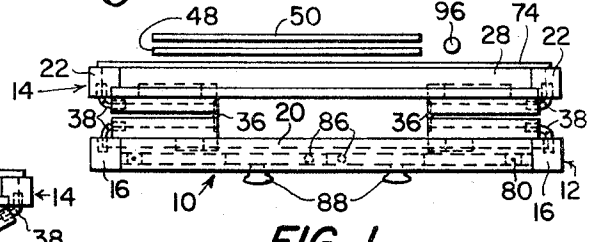

FIG. 1

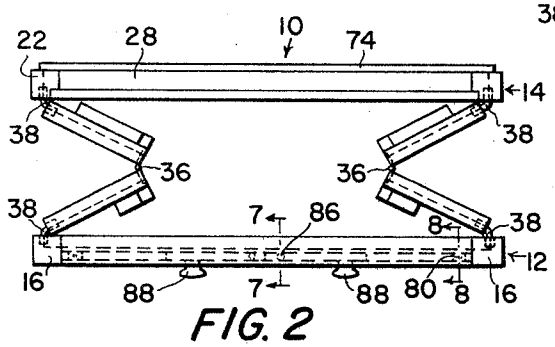

FIG. 2

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KNOCKDOWN WARDROBE OR THE LIKE

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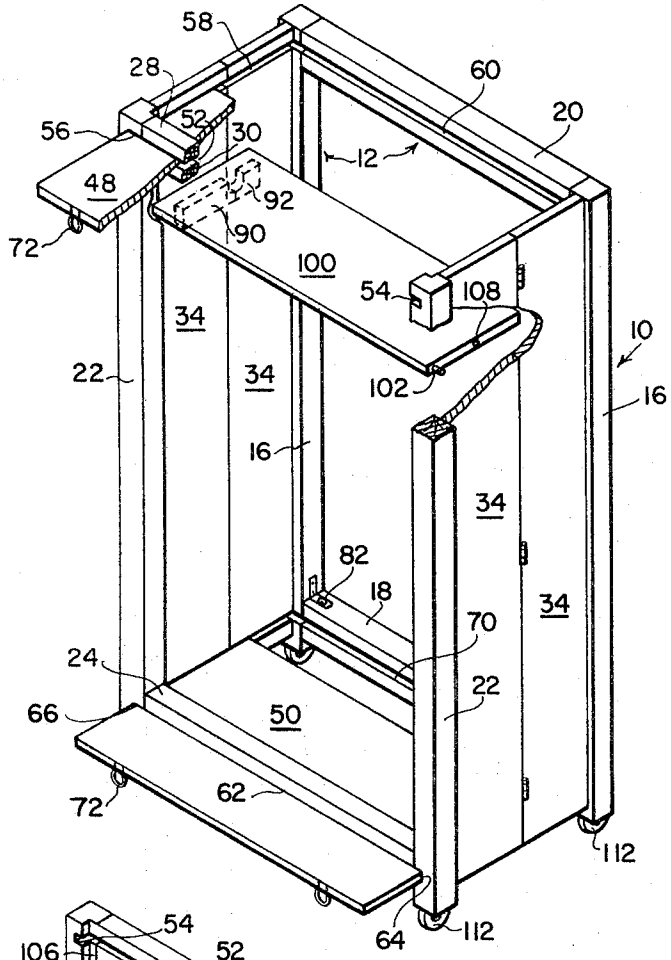

FIG. 4

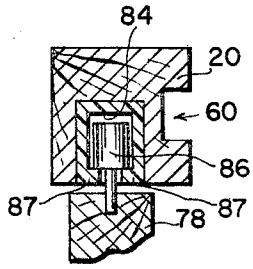

FIG. 7

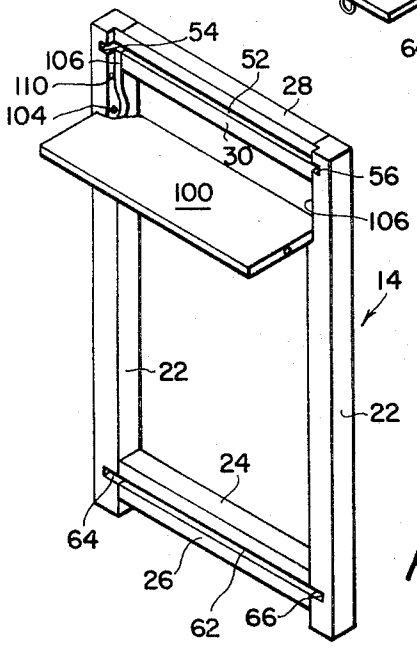

FIG. 5

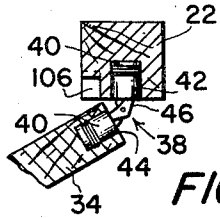

FIG. 6

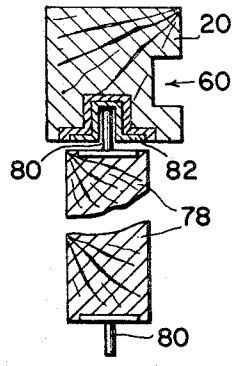

FIG. 8

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3,294,464

KNOCKDOWN WARDROBE OR THE LIKE

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10 Claims. (Cl. 312—258)

