Nov. 16, 1926. 1,607,572

J. SODERQUIST

FOLDING BED

Filed August 12, 1924 2 Sheets-Sheet 1

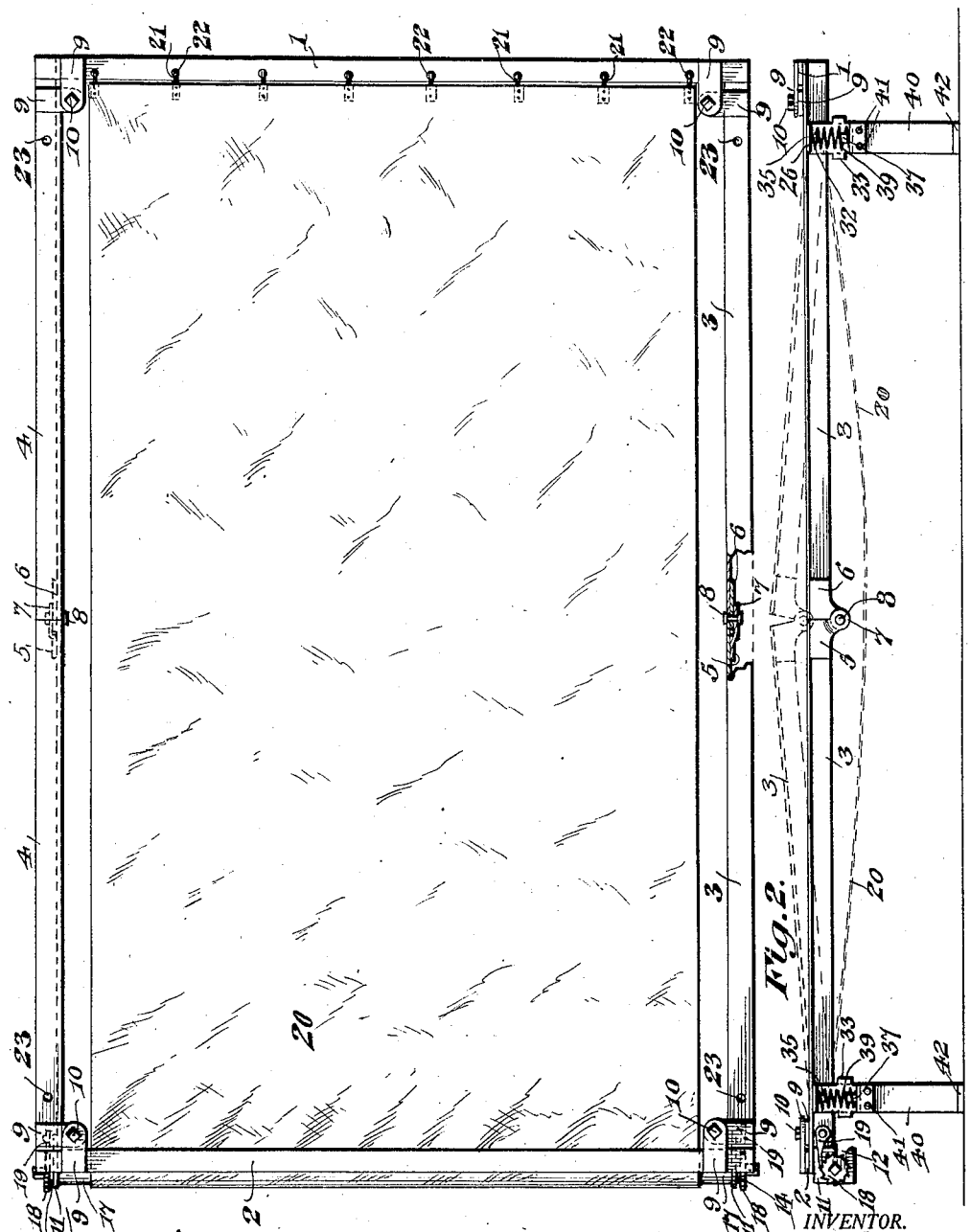

Fig. 1.

Fig. 2.

INVENTOR.

John Soderquist,

BY

Geo. P. Kimmel ATTORNEY.

