June 14, 1938. J. W. BOWERSOX ET AL 2,120,663

CONVERTIBLE COUCH

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Fig. 1.

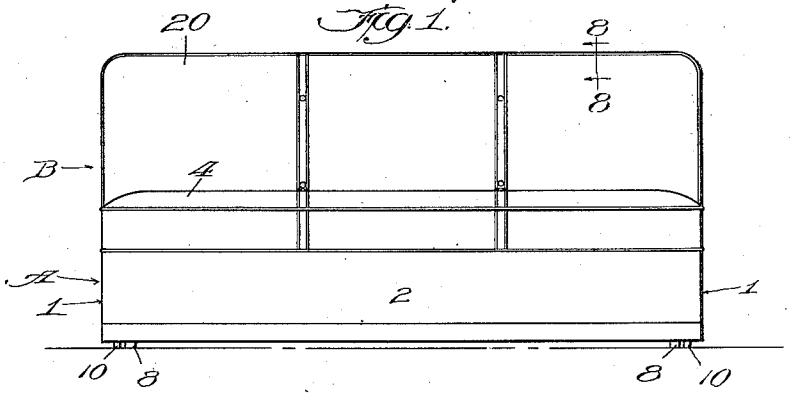


Fig. 2.

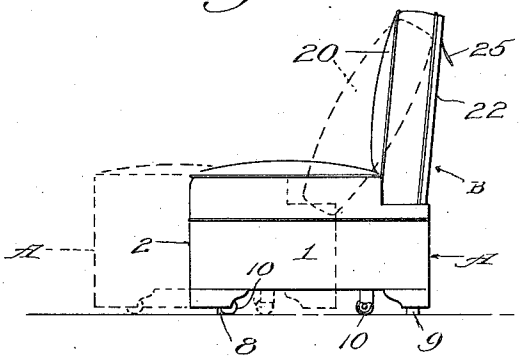
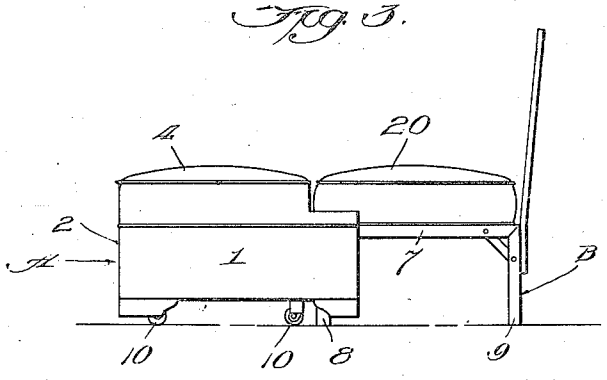


Fig. 3.



