Dec. 21, 1943. S. J. BLAHA 2,337,367

CONVERTIBLE FOLDING COT

Filed Feb. 6, 1941 2 Sheets-Sheet 1

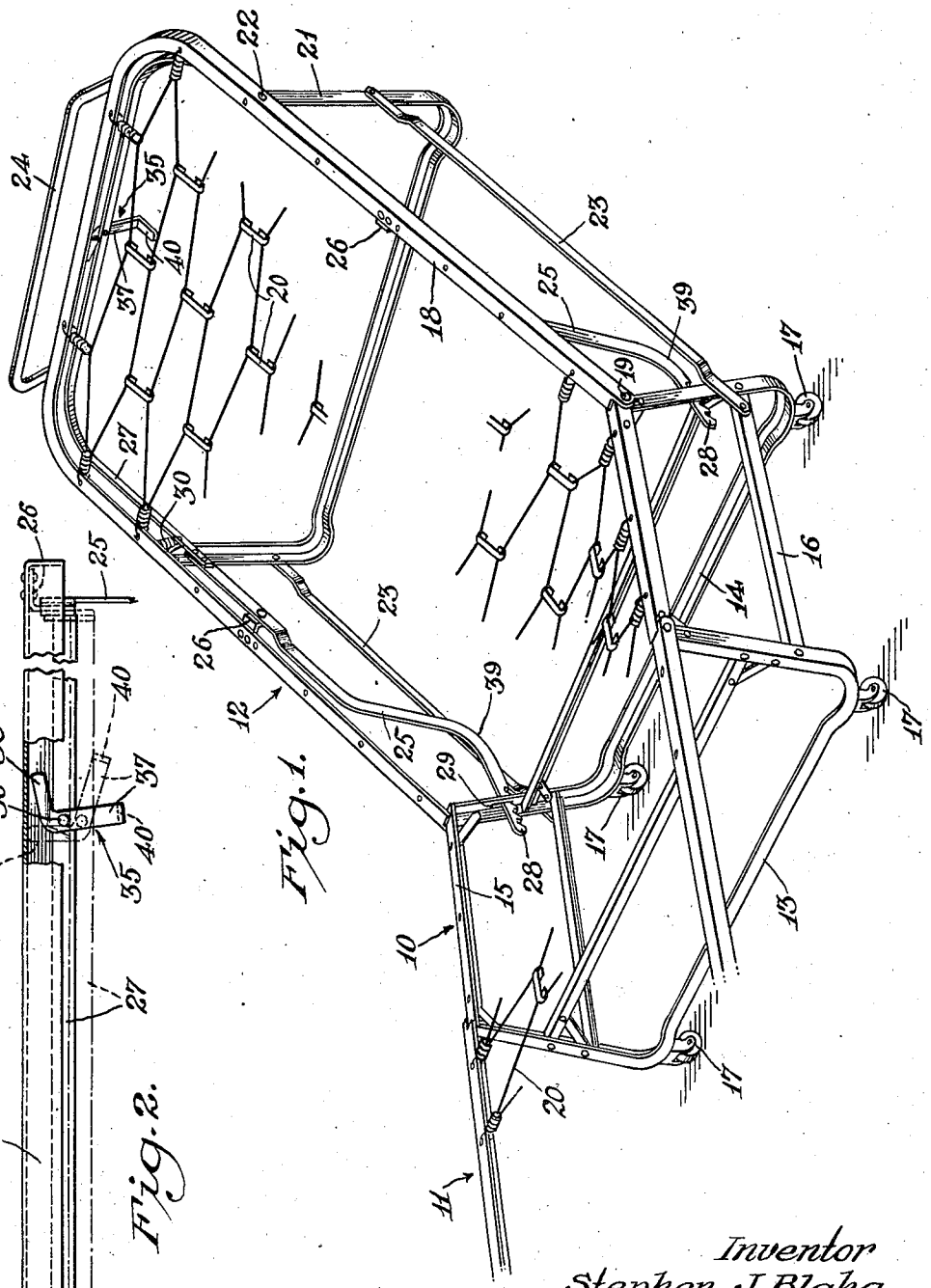


Fig. 1.