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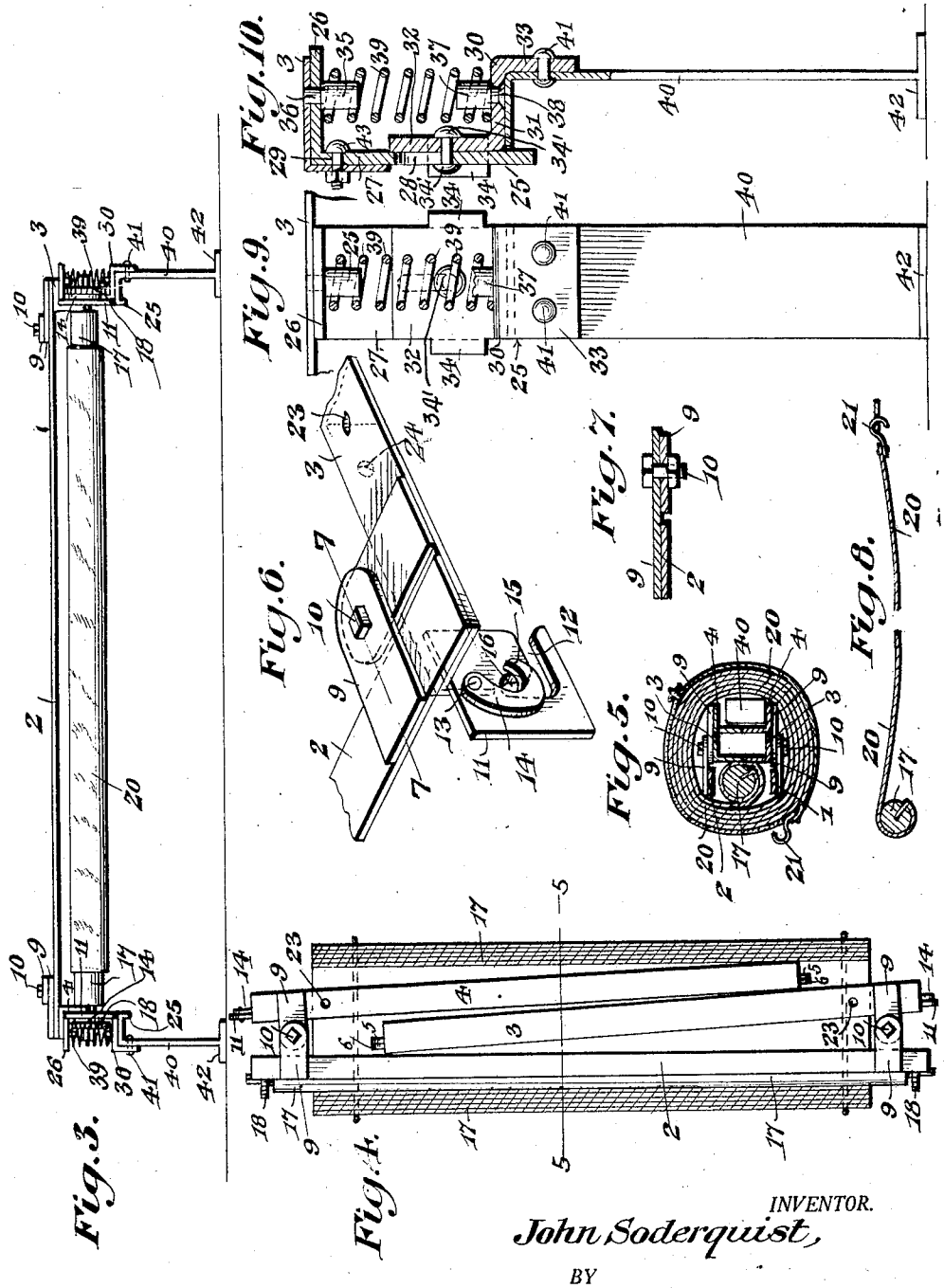

Fig. 10.

Fig. 9.

Fig. 7.

Fig. 8.

Fig. 6.

Fig. 5.

Fig. 3.

Fig. 4.

INVENTOR.

John Soderquist,

BY

Geo. P. Kimmel. ATTORNEY.

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UNITED STATES PATENT OFFICE.

JOHN SODERQUIST, OF BELOIT, WISCONSIN.

FOLDING BED.

Application filed August 12, 1924. Serial No. 731,596.