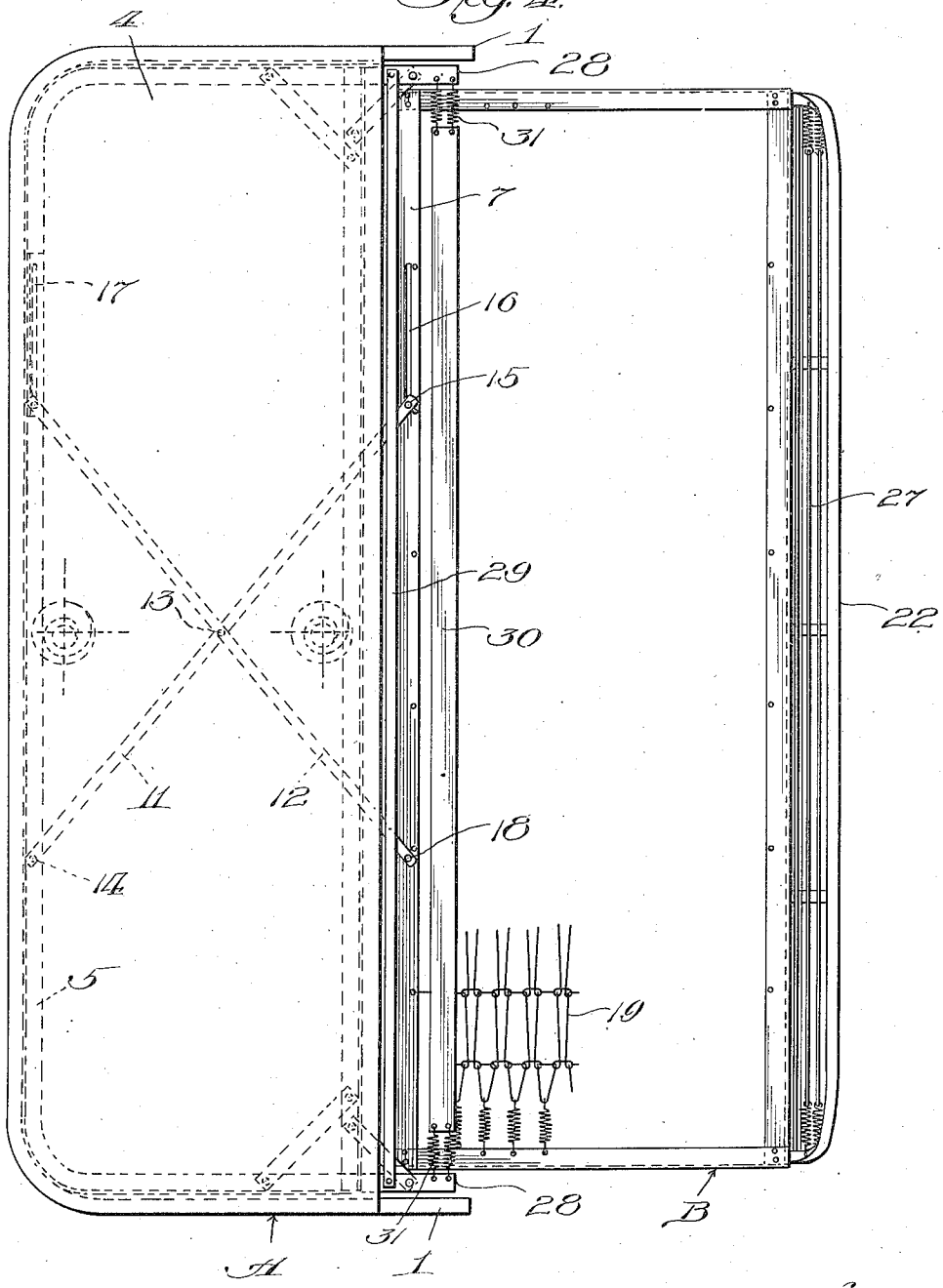
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Fig. 4.



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Fig. 5.

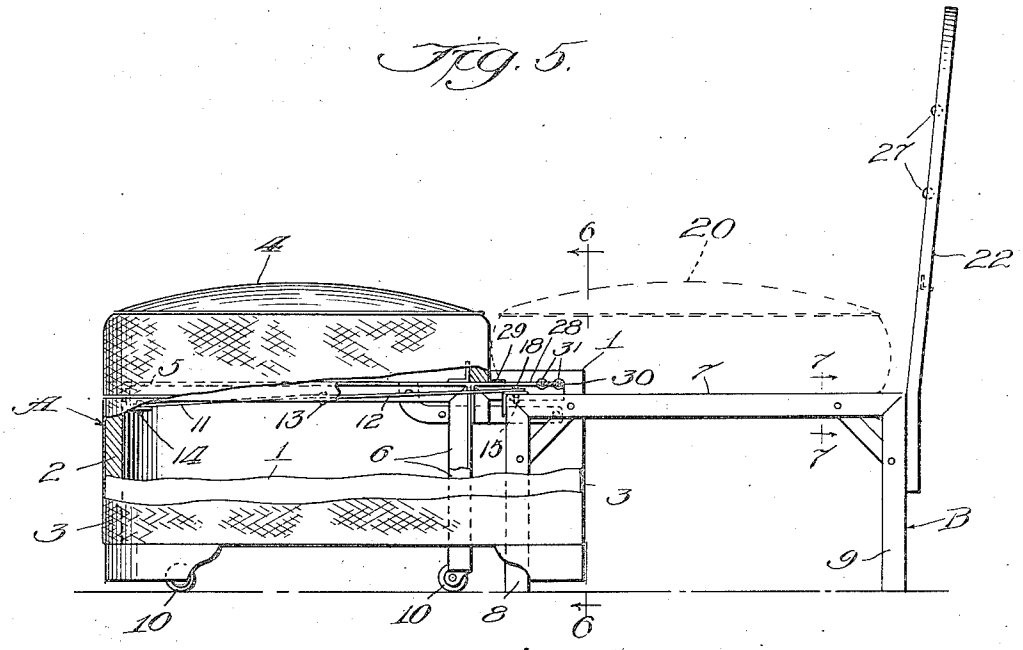


Fig. 6.