Fig. 2.

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Filed Feb. 6, 1941 2 Sheets-Sheet 2

Fig. 3.

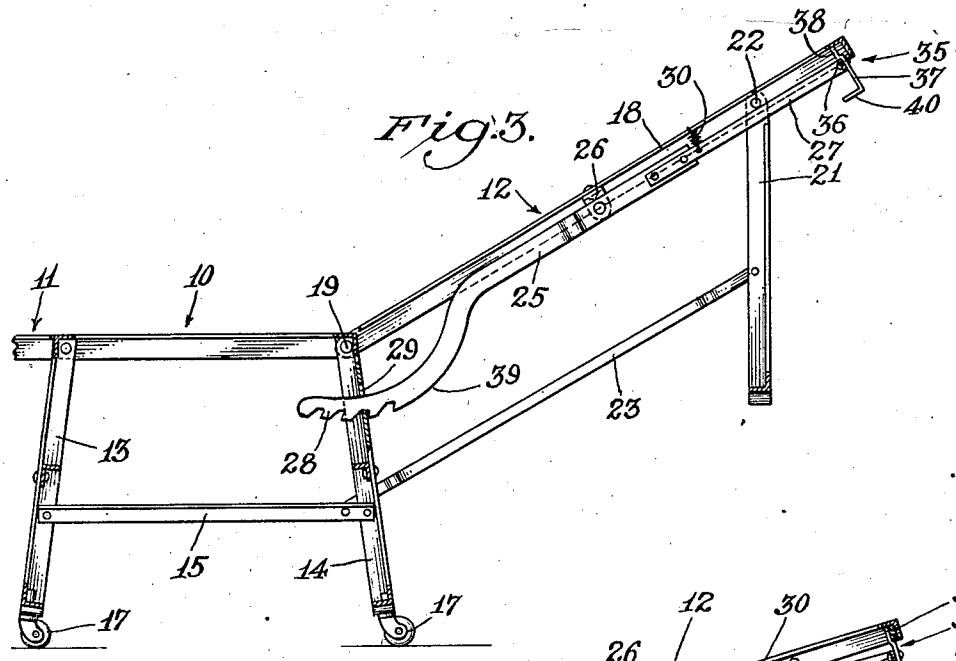


Fig. 4.

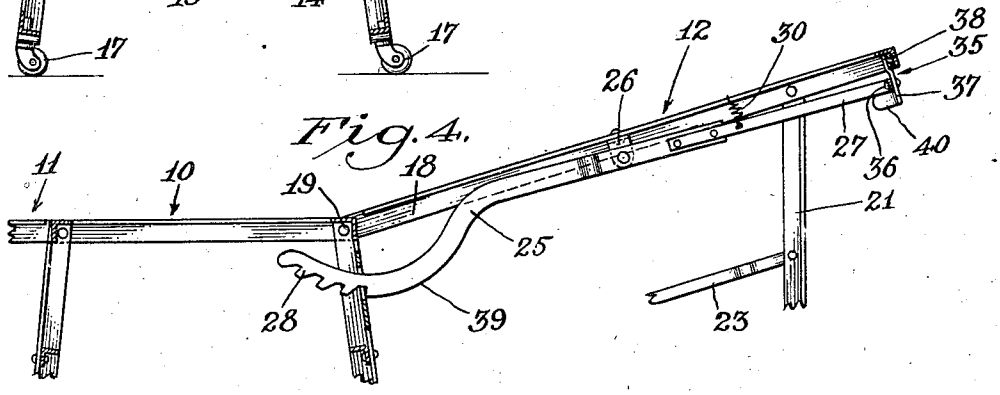


Fig. 5.

