

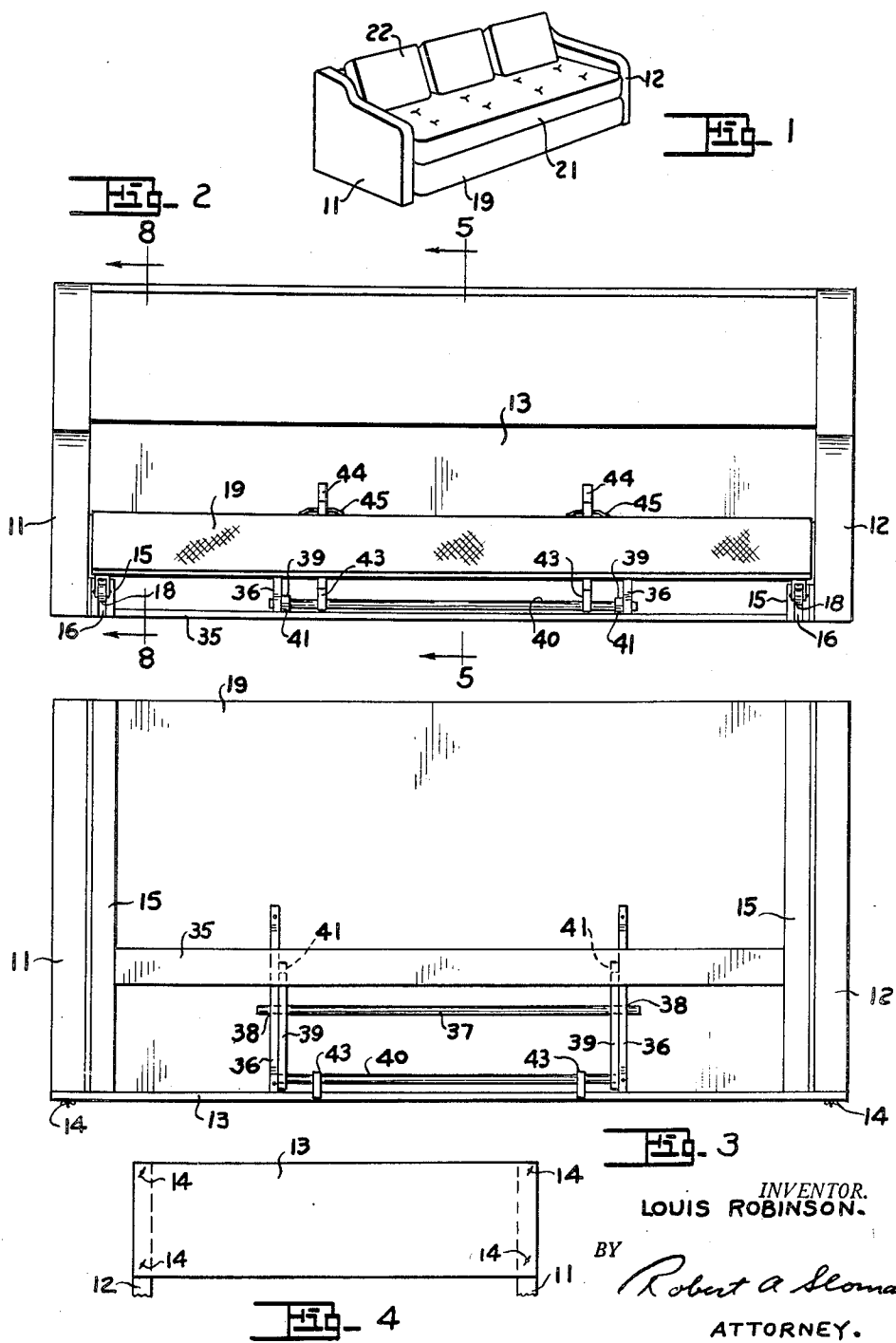
Jan. 23, 1951

L. ROBINSON
SOFA BED

2,539,103

Filed Jan. 2, 1948

2 Sheets-Sheet 1



INVENTOR.
LOUIS ROBINSON.

BY

Robert A. Sloman
ATTORNEY.

