

Oct. 22, 1963

W. M. BROOKS ETAL

3,107,940

CONVERTIBLE CHAIR-COUCH ASSEMBLY

Filed Jan. 22, 1962

3 Sheets-Sheet 1

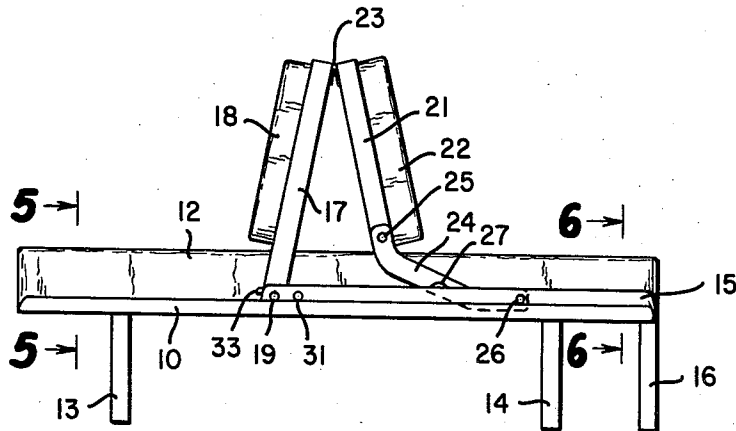


Fig. 1

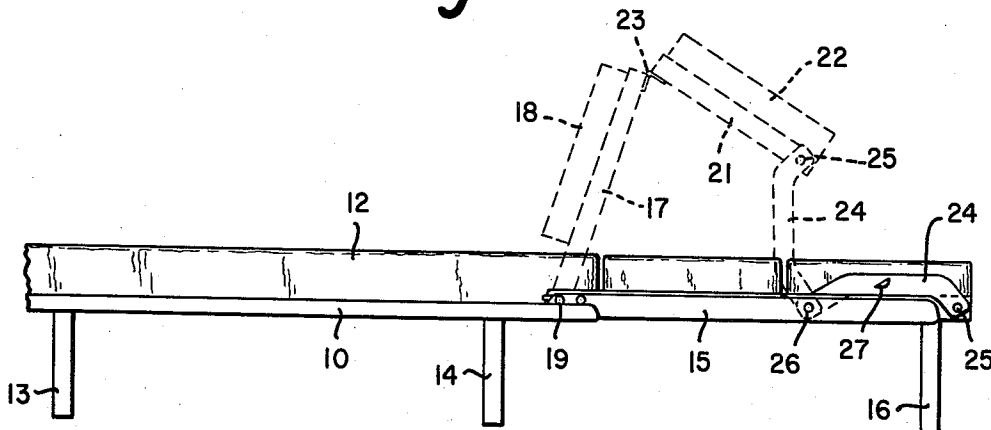


Fig. 2

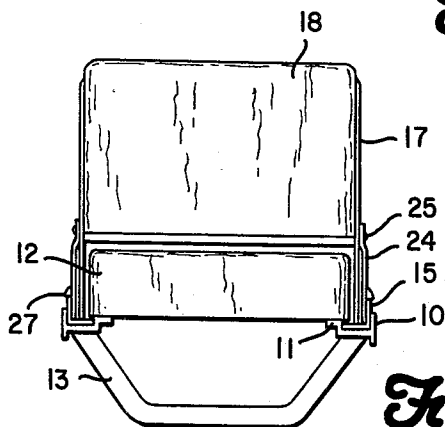


Fig. 3

INVENTORS.  
WESLEY M. BROOKS  
EARL W. HOFFSIS  
BY *Malcolm W. Fraser*  
ATTORNEY

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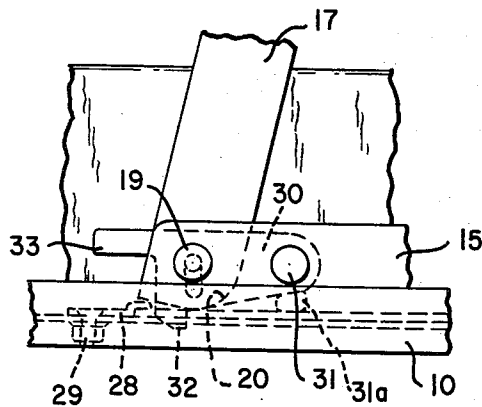


