Sept. 18, 1951 F. A. HOEFT 2,568,546

FOLDING BED

Filed Feb. 23, 1946

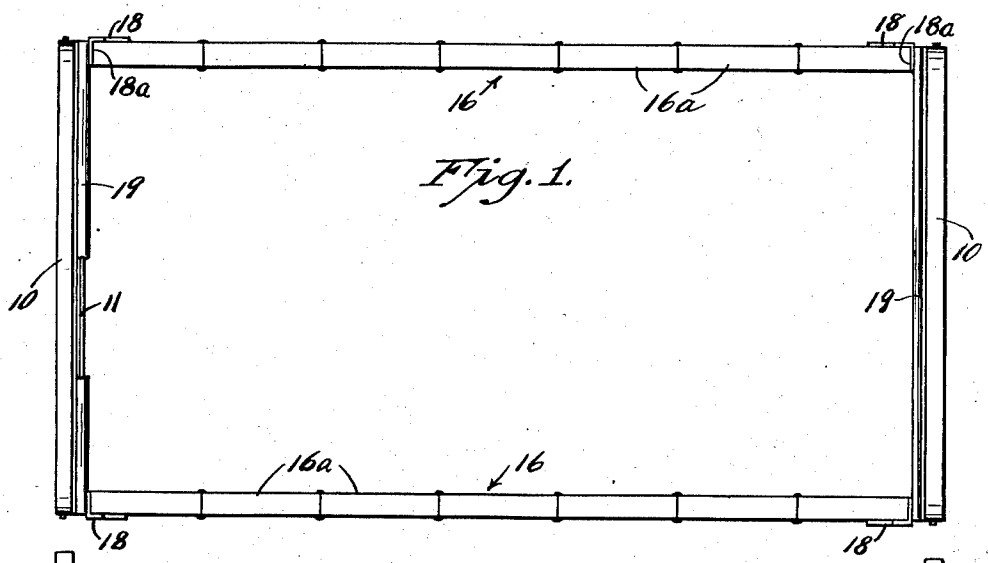


Fig. 1.

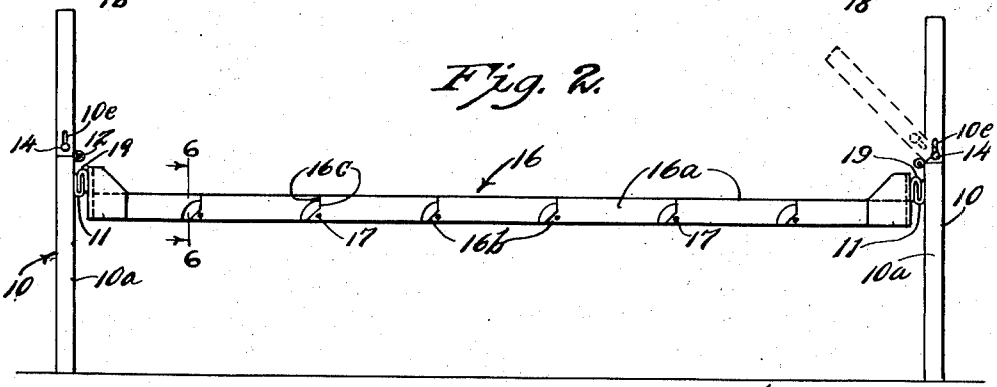


Fig. 2.

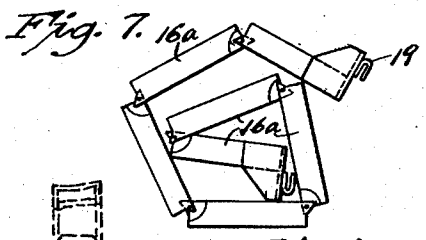


Fig. 7.

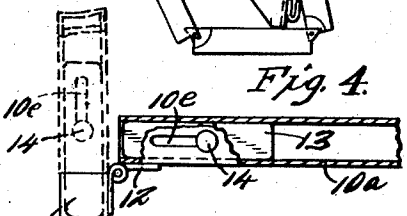


Fig. 4.

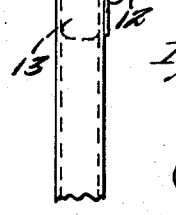


Fig. 6.

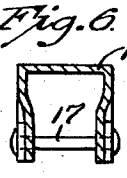
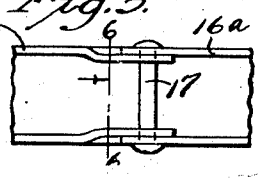


Fig. 5.



