

May 30, 1939.

W. T. GREEN ET AL

2,160,653

KNOCK-DOWN CHEST

Filed April 12, 1937

FIG. 1

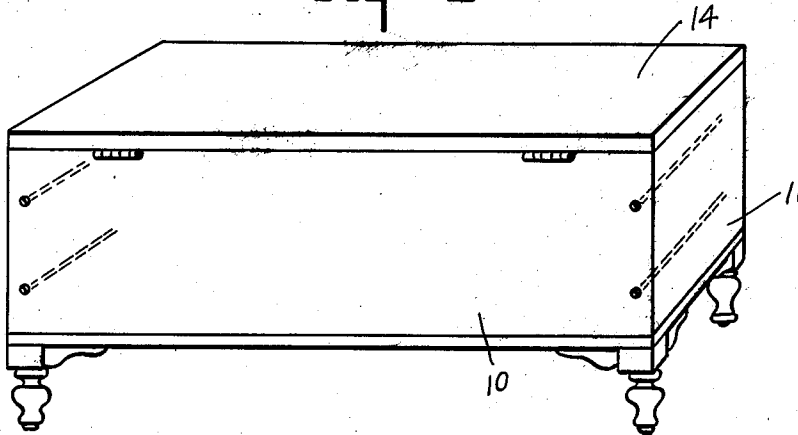


FIG. 2

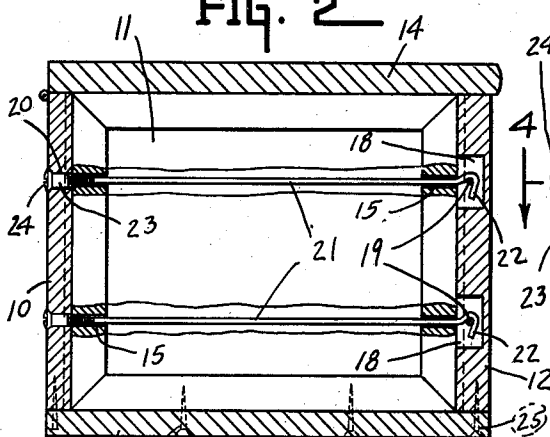


FIG. 3

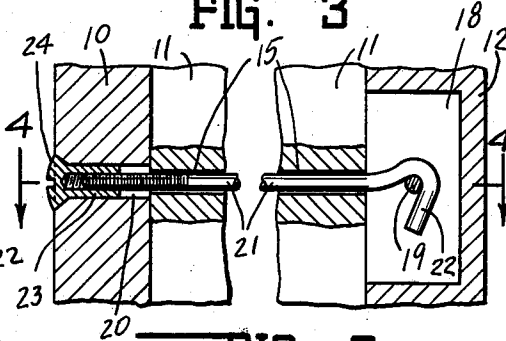


FIG. 6

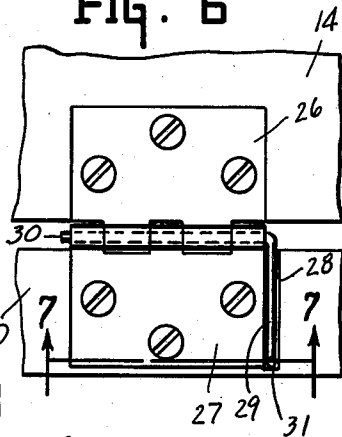


FIG. 4

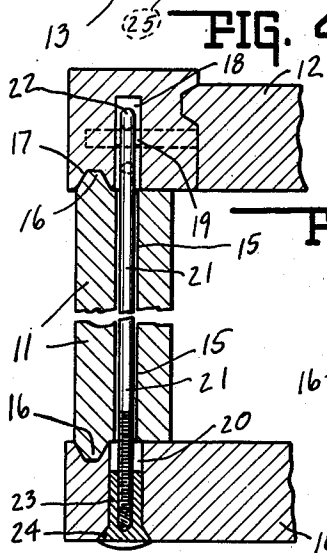


FIG. 7

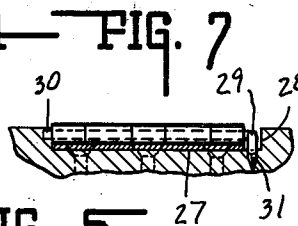


FIG. 5

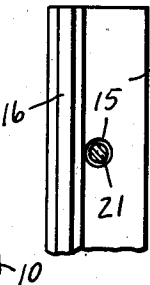
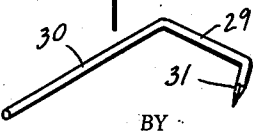


