

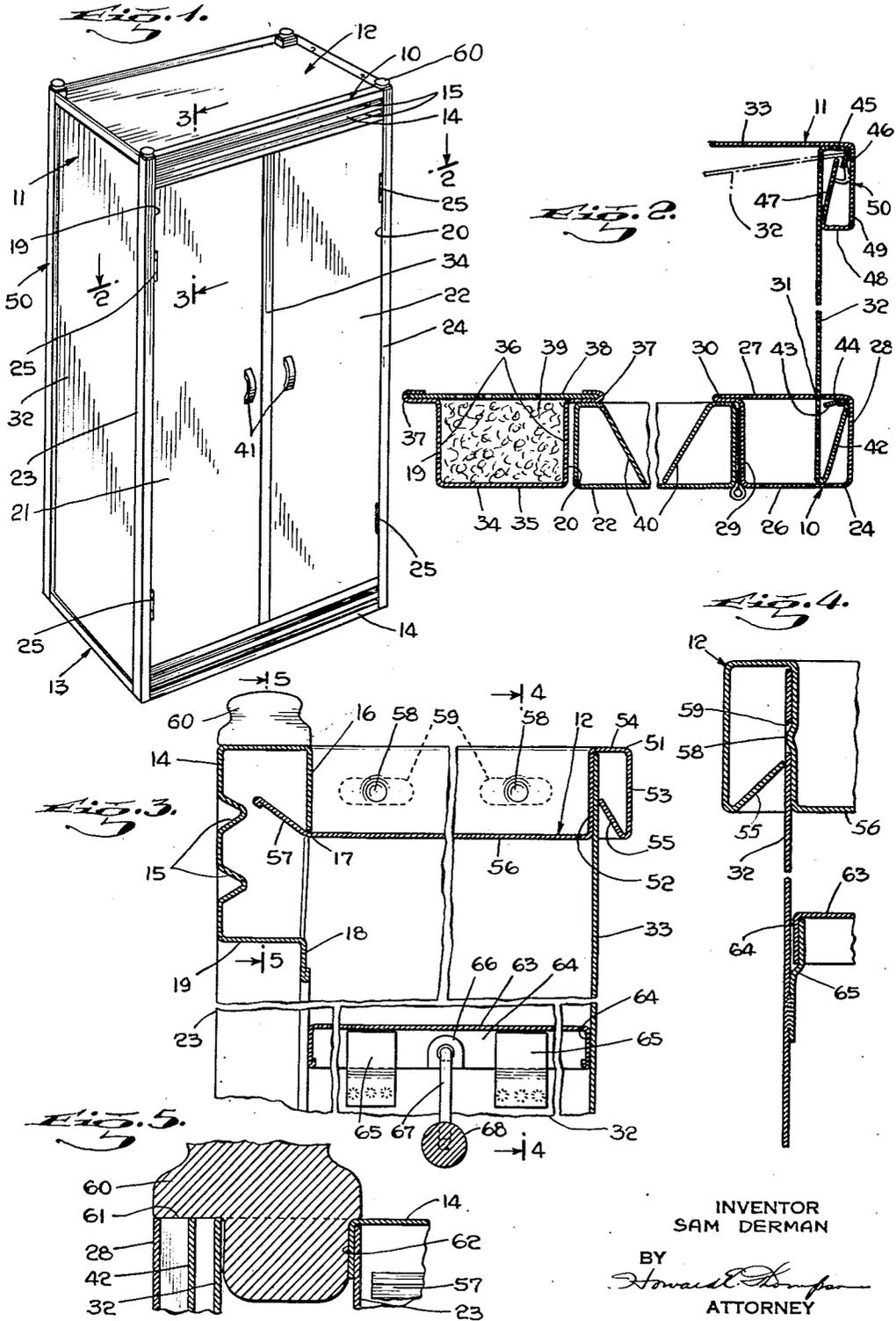
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KNOCKDOWN SHEET METAL WARDROBES

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KNOCKDOWN SHEET METAL WARDROBES

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This invention relates to wardrobes used for the storage of articles of various kinds and classes. More particularly, the invention deals with a knockdown wardrobe or cabinet structure composed of detachably and collapsibly related parts, whereby the knockdown construction can be shipped and stored in a relatively small space. Still more particularly, the invention deals with a structure of the character described which can be quickly and easily set up into operative position without the use of fasteners of any type or kind.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a perspective view of an assembled cabinet made according to my invention.