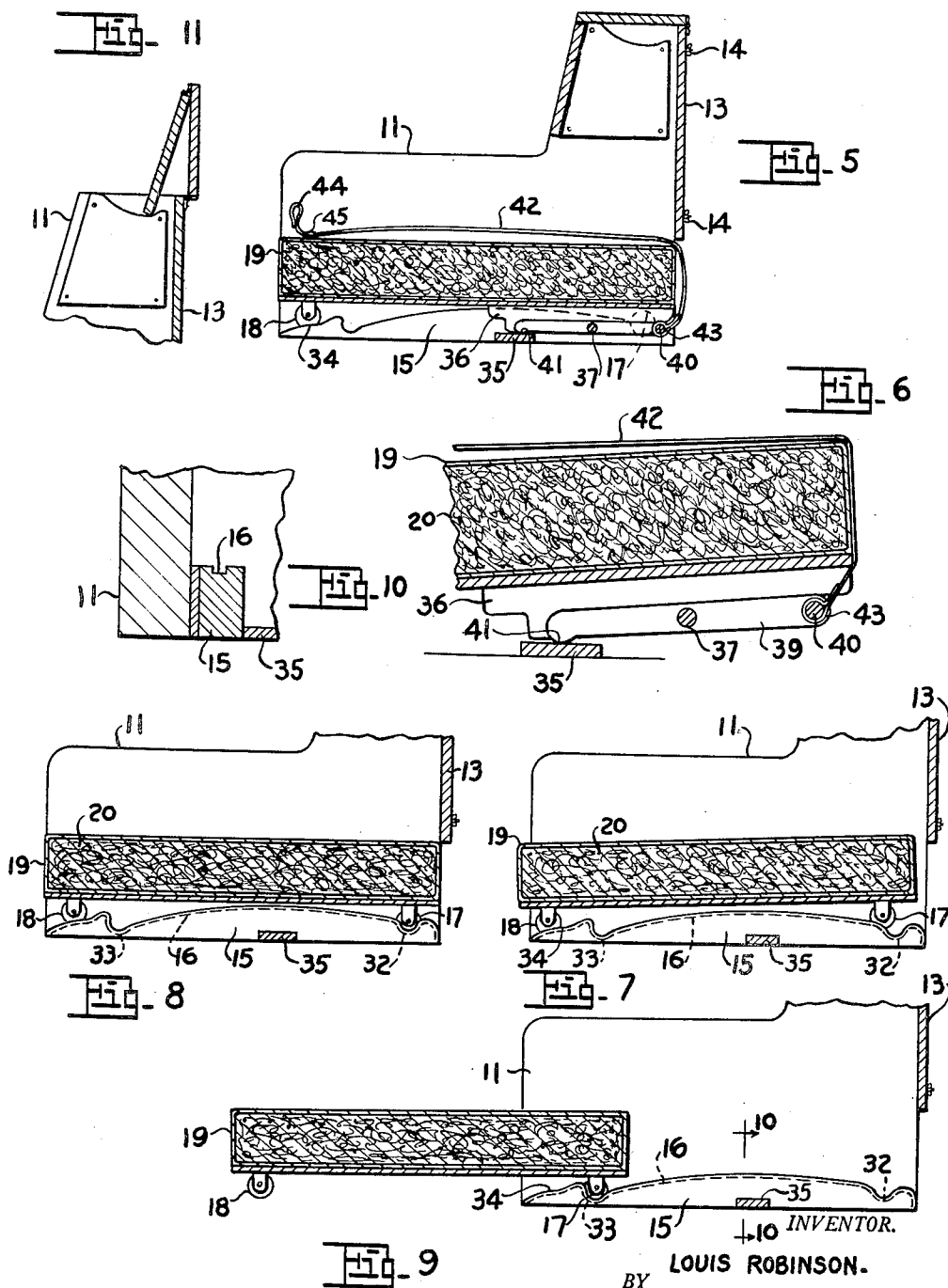
Jan. 23, 1951

L. ROBINSON
SOFA BED

2,539,103

Filed Jan. 2, 1948

2 Sheets-Sheet 2



INVENTOR.
LOUIS ROBINSON.

BY *Robert A. Roman*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,539,103

SOFA-BED

Louis Robinson, Detroit, Mich.

Application January 2, 1948, Serial No. 143

7 Claims. (Cl. 5—18)

1

This invention relates to a convertible sofa-bed, and more particularly to a combination sofa and bed set out in my Patent No. 2,394,969 dated February 12, 1946, and relating to a combination couch and bed.

