

J. M. & A. G. BOSTROM.
BED SOFA.
APPLICATION FILED NOV. 21, 1910.

998,869.

Patented July 25, 1911.

2 SHEETS—SHEET 1.

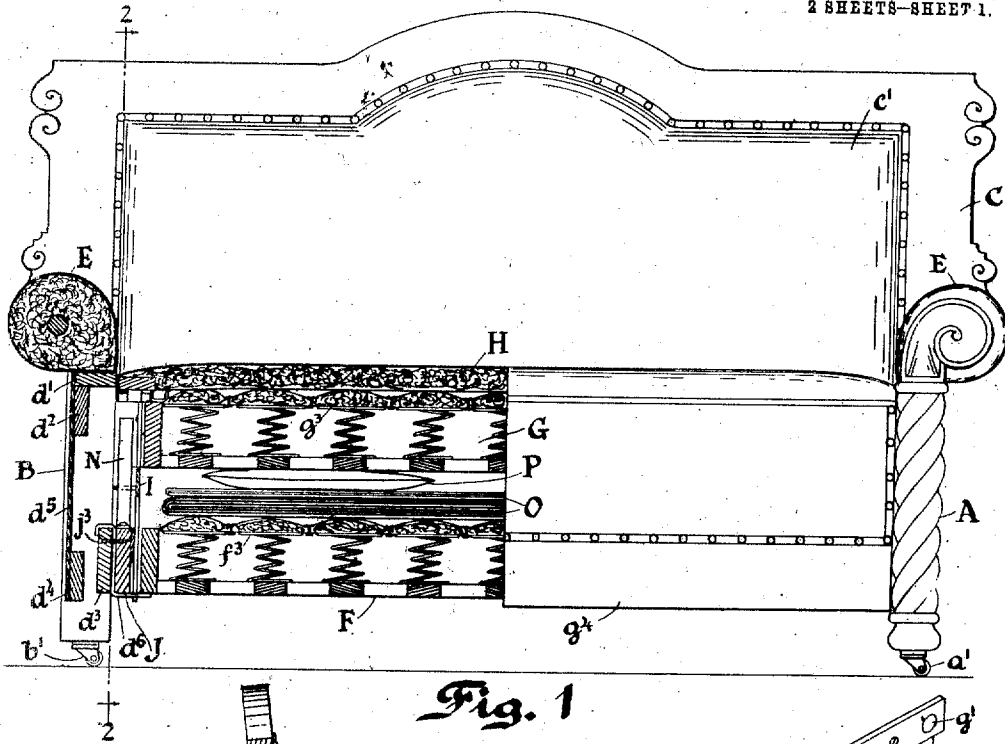


Fig. 1

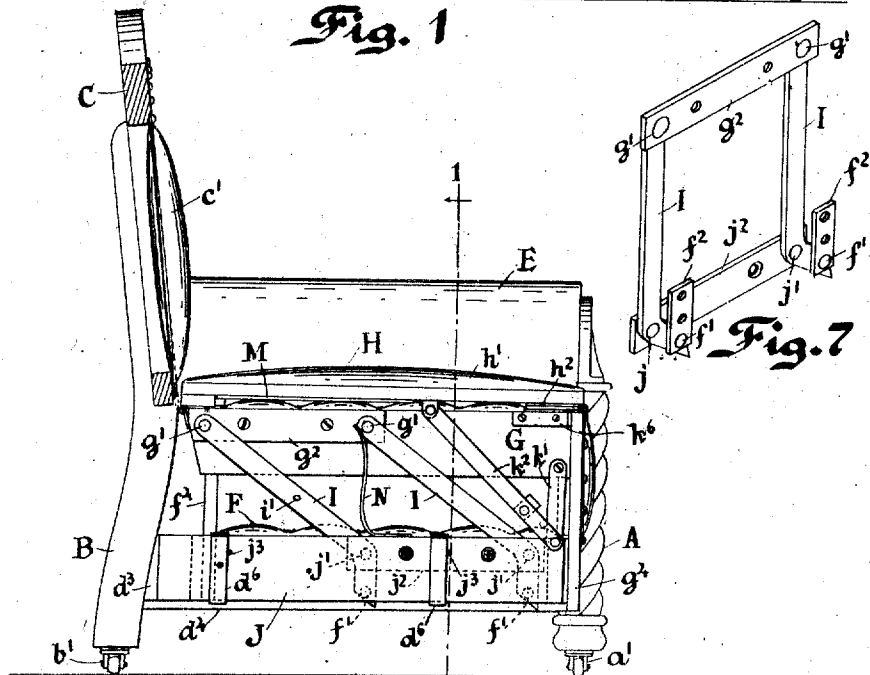


Fig. 2

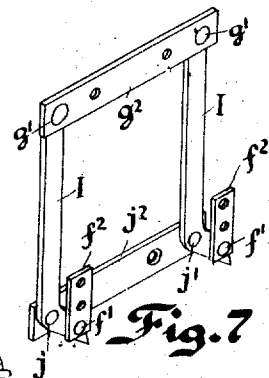


Fig. 7

Witnesses

J. M. Mallan
J. C. Smith

John M. Bostrom & Axel G. Bostrom,
Inventors
By *L. J. Schenck* Attorney

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[illegible]

Harvey Mallon
M. Gastenholz

By George Thomas Cobb Attorney

UNITED STATES PATENT OFFICE.

JOHN M. BOSTROM AND AXEL G. BOSTROM, OF MILWAUKEE, WISCONSIN.

BED-SOFA.

998,869.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN M. BOSTROM and AXEL G. BOSTROM, both of Milwaukee, Wisconsin, have invented a Bed-Sofa, of which the following is a specification.

This invention relates to that class of furniture which is adapted to form a sofa, lounge or chair when folded up and to be unfolded in a manner to form a bed. Heretofore articles of furniture of this class have been in use wherein the seat of the lounge could be thrown over or pulled out, so as to form a bedstead of double the width of the sofa, the head of the bed being at one end of the sofa. This type of sofa-beds, however, offers serious objections to use under many circumstances, especially where it is to be used in a small apartment, inasmuch as the sofa requires to be of the full length of the bed, that is to say, about 7 feet long, which is too long to be placed in many apartments. Furthermore, the sofa-bed when opened is of a fixed width, which may be too wide or too narrow for the use intended.

It is the object of our invention to produce an article of furniture which when closed may be used as a sofa, divan, or chair and may be of any length and when opened may be used as a bedstead, the head of which is at one end of the sofa; whereby the length of the bedstead is fixed and the width corresponds to the length of the sofa. This enables the sofa to be made of any length, which will correspond to the width of the bedstead. For example, a single bed may, when folded up, constitute an easy-chair.

Furthermore, it is our object to provide a space within the article, in its folded position, for the storage of pillows and bed-clothing.