This invention relates to knockdown wardrobes and similar constructions. Various types of furniture kits are well known in the art in which articles of furniture or cabinets are precut and shipped in an unfinished state to the consumer who then assembles and paints the said furniture and cabinets.

It is an object of this invention to provide a cabinet or wardrobe suitable for storing articles of clothing such as overcoats, suits and dresses which can be assembled at the factory in knockdown form and which will be foldable for shipment and sale as well as for any further transportation or moving operation, and which will be readily unfolded and set up for use.

It is a further object of this invention to provide such a knockdown foldable wardrobe or cabinet which will be sturdy and be capable of being folded into a relatively small mass with relation to its unfolded condition so that it will be easier to carry in collapsed form upstairs and through hallways and into attics of houses, especially on such narrow stairs as winding stairways, and so that it will take less shipping space and cost less to ship.

It is also an object of this invention to provide a knockdown wardrobe which will be easy to move from place to place by a householder, and which will be provided with wheels to facilitate moving from room to room.

It is still another object of this invention to provide a knockdown wardrobe containing no screws, bolts, clamps or nails (for setting up purposes from knockdown to unfolded state) with easy fitting parts which fit together and lock the wardrobe into unfolded condition, and which may be assembled by one person without outside aid.

It is also an object of this invention to provide a knockdown wardrobe in which provision is made for hanging clothing as well as for storage of hats and other items on shelf means.

Further objects and advantages will appear in the specification hereinbelow. These objects and advantages are achieved with the invention as illustrated in the accompanying drawings in which:

FIG. 1 is a top plan view of the wardrobe in folded condition with parts in phantom;

FIG. 2 is a top plan view of the wardrobe partially unfolded with parts in phantom;

FIG. 3 is a front exploded perspective view of the wardrobe in unfolded condition with parts cut away;

FIG. 4 is a rear perspective view of the wardrobe with parts cut away;

FIG. 5 is a detail in perspective showing the rear frame of the wardrobe when viewed from a position forward of the rear frame;

FIG. 6 is a detail of FIG. 2 showing a corner of the partially folded wardrobe in section;

FIG. 7 is a sectional view along the lines 7—7 of FIG. 2 with parts cut away; and

FIG. 8 is a sectional view along the lines 8—8 of FIG. 2 with parts cut away.

Similar numerals refer to similar parts throughout the several views.

In this specification I illustrate the device as a knockdown wardrobe. However, it may be used for any purpose for any articles other than clothing, for storage or any other purpose, and it is understood that the term "knockdown wardrobe" covers any such folding cabinet.

The wardrobe 10 comprises a main frame comprising

a front frame portion 12 and a rear frame portion 14. The front frame portion 12 comprises front upright support means 16, a lower front frame member 18 and an upper front frame member 20. The rear frame portion 14 comprises rear upright support means 22, a bottom ear frame member 24, a bottom rear frame member 26, a top rear frame member 28 and a top rear frame member 30. The frame members 12 and 14 are completed into a main body portion by means of opposed folding side walls 32, each of which comprises panels 34 connected by hinges 36, said panels 34 being in turn connected to the upright supports 12 and 14 respectively by means of hinges 38. Hinges 36 and 38 are installed so that side panels 34 may be folded inwardly. Hinges 36 may either be the usual leaf type or the usual concealed type hinges having mortise buts such as hinges 38.

Reference to FIG. 6 of the drawings shows a detail of installation of a hinge 38. Hinge 38 has a pair of opposed leaves comprising butts 40, circular in nature, and adapted to be installed in mortises 42 and 44 in support 22 and panel 34 respectively. The pintle portion of the hinge 46 is made up of several plates held between the butt portions 40 and is a type of concealed hinge well known to the art and needs no further description herein. I prefer to use the concealed hinge type in this part of the construction because it provides for a compact folding arrangement.

Reference to FIGS. 3 and 4 of the drawings will show a top sliding member 48 and a bottom sliding member 50. These members form the top and bottom of the frame of the device respectively, top slide member 48 being adapted to slide through a slot 50 between top frame member elements 28 and 30, slot 50 having ends 54 and 56 in the upper portions of frame support members 22. Slot ends 54 and 56 communicate respectively with inner upper side grooves 58 in panels 34 and inner groove 60 in front top frame member 20. Thus, top sliding member 48 is of a size adapted to be slide fitted through the rear slot 50 with slot ends 54 and 56 forwardly through grooves 58 and into groove 20 to comprise a fitted top. Similarly, bottom sliding element 50 is adapted to slide into rear slot 62 with ends 64 and 66 along lower inner grooves 68 in panels 34 and into lower forward inner groove 70 in bottom frame element 18.