Fig. 2 is a partial and broken section on the line 2—2 of Fig. 1 on an enlarged scale.

Fig. 3 is an enlarged partial section on the line 3—3 of Fig. 1 with parts of the construction broken away.

Fig. 4 is a partial section on the line 4—4 of Fig. 3; and

Fig. 5 is a partial section on the line 5—5 of Fig. 3.

In Fig. 1 of the drawing, I have diagrammatically shown a perspective view of an assembled cabinet or wardrobe made according to my invention. The showing of Fig. 1 is diagrammatic from the standpoint of the smaller view of a large cabinet rendering it difficult to clearly illustrate some of the structural details in true form. However, the details of construction of the various parts of the cabinets will be clear from the larger showing in the sectional views of Figs. 2 to 5, inclusive, the cabinet comprising a front door and door frame section 10, a back and side wall section 11, a top section 12 and a substantially similar bottom section 13.

The door frame section 10 comprises substantially tubular top and bottom rails 14, one of which is shown in section in Fig. 3 of the drawing. The rails 14 have grooved front wall portions, as seen at 15, to give strength to and also to provide a finish for these rails, the grooving 15 forming what might be termed a corrugated construction. The back wall 16 of the rails 14 have openings 17 therein for purposes later described and the rails include, in alignment with the wall 16, stop flanges 18 which extend into door openings 19, 20 of the section 10, note Fig. 1, which shows the two openings.

The stop or check flanges 18 serve to check inward closing movement of doors 21 and 22, respectively, hinged to outer vertical posts 23 and 24, as seen at 25. As both posts 23 and 24 are of the same construction, the brief description of one will apply to both and, in Fig. 2 of the drawing, I have shown a cross-section of the post 24. Each post 23, 24 is generally rectangular in form and is defined by front and rear walls 26, 27 and outer side wall 28 and an inner side wall 29, the inner side wall 29 joining the back wall in a folded flange portion forming a stop or check flange 30, similar to the

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flange 18. It will also be noted that the back wall 27 has a vertical slot 31, which opens through at least one end of the post to facilitate coupling of side walls 32 with the door frame section 10. One of the side walls 32 is shown in section in Fig. 2 of the drawing and, here again, as both side walls are of the same structure, the brief description of one will apply to both. The side walls constitute part of the back and side wall section and are hingedly coupled with the back wall 33, as later described.

It will appear from a consideration of Fig. 1 of the drawing that the posts 23 and 24 overlie the ends of the rails 14 and are welded thereto, thus producing a rigid rectangular frame structure. This frame structure is further strengthened and reinforced by a center post 34, the ends of which are welded to inner adjacent surfaces of the rails 14. The post 34 is of the cross-sectional form noted in Fig. 2 of the drawing and comprises a front wall portion 35 and side walls 36, the walls 36 having outwardly extending and reversely bent hook-shaped flange portions 37 forming stop or check flanges, similar to the flanges 18 and 30. The hook-shaped flanges 37 also form channels for mounting of a perforated back plate 38 therein, the plate being adapted to retain, within the tubular structure of the rail 34, suitable mothproofing or other types of chemicals, diagrammatically seen at 39 in Fig. 2 of the drawing.

Each of the doors 21 and 22 are of the same construction. Thus the brief description of one will apply to both. In Fig. 2 of the drawing, I have shown a cross-section through the door 22, substantially only side edge portions of the door being shown, it being apparent that the door comprises a single panel of sheet metal terminating at its boundary edges in flanged reinforcing walls, generally identified by the reference character 40. These walls give to the doors the required thickness to fit in the openings 19 and 20 and also give rigidity to the door structures. Suitable handle members 41 are fixed to the doors to facilitate movement into opened position.

The back and side wall section 11 constitutes a unit which is attachable and detachable with respect to the door frame section 10. This is accomplished by providing, at the forward edge portions of the side walls 32, reversely bent longitudinal flanges 42, having short angular offset ends 43. The width of the flanges 42 is such as to fit snugly between the front and rear walls 26 and 27 of the posts 23, 24 with the juncture 44 between the flanges 42 and 43 fitting in the corner intersecting the outer side wall 28 with the back wall 27. Assemblage is made by sliding the wall 32 through the slit 31, where it opens through at least one end of the post 23, 24.