According to our construction, we provide a seat for the sofa or chair made in three sections, the uppermost of which is hinged to the middle section along its front edge, while the middle section is connected by parallel bars to the lower section and said parallel bars are themselves pivoted upon stationary bars of, or attached to, the sofa-frame.

Our invention comprises in its construction the combinations and features which

will be hereinafter particularly described and pointed out in our claims.

In the accompanying drawings, we have shown one form in which our bed-sofa may be constructed, and herein—

Figure 1 is a front-elevation of the complete article, the left-hand half being shown in longitudinal section upon the plane 1. Fig. 2 is a side sectional elevation, the plane of the section being the plane 2 at the left-hand end of Fig. 1, which divides the side-frame of the sofa from the portions which constitute the bed, the article being shown in the closed position in this figure; Fig. 3 is a similar view (the top being broken away) in partly opened position, Fig. 4 is a similar view in the completely opened position; Fig. 5 is a perspective of one corner of the top-section to show the arrangement of one of the supporting legs therefor; Fig. 6 is a perspective view of the L-shaped abutment-piece for one of the supporting-links of the upper-section; and Fig. 7 is a perspective view of the parallel bars and the members to which they are pivoted.

While Fig. 1 represents the article of a suitable length to form a sofa when closed, the other figures may represent equally well a single bed which would form an arm-chair when closed.

The reference letters refer each to the same part in each figure of the drawings.

Although it is not essential to our construction, we prefer to make the sofa-frame, consisting of the back and sides, separate from the bed and its frame, whereby the same bed may be fitted to a variety of different styles of sofa or lounge. In the drawing, the sofa-frame comprises the two front posts A, the two back-posts B, running on casters a' and b' respectively, the back C upholstered with a cushion c' , the sides made up of four cross-bars d' , d'' , d''' and d^4 and a veneer-sheet d^5 , and the arms E.