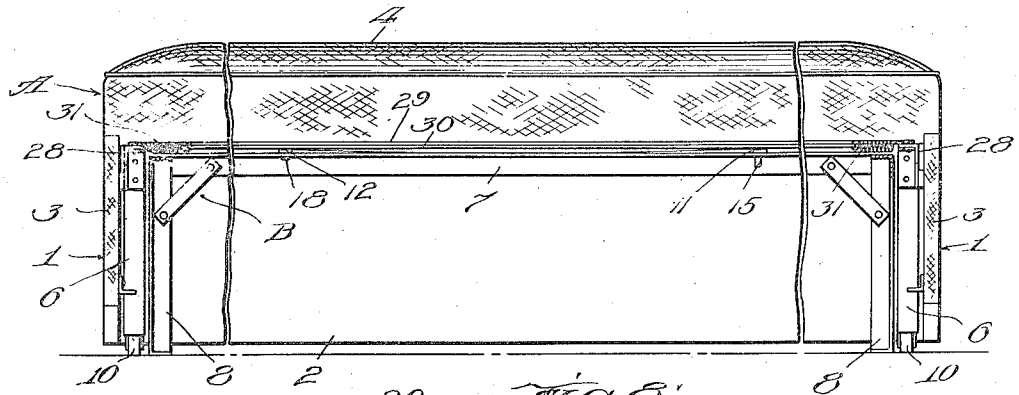


Fig. 7.

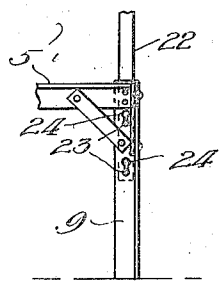
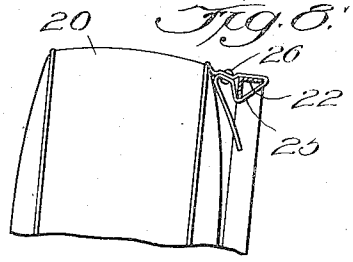


Fig. 8.



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UNITED STATES PATENT OFFICE

2,120,663

CONVERTIBLE COUCH

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Application September 14, 1936, Serial No. 100,622

2 Claims. (Cl. 5—18)

The present invention relates to couches of the type comprising two sections of which one section may be stored under the other, be withdrawn to produce a wide bed, or be entirely disconnected and separated from the other section; and has for its object to produce a simplified construction which will provide a couch, a double bed, or single beds, all bed high, without requiring any raising or collapsing of either section or any other cushions or mattresses than a single seat cushion and a single back cushion.

In carrying out our invention, we so construct the framework of the two sections that the seat section is open on the rear side throughout its entire length and for a height reaching from the floor to approximately the plane of the under side of the seat cushion. The second section comprises a rigid framework as high as the height of the opening in the rear side of the seat section will permit in a structure which must enter the chamber in the seat section through such opening and be housed within the same. The parts are so proportioned that when the two sections are housed one within the other, that is, when the couch is closed, there remains behind the seat cushion a ledge or shelf on which a back cushion may be placed on edge. This back cushion is of such thickness that when the couch is opened by pulling forward the seat section to expose the normally housed section, the back cushion, when laid upon the latter section, serves as a mattress, the top of which is substantially level with the top of the seat cushion. Thus, the seat cushion serves as the mattress for one section, and the back cushion as a mattress for the other section. Since the seat section may initially be bed high, and since nothing is removed from above the seat cushion in making up a double bed or a pair of twin beds, the seat section remains bed high at all times. Also, since the back cushion is deep enough to make the second section bed high when laid flat thereon, the double bed or the two twin beds into which the couch may be transformed, are also bed high.

The various features of novelty whereby our invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of our invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a front elevation of a couch embodying the present invention; Fig. 2 is an end view of the couch, the full lines showing the couch closed, and the dotted lines showing it partially opened; Fig. 3 is a view similar to Fig. 2, showing the couch completely opened and the back cushion lying flat on the normally concealed section; to serve as a mattress therefor; Fig. 4 is a top plan view, on a larger scale than Figs. 1–3, showing the couch open; Fig. 5 is an end view, on the same scale as Fig. 4, parts being broken away to expose other parts normally concealed; Fig. 6 is a section on line 6—6 of Fig. 5, no part of the mattress-supporting fabric on the second or under section being shown; Fig. 7 is a section on line 7—7 of Fig. 5, illustrating the manner of connecting one leg of the back rest to the main framework of the second or under section of the couch; and Fig. 8 is a section on a still larger scale, on line 8—8 of Fig. 1, showing only fragments of the back cushion and the back rest, together with a means to tie the top of the back cushion to the back rest when the couch is closed.