Still more particularly the present invention relates to a novel guide rail and supporting rail construction incorporated within the convertible sofa-bed, upon which the box spring is slidably supported by means of a plurality of forwardly and rearwardly arranged pairs of roller supports.

It is therefore the principal object of this invention to provide in a sofa-bed of the type specified, a pair of box spring guiding and supporting rails secured to the interior portions of the side walls, or side arms thereof, upon which the box spring is supported for in and out adjustment thereon.

It is the further object of this invention to provide depressed portions adjacent the inner ends of said rails adapted to retainingly receive the rearwardly arranged roller supports of the box spring to prevent accidental outward adjustment thereof relative to said rails.

It is the further object of this invention to provide a pivotal lifting device upon the under side of said box spring whereby said rearwardly arranged rollers may be lifted from said depressed portions, and at the same time said box spring may be moved outwardly upon said rails.

It is the still further object of this invention to provide depressed portions adjacent the outer ends of said rails which are adapted to retainingly receive said rearwardly arranged rollers to limit the outward adjustment of said box spring.

In the sofa-bed construction above specified it is desirable that the box spring be moved outwardly upon its supports to permit remaking of the bed; and it is therefore the object of this invention to provide a novel means of simplified construction whereby the box spring may be readily rolled outwardly for this purpose.

These and other objects will be seen from the following specification and claims in conjunction with the appended drawings in which:

Figure 1 is a perspective view of the convertible sofa-bed.

Figure 2 is a front elevational view thereof with the mattress and cushions removed for clarity.

Figure 3 is a bottom plan view thereof.

Figure 4 is a fragmentary rear elevational view thereof upon a reduced scale.

Figure 5 is a section on line 5—5 of Fig. 2.

Figure 6 is a fragmentary section illustrating the box spring in its forwardly tipped position.

2

Fig. 7 is a fragmentary section illustrating the position of the box spring as slightly moved outwardly from its normal position in Fig. 5.

Figure 8 is a fragmentary section on line 8—8 of Figure 2.

Figure 9 is a view similar to Fig. 8 but showing the box spring as moved to its outer position.

Figure 10 is a fragmentary section on line 10—10 of Figure 9; and

Figure 11 is a fragmentary section showing the back rest of the couch upwardly adjusted and supported when the convertible sofa-bed is used as a bed.

It will be understood that the above drawings illustrate merely a preferred embodiment of the invention, and that other embodiments are contemplated within the scope of the claims hereafter set out.

Referring to the drawings, the convertible sofa-bed consists of a pair of spaced side arms 11 and 12, to which is secured upright back portion 13, by means of a plurality of studs and wing nuts 14, as illustrated in Figures 3, 4 and 5. This construction by way of illustration permits of easy dismantling of the sofa-bed, as desired, for shipping.

A pair of guide rails 15 are suitably secured at lower portions to the inner side walls of side arms 11 and 12, and have formed therein in their upper surfaces the longitudinally slotted portions 16.

A box spring 19 is normally positioned between side arms 11 and 12, and is suitably supported upon the guide rails 15, there being a pair of rearwardly arranged rollers or roller supports 17 depending from said box spring, as well as a pair of forwardly arranged roller supports 18.

The pairs of roller supports 17 and 18 cooperatively extend within the longitudinally slotted portions 16 of the side arm supported rails 15, and permit of in and out adjustment of said box spring thereon.

The box spring 19 shown in the drawings is of the conventional construction including stuffing 20.

As shown in Figure 1 a suitable mattress 21 rests upon box spring 19, and there are also a plurality of supporting pillows 22 which are used as indicated when the construction is used as a sofa.

Referring to Figures 5 through 10 it will be seen that depressions 32 are formed in the rearward portions of the rails 15, and are adapted to retainingly receive the pair of rearwardly arranged roller supports 17 which depend downwardly from and are secured to box spring 20. Said depressions are adapted to normally retain

3

the box spring in its innermost position, and prevent accidental outward movement thereof upon guide rails 15.

Secondary depressions 33 are similarly formed adjacent the outer ends of supporting rails 15, and are adapted to cooperatively and retainingly receive said rearwardly arranged roller supports 17, to limit the outward adjusting movement of the box spring relative to said rails, as illustrated in Figure 9.

