G. FISCHRUPP.

FOLDING BED.

APPLICATION FILED MAY 5, 1913.

1,078,909.

Patented Nov. 18, 1913.

3 SHEETS—SHEET 1.

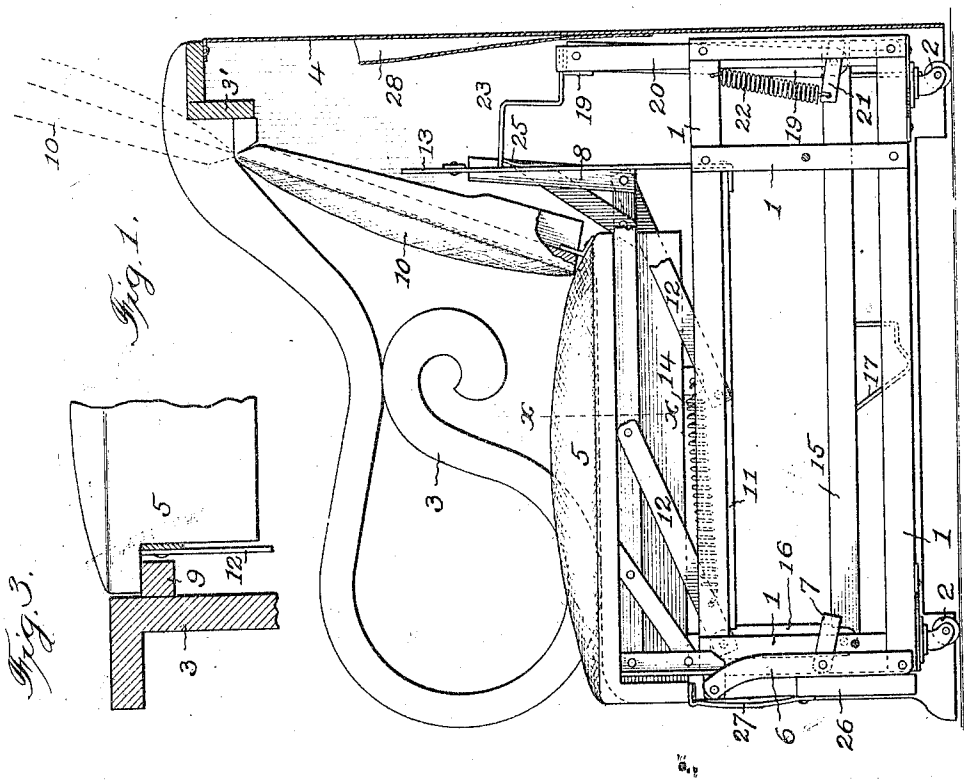


Fig. 1.

Fig. 3.

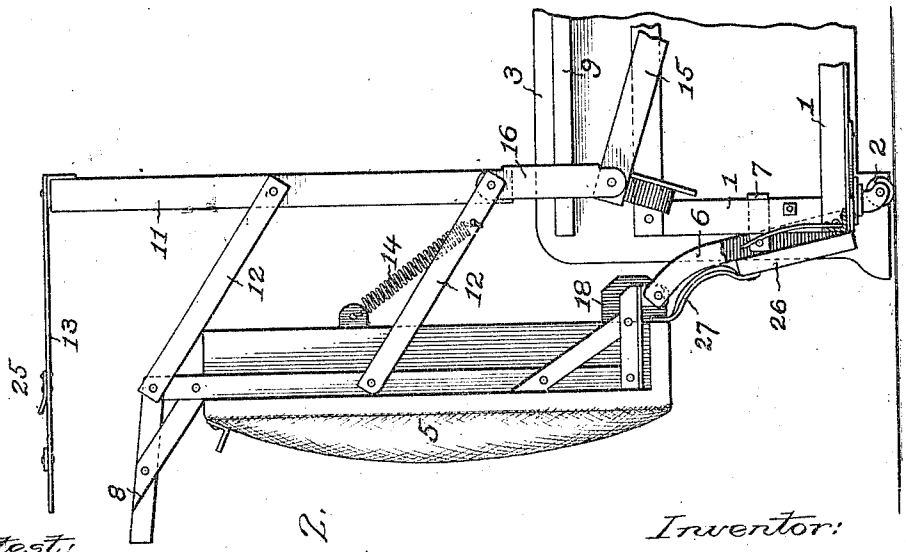


Fig. 2.