FIG. 8



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KNOCK-DOWN CHEST

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Application April 12, 1937, Serial No. 136,346

3 Claims. (Cl. 217—12)

This invention relates to a chest construction or any similar box-like container, and particularly cedar chests.

It is the object of the invention to provide a chest comprising a plurality of separate panels, all of which may be rigidly but detachably secured together, commonly known as a knock down construction. The advantage, as applied to cedar chests, resides in the fact that for shipping and storage purposes the knock down chest requires much less storage space and is much easier handled than the permanently constructed type of chest. However, the difficulty encountered in the usual knock down chest construction is three fold. In the first place difficulty is often had in assembling the panels by inexperienced and un-equipped persons. Secondly, difficulty is had in assembling the panels securely and in proper alignment. But thirdly, and most important, it is essential that the interlocking fittings and fasteners for the respective panels be so concealed that both interiorly and exteriorly of the chest there will be no evidence that it is of a knock down construction or other than a permanent construction.

To accomplish the foregoing, one feature of the invention resides in the provision of a set of tie rods which pass through suitable holes extending entirely through one set of panels, such as the end panels, from one edge to the other, so as to be entirely concealed therein. One end of each of the tie rods is provided with a hook which extends into a recess in an adjacent cross panel, such as the front. Such recess is concealed by the edge of the panel secured thereto, the hooked end being anchored by an anchor pin secured in the concealed recess. The other end of the rod is adapted to receive a decorative head screwed thereon, preferably in the back panel, for causing the rod to tie the opposed panels securely against the edge of the intermediate panel through which it extends.

Another feature of the invention resides in the removable hinge pin having an arm for permitting its ready removal and insertion in the hinge plates, but which is concealed and locked against removal when the lid is closed.

The full nature of the invention will be understood from the accompanying drawing and the following description and claims:

Fig. 1 is a perspective view showing the back of the chest with the tie rods indicated by dotted lines. Fig. 2 is an inside elevation of an end panel showing parts thereof broken away to expose the tie rods, locking it between the side

panels. Fig. 3 is an enlarged view illustrating the means for anchoring the ends of the tie rod. Fig. 4 is an enlarged horizontal section taken on the line 4—4 of Fig. 3. Fig. 5 is an elevation of the side edge of the end panel with a portion broken away. Fig. 6 is a plan view of the upper edge of the back panel showing the lid and hinge in open position. Fig. 7 is a section taken on the line 7—7 of Fig. 6. Fig. 8 is a perspective view of the hinge pin.

In the drawing there is illustrated a chest, as shown in Fig. 1, comprising a back panel 10, end panels 11, front panel 12, bottom panel 13, and a lid 14.

Each of the end panels is provided with bores 15 extending horizontally therethrough from one edge to the other. Each vertical edge is also provided with a kerf 16. The front panel 12 is provided on its inner edge with a vertical groove 17 for receiving the kerf 16 of the end panel for aligning and interlocking the same. Also on the inner surface of the front panel there is provided a plurality of recesses 18 extending vertically and having an anchor pin 19 extending laterally and crosswise thereof. The recesses 18 are positioned opposite the ends of the bores 15 when the panels are assembled. The back panel is provided with a bore 20 extending in alignment with the bore 15 in the end panel when assembled.

The tie rods 21 extend through the respective bores 15 for the full length thereof so as to project from each edge of the end panel. Each tie rod is provided at one end with a hook 22 adapted to extend into the recess 18 and hook over the anchor pin 19. The opposite end of the tie rod is threaded to receive an elongated nut 23 having an enlarged head 24. The threaded end of the tie rod extends through the bore 20 in the back panel, said bore being enlarged to receive the elongated nut 23 and beveled for frictional engagement by the head 24.

