

No. 879,657.

PATENTED-FEB. 18, 1908.

W. H. A. LEWIS.
FOLDING BED.

APPLICATION FILED JUNE 8, 1907.

3 SHEETS-SHEET 1.

FIG. 1

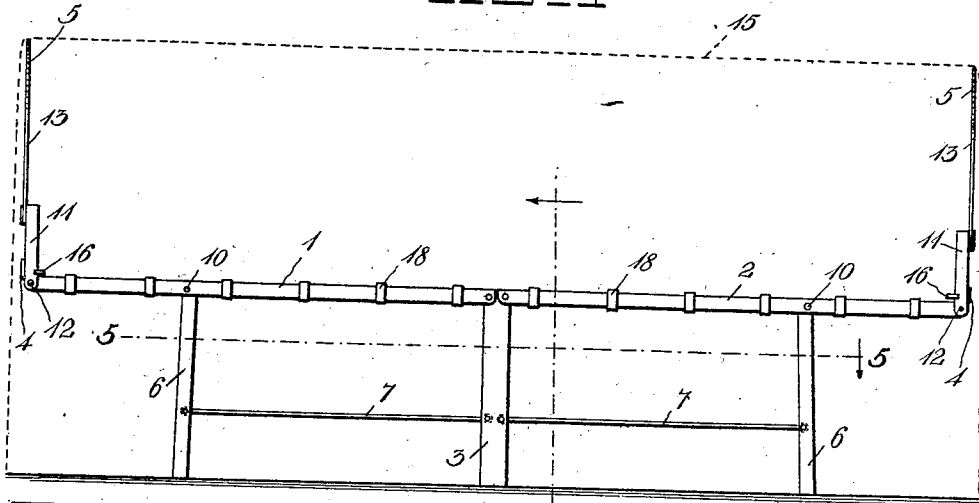


FIG. 7

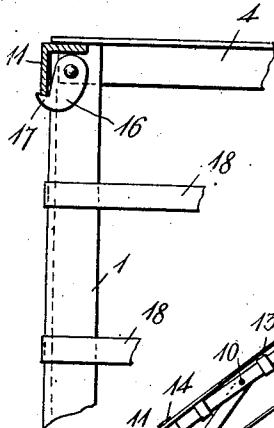


FIG. 8

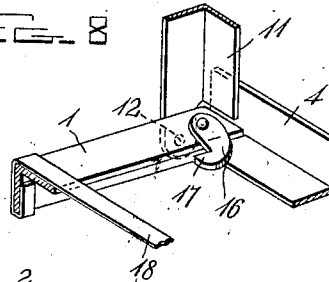


FIG. 2

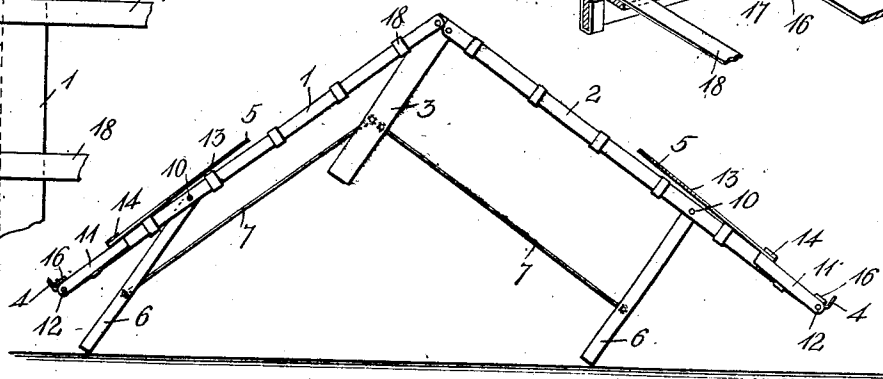
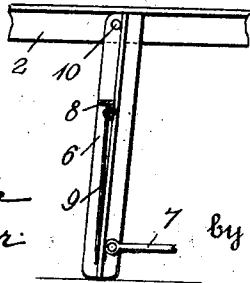