The rear edge portion of the walls 32 have an outwardly extending short right angle flange portion 45 terminating at its edge in an angularly extending flange portion 46 which may be said to form a long key tongue operatively engaging a flange 47 joining a narrow front wall portion 48 disposed at right angles to a side wall 49, the latter being arranged at right angles to the back wall 33. In other words, the walls 48 and 49, in conjunction with the flange 47, forms a hollow post-like structure at the rear of the cabinet, simulating the full post structure 24 at the front of the cabinet, thus producing a neat and finished appearance at each side of the cabinet. These walls further reinforce and give stability to the rear corner portions of the cabinet. The coupling engagement between the flanges 46 and 47 is such that, when the cabinet is arranged in collapsed or knocked down state, the side walls 32 can be folded upon the back wall 33 substantially within the dimensions of the back wall defined by the side wall portions 49. For purposes of description, the parts 47, 48 and 49 collectively may be said to define rear posts 50, with which

the side walls 32 have a hinge coupling. In dotted lines in Fig. 2 of the drawing, I have diagrammatically illustrated the collapsed position of one side wall 32 with respect to the back wall 33.

As both top and bottom wall sections 12 and 13 are substantially of the same construction, the brief description of one section, namely the section 12, will be applicable to both, the section 12 being shown in two sectional views, namely Figs. 3 and 4. The sections have railed back and side edge portions 51 of hollow construction and defined by inner and outer side wall portions 52 and 53 joined by a cross-wall 54 which, in one instance, constitutes a top wall and, in the other instance, constitutes a bottom wall. At the free edge of the outer wall 53 is an inwardly extending annular flange portion 55 spaced from the wall 52 sufficiently to receive the back and side walls 33, 32, respectively.

The body portion proper 56 of the sections 12, 13 comprises recessed walls and these recessed walls have, at their forward edges, angularly extending flanges 57 which are adapted to be passed through the aperture 17 in the rails 14 in assemblage of the sections 12 and 13 with the cabinet. In other words, the flanges 57 are first passed downwardly through the apertures 17 and then extend inwardly within the inner wall portion 16 of the rails 14, as is clearly shown in Fig. 3 of the drawing.

The walls 52, at the sides of the sections 12, 13, are preferably provided with spaced outwardly extending beads 58 which operate in elongated apertures 59 formed in the walls 32 to key the sections 12 and 13 against accidental displacement from the walls 32 and 33 of the cabinet. It will be apparent from a consideration of Fig. 1 of the drawing that corner portions of the sections 12 and 13 are cut out to receive the posts 23, 24 and 50. It will also be apparent that the railed portions 51 are generally of the same structure as the posts 50 and posts 23 and 24 to again produce a balanced appearance at the sides of the cabinet and these rail portions also give stability to upper and lower edge portions of the cabinet. In order to provide a finish at the upper portion of the cabinet, finishing knobs 60 of wood, plastics or other material are mounted in the upper portions of the posts 23, 24 and 50 and are so made as to include extensions 61 which overlie upper edge portions of the walls 28, 32 and the flanges 42 and 43, the flange 42 being indicated in Fig. 5 of the drawing.

It will also appear from a consideration of Fig. 5 of the drawing that the rails 14 have, at their end portions, inturned flanges 62 which fit within the posts 23 and 24, the flange 62 also aiding in reinforcing the assemblage between the rails 14 and the posts 23 and 24.

In Figs. 3 and 4 of the drawing, I have shown, in sectional detail, the mounting of a shelf 63 in the upper portion of the cabinet. The shelf fits snugly within the boundary front, back and side wall portions of the cabinet and has depending peripheral flanges, as at 64, which fit into spaced clips 65 arranged along inner surfaces of the side walls 32. The clips 65 are welded or otherwise secured in position. The side flanges 64 of the shelf 63 have inwardly offset apertured or bearing portions 66 for pivotal mounting of depending rods 67, with which a cross-hanger bar 68 is coupled, this bar being utilized to hang clothes or garments in the cabinet beneath the shelf structure. It will be apparent that the shelf 63 is readily detachable with respect to the clips 65 in the knocked down condition of the cabinet.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A knockdown sheet metal wardrobe of the character described, comprising a door frame section, a back and side wall section and top and bottom wall sections, the back wall having hollow posts extending longitudinally and forwardly of opposed side edges thereof, means on said posts and adjacent edge portions of the side walls

