June 10, 1930. L. F. SCHILLING 1,763,447

FOLDING BED

Filed Aug. 19, 1927 3 Sheets-Sheet 1

Fig. 1.

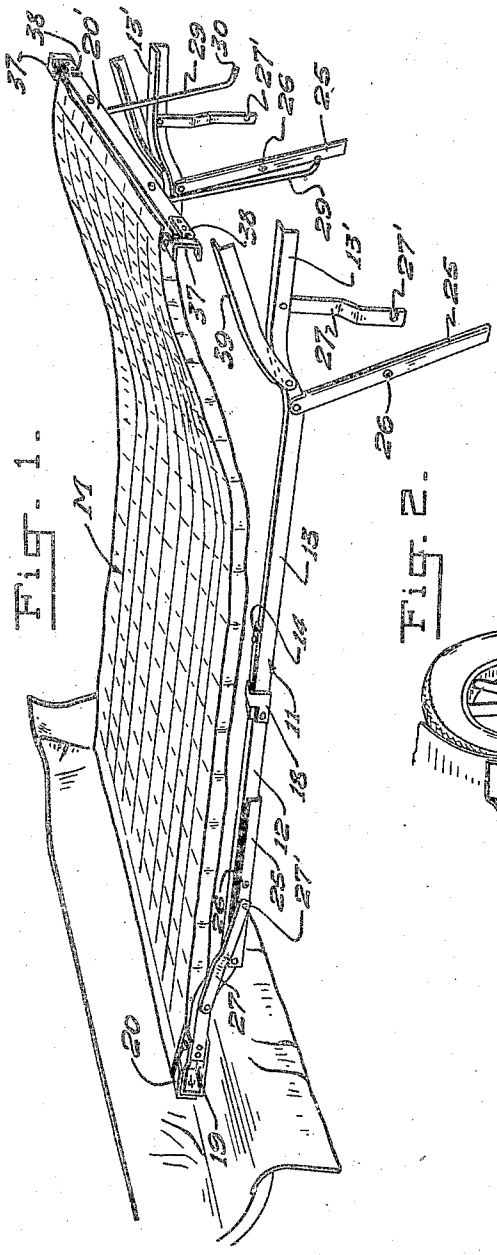
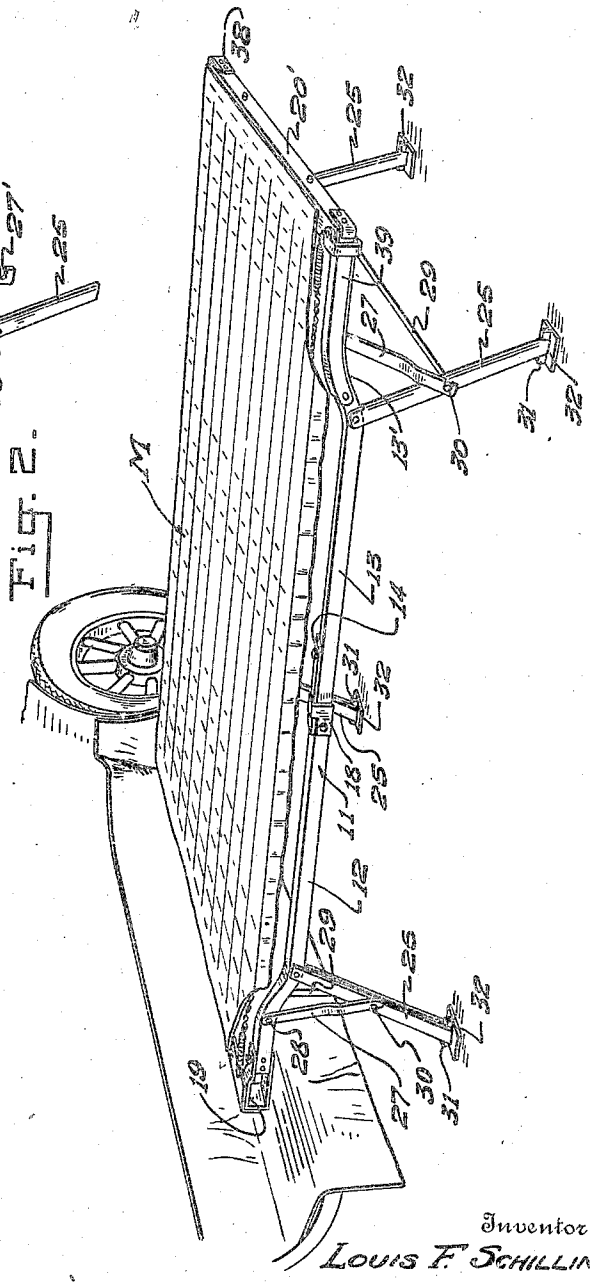


Fig. 2.