In assembling the several panels, the tie rods are inserted in the bores of the end panels, the rear edge of the end panel being fitted against the back panel and the hook 22 of the tie rod hooked over the anchor pin 19. The front panel is then mounted against the opposite edge of the end panel so that the threaded end of the tie rod extends through the bore 20 therein. The nut 23 is then screwed to the tie rod and is tightened up so as to draw the front and back panels toward each other in clamping engagement with the edges of the end panel. Through the employment of two or more tie rods, the front, back and end panels are thereby rigidly secured in

position, with their edges and ends clamped in sealing engagement to provide a rigid structure. The bottom panel 13 is then merely screwed to the bottom edges of the front, back and end panels by the screws 25.

The lid 14 is hinged to the back panel in the usual manner, and for that purpose a hinge plate 26 is screwed to the recessed inner surface thereof. A complementary hinge plate 27 is screwed within the recess formed in the upper edge of the back panel. Adjacent one end of the hinge plate 27 there is a recessed section 28 formed in the upper edge of the back panel in which there is adapted to lie an arm 29 formed upon a hinge pin 30. Said hinge pin secures the plates 26 and 27 together in the usual manner, the arm 29 extending at right angles thereto and inwardly to lie in the recess 28. For locking the hinge pin in position, the arm 29 is provided with a downwardly-extending sharpened head 31 which penetrates downwardly in said recess 28.

In assembling the lid, the hinge plates are held in position to receive the hinge pin 30 therethrough. Said hinge pin may be readily gripped and inserted by the arm 29. After the hinge pin has been inserted in place, it is turned so that the arm 29 lies within the groove 28, and the sharpened head 31 penetrates the wood of the panel. Thus, the arm 29 and head 31 prevent longitudinal displacement of the hinge pin with respect to the hinge plates. When the lid is closed it conceals the arm 29 so that the hinge pin cannot be removed. This is important to prevent the lid from being displaced when the front is locked down by the simple removal of the hinge pins. However, if it is desired to remove the lid, it may be opened and the arm 29 raised so as to unlock it from the recess 28. Thereupon the arm 29 may be used as a handle to conveniently slide the hinge pin from the hinge plates.

While the invention has above been described as applied to the usual cedar chest construction, it is obviously applicable to any type of knock down chest.

The invention claimed is:

1. A chest having two sets of wall panels, one set being removably secured intermediate the other set with their end edges abutting the inner surfaces of the latter, tie rods freely extending from end to end through said intermediate panels and concealed therein, one of said abutting panels having recesses in the inner sur-

face thereof concealed by the abutting edges of the intermediate panels, anchor pins secured in said recesses to which said tie rods are removably connected, the opposite ends of said tie rods being threaded and extending through the other abutting panel, and nuts adapted to screw on the threaded ends of said rods for drawing said abutting panels toward each other into clamping relation with said intermediate panels.

2. A chest having two sets of wall panels, one set being removably secured intermediate the other set with their end edges abutting, tongue and groove connections between said panels for positioning and sealing them in assembled relation, said intermediate panels being provided with a bore extending between the panel abutting edges thereof, recesses in the inner surface of one of said abutting panels in registry with the adjacent end of said bores and concealed by the abutting edges of the intermediate panels, an anchor pin extending through each of said recesses, a tie rod extending through each of said bores, each of said tie rods having a hooked end for freely engaging over the respective anchor pins, the opposite ends of said tie rods being threaded and extending through the other abutting panel, and elongated nuts adapted to extend into recesses formed in said last-mentioned panel in threaded engagement with said tie rods for drawing said abutting panels toward each other in clamping relation with said intermediate panels through the medium of said tie rods.

3. A chest having two sets of wall panels, one set being removably secured intermediate the other set with their end edges abutting the inner surfaces of the latter, tie rods freely extending from end to end through said intermediate panels and concealed therein, one set of panels having recesses formed therein concealed by the adjacent portion of the other set of panels, anchor members secured to one of the second-mentioned set of panels and lying within said recesses to which said tie rods are removably connected, the opposite ends of said tie rods being threaded and extending through the other of said second mentioned set of panels, and nuts adapted to screw on the threaded ends of said rods for drawing said second-mentioned set of panels towards each other into clamping relation with said intermediate panels.

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