for hingedly coupling the side walls with said posts to collapse upon said back wall, the door frame section having, longitudinally of side edges thereof, hollow side posts joined by top and bottom rails, said posts having longitudinal slots on inner walls thereof inwardly of outer side walls of said posts, forward edge portions of the side walls being slidable longitudinally of the slots in assembling the door frame section therewith, said forward edge portions of the side walls having flanges engaging the posts of the door frame section in firm support of the side walls in said door frame posts, said top and bottom wall sections having recessed walls bordered by back and side hollow rails, said rails including means to frictionally engage upper and lower edge portions of said back and side walls, and means at the forward edge portion of the recessed wall of said top and bottom sections operatively engaging the top and bottom rails of the door frame section in retaining the top and bottom sections in positions on said back and side walls.

2. A knockdown sheet metal wardrobe of the character described, comprising a door frame section, a back and side wall section and top and bottom wall sections, the back wall having hollow posts extending longitudinally and forwardly of opposed side edges thereof, means on said posts and adjacent edge portions of the side walls for hingedly coupling the side walls with said posts to collapse upon said back wall, the door frame section having, longitudinally of side edges thereof, hollow side posts joined by top and bottom rails, said posts having longitudinal slots on inner walls thereof inwardly of outer side walls of said posts, forward edge portions of the side walls being slidable longitudinally of the slots in assembling the door frame section therewith, said forward edge portions of the side walls having flanges engaging the posts of the door frame section in firm support of the side walls in said door frame posts, said top and bottom wall sections having recessed walls bordered by back and side hollow rails, said rails including means to frictionally engage upper and lower edge portions of said back and side walls, means at the forward edge portion of the recessed wall of said top and bottom sections operatively engaging the top and bottom rails of the door frame section in retaining the top and bottom sections in positions on said back and side walls, and interengaging means between the rails of said top and bottom wall sections and said side walls for retaining the top and bottom walls against accidental displacement.

3. A knockdown sheet metal wardrobe of the character described, comprising a door frame section, a back and side wall section and top and bottom wall sections, the back wall having hollow posts extending longitudinally and forwardly of opposed side edges thereof, means on said posts and adjacent edge portions of the side walls for hingedly coupling the side walls with said posts to collapse upon said back wall, the door frame section having, longitudinally of side edges thereof, hollow side posts joined by top and bottom rails, said posts having longitudinal slots on inner walls thereof inwardly of outer side walls of said posts, forward edge portions of the side walls being slidable longitudinally of the slots in assembling the door frame section therewith, said forward edge portions of the side walls having flanges engaging the posts of the door frame section in firm support of the side walls in said door frame posts, said top and bottom wall sections having recessed walls bordered by back and side hollow rails, said rails including means to frictionally engage upper and lower edge portions of said back and side walls, means at the forward edge portion of the recessed wall of said top and bottom sections operatively engaging the top and bottom rails of the door frame section in retaining the top and bottom sections in positions on said back and side walls, said door frame section including top and bottom hollow rails secured to upper and lower portions of the posts of said door frame section, and said last named rails and the posts of the

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door frame section having inwardly extending door checking flanges.

4. A knockdown sheet metal wardrobe of the character described, comprising a door frame section, a back and side wall section and top and bottom wall sections, the back wall having hollow posts extending longitudinally and forwardly of opposed side edges thereof, means on said posts and adjacent edge portions of the side walls for hingedly coupling the side walls with said posts to collapse upon said back wall, the door frame section having, longitudinally of side edges thereof, hollow side posts joined by top and bottom rails, said posts having longitudinal slots on inner walls thereof inwardly of outer side walls of said posts, forward edge portions of the side walls being slidable longitudinally of the slots in assembling the door frame section therewith, said forward edge portions of the side walls having flanges engaging the posts of the door frame section in firm support of the side walls in said door frame posts, said top and bottom wall sections having recessed walls bordered by back and side hollow rails, said rails including means to frictionally engage upper and lower edge portions of said back and side walls, means at the forward edge portion of the recessed wall of said top and bottom sections operatively engaging the top and bottom rails of the door frame section in retaining the top and bottom sections in positions on said back and side walls, said door frame section including top and bottom hollow rails secured to upper and lower portions of the posts of said door frame section, said last named rails and the posts of the door frame section having inwardly extending door checking flanges, another hollow vertical post secured to said last named rails and dividing said door frame section into two door openings, and a pair of doors hinged in said door frame section and forming closures for said door openings.