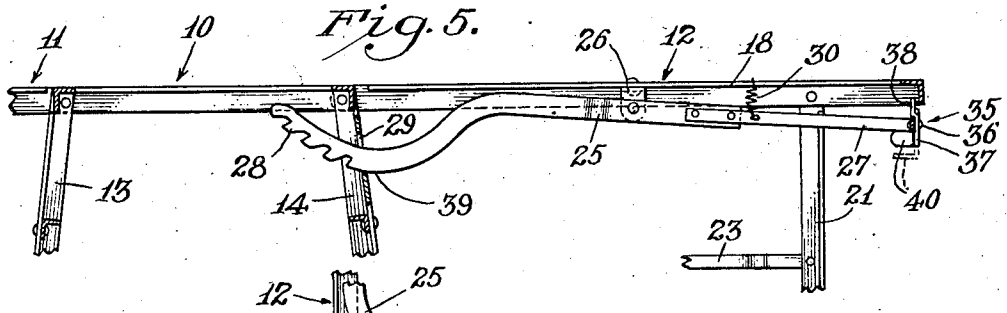
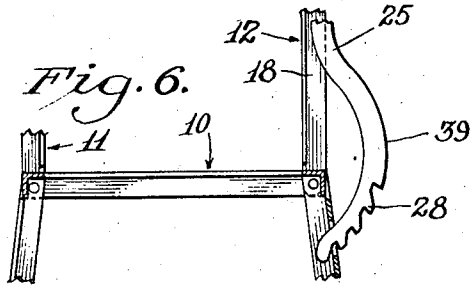


Fig. 6.



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UNITED STATES PATENT OFFICE

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CONVERTIBLE FOLDING COT

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Application February 6, 1941, Serial No. 377,586

2 Claims. (Cl. 5—111)

The invention relates to bed or cot structures of the type capable of conversion into a chaise longue or couch form or, alternatively, into an upright folded position characteristic of so-called "roll-away" beds.

It is a general object of the invention to provide a new and improved structure of this type that is characterized by the ease and convenience of its operation together with the sturdy simplicity of its construction.

Another object is to provide a novel structure of this type convertible from either bed or folded positions to a chaise longue of varying degrees of back acclivity and embodying new and improved means for maintaining and releasing the back adjustment.

More specifically stated it is an object of the invention to provide, in a structure of this nature, a latch mechanism for holding the back in intermediate positions of adjustment between horizontal and vertical positions, which is normally engageable automatically as the back is raised, but is adapted to be disabled manually and again reconditioned automatically for further engagement as an incident to movement of the back past its last intermediate position to the horizontal.

Further objects and advantages will become apparent as the following description proceeds taken in connection with the accompanying drawings in which:

Figure 1 is a perspective view of a portion of a convertible structure embodying the features of the present invention.

Fig. 2 is a fragmentary rear elevation of a portion of the back member showing in dotted and full outlines, respectively, the trip mechanism releasing means in latched and unlatched positions.

Figs. 3, 4, 5 and 6 are fragmentary sectional views looking toward a side of the structure and illustrating the relationship of the parts in various positions of the back member.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

The exemplary form of structure which has been selected for illustrative purposes embodies a central or intermediate supporting base 10 having a substantially horizontal mattress supporting portion spaced from the floor. End members 11 and 12, similarly formed with mattress supporting surfaces, are disposed at opposite sides of the intermediate base member and are interconnected therewith for swinging movement from substantially a horizontal bed or cot forming relationship, as shown in Fig. 5, to upright folded positions for "roll-away" purposes, as indicated in Fig. 6. The base member 10, in the present instance, includes a supporting means such as a box frame having front and back U-shaped sections 13 and 14 tied together at their sides by cross braces 15 and 16. Suitable anti-friction means, such as casters 17, may be secured to the bottom of the base frame.

In general the front and back swinging members are alike in construction and accordingly the back member 12 only, has been illustrated in detail. It comprises a rectangular angle iron frame 18 pivotally joined, as at 19, to the base member to permit swinging movement from a horizontal bed forming position (Fig. 5) to a vertical position (Fig. 6). An inner spring system 20 of substantially conventional construction, as seen fragmentarily in Fig. 1, is supported by and is substantially continuous throughout the three sections of the folding structure. Spaced outwardly from the pivotal connection of the back frame 18 with the base 10 is a U-shaped floor engaging leg-member 21 pivotally joined, as at 22, with the back frame. A pair of links 23 are pivoted on the base and on the leg-member for retraction of the latter, as an incident to swinging movement from its horizontal to its vertical position. A guard rail 24 may be secured to the upper end of the frame 18 to retain a mattress or the like (not shown) in place.