Thus, the slot and groove members 50, 54, 56, 58 and 60 and 62, 64, 66, 68 and 70 serve as slide guides for the slide fitting tops and bottoms 48 and 50 respectively.

I also provide finger grips such as rings 72 which may be attached to the rear portions of elements 48 and 50 to assist in installation and removal of same.

There is a rear panel 74 for the device which may be fastened to the rear of the device between slots 52 and 62 in any manner known to the art such as by adhesive or fastening elements such as nails or screws. Rear panel 74 is optional, and when installed, remains as a permanent part of the rear frame forming a rear wall which does not interfere with the foldability of the device.

The front frame portion 12 has a face opening 76 which is provided with a door closure comprising panels 78. In the form shown in FIG. 3 of the drawings, there are four panels 78 arranged in pairs to open on each side of the device. Each pair is connected by hinges 79 so that it may fold forwardly of the device. Each end panel 78 is provided with a hinge arrangement in which there is a pair of hinge sets at the upper and lower portions thereof, each hinge set comprising a pintle pin 80 adapted to fit into a female portion 82. The pins 80 are in alignment with each other and the female portions 82 are also in alignment with each other vertically on each side of the face opening 76 so that the end panels 78 may open outwardly.

There is a chanel **84** fitted into top front frame member **20** at the bottom thereof. Thus, channel **84** actually forms the top part of the face opening **76** together with top frame member **20**. Channel **84** is adapted to hold guide wheels **86** by means of its inwardly disposed lips **87** as shown in FIG. 7 of the drawings. Guide wheels **84** are in turn connected to an upper corner of inner panels **78** so that the doors **78** may be opened as illustrated in FIG. 3 of the drawings.

I also provide knobs **88** to assist in operation of the doors.

Inwardly of each pair of panels **34** which form the side walls **32**, I provide respectively stop elements **90** and **92**. At the point of abutment of stop elements **90** and **92**, there is an upward facing quarter circle cut providing a half circle as indicated at reference numeral **94** which serves as a pole support means, and a pole means **96**, which is removable, can be placed between opposed pole support means **94**.

I provide a folding shelf **100** which is installed on pivots **102** in female pivot receiving means **104** which are mortised into an appropriate upper cutout portion **106** in each of the rear supports **22**. Portions **106** must be cut out of the supports to provide a recess on each side for shelf **100** to pivot and fold up into.

I also provide a detent such as a ball detent **108** which fits into a detent receiving means **110** to help maintain the shelf **100** in folded position. In addition, I provide caster means such as wheels **112** for greater mobility in the device.

While I have described my invention as being made with a forward and rearward frame of a particular construction, this is a preferred form, and any form of frame which provides for inwardly folding side walls with a front wall having a face opening and a rear wall having upper and lower transverse slots **52** and **62**, together with slide guide means in the side walls such as means **58** and **78** and top and bottom sliding elements **48** and **50**, will satisfy the requirements of construction for the invention when provided with a shelf means such as shelf **100**.

The device is made up as described herein and folded as shown in FIG. 1 of the drawings. Slide elements **48** and **50** and pole **96** may be fitted inside the folded elements of the device or wrapped separately outside the device as shown in FIG. 1, being placed in a cardboard carton or tied together with twine or other fastening means well known to the art which need not be shown.

The device is set up by unfolding it as shown in FIG. 2 and FIG. 3, the first step being to form the four walls of the device by unfolding walls **32** outwardly. The next step is to place removable pole **96** within supports **94**. The next step is to pivot shelf **100** from its folded position down to its unfolded position against stops **90** and **92**. This secures the frame in unfolded position. Finally, top and bottom sliding elements **48** and **50** respectively are slid into the slide guide means comprising slots **52**, **58** and **60** and slots **62**, **68** and **70** respectively. The cabinet **10** is now set up and ready for use. It may be easily folded into knockdown position by reversing the above procedure.

The cabinet may be furnished in an unpainted condition or painted or decorated in any manner known to the art.

The cabinet would ordinarily be made of wood. However, it may be made of metal or plastic or any other suitable material. In addition, the doors to the cabinet may be supplied with a lock and key or with a keyless combination lock.

While I have described my invention in its preferred forms, there are other forms which it may take without departing from the spirit and scope of the invention. For example, I have shown a knockdown wardrobe having only one shelf and one hanging pole. It may have more than one of each of these elements.