FIG. 9



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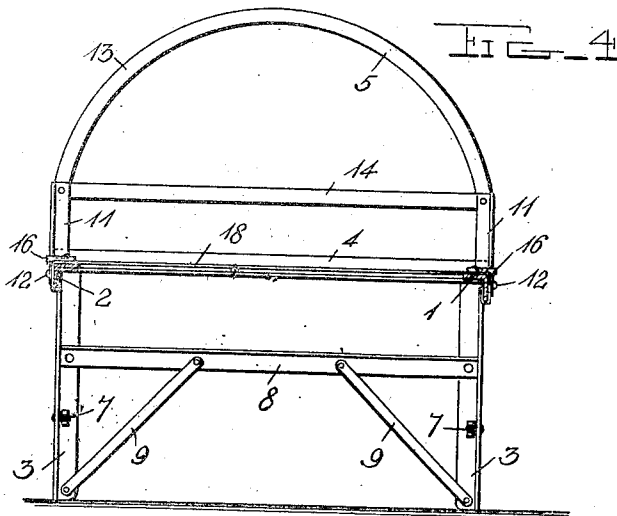
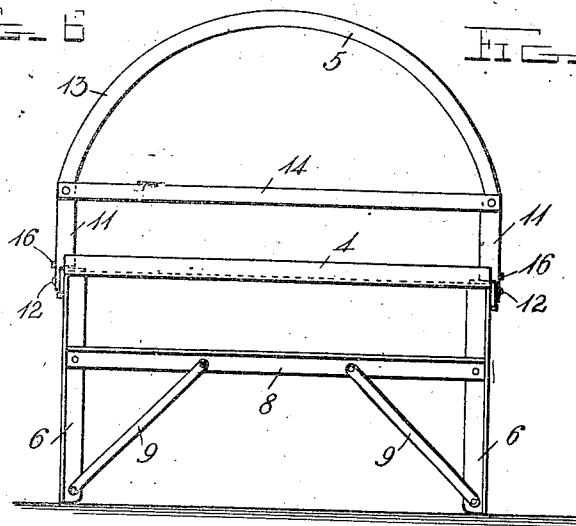
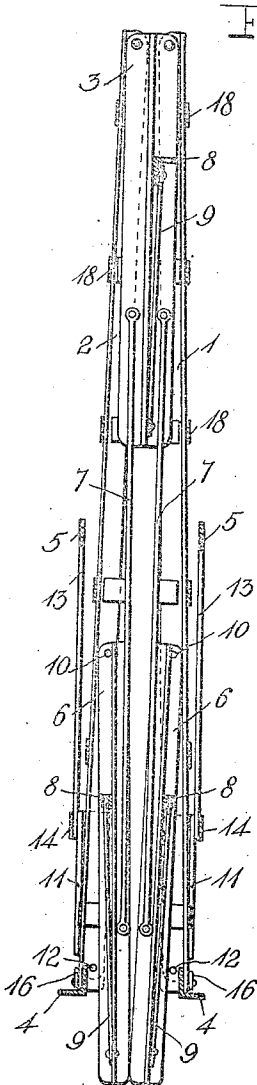
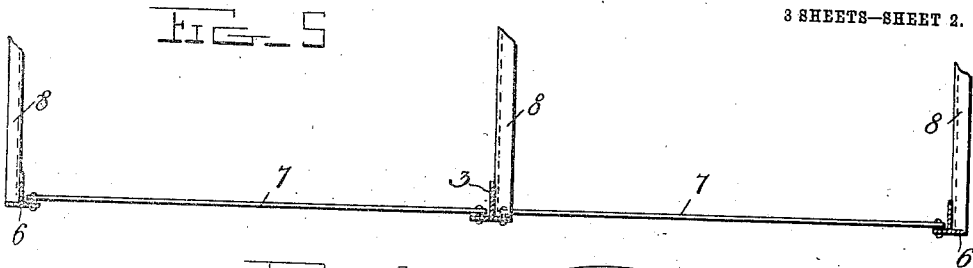
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APPLICATION FILED JUNE 6, 1907.

