

1,289,959.

Patented Dec. 31, 1918.

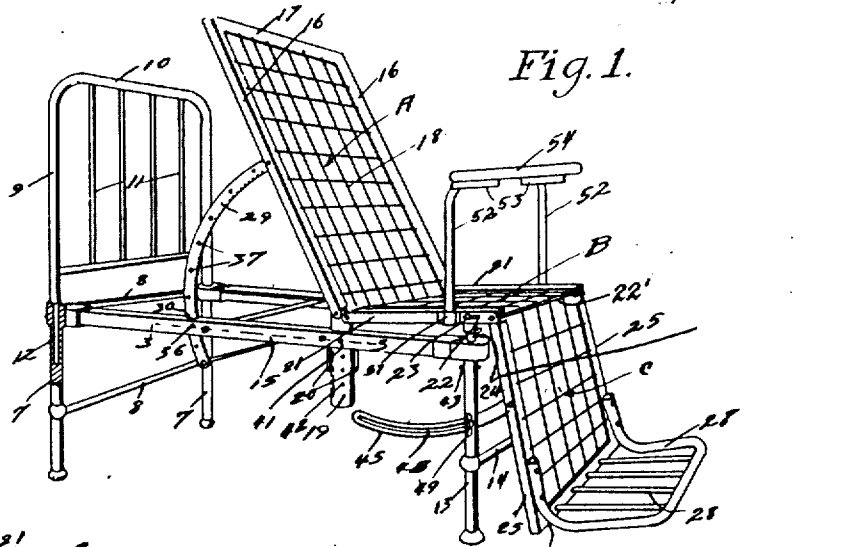


Fig. 1.

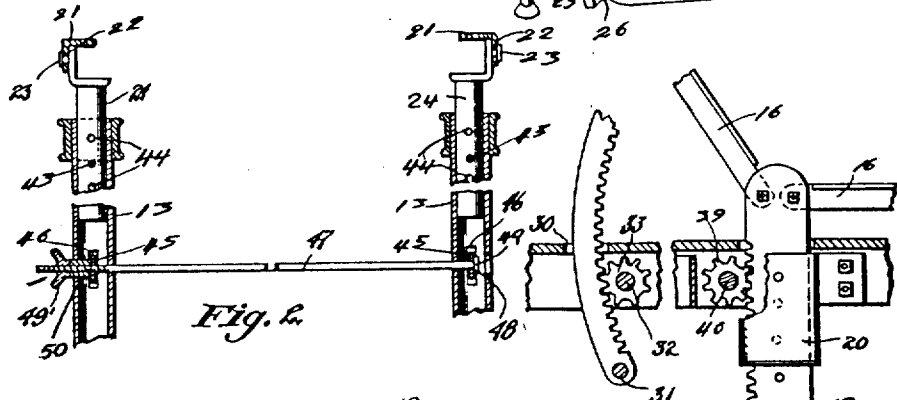


Fig. 2.

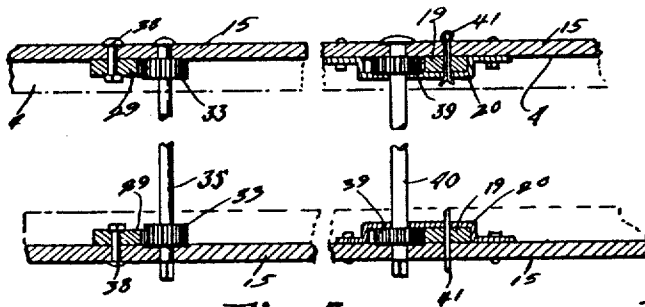


Fig. 3.

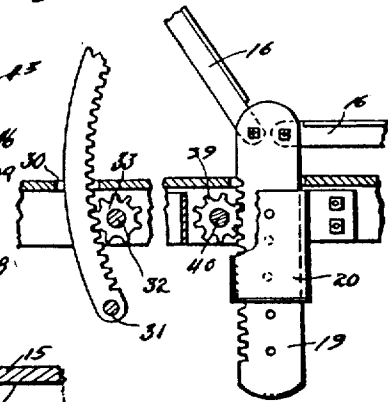


Fig. 4.

Witness

[Signature]

384

[Signature]

Attorney

Inventor
 A. C. Taylor

UNITED STATES PATENT OFFICE.

AIKEN C. TAYLOR, OF WASHINGTON, DISTRICT OF COLUMBIA.

CONVERTIBLE BED.

1,289,959.

Specification of Letters Patent.

Patented Dec. 31, 1918.

Application filed December 24, 1917. Serial No. 208,596.

To all whom it may concern:

Be it known that I, AIKEN C. TAYLOR, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Convertible Beds; and I do hereby 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.

My invention relates to new and useful improvements in beds, more particularly of that type wherein the bed bottom is angularly adjustable to afford different desired positions for a person reclining thereon.

