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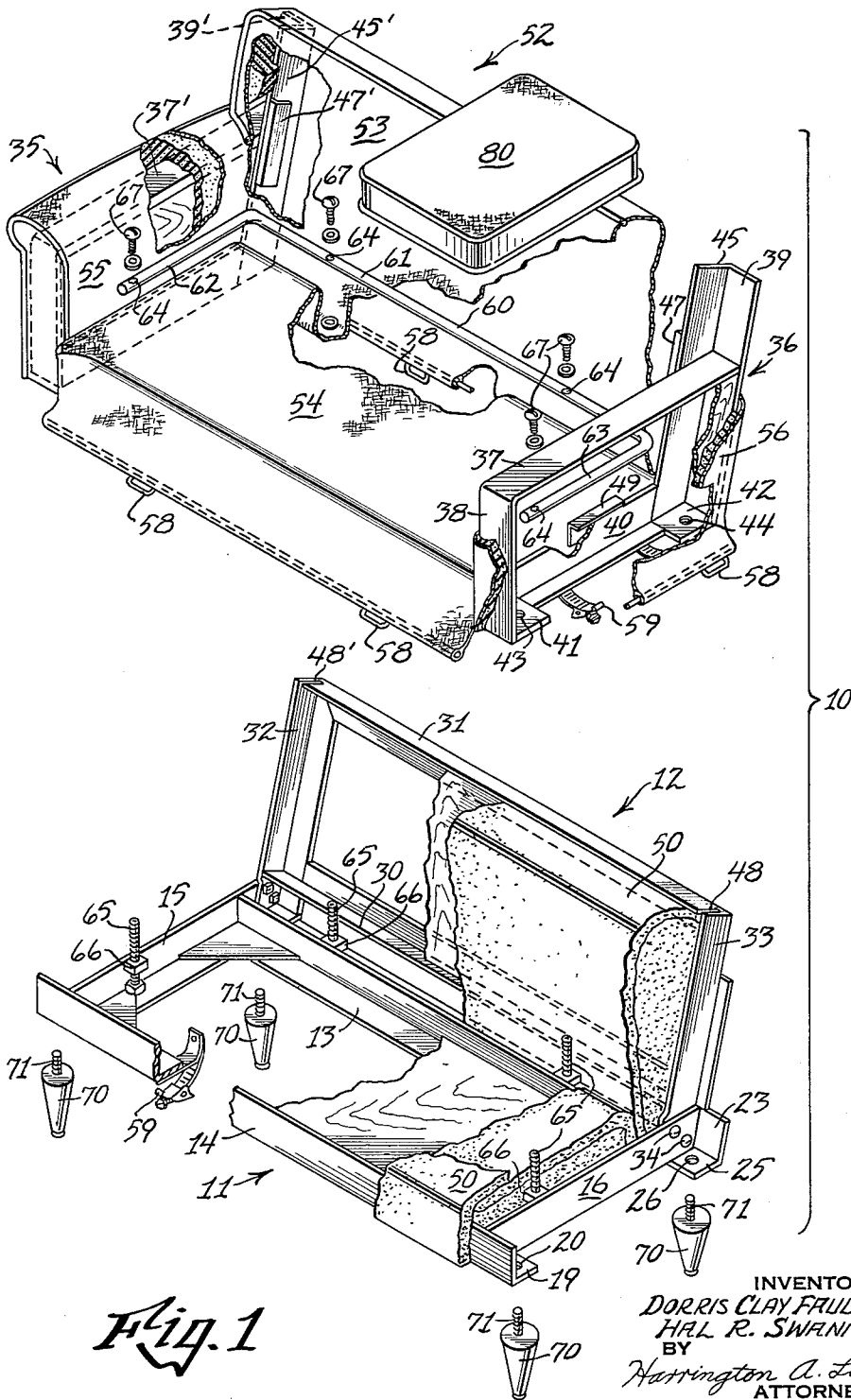
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KNOCK-DOWN SOFA