5. A knockdown sheet metal wardrobe of the character described, comprising a door frame section, a back and side wall section and top and bottom wall sections, the back wall having hollow posts extending longitudinally and forwardly of opposed side edges thereof, means on said posts and adjacent edge portions of the side walls for hingedly coupling the side walls with said posts to collapse upon said back wall, the door frame section having, longitudinally of side edges thereof, hollow side posts joined by top and bottom rails, said posts having longitudinal slots on inner walls thereof inwardly of outer side walls of said posts, forward edge portions of the side walls being slidable longitudinally of the slots in assembling the door frame section therewith, said forward edge portions of the side walls having flanges engaging the posts of the door frame section in firm support of the side walls in said door frame posts, said top and bottom wall sections having recessed walls bordered by back and side hollow rails, said rails including means to frictionally engage upper and lower edge portions of said back and side walls, means at the forward edge portion of the recessed wall of said top and bottom sections operatively engaging the top and bottom rails of the door frame section in retaining the top and bottom sections in positions on said back and side walls, said door frame section including top and bottom hollow rails secured to upper and lower portions of the posts of said door frame section, said last named rails and the posts of the door frame section having inwardly extending door checking flanges, another hollow vertical post secured to said last named rails and dividing said door frame section into two door openings, a pair of doors hinged in said door frame section and forming closures for said door openings, said last named vertical post including laterally extending door check flanges at opposed sides thereof, said

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last named flanges being hook-shaped in form, and an apertured plate slidably engaging said hook-shaped flanges and forming a closure for the rear portion of said support.

6. A knockdown sheet metal wardrobe of the character described, comprising a door frame section, a back and side wall section and top and bottom wall sections, the back wall having hollow posts extending longitudinally and forwardly of opposed side edges thereof, means on said posts and adjacent edge portions of the side walls for hingedly coupling the side walls with said posts to collapse upon said back wall, the door frame section having, longitudinally of side edges thereof, hollow side posts joined by top and bottom rails, said posts having longitudinal slots on inner walls thereof inwardly of outer side walls of said posts, forward edge portions of the side walls being slidable longitudinally of the slots in assembling the door frame section therewith, said forward edge portions of the side walls having flanges engaging the posts of the door frame section in firm support of the side walls in said door frame posts, said top and bottom wall sections having recessed walls bordered by back and side hollow rails, said rails including means to frictionally engage upper and lower edge portions of said back and side walls, means at the forward edge portion of the recessed wall of said top and bottom sections operatively engaging the top and bottom rails of the door frame section in retaining the top and bottom sections in positions on said back and side walls, the side walls having pairs of hook-shaped clips fixed to inner surfaces thereof at a predetermined distance below said top wall section, a shelf detachably supported on said clips, and a garment hanger on said shelf.

7. A knockdown sheet metal wardrobe of the character described, comprising a door frame section, a back and side wall section and top and bottom wall sections, the back wall having hollow posts extending longitudinally and forwardly of opposed side edges thereof, means on said posts and adjacent edge portions of the side walls for hingedly coupling the side walls with said posts to collapse upon said back wall, the door frame section having, longitudinally of side edges thereof, hollow side posts joined by top and bottom rails, said posts having longitudinal slots on inner walls thereof inwardly of outer side walls of said posts, forward edge portions of the side walls being slidable longitudinally of the slots in assembling the door frame section therewith, said forward edge portions of the side walls having flanges engaging the posts of the door frame section in firm support of the side walls in said door frame posts, said top and bottom wall sections having recessed walls bordered by back and side hollow rails, said rails including means to frictionally engage upper and lower edge portions of said back and side walls, means at the forward edge portion of the recessed wall of said top and bottom sections operatively engaging the top and bottom rails of the door frame section in retaining the top and bottom sections in positions on said back and side walls, said door frame section having at least one door opening, a door hinged to one of the posts of said door frame section, and said door having inwardly extending hollow peripheral edge portions.

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