The back member may be swung to intermediate chaise longue forming positions as seen in Figs. 1, 3 and 4 and there releasably held by a latch or trip mechanism normally engageable automatically, as the back is raised. In the present instance a pair of ratchet bars 25 are pivotally supported on brackets 26 on the back frame and are interconnected for conjoint action by a connecter 27. The ratchet bars carry toothed portions 28 at their ends which project from the back for cooperation with stationary pawl members, herein comprising the lower edges of bar receiving slots 29 formed in the base frame. To yieldably urge the toothed portions of the ratchet bars into engagement with the slot edges, a pair of tension springs 30 may be secured to

the back frame and to the connecter 27. The teeth are formed so as to ride over the slot edges during upward movement of the back but to prevent reverse movement unless the teeth are raised, and thereby freed from the slot edges. In the present instance this movement of the toothed ratchet bars is effected by forming the connecter 27 in a U-shape to extend for actuation transversely of and in spaced relation to the head of the back frame. A manually operated lever 35 pivotally mounted as at 36, substantially centrally of the connecter, is provided with a handle portion 37 adapted to be grasped by the operator to swing the lever about its pivot point. The lever has a leg portion 38 engageable with the under side of the back frame 18 to cam the connecter away from the head of the back frame against the tension of the springs 30 (Figs. 2 and 4). Such movement of the connecter away from the frame frees the teeth from the slot edges.

The ratchet bars are provided immediately inwardly of their toothed portions 28 with cam surfaces 39 which operatively engage the slot edges (see Figs. 4 and 5), as the back is moved downwardly, past the last intermediate position in which it is held, to its horizontal position. Such engagement tends to raise the bars and cam the connecter further away from the back frame 18 against the force of the springs 30 and to release the holding engagement of the leg 38 with the frame. The outer end of the handle leg 37 may be weighted, as at 40, so that, upon release of the engagement between the leg 38 and the frame 18, the lever 35 will seek a gravity position disengaged from the back frame. In this position of the lever, the ratchet teeth will be free for holding engagement in the slots under the influence of the spring means when the back is again lifted to an intermediate position.

In operation, assuming the back to be horizontal with the detent lever 35 disengaged (shown in Fig. 5 and in full outline in Fig. 2), as the back member is lifted to an intermediate position (Fig. 3), the teeth of the latch mechanism will ride over the lower edges of the slots and permit the back to be held at any desired angle. If it is desired to lower the back the operator simply grasps the detent lever 35 and frictionally engages the leg portion 38 with the frame to hold the latch mechanism in inoperative or disabled position. The back is then free to swing either up or down and, as it approaches the horizontal, the connecter member is cammed away from the frame, thus freeing the detent so that it may seek by gravity a disengaged position in which the latch mechanism is reconditioned for operative engagement when the back is again moved upwardly.

I claim as my invention:

1. In a cot or the like, the combination of a base, a back supported on said base for upward swinging movement from horizontal to substantially vertical positions, a toothed ratchet bar pivotally supported on said back, a stationary pawl member on said base engageable by the teeth of said ratchet bar for holding said back in intermediate positions against downward swinging movement, a detent pivotally carried by said ratchet bar and adapted for frictional engagement with said back to move said ratchet bar about its pivot point to hold said teeth in inoperative position, and means on said ratchet bar engageable with said pawl member when said back is swung past its last intermediate position to the horizontal for overcoming the frictional engagement of said detent with said back to recondition said teeth for engagement with said pawl member upon upward swinging movement of said back.

2. A cot or the like having, in combination, a base section, a side section mounted for swinging movement substantially between horizontal and vertical positions relative to said base section, cooperating latching means on said sections movable to various engaged positions in such swinging movement to hold said sections in a selected one of several relative positions, said latching means being shiftable between operative and inoperative positions, means manipulable by the operator to shift said latching means to and retain it in said inoperative position, and means engageable by said latching means as said side section swings to its horizontal position for releasing the shifting and retaining means to free said latching means for return to said operative position.

STEPHEN J. BLAHA.