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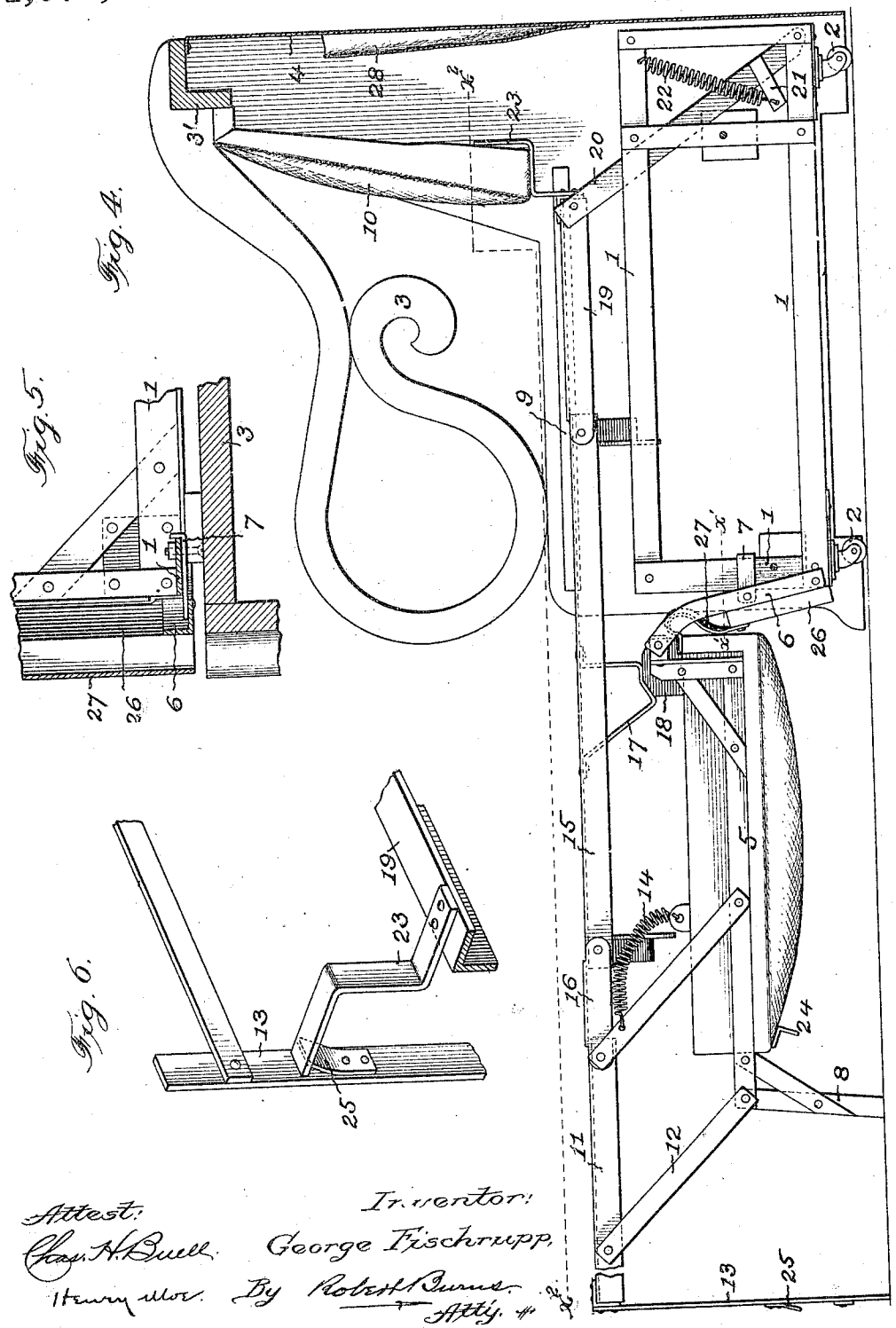
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3 SHEETS—SHEET 3.