Filed Dec. 27, 1960

2 Sheets-Sheet 1



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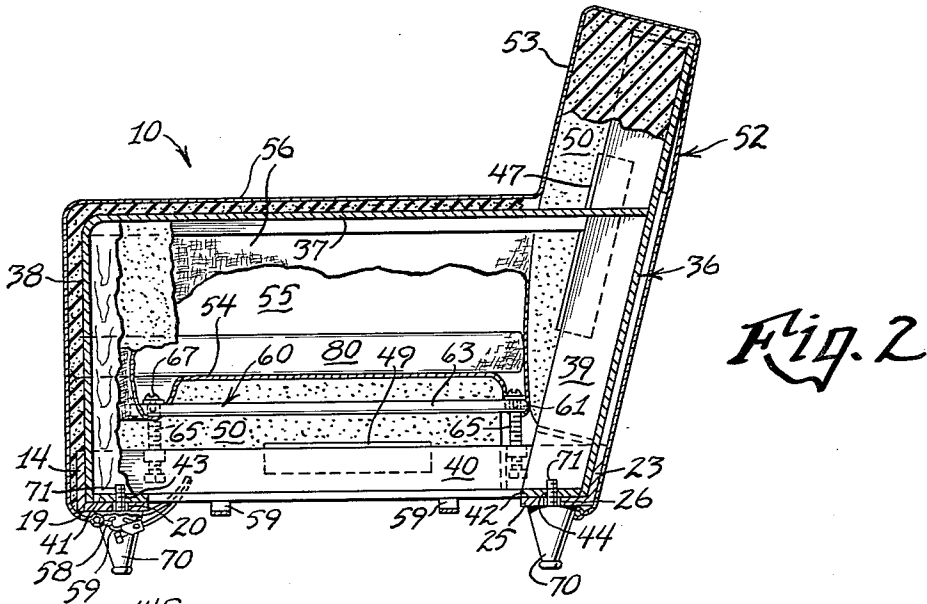
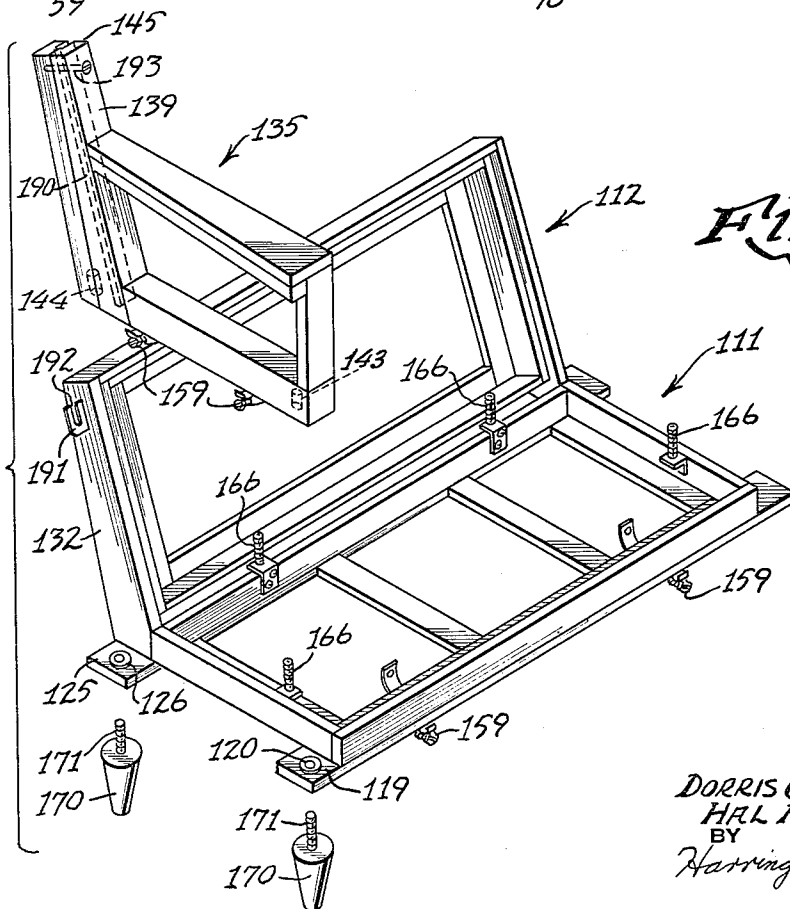
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## KNOCK-DOWN SOFA