Inventor
LOUIS F. SCHILLING

By

Attorney

June 10, 1930. L. F. SCHILLING 1,763,447

FOLDING BED

Filed Aug. 19, 1927 3 Sheets-Sheet 2

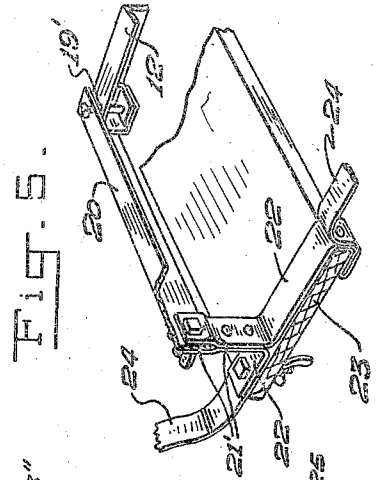


Fig. 5.

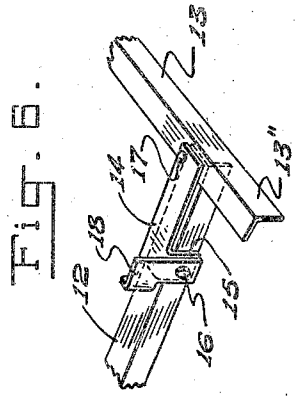


Fig. 6.

Fig. 3.

Inventor

LOUIS F. SCHILLING

By

Attorney

June 10, 1930. L. F. SCHILLING 1,763,447

FOLDING BED

Filed Aug. 19, 1927 3 Sheets-Sheet 3

Fig. 8.

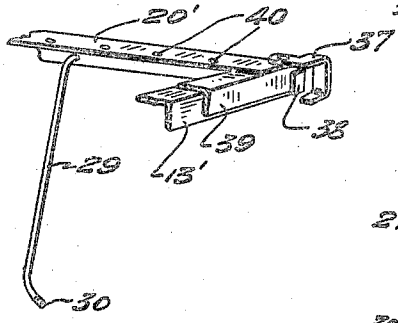


Fig. 7.

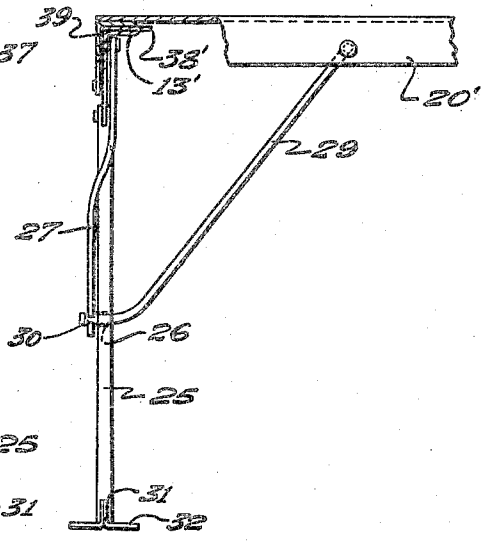


Fig. 9.

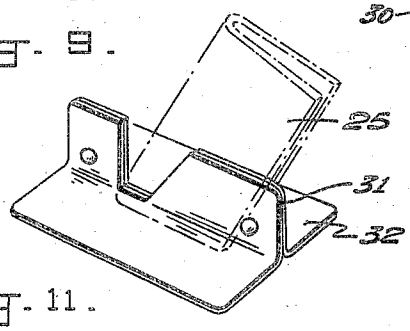


Fig. 10.

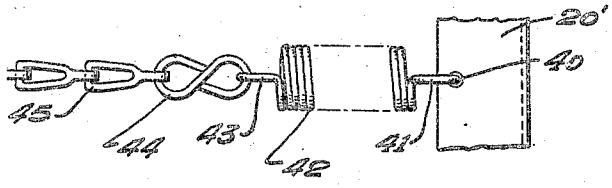


Fig. 11.

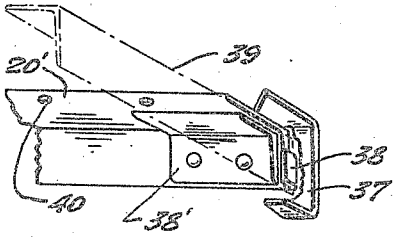
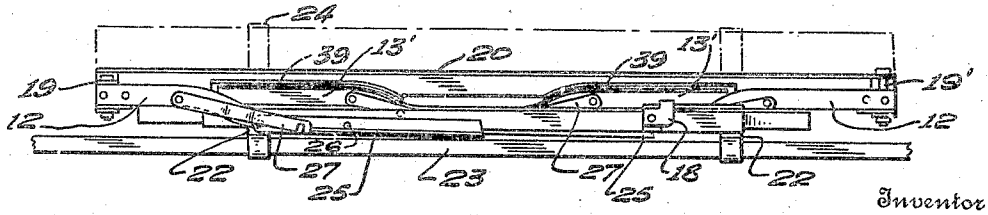


Fig. 4.