The bed, which constitutes the seat of the sofa, comprises the three sections F, G and H. The lower and intermediate sections, F and G, are connected together in parallel relation at each side by a pair of parallel bars I, to which said sections are pivoted upon pivot-pins f' and g' respectively. The

pivot-pins f' of each pair of parallel bars I, are carried upon a pair of straps f^2 , which are fastened to the sides of the section F; and the pivot-pins g' are carried by a plate g^2 which is screwed to the side of the section G. The parallel-bars I themselves turn upon fixed pivot-pins j' , which are mounted upon a plate j^2 , fixed to the stationary frame-bars J, and these latter are supported by metal stirrups d^6 , which, as shown in Fig. 1, are carried by the lateral side frame-bars d^3 . Thus it will be seen that the entire bed-portion which constitutes the sofa-seat is adapted to slide into the sofa-frame and is independent thereof. When in place it may be secured thereto by a couple of screws j^3 at each side, which are inserted before the veneer-plates d^5 are fitted on. It should be observed that the bottom-section of the bed F is not clearly seen in Fig. 2 because it is directly behind and substantially coincident with the frame-bar J which lies in front thereof, but in Figs. 3 and 4, said bottom-section is raised above the frame-bar J. It is to be observed also that, as shown in Fig. 7, the pivot-supports for the pivots j' are on the opposite side of the bars I from the pivot-supports f^2 and g^2 , which are connected to the sections F and G.

The sections F and G are provided with any suitable form of bed-bottom and matting, such as spring-mattresses f^3 and g^3 , Fig. 1. The upper-section H however, which forms the foot-section of the bed, and also the top or upholstered cushion-seat of the sofa, does not need any special matting more than the ordinary cushion h' , Fig. 5. This section is hinged to the section G by hinges h^2 , and it will be observed that when folded over upon the section G, the cushion-portion thereof is substantially supported by the spring-mattress g^3 , which therefore also serves as a sofa-cushion. At the rear-end of the section F is placed a head-board f^4 , which has the double function of supporting the rear edge of the section G when in the closed position and of filling the otherwise open space at the back of the sofa between the section F and the back C when in the open position, as shown in Fig. 4. The section G carries at its front edge a face-board g^4 , which may be also conveniently upholstered as shown, and has the double function of concealing the section F in the closed position, and of forming a foot or support for the section G in the open position. It is desirable also, though not necessary, to provide cleats g^6 on the inner side of the face-board g^4 to abut upon the front-edge of the section F and form a rest for the section G, to prevent undue strain upon the parallel bars.

The top-section H, when unfolded, may

be supported in either or both of two ways. A pair of links k' , k^2 pivoted together at k^3 , the link k' being pivoted upon a pin k^4 on the side of the section G, and the link k^2 , being pivoted upon a pin k^5 on the edge of the section H, form bracket-arms to support the section, the link k' abutting upon an L-shaped piece k^6 on the side of the member G, and the link k^2 carrying a projecting element k^7 which abuts upon the upper side of the section H near the pivot thereof. The other means of support for the section H comprises legs M, one at each side of the section, each consisting of a metal bar which is bent at right angles at m' , Fig. 5, and the basal end turns and also slides in the bearing-blocks m^2 , between which is formed a bail or offset m^3 which is turned in a plane at right angles to that of the leg-portion as shown. When the section H is extended, the leg M may be dropped by simply sliding it outward in its bearings until it clears the edge of the section H and drops down into the position shown in the dotted lines in Fig. 5. When returned to its folded position, shown in the full lines, the bail m^3 prevents it from falling over upon the section G as the section H is being closed. If the bracket-arms k' , k^2 are used, the leg M is not necessary, but may be desirable in some cases to prevent undue strain from being brought upon the hinge; while on the other hand if the legs M be used, it is not necessary to use also the bracket-arms k' , k^2 , but may also be desirable to prevent undue strain being brought upon the hinge, should the section H be dropped before being completely opened.

The successive steps of opening and closing the bed-sofa are clearly illustrated in Figs. 2, 3 and 4. Grasping the lower edge of the face-board g^4 , the middle section G is raised and pulled forward, being turned about the pivots j' , this also acting to raise the section F to an even level with the section G when the latter rests upon the floor in the position of Fig. 4. In this position, it will be observed that the sections F, G substantially join, the padding or matting being so placed that there is no open space between them. The section H is next turned about its hinges h^2 , as shown by the dotted-line and full-line positions in Fig. 4, and the legs M dropped upon the floor in the manner previously described. The article is now in position for use as a bed, the bed-clothing being omitted from Fig. 4 to avoid unnecessary complication of the drawing. When folding up the bed, the bed-clothing O and pillows P are stored between the sections F and G, for which there is ample space, as will be seen from Fig. 1.