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This invention relates to a sofa or other similar article of furniture, and more particularly to a knock-down sofa adapted for interchanging slip covers.

Although various types of knock-down furniture have been designed to conserve shipping and storage space and to facilitate the assembly and disassembly of furniture parts, the various knock-down furniture parts are complete in themselves. For example, each component part of knock-down upholstered furniture is a complete upholstered unit with the upholstering and covering sewn or otherwise fixed in place. Thus, when the upholstered component parts are assembled, the appearance of the assembled furniture is determined without any flexibility of design or color.

It is therefore an object of this invention to provide knock-down furniture, which may or may not be upholstered, in which the cover for the furniture may be easily changed in order to provide greater variety of color and design for the same article of furniture.

Another object of this invention is to provide a basic article of furniture having knock-down parts and interchangeable slip covers which will favorably compete with other similar articles of furniture which have neither knock-down components nor interchangeability of covers.

A further object of this invention is to provide a knock-down sofa having a back deck and a seat deck which may be rigidly secured together and a pair of arm members which are adapted to support the sofa cover while the arm members are being assembled with the back and seat decks.

Another object of this invention is to provide a novel means for securing the component parts including the slip cover of a knock-down sofa in assembled position.

A further object of this invention is to provide a novel structure for knock-down sofas to provide for rapid interchangeability of covers in which a sofa may or may not be upholstered, and in which the frame work may be wood, metal or any other suitable material.

Further objects and advantages of the invention will be apparent from the following description, taken in conjunction with the drawings, wherein:

FIG. 1 is an exploded perspective assembly view of the invention with parts broken away;

FIG. 2 is a sectional elevational view of the invention in assembled position with parts broken away; and

FIG. 3 is an exploded perspective assembly view of a modification of the invention.

Referring now to the drawings in more detail, FIGS. 1 and 2, disclose a sofa 10 of metal frame work, having a seat frame or deck 11 and a back frame or deck 12.

The seat frame 11 is of substantially rectangular shape having parallel back and front members, such as steel angles 13 and 14. The end or side frame members, such as the angles 15 and 16, abut against the front frame member 14, which is longer than the back member 13 and extends laterally beyond the side members 15 and 16 in order to form front leg receiving flanges 19, each having an aperture 20 therethrough. The rear ends of the side frame members 15 and 16 extend beyond the back frame member 13 and terminate against a back angular member 23 of substantially the same length as the front frame member 14. The angular member 23 also extends laterally beyond the side members 15 and 16 in order to form

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the rear leg retaining flanges 25, each having an aperture 26.

The back frame or deck 12 is also of substantially rectangular shape having parallel bottom and top frame members 30 and 31 of substantially equal length and connected by parallel end or side frame members or rails 32 and 33, the upper ends of which join the ends of the top frame member 31. However, the bottom ends of the side frame members 32 and 33 depend below the bottom frame member 30 to terminate against the bottom flange of the angular member 23. All the frame members 30-33 may be of steel angle shapes, as disclosed in the drawings. The outer faces of the rails 32 and 33 form plane parallel surfaces normal to the plane of the back deck 12. The depending portions of the rails 32 and 33 may be rigidly secured to the rearwardly extending portions of the side frame members 15 and 16 by means of detachable bolts 34. The depending portions of the rails 32 and 33 may also be secured to the angular member 23 if desired. Thus, the side frame members 15 and 16 form substantially parallel end planes, and the rails 32 and 33 form substantially parallel end planes, all of the end planes being normal to each plane of the seat frame 11 and the back frame 12.