This invention relates to the class of beds and pertains particularly to the class of folding beds.

The primary object of this invention is the provision, in a manner as hereinafter set forth, of an improved type of folding bed capable of being folded into a small, neat and compact bundle for easy storage and transportation.

A bed constructed in accordance with this invention is particularly desirable for use upon camping trips owing to the ease and quickness with which it may be set up for use or knocked down for moving.

A further object of this invention is the provision, in a manner as hereinafter set forth, of a folding bed which when folded, makes use of the fabric, constituting the bottom of the bed when set up, to wrap the bed for transportation.

A still further object of this invention is the provision, in a manner as hereinafter set forth, of a bed structure having a fabric bottom carried thereby in such a manner that the same may be drawn taut or allowed to slack according to the desires of the user.

Still another object of the invention is the provision, in a manner as hereinafter set forth, of a collapsible bed having removable spring supported legs therefor to increase the ease and comfortableness of the structure.

A final object of the invention is the provision, in a manner as hereinafter set forth, of a folding bed of the character above set forth, of simple design, neat in appearance, strong, durable, easily and quickly set up or folded for transportation, and inexpensive to manufacture.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of this specification, with the understanding that the invention is not confined to any strict conformity with the showing of the drawings, but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claim.

In the drawings:

Figure 1 is a top plan view of the bed embodying this invention.

Figure 2 is a side elevation thereof.

Figure 3 is an end elevation of the same.

Figure 4 is a plan view of the structure folded with the fabric bottom thereof wrapped thereabout to provide a covering, which covering is shown in sections to disclose the arrangement of the parts when in folded position.

Figure 5 is a transverse section taken upon the line 5—5 of Figure 4.

Figure 6 is a detail perspective view of the hinge structure of one corner of the bed frame showing also the method of suspension of the fabric roll at the end of the frame.

Figure 7 is a section taken upon the line 7—7 of Figure 6.

Figure 8 is a longitudinal section through the fabric bottom showing the manner in which the same is connected between the roller at one end of the frame and the end rail at the other end of the frame.

Figure 9 is a front elevation of one of the legs for the frame structure, and

Figure 10 is a longitudinal section taken through the leg structure.

Referring now to the drawings in detail wherein like numerals of reference indicate corresponding parts throughout the several views of the drawings, the device embodying this invention comprises a frame having the transverse end rails 1 and 2, respectively, and two-part side rails connecting the ends of the end rails 1 and 2, as indicated at 3 and 4. The end rails 1 and 2 are flat bar members as shown, and the side rails 3 and 4 are constructed of angle irons having one side facing upwardly and the right angled other side upon the inner side of the frame, as shown.

The end rails 1 and 2 overlap the top of the side rails 3 and 4 and these side rails 3 and 4 are each divided at their central parts and the vertical web is provided with hinge elements 5 and 6, respectively, which are offset below the rail as at 7 and pivotally connected together by means of the pivot pin 8. The rails 3 and 4, as indicated in dotted lines in Figure 2 can only open or break upwardly and therefore all danger of collapse or sudden closing of the parts is impossible.

At each end of each end rail 1 and 2 and at each end of each side rail 3 and 4, there is a right angularly positioned inwardly extending tongue 9 each constituting a hinged section. The free projecting ends of each of the tongues 9 carried upon the end rails 1 and 2 overlap the free inwardly projecting

end of the other tongue 9 carried upon the adjacent side rail 3 or 4, and these overlapping ends are pivotally connected together by means of the bolt 10.

At that end of each of the side rails 3 and 4 where they connect with the end rail 2, there is secured to the vertical web of the side rail a plate 11 having a bayonet slot 12 therein. This slot opens upon the inner edge of the plate and extends toward the outer edge thereof a distance aproximately half the width of the plate whereupon it is turned upwardly as shown and terminates in the central portion of the plate. Pivotally secured to the side of the plate above the terminal end of the slot 12, by means of the pin 13, is a supporting and bearing hook 14, the bill 15 of which is turned sharply upward to form the hook substantially semi-circular to match the contour of the end of the slot 12 and form therewith a substantially circular aperture 16. Extending across the end of the frame between the plates 11 is a roller 17 having the ends thereof reduced and extended through the aperture 16 and supported therein by the hook 14. The reduced ends of the roller 17 extend a substantial distance beyond the hook 14 and carry thereon ratchets 18 which are engaged by pawls 19 pivotally secured to the vertical web of the side rail adjacent thereto.