Inventor

LOUIS F. SCHILLING

By

Attorney

Patented June 10, 1930 1,763,447

UNITED STATES PATENT OFFICE

LOUIS F. SCHILLING, OF SALEM, OHIO; RAY SCHILLING ADMINISTRATRIX OF SAID LOUIS F. SCHILLING, DECEASED

FOLDING BED

Application filed August 19, 1927. Serial No. 214,179.

This invention relates to improvements in folding beds, and more particularly to that type of bed or cot adapted to be used in conjunction with automobiles and, therefore, of a type which can be readily folded when out of use, and which, when extended, may be used either conjointly with or separately from the automobile.

One object of this invention is the provision of a folding bed or cot of which the side rails may be readily folded and, when extended to set up the bed, will be exceedingly rigid so as to produce a rugged structure.

A further object of this invention is the provision of a novel means for connecting the end rails to the side rails whereby the foot portion of the cot or bed may be quickly removed from or attached to the side rails and the side rails may be folded against or unfolded from the head portion.

In the accompanying drawings:—

Figure 1 is a perspective view of the complete cot or bed partly set up and with its head bar resting on one of the running boards of an automobile, the foot-bar of the bed being shown as disconnected from the side bars;

Figure 2 is a perspective view of the cot or bed cmpletely set up with all of the legs extended and supported;

Figure 3 is a top plan view of the main portion of the frame minus the foot-bar to illustrate the various positions the side bars may assume relatively to the head bar;

Figure 4 is a top plan view of the various parts of the bed collapsed and in the position they assume when ready for storage on one of the running boards of an automobile;

Figure 5 is a perspective view of a portion of the head rail of the bed showing the manner in which it may be mounted on a running board of an automobile;

Figure 6 is a detail perspective view showing the folding connection between the sections of one of the side rails;

Figure 7 is an enlarged detail view, partly in section, of the foot end of the bed showing one leg extended;

Figure 8 is a perspective view of one end of the foot-bar showing the manner in which the foot-bar is connected to one of the side rails;

Figure 9 is a detail perspective view of a supporting foot for one of the legs, the leg associated therewith being shown in broken lines;

Figure 10 is a detail view of one of the spring supports for the mattress; and

Figure 11 is a detail view of one end of the foot-bar showing the manner in which one of the side rails is connected to the foot-rail or bar.

Referring to the drawings: The numeral 11 designates the two side rails, each of which is composed of two sections 12 and 13, both formed of angle iron, the section 13 constituting the foot section. These sections are attached together in a novel manner, as clearly shown in Figure 6. One member of each of the angle iron sections 12 and 13 is disposed horizontally and directed toward the corresponding section of the other side rail. An angle plate 14 is superposed on the section 12 at the end of the latter opposite to the head rail with one of its members above and spaced from the horizontal member of the section 12 and its other member against the vertical member of said section. One end of the member of the angle plate 14 which lies against the vertical member of the section 12 is cut away, as at 15, forming a recess at that end of the section 12. The horizontally disposed member of the foot section 13 of the side bar extends into the space between the horizontally disposed members of the section 12 and angle plate 14, and a rivet 17 extends through aligned openings in said members and also through an opening in the horizontally disposed member of the section 13 at a distance from the end of the latter section and serves both as a pivot for the section 13 and to secure the horizontally disposed members of the parts 12 and 14 together. Thus, as shown in Figure 3, the section 13 may swing horizontally on the rivet 17 against the inner side of the section 12 or into substantially longitudinal alignment with the section 12. When the section 13 is moved into the latter position the portion 13″ (Figure 6) of its horizontally

disposed member between its end and the rivet 17 will enter the space between the horizontally disposd members of the section 12 and angle plate 14, and the corresponding portion of the vertically disposed member of the section 13 will enter the recess formed by the cut away portion of the angle plate 14.