3 SHEETS—SHEET 2.



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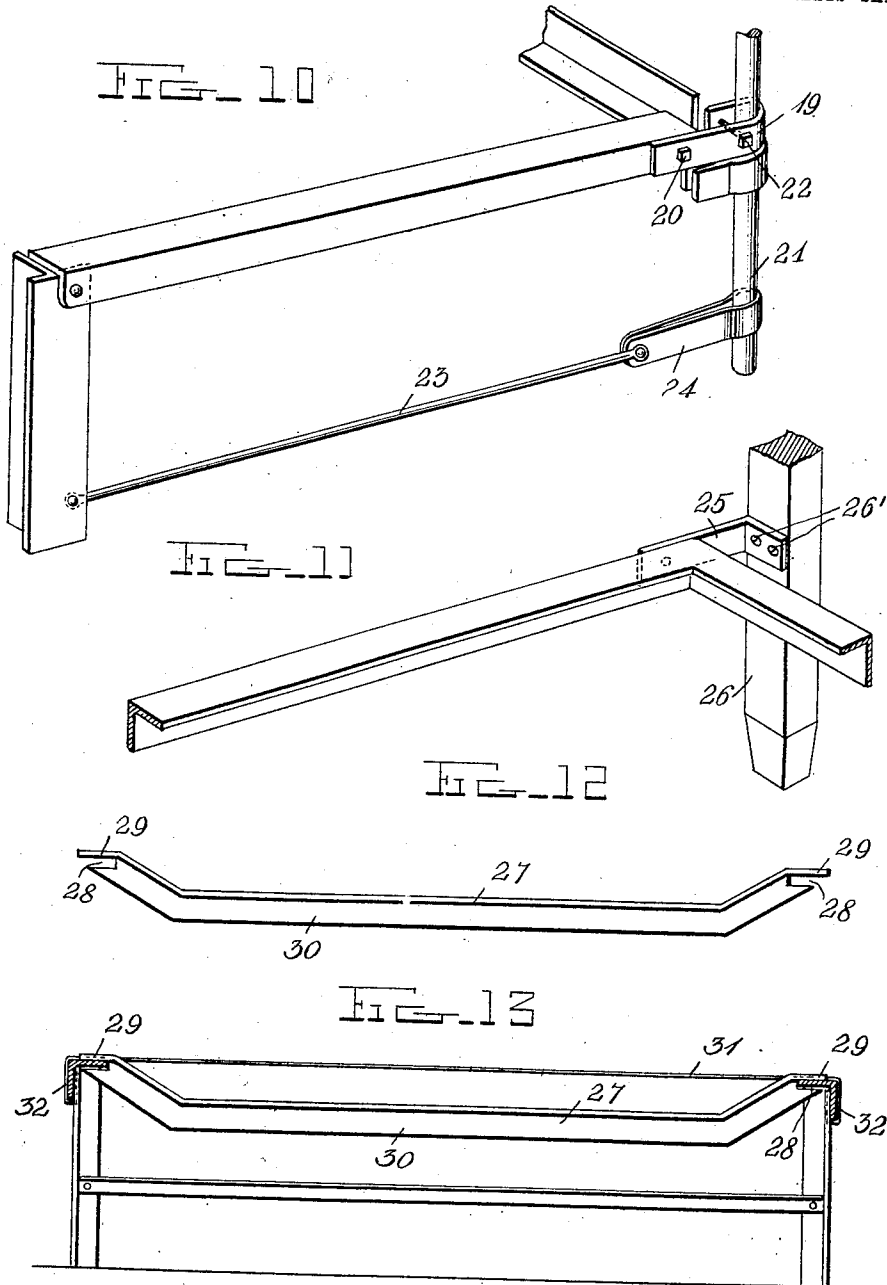
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W. H. A. LEWIS.
FOLDING BED.

APPLICATION FILED JUNE 6, 1907.

3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. A. LEWIS, OF EVANSVILLE, INDIANA.

FOLDING BED.

No. 879,657.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed June 6, 1907. Serial No. 377,605.

To all whom it may concern:

Be it known that I, WILLIAM H. A. LEWIS, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Folding Beds; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to beds, and more particularly to collapsible or folding beds; and has for its object to provide a device of this kind which will be simple, cheap, and effective, and will possess great strength and durability, and can be readily manipulated in folding it or opening for use. It is preferably formed entirely from metal, thereby giving it great strength with extreme lightness, and especially by using angle iron for the parts subject to the greatest strain. The joints and connections are so formed that no hiding places are afforded for vermin of any kind, and it can be readily cleansed by heat, as by steam, thereby rendering it absolutely sanitary and cleanly. The parts are readily accessible and can be easily cleansed by means of a cloth or other appliance at any time. The parts are made of standard sizes, and in case of breakage or necessary repair of any kind any of the parts can be readily replaced.