*Fig. 4*

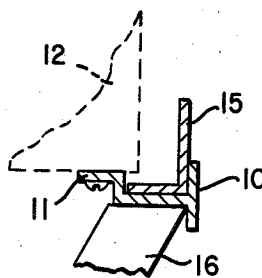


*Fig. 6*

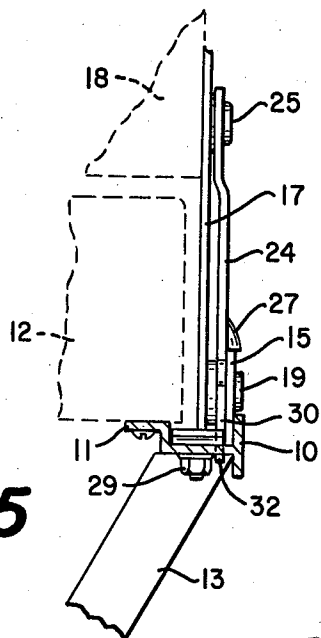


*Fig. 5*

INVENTORS.  
WESLEY M. BROOKS  
EARL W. HOFFSIS  
BY  
*Malcolm W. Prosser*  
ATTORNEY

Oct. 22, 1963

W. M. BROOKS ETAL

3,107,940

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3 Sheets-Sheet 3

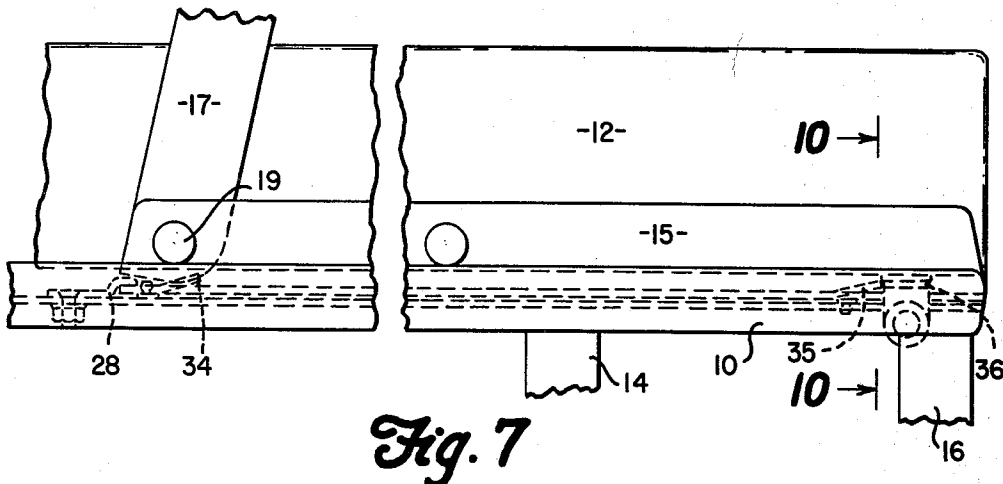


*Fig. 7*

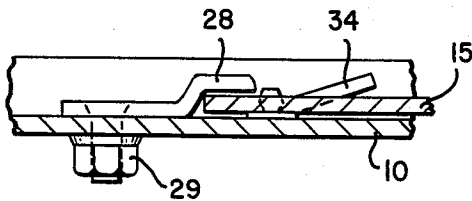


*Fig. 8*

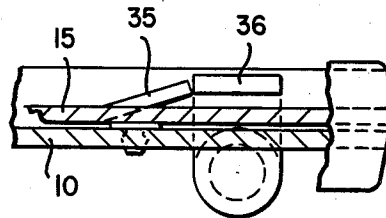


*Fig. 9*

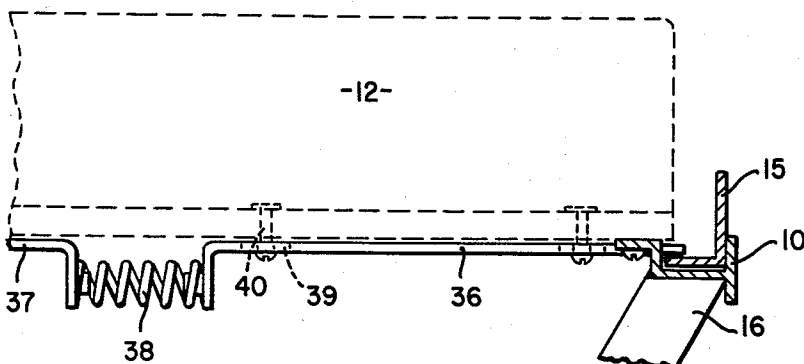


*Fig. 10*

INVENTORS.  
WESLEY M. BROOKS  
EARL W. HOFFSIS  
BY *Phaloch W. Praser*  
ATTORNEY

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3,107,940

## CONVERTIBLE CHAIR-COUCH ASSEMBLY

Wesley M. Brooks and Earl W. Hoffsis, Toledo, Ohio, assignors, by mesne assignments, to Globe-Wernicke Industries, Inc., Toledo, Ohio, a corporation of Ohio  
Filed Jan. 22, 1962, Ser. No. 167,746  
7 Claims. (Cl. 297-63)

This invention relates to furniture but more particularly to a convertible chair-couch combination and an object is to produce an assembly of this character having a two chair arrangement in back-to-back relation which can be readily converted into a bed or couch of comfortable proportions.