A second rivet 16 extends through a latch 18 mounted on the outer face of the vertically disposed member of the angle plate 14 and also through the vertically disposed members of the parts 14 and 12 and serves both as a pivot for the latch 18 and to secure the vertically disposed members of the angle plate 14 and section 12 together. When the section 13 is in extended position relatively to the section 12 the latch 18 may be turned on its pivot to overlie the portion 13'' of the part 13 which is seated in the recess at an end of the part 14. The latch 18 has at its upper edge a lip which is turned at an angle to its body portion toward the part 12 to rest upon the upper face of the angle plate 14 when the sections 12 and 13 are in extended position and the latch overlies the portion 13'' of the section 13.

The head rail 20, which is also formed of angle iron, has a yoke 19 projecting forwardly from its vertical member adjacent one of its ends, between the arms of which yoke the head end of one of the side rail sections 12 is pivoted. The other side rail section 12 is hingedly connected directly to the head rail 20 adjacent the other end of the latter by means of a bolt or rivet 19 which passes through aligned openings in the horizontally disposed members of the head rail 20 and section 12.

Thus, when the bed is folded, the side rail section 12 which is pivoted directly to the head rail 20 rests directly against the head rail 20 and the other side rail section 12 rests against the first-named section 12 with the head rail 20 and side rail sections 12 in substantially parallel relation, as shown in broken lines in Figure 3.

When the bed is to be mounted on one of the running boards of an automobile the vertical member of the head rail 20 is seated in and secured between the upper ends 21' of a pair of supporting members 22 which are attached to the running-board 23 and form a more or less permanent fixture. A strap 24 is also held between the running board and one of the supporting members 22 and constitutes a fastening for holding the folded bed in place.

Each leg 25 for the bed is formed from a single sheet of metal bent upon itself longitudinally and slotted at opposite ends, one slotted end being adapted to fit astride the depending web of one of the side bar sections 12 or 13 and pivotally attached thereto by means of a rivet, while the opposite end, as is illustrated in Figure 9, straddles an upwardly extending flange 31 of the foot 32. In order to hold these legs in the desired position, as particularly illustrated in Figure 2, a brace 27 has one of its ends pivotally connected to its associated side bar section 12 or 13 and has a notch 27' in one of its edges adjacent its other end. A bracing rod 29 has one end pivotally connected to one of the end bars 20 or 20' and has its opposite end angularly bent and formed into a stud 30. Said stud 30 may be projected through an opening 26 in the leg 25 and be engaged upon the outer face of the leg by the notch 27' of the brace 27, this notch forming with the stud 30 a lock against outward displacement of the bracing bar and forming with the brace 29 a very rigid construction which has practically no movement either longitudinally or transversely when the bed is set up.

Means are provided for detachably securing the foot rail 20', which is formed of angle iron, to the free ends of the foot sections 13 of the side bars. The means shown for this purpose is constructed as follows:

A pair of angle plates 38 each has one of its arms secured, as by riveting, to the rear face of the vertically disposed member of the foot rail 20' adjacent one end of the latter with its other arm projecting beyond the other face of said member to form a lug at the end of the foot rail.

An angle plate 38' is secured to the inner face of the vertically disposed member of the foot rail 20' adjacent each end of the latter with one of its ends spaced from the adjacent end of the foot rail a distance slightly greater than the thickness of the angle iron of which the foot sections 13 of the side bars are formed. Each angle plate 38' has one of its arms secured to the vertically disposed member of the foot rail 20' and its other arm extending parallel to the horizontally disposed member of the foot rail 20' but spaced from the latter member a distance slightly greater than the thickness of a member of the angle iron of which the side rail sections 13 are formed.

A pair of substantially U-shaped clasps 37 each has one arm mounted on a verical pivot carried by the horizontally disposed member of the foot rail 20' adjacent an end of the latter so that it may be rocked on said pivot to straddle the end of the foot rail 20'.

The foot sections 13 of the side bars adjacent their free ends are bent upwardly and then substantially parallel with their remaining portions to form what may be termed extensions 13', and a pair of plates 39 of angle iron, shaped correspondingly to and of the same length as said extensions, are each pivoted at its forward end to the outer side of one of the foot sections 13 of the side bars so

as to be shiftable into and out of parallelism with its associated extension 13′.