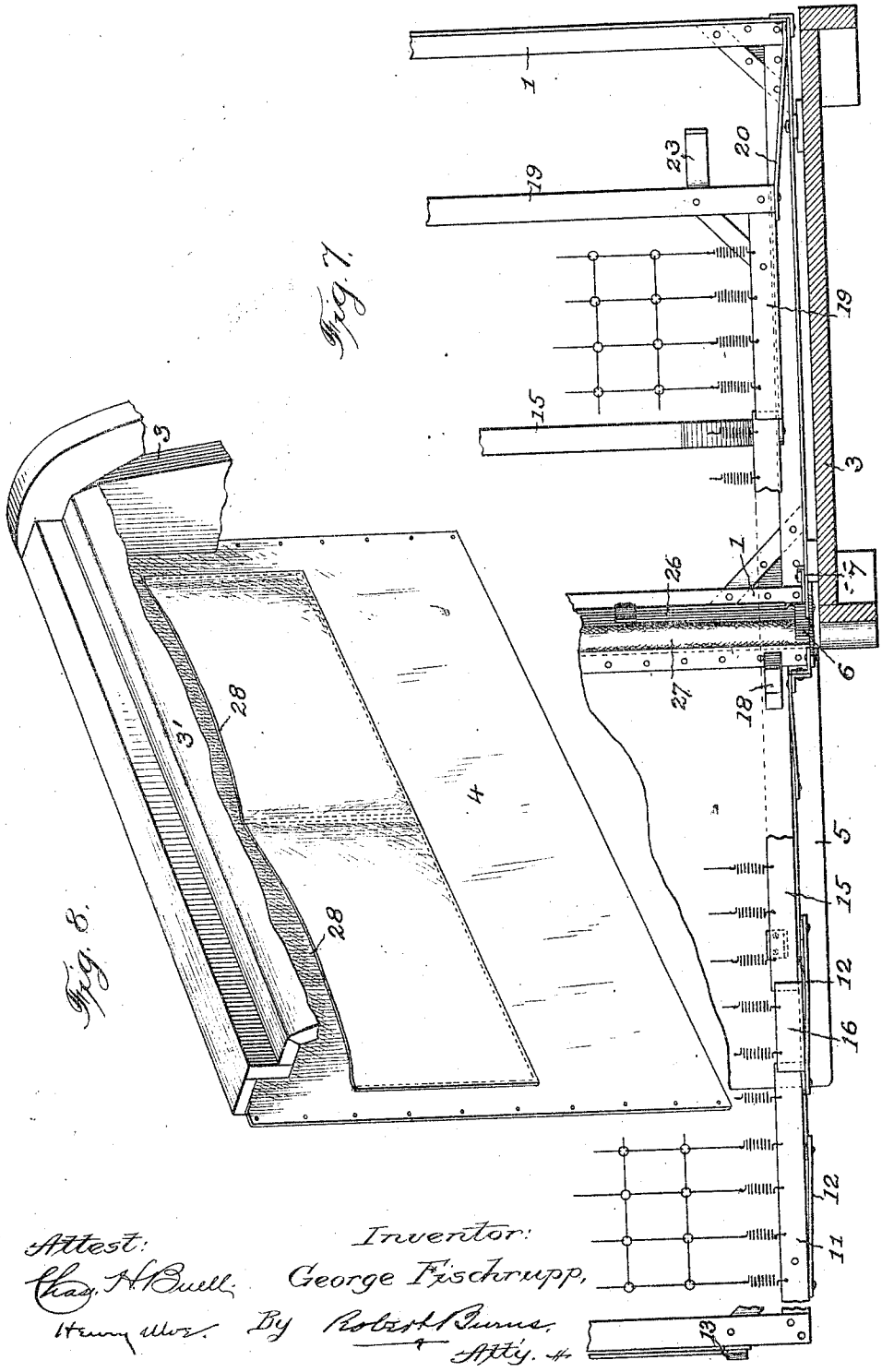


Fig. 7.