This roller 17 has a longitudinal slot therein in which one end of a strip of canvas fabric 20 is secured as shown in Figure 5, which strip of canvas is adapted to be wrapped about the roller 17 and when desired for use is unwound therefrom and drawn out to the full length of the frame where the free end, which carries across its edge a series of hook members 21, has its hooks engaged in the apertures 22 which are formed through the end bar 1 along the inner edge thereof. The canvas in this position serves as a fabric and bottom for the bed frame and when the frame is folded in the manner as shown in Figure 4, the canvas may be unwound from the roller 17 and wrapped around the folded parts of the frame to protect the same.

Each side rail 3 and 4 has formed through the horizontal web portion thereof adjacent each end and upon the inner side of each hinged member 9, an aperture 23 and adjacent each of these apertures 23 and the vertical web is a second aperture 24.

Spring legs are provided for this frame, each of which is indicated as a whole by the numeral 25. These legs each comprise an upper inverted substantially L-shaped member 26, the long or depending portion 27 of which is provided with a central longitudinal slot 28 and an aperture thereabove as indicated at 29.

Positioned in front of the depending portion 27 beneath the overhanging right angled portion of the member 26 is a substantially Z-shaped member 30 having a central horizontal portion 31, a rear right angled upstanding portion 32 and a forward right angled depending portion 33. The portion 32 has at each edge rearwardly extending ears 34 which engage upon either side of the depending portion of the L-shaped member 26 as shown, and this upstanding portion 32 further has a central aperture therethrough which is adapted to be positioned to coincide with the slot 28, and a rivet 34' is extended through this aperture and slot to retain the member 30 in slidable engagement against the inner face of the depending portion 27. Depending from the underside of the horizontal portion of the member 26 is a stud 35 having a reduced portion 36 which is secured in the horizontal portion referred to and extends a slight distance above the upper surface thereof as shown. Extending upwardly from the central portion 31 of the member 30 is a similar stud 37 having a reduced portion 38 which is fixedly secured in the horizontal portion 31 as shown. Engaged over these studs 35 and 37 and extending between the horizontal portion of the L-shaped member 26 and the portion 31 of the member 30 is a helical spring 39 which, as shown, tends to force the two members apart at all times. A ground engaging portion 40 is provided having the upper end extended at right angles as shown to fit the inner face of the portion 33 and the underside portion 31 to which it is secured by means of the rivet 41. The lower end of the ground engaging portion 40 is extended outwardly upon either side simulating an inverted T, to provide the foot 42.

These legs 25 are placed in position one at each corner of the frame, and the projecting reduced portion 36 of the stud 35 is engaged in one of the apertures 23, and when so positioned, the aperture 29 is in alignment with the aperture 24 in the side rail of the frame. A bolt 43 is then passed through these two members to secure them together and when this has been done the leg is permanently in position.

It will be seen from the foregoing description and upon reference to the drawings, that when weight is applied or placed upon the bed frame and fabric 20 the L-shaped member 26 will be forced down against the spring 39, the rivet 34 riding in the slot 28 to allow free movement between the members 30 and 26 and thus a springy and resilient support is furnished for the bed frame.

It will be further seen from the foregoing description that a very neat and novel foldable bed frame has been provided whereby the sides can each be folded upon them-

selves and thereby bringing the end rails in close proximity one to the other, and thereupon the folded side rails can be again folded inwardly to a position substantially parallel with the superposed end rails. When this has been done the canvas, which normally provides the body supporting means for the frame, can be wrapped about the folded part to act as a cover therefor.

Having thus described my invention what I claim is:

A folding bed, comprising a frame formed of side rails and end rails, the adjacent ends thereof being in crossed over-lapping relation, pivotal means whereby each side rail may be broken centrally and folded upon itself, an inwardly extending hinge element adjacent and at right angles to each end of each rail, the adjacent ends of said elements being overlapped and pivotally connected together whereby said folded rails may be folded to a position substantially parallel with said end rails in overlapping relation thereagainst, and a fabric for said frame.

In testimony whereof, I affix my signature hereto.

JOHN SODERQUIST.