It will be noted that rails 15 terminate in the downwardly inclined portions 34, upon which roller supports 18 initially rest whereby as viewed in Figures 7 and 8 rollers 18 will easily slide down upon the floor or other support for the sofa-bed. As the box spring is rolled outwardly the rear rollers 17 will ride along the slotted portions 16 of the tracks 15 until they reach depressions 33, which limit the outward movement of said box spring.

A spacer bar 35 is transversely arranged and positioned intermediate guide rails 15, being joined thereto at its ends at points intermediate the ends of said rails, and towards the rear portions thereof.

A pair of spaced bars 36 are secured to the rear underside portion of box spring 19, as best illustrated in Figures 3, 5 and 6. A spacer rod 37 is mounted upon the underside of said box spring and in spaced relation thereto with its ends being suitably secured through corresponding openings formed within central portions of the spaced bars 36 as at the points 38.

A pair of spaced levers 39 are mounted upon the underside of box spring 19, with their central portions pivotally mounted upon spacer rod 37.

A second spacer bar 40 interconnects the rear ends of the spaced levers 39, while the opposite ends of said levers have downwardly extending projections 41, which in the normal position cooperatively bear against the top longitudinal edge of the spacer 35.

A pair of flexible straps 42, have looped portions 43 at their lower ends which extend around spacer bar 40 which interconnects the levers 39. Said straps extend upwardly around the rear portion of box spring 19, and thence forwardly over the top portion thereof, and terminate in the looped portions 44, permitting grasping thereof.

The free ends of straps 42 slidably and guidingly extend through the looped retainers 45 positioned forwardly of said box spring, and with their ends secured thereto, whereby the looped ends of the straps 42 are normally retained in the position shown in Figure 5.

Operation

To remove the box spring from its innermost position it is necessary to manually grasp the loops 44 of both straps 42, pulling upon the same, and causing upward pivotal movement of the spaced levers 39, whose free ends are adapted to bear against the top surface of spacer 35.

As viewed in Figures 3, 5 and 6 the downwardly extending portions 41 of said levers cooperatively bear against the top of transverse spacer bar 35 which acts as a fulcrum for said levers.

As viewed in Figure 6 a manual pull or outward thrust upon the straps 42 will cause a pivotal movement of the levers 39 in a counterclockwise direction, and a corresponding upward pivotal movement of the rear portion of box spring 19.

Thus it is seen that rollers 17 will be elevated

4

out of the depressions 32 in guide rails 15, and at the same time due to the outward thrust upon said straps, said box spring will be moved outwardly upon guide rails 15 in the manner illustrated in Figures 7 and 9.

Normally to remake, or to make the bed, it is desirable that said box spring be moved outwardly from the position shown in Figure 8. While it is not necessary that said box spring be moved out to the position shown in Figure 9 this is desirable. It is seen that the secondary depressions 33 in said guide rails are adapted to limit the outward movement of box spring 19 as shown in Figure 9, and this is the position normally employed for remaking the bed.

While the above specification refers to the elements 15 as the supporting rails for the roller members which depend from a box spring, the claims hereafter set out refer to said elements as tracks in describing the same.

While it is above specified that depressions 33 are provided within the outer portions of rails or tracks 15, it is contemplated that such depressions may be formed in only one of said rails. Thus the box spring may be adjusted outwardly till one of the forwardly arranged rollers 18 is positioned within the recess 33 in one of the tracks 15. However, the other forwardly arranged roller is not so limited in its outward movement, and is free to move outwardly down the inclined run-out portion 34 and continue its outward movement. Thus the box spring will swing outwardly around the depression 33 in the other rail 15.

Thus making of the bed is facilitated in permitting one to walk behind the box spring at one edge thereof.

Having described my invention reference should now be had to the claims which follow for determining the scope thereof.

I claim:

1. In a convertible sofa-bed having spaced side arms, a pair of horizontally arranged tracks joined to the inner lower portions thereof, a box spring positioned between said arms, pairs of forwardly and rearwardly arranged rollers depending from said spring for cooperative engagement with said tracks, there being a depressed portion formed in said tracks at their inner ends to receive said rearwardly arranged rollers for normally retaining the same against outward movement, and manually pivotal lifting means on the underside of said spring engageable with the floor as a fulcrum for elevating said latter rollers from said depressed portions, permitting outward adjustment of said spring.