Fig. 8.

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UNITED STATES PATENT OFFICE.

GEORGE FISCHRUPP, OF CHICAGO, ILLINOIS.

FOLDING BED.

1,078,909. Specification of Letters Patent. Patented Nov. 18, 1913.

Application filed May 5, 1913. Serial No. 765,480.

To all whom it may concern:

Be it known that I, GEORGE FISCHRUPP, a citizen of the United States of America, and a resident of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Folding Beds, of which the following is a specification.

This invention relates to that type of folding beds in which a series of bed sections are pivoted together and to the main frame, and are adapted to unfold outwardly from the back portion of the main frame, so that what is termed the foot of the bed will be farthest removed from said main frame. And the object of the present improvement is to provide a simple and efficient structural formation and combination of parts, with which the folding and the unfolding operation of the bed parts can be readily and conveniently effected, and in which the bed sections in their unfolded condition are substantially supported against sagging in actual use, all as will hereinafter more fully appear.

In the accompanying drawings:—Figure 1, is a side elevation, with an arm portion of the main frame removed and with the back portion of said frame in section, illustrating the bed members of the present construction in their folded condition. Fig. 2, is a similar fragmentary side elevation, illustrating said bed members in a partly unfolded condition. Fig. 3 is a detail transverse section on line x—x, Fig. 1. Fig. 4, is a side elevation similar to Fig. 1, illustrating the bed members in their unfolded condition. Fig. 5, is a detail horizontal section, on line x'—x', Fig. 4. Fig. 6, is a detail perspective view of the means for locking the front bed member in place, when the bed members are in their folded condition. Fig. 7, is a fragmentary horizontal section on line x^2—x^2, Fig. 4. Fig. 8, is a detail perspective view of the back plate or board of the main frame, and illustrating the arrangement of pockets on the same.

Similar reference numerals indicate like parts in the several views.

Referring to the drawings, 1 represents the main frame of the present construction, preferably a skeleton metal structure, and made readily portable by supporting casters 2, as usual. Said frame 1, has fixed attachment inside of and at the lower portions of the end arms 3, and the back 4 of a sofa-bed, as shown.

5 is the reversible seat member, pivoted to the front of the main frame 1 by upright radius links 6, and adapted to swing from the seat forming position illustrated in Fig. 1, into the inverted position illustrated in Fig. 4. In its preferred construction shown in the drawings, the above described swinging movement of the seat member 5 is supplemented by a horizontal movement of the same, with the radius links 6 adapted to govern said horizontal movement.

7 is a stop or hook carried by a radius link 6, and adapted for engagement with the main frame 1, to limit the outward swing of said radius link.

8 is a supporting foot secured to the reversible seat member 5, at the side opposite to the attachment of the radius links 6, aforesaid, and adapted to support said seat member when the parts are in the unfolded condition shown in Fig. 4.

9 are supporting ledges or rails secured to the inside of the end arms 3, aforesaid, and upon which ledges at the ends of the seat member 5, rests, when said seat member is in its seat forming position illustrated in Figs. 1 and 3.

10 is the back member of the sofa-bed, pivoted at top to the connecting rail 3′ of the end arms 3, aforesaid, and adapted to be swung up out of the way in the folding and the unfolding movement of the bed parts.

11 is the front bed member or section connected to the reversible seat member 5, by a plurality of radius links 12, in a manner which permits of an independent movement of said bed member with relation to said seat member, in the folding and unfolding movement of the bed parts. In a folded position the bed member 11 has a location immediately beneath the seat member 5 as shown in Fig. 1, while in an unfolded position said bed member has a location above and to the front of the seat member 5, as shown in Fig. 4, and in its shifting from one position to the other said bed member 11, has a "walk over" movement past said seat member 5, due to the radius links 12, aforesaid.