Referring to the drawings, A represents the main or seat section of a two part couch; this section comprising a box-like structure open at the bottom and at the rear side. In the arrangement shown, the end and front walls, 1 and 2, respectively, of section A extend to a short distance of the floor and are covered on their outer sides with fabric 3 in harmony with the fabric on the seat cushion or mattress 4. The upper part of the box-like structure, on which the seat cushion rests, may conveniently be a metal frame 5 of structural steel, below the two rear corners of which are vertical legs 6 integral therewith or fixed thereto. The section B may conveniently comprise a top 7, front legs 8, and rear legs 9, suitably joined and braced; the dimensions of the structure being such that it may be housed within the seat section. The seat section may be provided with casters 10, while the legs 9 of the second section may rest directly on the floor. This will permit the seat section to be pulled forward while the other section remains stationary.

The top members 5 and 7 of the frame structures of the sections A and B are preferably connected together in such a way that the long edges of the two sections will remain parallel when the couch is opened and while it is being closed and which shall, at the same time, permit the two sections to be readily disconnected from each other if it be desired to use them as separate or twin beds. In the arrangement shown, this connection consists of an equalizing device in the form of two bars 11 and 12 of equal lengths, crossing each other and pivoted together at the middle

as at 13. One end of the bar 11 is pinned to the top frame 5 of the section A, as indicated at 14, while its other end has a pin 15 extending down through a longitudinal slot 16 in the front member of the top frame 7 of the section B; the bar 11 overlying this frame member. The bar 12 has at one end a pin extending through and adapted to move lengthwise of a longitudinal slot 17 in the top frame 5 of section A, while its other end is provided with a pin 18 that extends down through a hole in the front member of the frame 7 of section B. By lifting the rear ends of the two bars, the pins 15 and 18 may be freed from the frame member 7 so that there is no longer any connection between the two couch sections, and they may be moved entirely apart from each other.

Spanning the length and width of the opening bounded by the frame 7 of section B is a suitable mattress-supporting fabric 19, upon which may be laid the cushion that normally forms the back of the couch.

It will be seen that the end walls 1 of the section A project rearwardly a considerable distance beyond the rear edge of the seat cushion. Normally, when the couch is closed, as shown in full lines in Fig. 2, a long, thick back cushion 20 fits down behind the seat cushion and may lie between upwardly projecting portions 21 of the rearward extensions on the end walls of main couch-section A. Consequently, if the couch be placed against a wall, there will always be room behind the seat cushion for the reception of a marginal portion of the seat cushion standing on edge. When the couch is open, as indicated in Fig. 3, the back cushion is caused to lie upon the section B, causing the couch to be transformed into a double bed as high as the seat of the couch when the couch is closed.

The couch is preferably provided with a back rest so as normally to give it the appearance of a davenport by holding the back cushion upright and in intimate contact with the rear edge of the seat cushion. This back rest may consist simply of a long bar or tube 22 bent into a flattened U the distance between the free ends of the arms of which is equal to the length of the couch section B. This back rest may be detachable. In the arrangement shown, the back rest is formed from a long angle iron suitably bent; one flange of each leg of the back rest lying flat against the rear face of one of the legs 9 of the section B. Each such flange is provided with a pair of headed pins 23 projecting forwardly therefrom and adapted to enter keyhole slots 24 in the adjacent leg 9. To attach the back rest to the section B the pins on each leg are simply brought into registration with the large ends of the keyhole slots in the corresponding leg of the section B and, after these headed pins have been entered in the slots, the back rest is pushed down so as to bring the heads on the pins behind the narrow parts of the slots.

While the structure is being used as a couch, the back cushion may be temporarily fastened along the upper edge thereof to the top rail of the back rest. In the arrangement shown, as can best be seen in Fig. 8, the back cushion is provided with one or more straps 25 adapted to be passed around the top rail of the back rest. The meeting parts of each strap may be fastened together in any suitable way as, for example, by a snap fastener such as indicated at 26.