To attach the foot rail to the ends of the foot sections 13 of the side bars, the plates 39 are rocked upwardly on their pivots out of parallelism with the extensions 13′ of said bars and their ends are then inserted beneath the horizontally disposed member of the foot rail 20′ with their upper members between said member and the upper arms of the angle plates 38′ and with their side members between ends of the angle plates 38′ and the lugs formed at the ends of the foot rail 20′ by the angle plates 38. The plates 39 are then rocked downwardly into parallelism with the extensions 13′ of the foot sections 13 of the side rails to cause their upper members to rest upon the upper members of the extensions 13′. The clasps 37 are then rocked on their pivots to move their free ends under the ends of the plates 39 and extensions 13′, thus securing the foot rail 20′ and plates 39 against upward movement relatively to the extensions 13′. When the plates 39 are rocked out of parallelism with the extensions 13′ of the side rail sections 13 and the foot rail 20′ is mounted on the ends of said plates the distance between the head rail 20 and foot rail 20′ is less than the distance between said rails when the plates 39 are rocked into parallelism with the extensions 13′. Therefore, when the plates 39 and foot rail 20′ are moved into the latter position the mattress M, which has its opposite ends connected to the head and foot rails, will be put under longitudinal tension.

In order that the mattress M may be properly positioned, and be resiliently supported when the parts are extended, as in Figures 1 and 2, the cross-bars 20 and 20′ are each provided with a series of apertures 40 for the reception, respectively, of the hooks 41 of the springs 42. The eye 43 at the opposite end of each spring is attached by means of an S-shaped member 44 to a longitudinal chain 45, these being extended through and supporting the mattress, as in my previous Patent No. 1,554,343, dated September 18, 1920.

From the foregoing description, taken in connection with the drawing, it is evident that although the present form of cot or bed has been illustrated as being used in conjunction with an automobile, the same can be used separately where so desired, the supporting members 22 being then dispensed with and the bed being supported on all four legs.

It will also be noted that the present bed can be readily taken apart and the side rails folded in and upon the head bar 20 and the foot bar 20′ rolled within the mattress and placed upon the running-board so as to be covered by any weather-excluding means and be finally secured in place by means of the straps 24.

By reason of the upwardly curved ends of the side rails the mattress M is supported in a plane above the greater portion of said rails, so that a person may sit on the mattress at either side and not be made uncomfortable by contact with the side rail.

By making the rail section guide and attaching plate 14 from a right-angled plate the pivoting rivet 17 is connected to one member of the angle-iron side rail section 12, while the attaching rivet 16 engages the other member of the section 12, the section 13 can be swung horizontally and be collapsed in the section 12 without the rivet 16 interfering, the projection end 13″ being exposed.

I claim:—

1. A folding bed or cot comprising a cross-bar, two fixed pivoting members carried one by each free end thereof, two side rails one connected to each pivoting member for swinging movement in the same plane as the cross-bar, each of said side rails being composed of two hinged sections foldable inwardly upon each other, a second cross-bar, cooperative means carried by the terminals of the two side rails and the second cross-bar whereby the second cross-bar may be locked immovably to or released from said side rails, said means including a fixed lug carried by the cross-bar and between which and the end of the cross-bar the rail seats, and a pivoted latch carried by the cross-bar and adapted to embrace the end of the rail to lock the rail to the cross-bar.

2. In a folding bed a pair of side rails each comprising a pair of sections of angle iron, each of said sections having one of its ends adapted for connection to an end rail with one of its members arranged vertically and its other member arranged horizontally, an angle plate superposed on one of said sections at the other end of the latter with its members extending in the same directions as the members of said section and its horizontally disposed member spaced from the horizontally disposed member of said section, a portion of the vertically disposed member of said angle plate being cut away at one end of said plate to form a recess and the horizontally disposed member of the other section extending into the space between the horizontally disposed members of the first named section and angle plate, a rivet extending through the horizontally disposed members of said sections and angle plate to secure said angle plate to said first named section and on which the last named section is pivoted to swing into longitudinal alinement with the first named section and seat the free end of its vertically disposed member in said recess, a latch mounted on the vertically disposed outer face of said angle plate and movable over and away from said recess, and a rivet securing the vertically disposed members of the first-named section and angle

plate together and on which said latch is pivoted.

3. In a folding bed, a pair of side rails, a pair of plates formed of angle iron of which one member is arranged vertically and pivoted adjacent one of its ends to one of said side rails adjacent one end of the latter to swing on a horizontal axis into an angular position relative to the top of its associated end rail or into substantial parallelism with such side rail with its upper member resting on the top of such side rail and its free end substantially in alignment with the free end of said side rail, an end rail formed of angle iron of which one member forms the top of said end rail, a lug extending transversely of said end rail at each end of the latter, a second lug mounted on the depending member of said end rail and spaced from the top of said rail and from said lug, the spaces between said first and second-named lugs and between said last named lug and the top of the end rail being adapted, respectively, to receive the vertically and horizontally arranged members of said plate, and a clasp mounted on said end rail adjacent each end of said rail to swing around the adjacent end of said rail beneath one of said side rails and one of said plates.

In testimony whereof I have hereunto set my hand.

LOUIS F. SCHILLING.