13 is a leg secured to the front end of

the front bed section 11 for the support of the same in an unfolded position of the bed parts.

14 is a tension spring attached at one end to the seat member 5 and at the other end to one of the radius links 12 at a point removed from the pivotal connection of said links to the front bed member 11. Said spring is inactive except in the initial unfolding and in the final folding movement of the bed parts, and in the one case is adapted to assist in the initial unfolding movement, and in the other case to yieldingly resist the final folding together of the seat member 5 and front bed member 11.

15 is the central bed member or section having its front end connected to the front bed member 11 by a narrow intermediate bed section in any ordinary pivoted manner. The rear end of said central bed member 15, is pivoted directly to the rear bed member 19 hereinafter described. With the described construction, and when the said bed members are in the folded position illustrated in Fig. 1, an interior cavity is provided for holding the mattress and other bed clothing.

17 is a knee piece fixed on the central bed member 15, and adapted to ride over and rest upon an abutment or projection 18 on the seat member 5, in the unfolded position of the bed parts, and support said central bed member 15 against a tendency to sag in actual use.

19 is the rear bed member pivoted at its front end to the central bed member 15, as above described, and at its rear end to the upper end of an upright radius link 20, which in turn is pivoted at its lower end to the main frame 1.

21 is a bracket carried by the radius bar 20, aforesaid, and 22 is a tension spring connected at one end to the outer end of said bracket and at its other end to the main frame 1. The function of said spring being to assist in a rear movement of the radius link 20 and its accessories, and to yieldingly resist a forward movement of the same.

23 is an angle bracket secured to the rear end of the rear bed member 19, and adapted in the folded position of the bed members, illustrated in Fig. 1, to constitute one member of the hereinafter described locking mechanism by which said bed members are locked in said folded position. In the unfolded position of the bed members, as illustrated in Fig. 4, the said angle bracket 23 is adapted to form an abutment or stop lug for the hinged back 10 of the sofa-bed to retain the back in proper position. In the folded position of the bed parts, the proper position of said back 10, is maintained by an abutment or stop 24 carried by the seat member 5, as illustrated more particularly in Fig. 1.

25 is a catch piece secured to the before described supporting leg 13, of the front bed member 11, and adapted in a folded position of the bed parts as shown in Fig. 1, to catch under the free end of the angle bracket 23, aforesaid, and lock the bed parts in the said folded position. In effecting a disengagement of the catch piece 25 and bracket 23 previous to an unfolding movement of the bed parts, the operator pulls the leg 13 forward to carry the catch piece 25 out of the described engagement.

26 is the front board of the base portion of the main frame, carried by the radius links 6, of the seat member 5, and connected to said seat member by a flexible web 27, to provide a closure for the lower front of the sofa-bed and conceal the mechanism as well as the articles in the interior of the sofa bed.

28 are pockets attached to the back board 4, aforesaid for containing in a convenient and accessible manner, the night clothes, etc., of the user.

The operation of the present improved construction is as follows:—With the parts in the folded condition illustrated in Fig. 1, the operator initially swings the sofa back 10, up into the position shown in dotted lines in said Fig. 1. After this the operator grasps the leg 13 and first springs the same slightly forward to disengage the catch 25 from its locking engagement with the angle bracket 23, after which by a forward pulling action on said leg, the bed members are automatically unfolded into the position illustrated in Fig. 4. During such unfolding operation the front bed member 11 has a "walk over" movement with relation to the seat member 5, due to the radius links 12. During such outward movement of the front bed member 11, due to the pull of the operator, the other pivotally connected bed members are drawn outwardly and into a horizontal plane adapted to receive the mattress and other clothing of the bed. At the same time the knee piece 17 of the central bed member 15 rides into engagement with the abutment 18, of the seat member 5, to provide a support for the central portion of the bed member against a sagging tendency in actual use. After the above described unfolding operation, the sofa back 10 is lowered into engagement with the angle bracket 23, to attain a finished appearance of the bed, as well as furnish a support for the bed pillows. The folding of the bed members back to the sofa position shown in Fig. 1, from the bed position of the parts shown in Fig. 4, is the reverse of that just described.