The object of my invention resides primarily in the provision of a bed including a bottom portion which is convertible to form a chair, the back and foot portions of which may be adjusted to any desired angle, and it is further my object to utilize the various mountings and connections of the bed bottom portions which permit conversion to a chair, as a means for adjusting the bed bottom, in its use as such, to various desired inclinations.

In this connection, it is still further an object to provide an adjustment permitting either a raising or lowering of the intermediate bed bottom portion with respect to the end portions.

It is a still further object to embody these various adjustment features in a comparatively simple and strong structure which is capable of ready manipulation to procure the various desired relative positions of its parts.

With the above and other objects and advantages in view, the invention resides more particularly in the novel combination, formation and arrangement of parts herein-after described and pointed out in the appended claims.

In the accompanying drawings:—

Figure 1 is a perspective view of my improved bed, with the parts thereof arranged to form a reclining chair,

Fig. 2 is a vertical sectional view through the foot frame of the bed, showing the means for adjusting the foot end portion of the bed frame,

Fig. 3 is a horizontal sectional view through side rail portions of the bed, with intermediate sections broken away, and showing the adjusting means for the head and intermediate bed bottom portions, the

plane of this section being indicated by the line 3—3 of Fig. 1, and

Fig. 4 is a vertical sectional view taken longitudinally through the structure shown in Fig. 3, and looking toward one of the side rails of the bed from the interior thereof.

Referring now more particularly to the drawings, the head frame of my improved bed is formed in two sections, the lower section comprising the legs 7 connected by the usual cross bars 8. The upper section comprises vertical side bars 9 and cross bars 10 connected by the usual rods 11, and the lower ends of the side bars are reduced and engageable in sockets 12 formed in the upper ends of the legs 7, whereby the upper section of the head frame may be removed if desired so that no projection is afforded above the normal plane of the bed bottom. The foot frame of the bed comprises the leg posts 13 connected by cross bars 14, said leg posts terminating at the height of and being secured to the usual angular side rails 15 in a preferably conventional manner to form the body structure of the bed, it being noted that the side rails 15 are substantially shorter than the usual side rails of a bed whereby the comparatively low foot frame is disposed inwardly of the end of the bed bottom.

The bed bottom comprises a head section A formed of angle iron side rails 16 connected at their ends adjacent the head frame by a cross rail 17 and supporting a flexible bed bottom fabric 18 of preferably conventional type. The other ends of the rails 16 are pivoted to vertical bars 19 which are slidably passed through the main side rails 15 and are guided for vertical sliding movement by plates 20 secured to the rails 15 and depending therefrom with their side edges bent laterally to form guide channels for the bars. The intermediate bed bottom section B comprises side rails 21 pivoted to the bars 19 at corresponding ends and having their other end portions provided with slots 22 in which are slidably secured lateral pins 23 on the upper ends of posts 24 telescopically engaged in the leg posts 13 of the foot frame. The rails 21 extend a slight distance beyond these posts and are pivoted to the inner ends of side rails 25 of the foot sections C of the bed bottom by a bar 22' that extends entirely across the section B. The outer ends of these side rails 25 are connected by an end rail 26

and the bed bottom fabric 18 is extended throughout the length of the bed bottom over the pivot rod 22' and secured to the side rails 21 and 25 and the end rail 26 whereby it may support a person reclining thereon in the usual manner and may flex at the pivotal connections of the bed bottom sections to form the back, seat and foot portions of a chair in the conversion of the bed for that purpose. The end rail 26 of the foot section C forms one side of a frame 27 which in the use of the structure as a bed forms the usual upward foot projection thereof, and which forms a foot rest when the structure is used as a chair, the usual grid rods 28 extending between the sides of this frame.

For vertically adjusting the head section A of the bed bottom, either bodily with the rest thereof, or angularly with respect thereto, arcuate rack bars 29 are pivoted to intermediate portions of the side rails 16 of the head section and slidably extend through slots 30 in the main side rails 15, the lower ends of these bars being connected by a rod 31. Journaled on a stub-shaft 32 at the inner side of each rail 15 is a pinion 33 meshing with a corresponding rack bar 29, and these pinions are both mounted on a shaft 35 extending between the side rails 15 and journaled therein, one end of the shaft being projected outwardly of its corresponding rail and squared for the engagement of a crank whereby said shaft may be rotated to raise or lower the head section A. For locking the head section in any desired position, the side rails are provided with openings 36 adapted to register with a series of openings 37 in the rack bars 29 for the reception of locking pins 38.

The intermediate bed bottom section B is adjusted by vertical movement of the bars 19 and posts 24. Vertical movement of the bars 19 is effected by pinions 39 mounted on a shaft 40 extending through and journaled in the side rails 15, these pinions meshing with series of gear teeth formed in adjacent sides of the bars 19. It is noted that the guide plates 20 for the bars 19 are extended above these pinions to form housings therefor and supplemental bearings for the shaft 40. The bars are locked in desired adjusted positions by pins 41 passed through the side rails 15 and selectively engageable in series of openings 42 in the bars. Gear mechanism is thus provided for raising those portions of the bed bottom which sustain the greater portion of the weight of a person reclining thereon, and the remaining portions of the bed bottom may be conveniently manually moved to desired positions. The posts 24 are held in desired adjusted positions by pins 43 passed through the upper end portions of the leg posts 13 and through the corresponding perforations 44, the longitudinal series of which is formed in each of the posts 24.