The bed can be easily folded, and will occupy but small space, and can be easily transported in that condition either with or without the ordinary bed clothing. The ends are provided with means for supporting a covering or canopy, thereby rendering it serviceable for protecting the occupant from insects or from the weather. In this manner the bed virtually becomes a tent or housing for the occupant and can be used independently of any other housing, thereby rendering it peculiarly adaptable for the use of armies, and especially for field hospital service, and it can be as readily used by gangs of workmen who must necessarily move from place to place.

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation of the bed showing the tent in dotted lines; Fig. 2 is a side elevation of the bed partly closed; Fig. 3 is an end view; Fig. 4 is a cross sectional view; Fig. 5 is a broken section on line 5—5

of Fig. 1; Fig. 6 is a longitudinal sectional view of the bed closed; Fig. 7 is a broken plan view of one corner of the bed; Fig. 8 is a perspective view of the same; Fig. 9 is a broken elevation showing one of the posts; Fig. 10 is a broken perspective of a modification; Fig. 11 is a similar view of another modification; Fig. 12 is a side view of a brace; and Fig. 13 is a cross section of a bed showing the brace in use.

Referring more particularly to the drawings, 1 and 2 indicate the side rails, which are preferably formed from angle iron, and are pivotally secured at their inner ends to vertical posts or uprights 3. The outer ends of the side rails are connected by end pieces 4, which are also preferably formed from angle iron with one of the webs of the iron projecting vertically to afford a brace for the end boards 5. By inverting the end pieces in this manner a space is also afforded at the ends of the side rails for the reception of the end legs 6, which are pivotally secured to the side rails and connected near their lower ends with the central posts 3 by means of truss rods 7. Cross braces 8 are secured at their ends to the legs 6 and also to the posts 3 to prevent lateral movement. These braces are preferably formed from angle iron, and stays 9 are secured to the braces 8 and to the legs and posts respectively, thereby securing great rigidity with very little weight. The posts are preferably formed from T iron, thereby adding to their strength and also affording a convenient means for securing the braces 8 and stays 9 thereto.

The legs and posts are so constructed and arranged that when the central portion of the bed is lifted or moved upward the side rails will fold longitudinally thereon, and the truss rods 7 will swing the lower ends of the end legs 6 out toward the ends of the bed recessing under the flange in the side rails.

The pivot 10, by means of which the end posts are secured to the side rails, are upon the side of the stem of the T farthest from the central posts, and the connection with the posts of the truss rods 7 is upon the side of the stem next to the central posts, thereby permitting of the truss rods recessing within the flanges of the side rails, and also of the legs when the bed is collapsed or folded. This construction causes the upper ends of the end legs to act as braces by engaging with the horizontal web of the side rails to prevent longitudinal movement of

the bed in that direction at each end of the bed, but it necessitates placing the end legs at a slight angle or variation from the vertical to cause the proper folding of the parts when the bed is collapsed.

The end boards 5 preferably comprise short end posts 11, which are pivotally secured to the outside of the side rails, as shown at 12, and are preferably provided with upward extensions 13 and cross braces 14. The extension 13 may be either angular or bow-shaped, and projects upwardly far enough to afford a support for the screen or tent cloth 15 that may be placed thereon if desired. In addition to affording strength and rigidity to the structure to prevent lateral movement of the legs or end posts 11 from the weight of the tent or other covering, the cross braces 14 also afford a means for holding the pillow. The end boards are adapted to fold flat upon the top of the bed when desired, or they can be folded down on the bedding to assist in holding it in position when the bed is being folded, or for other purposes. When the end boards are raised into their vertical position they are locked therein by any suitable means, preferably by means of a hook-like latch 16, which is pivotally secured horizontally to the side rails in front of the leg and in position for its nose or hook 17 to engage with the front portion of the legs 11, thereby rigidly holding the end boards upright. The hook 17 may be so arranged that the strain upon the end pieces will not release them, as by making them slightly inclined.