In addition, I have described the device as having a

folding door made of panels which are illustrated as solid panels. Any type of door closure can be made for the device so long as it is substantially flush with the face opening when closed. This would include fabric folding doors, a jalousie type door, sliding doors or any other type of door.

No sizes have been given for the invention as described herein. It is contemplated that a normal size would be a proper height between the pole **69** and the sliding floor insert **50** for hanging a normal sized garment such as an overcoat, with a sufficient height above the shelf **100** and the upper sliding insert for a normal sized hat. However, the cabinet may be made in any shape or size to suit the requirements of its use.

It will be obvious that a particular advantage of this invention is that the entire cabinet is shipped to the consumer ready for use in a completely collapsed and folded condition. All the consumer has to do is unfold the cabinet, place the pole in position, put down the shelf and slide in the two slideable inserts. This may be done without the use of carpentry or any other skill.

Also, I have described certain types of hinges in connection with the preferred form of my folding wardrobe. Any type of hinge which will serve the purpose can be used. Accordingly, I, therefore, desire to be protected for all forms coming within the scope of the claims hereinbelow.

Wherefore I claim:

1. A knockdown wardrobe comprising a main body portion comprising a front frame and a rear frame connected by a pair of opposed inwardly folded walls, slide guide means associated with the said frame elements and side walls at the upper ends thereof, and slide guide means associated with the said frame elements and side walls at the lower ends thereof, together with a top slide element and a bottom slide element arranged to fit within the said upper and lower slide guide means respectively.

2. A knockdown wardrobe comprising a main body portion comprising a front frame and a rear frame connected by a pair of opposed inwardly folded walls, slide guide means associated with the said frame elements and side walls at the upper ends thereof, and slide guide means associated with the said frame elements and side walls at the lower ends thereof, together with a top slide element and a bottom slide element arranged to fit within the said upper and lower slide guide means respectively, folding shelf means pivotally attached to at least one of the said frame elements, and shelf stop means on the said side walls arranged to receive the said shelf means.

3. The knockdown wardrobe as defined in claim **2** which includes at least one pole support on each of said side walls together with at least one removable pole supportably held within a pair of the said supports.

4. A knockdown wardrobe as defined in claim **3** having a rear panel forming a rear wall on the rear frame and a front face opening in the front frame.

5. The knockdown wardrobe as defined in claim **4** having door closure means in the said front face opening.

6. The knockdown wardrobe as defined in claim **5** in which the said door closure means comprises a plurality of folding panels arranged to fit within the said face opening, a channel at the upper end of said face opening having inwardly facing lips adapted to hold at least one wheel fixed to an upper portion of at least one of the said panels, a pair of hinge sets at each side of the said face opening, each hinge set comprising a pintle pin on a door panel and means within the face opening to receive the said pintle pin.

7. The knockdown wardrobe as defined in claim **6** having caster means attached to its lower end.

8. A knockdown wardrobe comprising a frame including a front wall, a rear wall and side walls in which the said side walls are arranged to fold inwardly between the said front and rear walls, said folding side walls being pivotally attached to said front and rear walls whereby

when said side walls are folded inwardly, said front and rear walls will converge toward each other with said side walls in folded position between them, said rear wall having shelf means pivotally attached thereto adapted to fold forwardly between said side walls when said side walls are in unfolded position, and shelf stops on said side walls to hold the said shelf means, an inner groove at the upper end of said front wall, a pair of opposed grooves at the upper inner ends of the side walls contiguous to said front wall upper groove, and a slot in the upper end of the said rear wall communicating with the said pair of grooves in the said side wall, an inner groove at the lower end of said front wall, a pair of opposed grooves at the lower inner ends of the side walls contiguous to said front wall lower groove, and a slot in the lower end of the said rear wall communicating with the said pair of grooves in the said side wall, a face opening in the said front wall between the said upper and lower grooves therein, a top slide element arranged to slide fit through the upper slot in the rear wall, said element having edges arranged to fit within the said upper grooves in the said side walls and the upper groove in the said front wall, a bottom slide element arranged to slide fit through

the lower slot in the rear wall, said element having edges arranged to fit within the said lower grooves in the said side walls and the lower groove in the said front wall.

9. The knockdown wardrobe as defined in claim **8**, including at least one pair of pole holding means in said frame together with a removable pole installed in said pair of pole holding means.

10. The knockdown wardrobe as defined in claim **9**, in which door closure means is fitted into the face opening of the said front wall.

References Cited by the Examiner

UNITED STATES PATENTS

72,124	12/1867	Turner	312—262
168,879	10/1875	Colbert	312—258 X
933,210	9/1909	Ullom	312—262 X
2,552,380	5/1951	Pickell	312—258 X

FOREIGN PATENTS

979,957	12/1950	France.

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