In order to facilitate closing, a leaf-spring N is mounted on the frame-bars J and coop-

erates with the pin *i* mounted on one of the frame-bars I so as to assist the raising of the section G when in the position of Fig. 4.

It will be seen that in the extended position, the supports for the sections of the bed are where the principal weight comes, so that there is no danger of any tendency to shut up the bed from the weight of a person resting upon it.

We wish it understood that our invention is not limited to the use of all the above described features and constructions, for some may be omitted and others may be varied or modified in various ways, as will readily occur to those skilled in the art.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In an article of the class described, the combination of a pair of parallel bars at each side and two bed-sections pivotally connected in parallel relation with each other on said parallel bars; said bed-sections being adapted when unfolded to occupy a position in horizontal alinement and when folded to occupy a position one over the other; the upper section being padded or cushioned; and a third section hinged to said last-named section and adapted in the closed position to overlie it and form a seat-bottom; said third section having a yielding surface resting upon said second section whereby the latter acts as a cushion and support for the former.

2. In an article of the class described, the combination of a pair of parallel bars at each side and two bed-sections pivotally connected in parallel relation with each other on said parallel bars; said bed-sections being adapted when unfolded to occupy a position in horizontal alinement and when folded to occupy a position one over the other; and a third section hinged to the uppermost of aforesaid sections and adapted to overlie and rest upon the latter in the closed position and to form a seat-bottom in said position.

3. In an article of the class described, the combination of two pairs of parallel bars at the respective sides, said parallel bars turning on fixed pivots which are in horizontal alinement, and two bed-sections, each pivotally mounted in parallel relation on said parallel bars and adapted in one position to lie one over the other and in the other position to rest in horizontal alinement.

4. In an article of the class described, the combination of two pairs of parallel bars at the respective sides, said parallel bars turning on fixed pivots which are in horizontal alinement, and two bed-sections, each pivotally mounted in parallel relation on said parallel bars and adapted in one position to lie one over the other and in the other posi-

tion to rest in horizontal alinement; in conjunction with a third section pivotally connected at one edge to the uppermost of aforesaid sections and adapted in the closed position to overlie and rest thereupon.

5. In an article of the class described, the combination of two pairs of parallel bars at the respective sides, each pair pivoted on a pair of pivots in horizontal alinement and intermediate of their length, a head bed-section pivoted to one end of all of said parallel bars upon pivots in horizontal alinement, and an intermediate-section pivoted to the opposite end of all of said parallel bars upon pivots in horizontal alinement; said intermediate-section being adapted to overlie said head-section when in the closed position and to stand in horizontal alinement therewith when in the open position.

6. In an article of the class described, the combination of two pairs of parallel bars at the respective sides, each pair pivoted on a pair of pivots in horizontal alinement and intermediate of their length, a head bed-section pivoted to one end of all of said parallel bars upon pivots in horizontal alinement, and an intermediate-section pivoted to the opposite end of all of said parallel bars upon pivots in horizontal alinement, said intermediate-section being adapted to overlie said head-section when in the closed position and to stand in horizontal alinement therewith when in the open position; in conjunction with a foot-section hinged to the front edge of said intermediate section and adapted to overlie and rest upon the latter in the folded position and to extend in horizontal alinement therewith when in the open position.

7. In an article of the class described, the combination of two pairs of parallel bars at the respective sides, each pair pivoted on a pair of pivots in horizontal alinement and intermediate of their length, a head bed-section pivoted to one end of all of said parallel bars upon pivots in horizontal alinement, and an intermediate-section pivoted to the opposite end of all of said parallel bars upon pivots in horizontal alinement, said intermediate section being adapted to overlie said head-section when in the closed position and to stand in horizontal alinement therewith when in the open position; in conjunction with a foot-section hinged to the front edge of said intermediate section and adapted to overlie and rest upon the latter in the folded position and to extend in horizontal alinement therewith when in the open position, said foot-section being provided with a pair of legs which are pivoted to turn on a transverse axis and each adapted to slide longitudinally in its bearings so that it may lie within the edge of said foot-section in folded position and being provided with a

bail or offset which prevents it from rotating when in said position.