2. In a convertible sofa-bed having spaced side arms, a pair of horizontally arranged tracks joined to the inner lower portions thereof, a box spring positioned between said arms, pairs of forwardly and rearwardly arranged rollers depending from said spring for cooperative engagement with said tracks, there being a depressed portion formed in said tracks at their inner ends to retainingly receive said rearwardly arranged rollers, a transverse spacer interconnecting intermediate portions of said tracks, and pivotal lifting means on the under side of said spring engageable with said spacer as a fulcrum for elevating said latter rollers from said depressed portions, permitting outward adjustment of said box spring.

3. In a convertible sofa-bed having spaced side arms, a pair of horizontally arranged tracks joined to the inner lower portions thereof, a box spring positioned between said arms, pairs of forwardly and rearwardly arranged rollers de-

pending from said spring for cooperative engagement with said tracks, there being a depressed portion formed in said tracks at their inner ends to retainingly receive said rearwardly arranged rollers, a lever pivotally joined to the underside of said box spring, with one end bearing upon the floor, and a strap joined to the other end of said lever extending upwardly around the back of said spring and forwardly upon its top surface, whereby a pull upon said strap will effect rotary movement of said lever lifting the rearwardly arranged rollers from said depressed portions, and at the same time effecting outward movement of said box spring upon said tracks.

4. In a convertible sofa-bed having spaced side arms, a pair of horizontally arranged tracks joined to the inner lower portions thereof, a box spring positioned between said arms, pairs of forwardly and rearwardly arranged rollers depending from said spring for cooperative engagement with said tracks, there being a depressed portion formed in said tracks at their inner ends to retainingly receive said rearwardly arranged rollers, a transverse spacer interconnecting said tracks, a lever pivotally joined to the underside of said spring, with one end bearing cooperatively against said spacer as a fulcrum, and a strap joined to the other end of said lever extending upwardly around the back of said spring and forwardly upon its top surface, whereby a pull upon said strap will effect rotary movement of said lever lifting the rearwardly arranged rollers from said depressed portion, at the same time effecting outward movement of said box spring upon said tracks.

5. In a convertible sofa-bed having spaced side arms, a pair of horizontally arranged tracks joined to the inner lower portions thereof, a box spring positioned between said arms, pairs of forwardly and rearwardly arranged rollers depending from said spring for cooperative engagement with said tracks, there being a depressed portion formed in said tracks at their inner ends to retainingly receive said rearwardly arranged rollers, a pair of spaced levers pivotally joined to the underside of said box spring, with their ends bearing upon the floor, and a pair of spaced straps joined to the other ends of said levers, extending upwardly around the back of said box spring and forwardly upon its top surface, whereby a pull upon said straps will effect rotary movement of said levers lifting the rearwardly arranged rollers from said depressed por-

tions and at the same time effecting outward movement of said box spring upon said tracks.

6. In a convertible sofa-bed having spaced side arms, a pair of horizontally arranged tracks joined to the inner lower portions thereof, a box spring positioned between said arms, pairs of forwardly and rearwardly arranged rollers depending from said spring for engagement with said tracks, there being a depressed portion formed in said tracks at their inner ends to retainingly receive said rearwardly arranged rollers, a pair of spaced levers pivotally joined to the underside of said box spring with their ends bearing upon the floor, a spacer interconnecting their other ends, and a pair of spaced straps joined to said spacer, extending upwardly around the back of said box spring and forwardly upon its top surface, whereby a pull upon said straps will effect a lifting of said rearwardly arranged rollers from said depressed portions, and at the same time effect outward movement of said box spring upon said tracks.

7. In a convertible sofa-bed having spaced side arms, a pair of horizontally arranged tracks joined to the inner lower portions thereof, a box spring positioned between said arms, pairs of forwardly and rearwardly arranged rollers depending from said spring for engagement with said tracks, there being a depressed portion formed in said tracks at their inner ends to retainingly receive said rearwardly arranged rollers, a lever pivotally joined to the underside of said box spring, with one end bearing upon the floor, a strap joined to the other end of said lever extending upwardly around the back of said spring and forwardly upon its top surface, and a strap guiding and retaining loop secured at its ends to the forward top portions of said box spring, through which the free ends of said strap extend.

LOUIS ROBINSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
473,984	White	May 3, 1892
755,089	Wersel	Mar. 22, 1904
1,027,007	Sisbower	May 21, 1912
1,080,217	Hoey	Dec. 2, 1913