Arranged transversely of the bed are suitable slats or supports 18, preferably formed from thin steel bands, preferably about twenty-two-gage. The ends of the bands or slats may be secured to the side rails in any suitable manner, but I prefer extending the ends of each slat over the top of the rails down the outside, folding it underneath and up on the inside of the depending flange or web of the rail. In this manner a very secure attachment is formed for the slats without the use of rivets or other appliances, and permits of their being applied very readily, and without special tools, the only possible need of a tool being that of a pair of pliers to secure the inner end. The slats can be arranged at any desired distance apart, and will be held in that position against movement upon the rails by frictional contact.

The principle of my invention can be readily applied to use in connection with the end pieces or end boards of an ordinary iron bedstead. In this structure clamps 19 are pivotally secured to the end of the frame, as shown at 20, and are each held in engagement with one of the posts 21 of the bedstead by means of a bolt 22. The truss rods 23 are extended and connected with the lower ends of the posts by means of the brackets or clamps 24. The remainder of the structure

is substantially the same as heretofore described and permits of the bed being folded in the same manner, by lifting the central portion and forcing the end posts toward each other.

Instead of using the iron end boards, as above described, the structure can be applied to the ordinary wooden end boards by means of brackets 25, which are pivotally secured in the same manner as the clamps 19, and the other ends are secured to the posts 26 by means of screws 26'.

My invention can also be utilized for providing a cheap and efficient mattress for the ordinary iron bed frame having angular side rails. In this structure braces 27 are provided from T iron with a portion of the stem or midrib of the iron cut away, as shown at 28, for engaging with the under side of the top web of the side rails, and having the top or flat portions of the braces bent down, as shown at 29, for engaging with the top of the side rails. The central or intermediate portions of the braces are depressed, as by bending the braces downward, as shown at 30, which will cause them to be far enough below the slats 31 so as not to be in contact with the occupant. The ends of the slats 31 are bent around the side rails in the same manner as the slats 18, as shown at 32.

In using my improved folding bed, when it is desired to collapse or fold the same, pressure is applied to one of the end boards, which will cause the side rails at that end to swing upon the pivots of the end posts so as to elevate the central portion of the bed, as shown in dotted lines in Fig. 1, and gradually draw the opposite end inward. As soon as the operator can reach the central cross piece of the bed and draw it toward that end, the folding will be completed, and the truss rods will force the end legs longitudinally of the side rails and permit of the said rails being drawn together, as shown in Fig. 3. In this condition it is evident that the bed will occupy but a very limited amount of space, and is so compact that it can be easily transported by hand or in bulk. To extend the bed, the operator takes hold of one end and draws it forward, which causes the side rails to resume their horizontal position with the legs arranged under them vertically. The end boards are then raised into their elevated position and located, and the bed is ready for use.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a folding bed, central legs, oppositely
5 extending frames pivotally secured to the
upper ends of the legs, end legs pivotally
secured to said frames near their outer ends,
truss rods connected with the central legs
and with the end legs respectively near their
10 lower ends, and folding end boards pivotally
connected with the free ends of said frames.
2. In a folding bed, central legs rigidly
secured at a distance apart, oppositely extend-
ing frames pivotally secured to the
15 outer ends of said legs, end legs pivotally
secured to said frames near their outer ends,
truss rods pivotally secured at their ends to
the central and end legs respectively, said
legs being formed from T iron, the truss rods
20 being connected to the end legs upon the
side of the stem or midrib opposite the
pivotal connection of the legs with the
frames, and the upper end of each end leg
being adapted to engage with the side rails
25 and form a brace to prevent outward longitudinal
movement of the bed at each end.
3. In a folding bed, oppositely extending

frames pivotally connected at their inner
ends, legs for supporting the same, an end
board pivotally secured at each end, said 30
board comprising legs formed from angle
iron, an extension secured at its ends to said
legs, braces secured at their ends to the ends
of said extension and legs respectively, and
latches pivotally secured to said frames in 35
position for being moved into and out of
position with said legs to hold the end boards
in a vertical position.

4. In a folding bed, oppositely extending
frames pivotally connected at their inner 40
ends, end boards for the same provided with
posts, clamps secured to said posts and
pivotally connected with said frames, central
supporting legs, and truss rods connected
with said legs, and posts near their 45
lower ends.

In testimony whereof I have hereunto set
my hand in presence of two subscribing
witnesses.

WM. H. A. LEWIS

Witnesses:

BENJ. G. COWL,
L. O. HILTON.