8. The combination of a sofa or chair-frame consisting of back, sides and corner-posts, and a combination bed and seat therefor which is pivotally mounted on frame bars which are independent of said frame; said frame-bars fitting removably within and being supported by said first-named frame.

9. The combination of a sofa or chair-frame comprising sides, back and corner-posts, said frame having inwardly projecting stirrups mounted on each of said sides, and an independent combination seat and bed provided with two side frame-boards upon which it is mounted, said side frame-boards being adapted to be removably received between said sides and to be supported by said stirrups.

10. The combination of two bed-sections, one of which is hinged to the other and adapted to overlie and rest upon it when in the folded position and to be horizontally aligned therewith when in the extended position; and means for supporting said last-named section from said first-named section comprising a pair of links pivotally connected and pivoted to the respective sections at distances from the pivot and having abutments at points on the respective sections adjacent to the pivot.

11. In an article of the class described, the combination of two pairs of parallel bars at the respective sides pivoted upon pivots intermediate of their length and in horizontal alinement, a head bed-section pivoted to one end of each of said parallel bars, said pivots being in horizontal alinement, and an intermediate bed-section pivoted to the opposite ends of said bars, the pivots being in horizontal alinement, said intermediate section overlying said head-section when in the folded position, and resting in horizontal alinement therewith when in the extended position; the unfolding or extending movement resulting in an upward and rearward movement of said head-section and an upward and forward movement followed by a downward and forward movement of said intermediate section; and said sections having abutment-members adapted to hold them spaced apart when in the folded position whereby to leave an open space between them adapted for the storage of bed-clothing.

12. In an article of the class described, the combination of two pairs of parallel bars at the respective sides pivoted upon pivots intermediate of their length and in horizontal alinement, a head bed-section pivoted to one end of each of said parallel bars, said pivots being in horizontal alinement, and an intermediate bed-section piv-

oted to the opposite ends of said bars, the pivots being in horizontal alinement, said intermediate section overlying said head-section when in the folded position, and resting in horizontal alinement therewith when in the extended position; the unfolding and extending movement resulting in an upward and rearward movement of said head-section and an upward and forward movement followed by a downward and forward movement of said intermediate section; said head-section having an upwardly extending board at the rear end which acts as a head-board and also as a support for the rear end of said intermediate section in the closed position; and said intermediate section having a face-board at its front-end which is adapted to lie in front of and conceal said head-section in the closed position and to form a supporting foot-piece in open position.

13. In an article of the class described, the combination of two pairs of parallel bars at the respective sides pivoted upon pivots intermediate of their length and in horizontal alinement, a head bed-section pivoted to one end of each of said parallel bars, said pivots being in horizontal alinement, and an intermediate bed-section pivoted to the opposite ends of said bars, the pivots being in horizontal alinement, said intermediate section overlying said head-section when in the folded position, and resting in horizontal alinement therewith when in the extended position; the unfolding or extending movement resulting in an upward and rearward movement of said head-section and an upward and forward movement followed by a downward and forward movement of said intermediate section; and said sections having abutment-members adapted to hold them spaced apart when in the folded position whereby to leave an open space between them adapted for the storage of bed-clothing; in conjunction with a foot-section which is hinged to the front edge of said intermediate section and adapted to overlie and rest upon it when in the closed position and to be horizontally aligned therewith when in the extended position; said intermediate-section being cushioned and the body of said foot-section of yielding material whereby the cushioning of said intermediate section acts to yieldingly support the resting surface of said foot-section in the closed position.

14. The combination of a sofa- or chair-frame consisting of back and sides, and an independent apparatus forming a seat therefor and adapted to unfold into bed form, said independent apparatus having frame-bars on its opposite sides on which it is mounted, and said frame having steps on the inner faces of the sides thereof, on which

said frame-bars are supported and said frame-bars being guided laterally by the faces of said sides.

15. The combination of a sofa- or chair-
6 frame consisting of back and sides, and
an independent apparatus forming a seat
therefor and adapted to unfold into bed
form, said independent apparatus having
frame-bars on its opposite sides on which it
10 is mounted, there being on the inner faces
of the sides of said frame pieces adapted to

support said frame-bars and guide them laterally, whereby said apparatus can be slid into place from the front of said frame.

In witness whereof, we have hereunto set
our hands in the presence of two witnesses. 15

JOHN M. BOSTROM.
AXEL G. BOSTROM.

In the presence of two witnesses:

F. M. MALLON,
GEORGE W. COLLES.