For adjusting the foot section C of the bed bottom, arcuate bars 45 are pivoted to intermediate portions of the side rails 25 of said section and are slidably passed through slots 46 in intermediate portions of the foot posts 13. These bars are adjustably held against sliding movement by a rod 47 passed through the foot posts and through longitudinal slots 48 in the bars. Within one of the posts, the rod is provided with a head 49 engageable with the outer side of the corresponding bar 45. The rod 47 extends entirely through the other foot post and has threaded on its projected end a wing nut 49' which bears against a sleeve 50 passed through the adjacent wall of the post and bearing in turn against the outer side of the corresponding bar 45 whereby the clamping force of the nut may be exerted from a point outside of the post. The rod and nut thus serve to clamp the bars 45 against the inner sides of the foot post slots 46 to thus securely hold said bars against movement.

As the pivotal connection of the outer bed body section C is disposed outwardly of the foot frame of the bed, it may swing downwardly to form the foot portion of a chair, as shown in Fig. 1. The intermediate portion B of the bed body is shorter than either the head or foot portion, and thus is adapted to serve efficiently as the seat of a chair, while the head portion A is somewhat longer than the foot portion to form, when raised as shown in Fig. 1, the back and head rest of the chair.

The present structure is thus readily convertible to form either a bed or a chair, and in either use affords the usual conveniences of either structure.

In use as a chair, the head and foot portions may be adjusted to any desired inclinations, and the intermediate or seat portion may be tilted independently of such positions by raising or lowering the posts 24.

In use as a bed, an inclination of the entire bed bottom in a single plane and in either longitudinal direction may be readily procured. Also, by raising the posts 19 without a corresponding rise of the posts 24 and bars 29 and 45, the intermediate portion of the bed bottom may be raised with respect to the end portions, or said end portions may be raised to incline downwardly toward the intermediate portion, all of these various positions being desirable in different instances for the proper support of sick persons.

Adjacent the foot section ends of the intermediate side rails 23, socket members 51 are secured thereto for detachably receiving legs 52 having plates 53 at their upper ends adapted to form arm rests or to support a table top 54, whereby said table top or arm rests may be conveniently used by a person seated in the structure when used as a chair,

A comparatively simple structure has thus been provided wherein the entire bed bottom is convertible into a comfortable chair, and wherein the various mechanisms for effecting this conversion are operable to procure desired adjustments in the use of the structure for either purpose.

What is claimed is:

1. A convertible bed comprising a main supporting frame, head, intermediate and foot bed bottom sections pivotally connected with each other, supporting bars extensibly connected with the main frame and connected with the bed bottom adjacent each of the junctures of its sections, and means connected between the main frame and the head and foot bed bottom sections at points remote from the first named bars for varying the angles of said section with respect to each other and to the main frame.

2. A convertible bed comprising a main supporting frame, head, intermediate and foot bed bottom sections in pivotal connection, vertically adjustable bars on the main frame connected with the bed bottom adjacent one juncture of its sections, vertically adjustable posts on the main frame slidably connected with the bed bottom adjacent the other juncture of its sections, and adjustable supporting means for the outer portions of the head and foot sections.

3. In an adjustable bed, the combination with a main frame including leg posts and a movable bed bottom portion, of slotted supporting bars for said bed bottom portions traversing the leg posts, a rod passed through the slots of said bars and through the leg posts, a head on said rod engageable with one of the bars and a clamping nut threaded on the rod for clamping the supporting bars to the leg posts.

4. A convertible bed including a main frame, an intermediate bed bottom section,

separate vertically adjustable means carried by the main frame for supporting each end portion of the intermediate section independently of the other end portion of that section, head and foot bed bottom sections connected to the intermediate section and means carried by the main frame and independent of the first named supporting means for adjustably supporting the head and foot bed bottom sections.

5. In a convertible bed, the combination with a main frame having bars adjustably mounted in its sides and provided with means for holding them in their adjusted positions, of an end bed bottom section pivoted to said plates at one end and adjustable therewith with respect to the main frame, means for adjusting the opposite end portion of the end section with respect to the main frame and independently of the adjustment of its first named end, an intermediate bed bottom section pivoted at one end to said bars and adjustable therewith toward and away from the main frame, posts adjustably mounted in the main frame and with which the opposite end portion of the intermediate section is pivotally and slidably connected, means for holding the posts in different adjusted positions, a second named section pivoted to the intermediate section at its end opposite to the first named end section, the last named end section being adjustable toward and away from the plane of the intermediate section, and independent means for holding it in its different adjusted positions.

In testimony whereof, I affix my signature, in the presence of two witnesses.

AIKEN C. TAYLOR.

Witnesses:

T. S. D. GANT,
E. D. MILLER,