Another object is to produce a convertible chair-couch arrangement which provides a two chair arrangement in one organization and which has a slide capable of being drawn out to afford a couch in which the backs of the chairs provide the covering for the slide.

A further object is to produce a chair-couch assembly which converts from a chair to a couch by pulling out a slide, parts of the chair being rockable upon the slide to afford a covering therefor for establishing a couch.

Other objects and advantages of the invention will hereinafter appear and, for purposes of illustration, but not of limitation, an embodiment of the invention is shown on the accompanying drawings in which

FIGURE 1 is a side elevation of the chair-couch assembly with the parts in position for use as chairs;

FIGURE 2 is a side elevational view of the device converted from chair use as in FIGURE 1 to a bed or couch in which the back frames of the chairs fold down into horizontal position;

FIGURE 3 is an end elevational view of the assembly shown in FIGURE 1 viewed from the left of FIGURE 1;

FIGURE 4 is an enlarged fragmentary sectional view of a portion of the device showing the catch for securing the parts in position for chair use;

FIGURE 5 is an enlarged fragmentary sectional view substantially on the line 5-5 of FIGURE 1;

FIGURE 6 is an enlarged sectional view substantially on the line 6-6 of FIGURE 1;

FIGURE 7 is a fragmentary side elevation of an alternate form of latching mechanism for the chair-couch assembly and showing the slide in its inner position;

FIGURE 8 is an enlarged fragmentary sectional view of a detail, showing the slide in its inner position against a stop;

FIGURE 9 is an enlarged fragmentary sectional view of a detail showing the struck-out tongue on the slide in abutting relation to a latch arm; and

FIGURE 10 is an elevational view partly in section of a portion of the outer end of the frame showing the releasable latch arms and taken on the line 10-10 of FIGURE 7.

The illustrated embodiment of the invention comprises a couch-chair arrangement having a substantially rectangular main frame 10 of metal, the rails of which are generally U-shaped in cross section. The several rails forming the frame 10 have an inwardly extending horizontal flange 11 through which screws pass for securing an upholstered cushion 12 thereto, the latter extending from end to end of the frame 10. At opposite end portions of the frame are supporting legs 13 and 14, which, as shown in FIGURE 3, are generally U-shaped.

Mounted in the channel formed by the side rails of the main frame 10 is a metallic slide frame 15, the same being adapted to shift horizontally along the side rails of the frame 10 from the position shown in FIGURE 1 to an extended position beyond one end of the main frame, as shown in FIGURE 2. The rails of the slide frame 15 are L-shaped in cross section to have a sliding

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fit in the channel formed in the main frame rails. At the outer end of the slide frame 15 is an end leg 16 similar in configuration to the legs 13 and 14.

A generally rectangular metallic back frame 17 carrying an upholstered cushion 18 at one side is pivotally connected at 19 to the inner end of the slide frame 15. The lower ends of the frame 17 are formed with rounded edge portions 20 to afford the desired pivotal movement, as will hereinafter appear. At one side of the back frame 17 is a second rectangular metallic back frame 21 which is somewhat shorter than the back frame 17. The back frame 21 carries an upholstered cushion 22 similar to the cushion 18. The frames 17 and 21 are connected together at their upper ends by a hinge 23. When the back frames are in raised position to provide two seat backs, the frames 17 and 21 incline downwardly and outwardly relative to each other.

Pivotally connected to the lower end of the back frame 21 on each side is an arm 24 which is generally of inverted U-shape. The pivotal connection to the frame 21 is indicated at 25 and the opposite end is pivotally connected at 26 to the slide frame 15. Intermediate the ends of each arm 24 is an outwardly-struck stop to provide a shoulder 27 for abutting engagement with the upper edge of the slide frame 15. The stops 27 not only properly position the back frame 21 in the desired position but also assist in the support thereof when the back frames are in raised seat position.

When the slide frame 15 is slid inwardly to the position shown in FIGURE 1, stops 28 are provided on each side of the main frame 10 for limiting the movement of the slide frame so that the back frames 17 and 21 are properly positioned relative to the main frame. As shown (FIG. 4) each stop piece 28 is of sheet metal and is secured to the main frame by bolt and nut assemblies 29. Each stop piece has a raised lip to receive the adjacent end of the slide frame 15 and hold it in place.