Having thus fully described my said invention what I claim as new and desire to secure by Letters Patent, is:—

1. In a folding bed, the combination of a

main frame, a reversible seat member hinged thereto and provided with a supporting leg, and a bed member connected to said seat member by a plurality of radius links of uniform lengths and adapted to have a walk over adjustment past said seat member upon said links.

2. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member connected to said seat member by a plurality of radius links of uniform lengths and adapted to have a "walk over" adjustment past said seat member upon said links, and a tension spring associated with the seat member and one of said links.

3. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member connected to said seat member by a plurality of radius links and adapted to have a "walk over" adjustment past said seat member upon said links, and a supporting leg attached to an end of said bed member.

4. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member comprising a series of sections pivotally connected end to end, a plurality of radius links connecting one of said bed sections to said seat member and imposing on said bed section a "walk over" movement past the seat member, and a knee piece carried by another bed section and adapted to have abutment on said seat member.

5. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member comprising a front, intermediate, central and rear section pivotally connected end to end, a plurality of radius links connecting the front bed section to said seat member and imposing on said front section a walk over movement past the seat member, and a knee piece carried by the central bed section and adapted to have abutment on said seat member.

6. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member comprising a series of sections pivotally connected end to end, a plurality of radius links connecting one of said bed sections to said seat member and imposing on said bed section a "walk over" movement past the seat member, a knee piece carried by another bed section and adapted to have abutment on said seat member, and an upright radius link connecting still another of said bed sections to the main frame.

7. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member comprising a front, intermediate, central and rear section pivotally connected end to end, a plurality of radius links connecting the front bed section to said seat member and imposing on said front section a "walk over" movement past the seat member, a knee piece carried by the central bed section and adapted to have abutment on said seat member, and an upright radius link connecting the rear bed section to the main frame.

8. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member comprising a front, intermediate, central and rear section pivotally connected end to end, a plurality of radius links of uniform lengths connecting the front bed section to said seat member and imposing on said front section a "walk over" movement past the seat member, an upright radius link connecting the rear bed section to the main frame, and a tension spring connected at one end to said radius link and at the other end to the main frame.

9. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member comprising a front, intermediate, central and rear section pivotally connected end to end, a plurality of radius links connecting the front bed section to said seat member and imposing on said front section a walk over movement past the seat member, an upright radius link connecting the rear bed section to the main frame, an angle bracket carried by the rear bed section, a supporting leg on the front bed section, and a catch piece on said leg adapted for locking engagement with said angle bracket.

10. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a supporting leg, a bed member comprising a front, intermediate, central and rear section pivotally connected end to end, a plurality of radius links connecting the front bed section to said seat member and imposing on said front section a walk over movement past the seat member, an upright radius link connecting the rear bed section to the main frame, an angle bracket carried by the rear bed section, and a sofa back hinged at its upper end to the main frame with its lower end adapted to engage the angle bracket aforesaid.

11. In a folding bed, the combination of a main frame, a reversible seat member hinged thereto and provided with a stop lug, a sofa back hinged at its upper end to the main frame with its lower end adapted to engage said stop lug, a back member carried by the main frame, and a pocket carried by said back member.

12. In a folding bed, the combination of a main frame, a reversible seat member provided with a supporting leg, a radius link

connecting said seat member to the main frame, means for limiting the movement of said radius link, and a bed member connected to said seat member by a plurality of radius links and adapted to have a walk over adjustment past said seat member upon said links.

Signed at Chicago, Illinois, this 1st day of May, 1913.

GEORGE FISCHRUPP.

Witnesses:
ROBERT BURNS,
HENRY MOE.