The sofa 10 also comprises a pair of arm frames 35 and 36 which are mirror images of each other and adapted to be secured on opposite ends of the sofa. The arm frame 36 comprises an arm rest member 37, supported by a front post 38 and a rear post 39 extending upward beyond the arm rest 37. The posts 38 and 39 are supported by a bottom frame member or rail 40, and have bottom flanges 41 and 42 adapted to rest on corresponding seat deck flanges 19 and 25. Moreover, the flanges 41 and 42 are provided respectively with threaded apertures 43 and 44 adapted to register with the apertures 20 and 26 when the arm frame 36 is in assembled position. Although the post 39 is disclosed as an angle member, the form of the post is not important so long as the inner face 45 is in a plane which will permit it to abut flush against and slide longitudinally of the rail 33. In a like manner, the inner face of the bottom rail 40 must also be a plane surface adapted to abut flush against and in sliding relation with the outside of the side member 16 of the seat deck 11.

In order to guide the face 45 in sliding engagement with the side member 33, an L-shaped clip 47 is mounted by its short or front flange to the forward edge of the surface 45, so that the main flange of the clip 47 will extend rearwardly substantially parallel to the face 45 to permit the rail 33 to slidably engage the face 45 and the clip 47. Thus, the clip 47 permits relative longitudinal movement of the post 39 with the rail 33, but prevents lateral movement of the post 39 toward and away from the member 33 and rearward movement of the post 39 relative to the rail 33. Because of the angular shape of the top frame member 31, a slot 48 is formed in its upper flange to permit the clip 47 to slide over the upper end of the rail 33. A similar clip 49 is mounted on the bottom rail 40 to slip over the top edge of the side member 16 of the deck 17.

Elements corresponding to those for the arm frame 36 are also found in the arm frame 35, and are so designated by the same reference numbers with primes.

The above frame members are so designed that they may incorporate upholstery 50 of any convenient type.

To completely cover all of the frame parts together with their upholstering, a single slip cover 52 is provided incorporating connecting back, seat and arm portions, pockets or envelopes 53, 54, 55, and 56, respectively. The back portion or envelope 53 is adapted to fit over the back deck 12 and the posts 39 and 39' when they are slidably engaged in assembled position against the side rails 33 and 32,

respectively. The arm portions 55 and 56 are also adapted to snugly fit over the upholstered arm frames 35 and 36. The seat portion 54 is adapted to fit over the top and around the sides of the upholstered seat deck 11. The bottom edges of the cover 52 are drawn taut and fastened beneath the seat deck 11 by any convenient fastening means. However, a preferred form of fastener means is a plurality of loops or staples 58 attached to and depending at spaced intervals along the bottom edges of the cover 52. The spring biased hooks 59 are attached to the bottom of the seat frame 11 and adapted to engage the loops 58 when the cover 52 has been drawn into its assembled position. The hooks 59 on the ends of the sofa 10 may be attached to the bottom rail 40, as best disclosed in FIG. 1.

In order to hold the slip cover 52 in its assembled position and to separately identify the back, seat and arms, a U-shaped hold-down bar 60 having a back rod 61 and side rods 62 and 63 is provided to fit on top of the cover 52 between the seat portion 54 and the back and arm portions 53, 55 and 56. Holes 64 may be drilled vertically through the rods 61-63 to slidably receive threaded bolts 65 extending upward through nuts 66 mounted at spaced intervals on the deck frame members 15, 13 and 16 and in axial alignment with the holes 64. When the hold-down bar 60 is pressed down into position, the holes 64 will slip over the aligned bolts 65, which are internally threaded to receive the cap bolts 67.

To lock the arm frames 35 and 36 to the seat frame 11 and to support the sofa 10, legs 70 are provided having upwardly extending threaded extensions or male members 71 to extend through and threadedly engage the registering pairs of apertures 20-43 and 26-44.