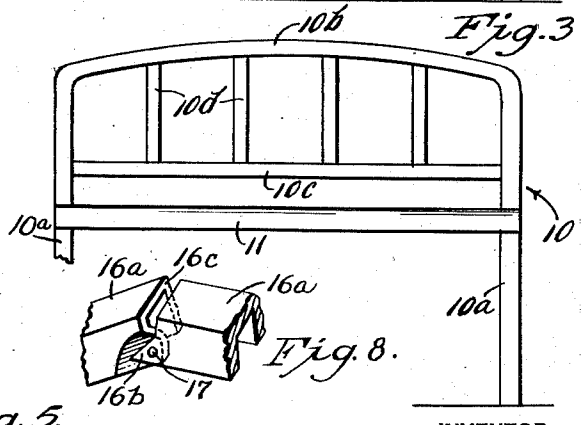


Fig. 3.

Fig. 8.

INVENTOR

Frank A. Hoeft

BY Chas. C. Reif

ATTORNEY

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FOLDING BED

Frank Albert Hoeft, Granton, Wis.

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1 Claim. (Cl. 5—174)

1

This invention relates to a bed frame and particularly to a bed frame constructed and arranged to be collapsed and folded into a compact structure occupying a comparatively small space.

It is an object of this invention to provide a bed frame comprising foldable or collapsible end frames and longitudinally extending side members comprising a series of pivotally connected sections.

It is a further object of the invention to provide a folding bed frame comprising a pair of side members each of which is formed of a series of sections having pivots connecting them at their adjacent ends and having engaging surfaces at their ends above said pivots whereby when said sections are arranged in longitudinal rectilinear alignment they form a bar rigid against downward pressure, said sections however being movable about their pivots upon upward pressure.

It is also an object of the invention to provide a frame as set forth in the preceding paragraph together with end members extending between and secured to the remote ends of the end sections respectively, said end members being adapted to be removably supported on end frames.

It is more specifically an object of the invention to provide a bed frame having spaced side members each formed of a series of sections preferably in the form of channel members, said sections having pivots extending transversely thereof and connecting said sections at their adjacent ends, said sections having transversely extending end surfaces arranged to engage when said sections are in longitudinal rectilinear alignment so that said side members form a bar rigid against downward movement.

It is another object of the invention to provide a structure such as set forth in the preceding paragraph in which the sides of the channel of said sections at one end are offset inwardly to be disposed within the sides of the channel of the adjacent section.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which—

Fig. 1 is a plan view of the bed frame, some parts being broken away;

Fig. 2 is a view in side elevation, some parts being shown in different positions in dotted lines;

2

Fig. 3 is a view in end elevation of an end frame as seen from the inner side thereof;

Fig. 4 is a partial view partly in side elevation and partly in vertical section of an end frame, certain parts being broken away;

Fig. 5 is a partial plan view of adjacent ends of sections of the side members;

Fig. 6 is a vertical section taken on line 6—6 of Fig. 5, as indicated by the arrow;

Fig. 7 is a view of the side members and end members in folded or rolled up position; and

Fig. 8 is a partial perspective view showing a joint of the frame.

Referring to the drawings, a bed frame is shown comprising front and rear end members 10, and while these could be differently formed, in the embodiment of the invention illustrated they are shown as identical, each comprising leg-forming side members 10*a* which are connected at their upper ends to the top members 10*b*. Member 10*b* is shown as of slightly curved form and the corners of said end frame at the junction of the members 10*a* and 10*b* are slightly rounded. End frame 10 has a cross-bar 10*c* some distance below the top 10*b* and bar 10*c* and top 10*b* are connected by a plurality of vertical rods or posts 10*d*. Below bar 10*c* a member 11 extends between the side members 10*a* and is rigidly secured thereto. As shown in Fig. 2, member 11 is in the form of a channel of general U-shape having its open side directed upwardly. Just above bar 11 the side members 10*a* are divided and are connected by hinges 12 secured at the inner sides thereof. A bolt or locking member 13 is disposed in the upper portion of side members 10*a* and is slidable therein, the same having secured thereto a headed pin 14 the shank of which projects through a slot 10*e* formed in the side of the upper part of members 10*a*. The head of pin 14 is at the outer side of side members 10*a* so that member 13 can be moved by pin 14. When pin 14 and member 13 are in the position shown in full lines in Fig. 4, the upper part of members 10*a* can be swung about hinges 12, as shown in said figure. When the portions of members 10*a* are swung into vertical alignment, as shown in dotted lines in Fig. 4, pin 14 is moved to the bottom of slot 10*e* and member 13 then projects into the lower portion of member 10*a* thus locking the same in vertical position. Members 10*a* are thus foldable about the hinge 12.