The space enclosed by the legs and the horizontal part of the back rest 22 may be spanned by a suitable yieldable metal fabric or combined fabric and bracing means 27, secured to the back rest in any desired way so as to form a support across the length and width of the back cushion when the latter is standing on edge in front of the back rest as in Figs. 2 and 8.

In order that the back cushion may automatically assume a substantially horizontal position, as indicated in Fig. 3 and in dotted lines in Fig. 5, when the couch is opened, we provide the section A with a rearwardly projecting shelf-like support along the rear and just above the plane of the top of the frame member 7 of the section B. When the couch is closed and the back cushion is set in place, in an upright position, it rests on the shelf-like rearward extension. By properly constructing the shelf-like extension, the back cushion will not easily slide off the same when the seat section is pulled forward and, consequently, the lower end of the back cushion will be drawn forward as the couch is opened, and the upper end (assuming that it has been unfastened from the back rest,) simply slides down the back rest until the center of gravity is carried far enough forward to allow the cushion to drop down and lie flat; the dotted line construction in Fig. 2 illustrating the cushion in an inclined position after a partial opening of the couch.

This shelf-like support for the back cushion may take any desired form. In the arrangement shown, there are a pair of brackets 28 secured to the box-like frame structure of the seat section on the rear side, near the two ends of the couch, these brackets having horizontal arms extending rearwardly just inside of the rearward projections of the end walls 1, 1. Between the horizontal arms of these two brackets, in the arrangement illustrated, there are two metal straps 29 and 30. The strap 29 is quite narrow while the other strap is considerably wider. Both straps lie with their broad faces horizontal; the strap 29 is riveted or otherwise fixed to the brackets at its ends; and the strap 30 is also connected to the horizontal arms of the brackets, but through the medium of coiled tension springs 31. The strap 29 is near the seat cushion and also close to the forward longitudinal member of the top frame 7 when the couch is opened and therefore need not be yieldable to the same extent as is the strap 30 which lies farther back. In other words, the strap 30 may serve as a yieldable support for the forward marginal portion of the back cushion when the latter lies flat, thereby preventing the cushion from resting solidly on the unyielding forward longitudinal member of the top frame of the section B.

It will thus be seen that we have produced a simple and novel convertible couch the framework of which is formed in two sections the dimensions of which are fixed and one of which has thereon a permanent seat cushion that serves also as a mattress, while there is a single loose cushion that performs the functions of a mattress for the second section and a back cushion for the seat section; whereby, with very little effort, the user may change over a convertible couch having comfortable seat and back cushions into a double bed of full height having comfortable mattress means or into two single beds of full height, each supplied with an adequate mattress. We therefore avoid the objection to a low bed arrangement that follows when a convertible couch is provided with two seat cushions, one above the other, the top cushion being removed and laid on top of the under section when the couch is opened. We also avoid the compli-

cations that result from making an under section that may be raised and lowered to provide a full height bed. In additon, one of our mattresses serves effectively as a back cushion whereas, in prior couches of which we are aware, this has not been the case. It should also be noted that while one of our cushions is loose, it is not loose in the sense of a pillow that may be propped against a wall while resting upon a seat cushion; but, particularly where the back rest is employed, this loose cushion constitutes a part of a couch having a seat in the back, so that the couch may be moved bodily from one position to another or stand away from the walls of a room without disturbing the loose cushion.

While we have illustrated and described with particularly only a single preferred form of my invention, we do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of our invention constituting the appended claims.

We claim:

1. A couch comprising a seat section and a second section, said seat section having a cushioned seat and a narrow yieldable mattress-supporting member extending lengthwise of the seat behind and a substantial distance below the top of the seat, said second section being of a height equal to that of the seat section less than the thickness of a mattress and being adapted normally to be housed under the seat section; and a loose cushion adapted to stand on edge on said mattress-supporting member when the couch is closed, and to lie flat on said second section and serve as a mattress for the latter when the couch is open.

2. A couch comprising a seat section and a second section, said seat section having a cushioned seat and a narrow yieldable mattress-supporting member extending lengthwise of the seat behind and a substantial distance below the top of the seat, said second section being of a height equal to that of the seat section less than the thickness of a mattress and being adapted normally to be housed under the seat section, a back rest at one long edge of said second section adapted to be positioned along the rear edge of said mattress-supporting member when the couch is closed; a loose cushion adapted to stand on edge on said mattress-supporting member when the couch is closed, and to be shifted by said mattress-supporting member and caused to lie flat on said second section and serve as a mattress for the latter when the seat section of the couch is drawn forward to open the couch.

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