After the sofa 10 is assembled, cushions 80 may be placed on top of the seat cover portion 54.

The operation of the invention disclosed in FIGS. 1 and 2 is as follows:

With the sofa 10 in its disassembled or knock-down condition, the seat frame 11, back frame 12, arm frames 35 and 36, slip cover 52, hold-down bar 60, legs 70 and seat cushions 80 comprise the separate components of the sofa. The upholstery 50 may be separate or may be pre-formed on the respective frames 11, 12, 35 and 36. When the sofa 10 is knocked-down into its several components, it is evident that they will occupy less space for shipping or storage than they would assembled.

In assembling the components of the sofa 10, the depending portions of the rails 32 and 33 are secured by means, such as bolts 34, to the rearwardly extending portions of the side members 15 and 16 of the seat deck 11. Thus, the deck 11 and back 12 will be rigidly secured together in the position disclosed in FIGS. 1 and 2.

As disclosed in the upper portion of FIG. 1, the arm frames 35 and 36 are inserted into their respective cover portions or envelopes 55 and 56, and simultaneously the upper portions of the posts 39 and 39' are fitted into the extremities of the back cover portion 53. Thus, the posts 39 and 39' are preferably of a length adapted to extend the full height of the back cover portion 53 so that the tops of the posts 39 and 39' will abut against the top of the back cover portion 53. Thus fitted within the cover 52, the arm frames 35 and 36 are pulled away from each other until the back portion 53 and the seat portion 54 are fully stretched to assume their final shape.

From a raised stretched position, the cover 52 and the arm frames 35 and 36 are lowered until the back cover member 53 slips over the back frame 12. During this operation, the surfaces 45' and 45 of the posts 39' and 39 slide downwardly and longitudinally of their respective rails 32 and 33. The clips 47' and 47 will slide through their respective slots 48' and 48 in the top frame member 31 to engage their respective rails 32 and 33 and guide the posts 39' and 39 into assembled position. As the arm frames 35 and 36 are lowered into assembled position, the bottom rails 40' and 40 and their respective clips 49'

and 49 will slidably engage the side frame members 15 and 16.

When the arm frames 35 and 36 and cover 52 are completely assembled with the seat deck 11 and the back 12, the leg extensions 71 are threaded through their respective apertures, such as the aperture 20 and 43 of the respective flanges 19 and 41, to lock all of the frame members in assembled position.

The cover 52 is then secured by placing the hold-down bar 60 down between the seat cover portion 54 and the back cover portion 53 and side cover portions 55 and 56. With the hold-down bar 60 pressed down in position, the apertures 64 will register with their respective bolts 65, and the bar 60 is secured by screwing the cap bolts 67 into the internally threaded ends of the bolts 66. The hooks 59 are then stretched to engage each of their respective loops 58 to secure the bottom margins of the cover 52. When the seat cushions 80 are placed on top of the seat cover portion 54, the sofa 10 is ready for occupancy.

If, for any reason, the owner of the sofa 10 desires a change in the design or color of the cover 52, it may be easily removed and replaced by disconnecting the hooks 59 from their respective loops 58, unthreading the caps 67 and removing the hold-down bar 60. The arm frames 35 and 36 are then lifted to disengage the respective seat side frame members 15 and 16 and the rails 32 and 33. The old cover 52 is then easily removed from the disassembled arm frames 35 and 36 and replaced by a new cover 52. The new cover and arm frame members 35 and 36 are then restored to their assembled position in the manner previously described.

Thus, it is seen that a sofa, or chair, or any other type of furniture which can be made in accordance with this invention, may be easily assembled and disassembled for transportation, storage or for rapidly and easily interchanging slip covers.

Moreover, the structure of the elements for carrying out the assembly and disassembly of the sofa are made with a minimum of parts and a minimum of fastening means.