Side members 16 are provided, each formed of a series of sections 16*a*. While sections 16*a* could be variously formed, in the embodiment

of the invention illustrated, they are shown as formed of channel members of right angular form and having their open sides directed downwardly. One end of the sections 16a has the sides of its channel offset inwardly, as shown in Figs. 5 and 6, so that said sides are disposed within the sides of the adjacent section. The adjacent ends of the sections are connected by pivots 17 extending through and substantially at right angles to the sides of the channel members. The ends of the channels which are not offset have triangular-shaped projections 16b at their lower portions through which pivots 17 extend, as shown in Fig. 2. Above pivots 17 sections 16a have surfaces 16c extending at right angles to the tops of the sections and these surfaces are arranged to be in engagement when sections 16a are disposed in longitudinal rectilinear alignment. With this structure a bar is formed when said sections are in longitudinal rectilinear alignment which is rigid against downward pressure. Sections 16 however will move about their pivots 17 upon upward pressure. Plates 18 are secured to the outer sides of the end sections 16a at each end of side members 16, said plates being of right angular form and having portions 18a extending across the ends of said end sections. Plates 18 may be connected in any suitable manner, as by welding or riveting. Members 19, which are illustrated as in the form of channels of substantially U-shape, are connected to the portions 18a and extend between the side members 16. Members 19 may be secured to portions 18a in any suitable manner, as by welding or riveting. End members 19 have their open sides directed downwardly. The members 11 and 19 are constructed so that the outer side of member 19 fits snugly in member 11 but is readily removable therefrom.

When the bed is assembled in position for use it appears as shown in full lines in Figs. 1 and 2. The upper part of the side members 10a of the end frames are held in vertical position by members 13 which occupy the position shown in dotted lines in Fig. 4. The members 19 are disposed in the members 11 and sections 16a are in longitudinal rectilinear alignment with the surfaces 16c in engagement. Sections 16a now form a rigid bar so that members 16 are rigid against downward pressure. The springs and mattress can now be placed on the frame and the bed used in the usual manner. When it is desired to dismount and collapse the frame, members 19 will be lifted from engagement with members 11. It may be stated that hinges 12 are of such a size that they will not interfere with this lifting movement. When members 19 are thus disengaged, said members, together with sections 16a, can be rolled into compact form, as shown in Fig. 7. Pins 14 and members 13 can be raised and the upper part of the end frames swung into substantially parallel relation to the lower part thereof. The bed frame now will occupy very little space and can be easily moved and transported. In some cases the upper portion of the end frames can be omitted, as in army cots, which will not have the folding end posts or end frames.

From the above description it will be seen that I have provided a simple yet very efficient structure of bed frame and one which can be collapsed and placed in condition to occupy a small space. The frame can also be easily and quickly re-assembled in operative position. The parts, particularly the end frames 10, will be appropriately finished and coated or painted. It is obvious that the device will have a high degree of utility for the purpose intended.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the parts, without departing from the scope of applicant's invention, which generally stated, consists in a device capable of carrying out the objects above set forth, in the parts and combinations of parts disclosed and defined in the appended claim.

What is claimed is:

A folding bed frame for a bed having four supporting legs having in combination, spaced parallel side members each formed of a channel having its open side directed downwardly and of substantially uniform vertical dimension, each of said side members comprising a series of sections, said sections having overlapping adjacent end portions, pivots respectively connecting said end portions and extending transversely of said channels closely adjacent the bottoms of the sides of said channels, said sections having vertical surfaces at the tops thereof at their adjacent ends adapted to be in contact when said sections are longitudinally aligned, whereby said sections when so aligned are rigid against downward pressure but may swing about said pivots upon upward pressure thereon, the end sections of said side members being respectively connected by plates of inverted U-shape in vertical cross section with their open sides directed downwardly, end members for said frame each having two supporting legs and plates extending between the legs of each of said end members, said last mentioned plates being of U-shape in vertical cross section with their open sides directed upwardly and adapted respectively to receive one side of said first mentioned plates.

FRANK ALBERT HOEFT.

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