The slide frame is secured in the chair position by pivoted latch arms 30 which are pivoted at 31 to the slide frame 15. The arms have depending hooks 32 which are adapted to extend through holes provided in the main frame 10, thereby positively to retain the slide frame 15 in the desired position. Each of the latch arms 30 has a handle 33 to enable it to be conveniently manipulated. Each arm 30 is spring loaded and, as shown, a rubber block 31a is disposed under each arm and mounted on the slide frame 15 for urging the respective arm out of latching position.

It will be understood that in order to convert the assembly from use as a two seat chair arrangement as shown in FIGURE 1, to a couch position, the latches 30 are first released. Thereafter the slide frame 15 is moved to the right of FIGURE 1 to the position shown in FIGURE 2. The back frames 17 and 21 are rocked to a flatwise position with the cushions in alignment with the main cushion 12. It will be apparent that the back frame 17 rocks about its pivotal connections 19 and the back frame 21 swings upon its hinge 23. As the frame 21 is extended to the right of FIGURE 2, the arms 24 rock about pivots 26 so that finally the pivotal connections 25 are disposed outermost and the two frames 17 and 21 abut against each other so that the ends of the cushions 18 and 22 are brought closely together. Manifestly by reversing the operation and moving the slide 15 to the left of FIGURE 2, the back frames 21 and 17 may then be rocked to their upright or chair position as shown in FIGURE 1.

An alternate form of latching mechanism is shown on FIGURES 7 to 10 and, in this instance a pair of tongues 34 and 35 are struck from the flat portion of the slide 15, on each side thereof, the tongues 34 being arranged adjacent the inner end of the slide and the tongues 35

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adjacent the outer end thereof. Each of the tongues 34 and 35 incline upwardly and rearwardly or toward the outer end of the slide.

The slide 15 is releasably latched or retained in its outermost or bed position or in its innermost or chair position by spring tensioned retractable latching arms 36 and 37 which are slidably carried by the main frame 10 and disposed transversely thereof at the outer or rear end thereof. As shown the arms 36 and 37 flatwise engage beneath the frame of the cushion 12 and each has a pair of slots 39 into which project guide and retaining pins 40. The arms 36 and 37 are L-shaped and interposed between the adjacent ends is a helical coil compression spring 38 normally urging the arms to latching position. The opposite ends of the arms 36 and 37 project through suitable slots in the frame 10 to be arranged in the path of travel of the inclined tongues 34 and 35.

When the slide frame 15 is pulled outwardly the latching arms 36 and 37 are first retracted by pressing the L ends together to enable the tongue 35 to move past the same and dispose the ends of the arms out of abutting relation. Then the tongue 34 will abut against the ends of the released arms and prevent further outward movement of the slide frame 15 on the main frame 10.

From the above description it is apparent that we have produced an exceedingly simple convertible two seat chair-couch arrangement which can be quickly and easily converted from one use to the other. The compactness of the arrangement lends it for use on boats and other places where space must be conserved. The various parts are sturdily constructed to withstand vibration and shocks incident to use.

Numerous changes in details on construction, arrangement and operation may be effected without departing from the spirit of the invention especially as defined in the appended claims.

What we claim is:

1. A convertible chair-couch assembly comprising a main horizontally disposed frame; a slide frame mounted on and shiftable lengthwise relatively to said main frame, said slide frame shiftable between a position substantially within the confines of said main frame or in a position outside thereof; releasable means to retain said slide frame within the confines of said main frame; a first back frame pivoted to said slide frame and adapted to be disposed above said main frame in one position; a second back frame hinged at one end to the upper end of said first back frame; and linkage means connecting

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the opposite end of said second back frame to an end portion of said slide frame, said linkage means including a pair of spaced link arms having one of their respective end portions pivotally connected to opposite sides of the other end of said second back frame, the other end of each of said link arms pivotally connected to said slide frame, the arrangement being such that in one position said back frames provide with said main frame a pair of chairs in back to back relation and in another position when said slide frame is extended provide with said main frame a couch with said back frames rocked to a position of horizontal alignment.

2. The organization set forth in claim 1 in which abutment means on said link arms engage said slide frame to dispose said back frames in chair position.

3. The organization set forth in claim 1 in which cushion means covers said main frame, and cushion means for each back frame, the several cushion means being in substantial alignment when said back frames are disposed for couch use.

4. The organization set forth in claim 1 in which said link arms are of generally inverted U-shape.

5. The organization as set forth in claim 1 in which said releasable retaining means comprises a loaded catch engageable through said main frame.

6. The organization as set forth in claim 1 in which said releasable retaining means comprises spring tensioned pivotally mounted catch arms.

7. The organization as set forth in claim 1 in which said releasable retaining means comprises retractable spring tensioned arms on said main frame, and tongues on said slide frame adapted to abut against said arms for controlling the sliding movement of said slide frame.

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