FIG. 3 shows another modification of the invention in which the seat frame 111 and the back frame 112 are made of wood but are of similar configurations to the frames 11 and 12, and may be rigidly attached to each other in any convenient manner, such as by bolts. The arm frame 135 is also made of wood and of the same general configuration as the arm frame 35. However, the post 139 and the rail 132 are provided with modified guide and fastening means for securing them in assembled position. The post 139 is provided with a longitudinal groove 190 formed in the face 145 and opening toward the post 132 in order to slidably receive a tongue 191 fixed to the post 132 and having an upwardly opening slot 192. Extending transversely through the walls of the groove 190 is a pin 193 adapted to be received within the slot 192 when the arm frame 135 has been lowered into its assembled position with the seat frame 111 and the back frame 112. In all other respects the structure and operation of the modification disclosed in FIG. 3 is similar to those disclosed in FIGS. 1 and 2.

It will be apparent to those skilled in the art that various changes may be made in the invention, without departing from the spirit and scope thereof, and therefore the invention is not limited by that which is shown in the drawings and described in the specification, but only as indicated in the appended claims.

What is claimed is:

1. A sofa having a seat frame and a back frame rigidly attached to said seat frame, said back frame having first and second elongated end members, first and second arm frames, each arm frame having an arm rest portion adapted to be attached in assembled position to said seat frame and a rear post extending above the arm rest portion and having an inner surface, the inner surface of the post of said first arm frame being adapted to slidably en-

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gage the first end member of said back frame, and the inner surface of the post of said second arm frame being adapted to slidably engage the second end member of said back frame, a slip cover having the overall shape of the assembled sofa, including a back envelope, a seat envelope and first and second arm envelopes, the posts of said arm frames being adapted to extend into and support the end portions of said back envelope when the arm rest portions are inserted into said arm envelopes, said posts being adapted to maintain said back envelope open to receive said back frame as said posts are lowered slidably against the end members of said back frame, and means for securing said arm frames against said seat frame and said back frame in assembled position.

2. The invention according to claim 1 in which a U-shaped hold-down bar is adapted to fit on top of said slip cover to outline a seat portion of said sofa between said seat envelope and said arm and back envelopes, and means for securing said hold-down bar to said seat frame in assembled position.

3. A sofa having a seat frame and a back frame rigidly attached to said seat frame, said back frame having opposite first and second end rails in parallel planes, said seat frame having opposite end members in parallel planes substantially in alignment with said corresponding end rails, first and second arm frames, said first arm frame having a back post having an inner plane surface adapted to abut flush against and slide longitudinally of said first rail, said first arm frame having an inner plane surface adapted to abut flush against and slidably engage said first seat frame end member, said second arm frame having a post having an inner plane surface adapted to abut flush against and slide longitudinally of said second rail, said second arm frame having an inner plane surface adapted to abut flush against and slidably engage said second seat frame end member, means for guiding the slidable movement of said posts along said rails, flanges extending laterally from said opposite end members for supporting said arm frames in assembled position, each flange having an aperture therethrough, legs for supporting said sofa, each leg having a threaded extension, each arm

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frame having threaded openings adapted to register with the apertures in said flanges for receiving said threaded extensions to lock said arm frames, said seat frame and said legs in assembled position.

4. The invention according to claim 3 in which a single slip cover having back, seat and arm portions for covering said back frame, said seat frame and said arm frames, respectively, is provided, and a U-shaped hold-down bar is provided for fitting on top of said slip cover between said seat portion and said back and arm portions, and means for securing said hold-down bar to said seat frame for maintaining the shape of said slip cover in assembled position.

5. The invention according to claim 3 in which the means for slidably guiding said posts along said rails comprises a clip fixed to the forward edge of each post and extending rearwardly to slidably engage said rail.

6. The invention according to claim 3 in which means for slidably guiding said posts along said rails comprises a longitudinal groove formed on the inner surface of each post and a transverse pin extending through the sides of said groove within each post, a tongue extending laterally from each rail to slidably engage said longitudinal groove, said tongue having a slot opening upwardly to receive the pin in said post in assembled position.

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