

1,031,608.

C. H. YOUNG.
COUCH BED.
APPLICATION FILED DEC. 5, 1911.

Patented July 2, 1912.

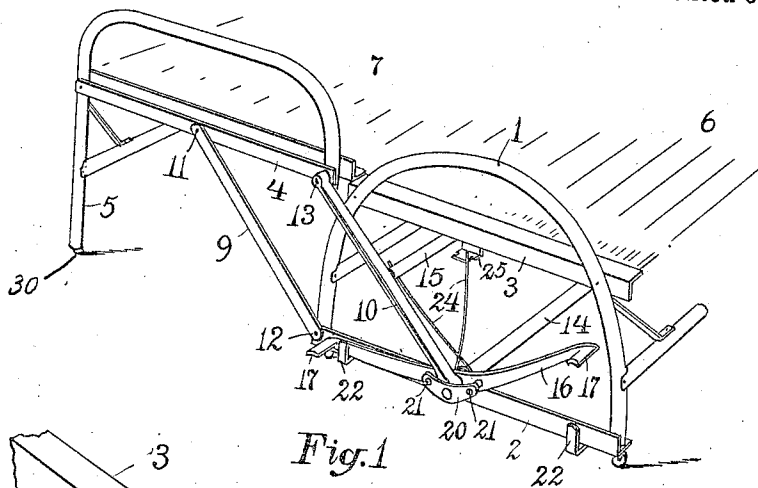


Fig. 1

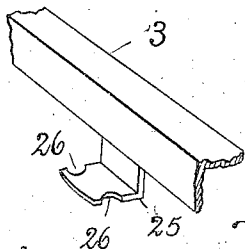


Fig. 6.

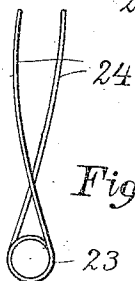


Fig. 5

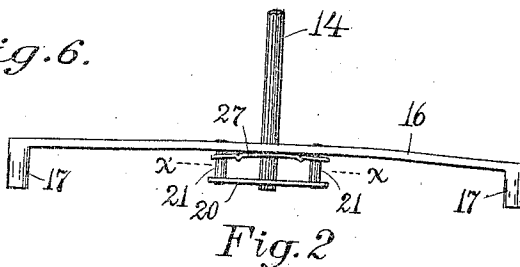


Fig. 2

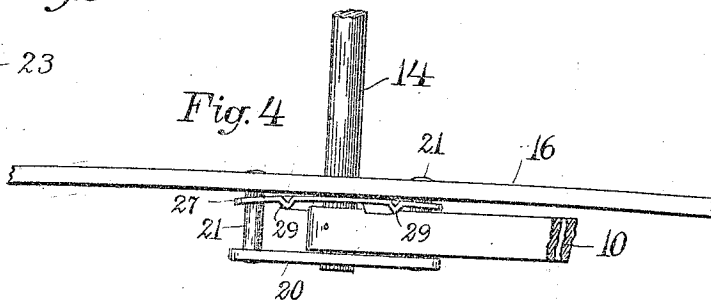


Fig. 4

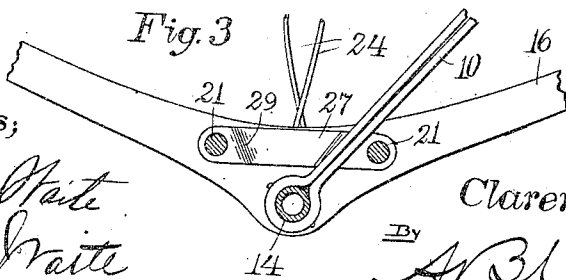


Fig. 3

Witnesses;

E. H. Waite
M. L. Waite

Inventor,
Clarence H. Young;

By
A. B. Mopham,
Attorney.

UNITED STATES PATENT OFFICE.

CLARENCE H. YOUNG, OF BOSTON, MASSACHUSETTS.

COUCH-BED.

1,031,608.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed December 5, 1911. Serial No. 664,075.

To all whom it may concern:

Be it known that I, CLARENCE H. YOUNG, a citizen of the United States, and a resident of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Couch-Beds, of which the following is a full and exact description.

This invention relates to that type of couch beds wherein one bed-section is movable away from and back upon a second section in order to convert a single bed or couch into a double-width bed, and vice versa; and my improvements pertain to the means for enabling the movable section to be controlled by foot-pressure.

In the drawings forming part of the specification, Figure 1 is a perspective view of one terminal portion of a couch bed provided with my improvements. Fig. 2 is a plan view of the treadle. Fig. 3 is a sectional elevation on the line X—X in Fig. 2. Fig. 4 is a plan view of the pivotal portion of the treadle, Figs. 3 and 4 being on a larger scale than the others. Fig. 5 is a detail view of the spring counterbalancing the movable section. Fig. 6 is a perspective view of the abutment for said spring.

Referring first to Fig. 1, the reference numerals 1, 2 and 3 designate the members composing the end frame of the stationary section; and 4 and 5, the members of the end frame of the movable section of the couch bed; the mattress sections 6, 7 being attached to the frame-members 3 and 4 respectively. Each end of the movable section is, in the form of couch bed illustrated, connected to the stationary section by means of parallel arms 9, 10; the arm 9 being pivoted at the points 11 and 12, while the upper end of the arm 10 is pivoted at 13 to the end-frame member 4. The lower end of said arm 10 is fixed upon the rock shaft 14 which has bearings in the frame-members 2. Said arms 9 and 10 are duplicated at the other end of the bed-sections, and between the two arms 10 is located a bar 15 by means of which said arms are held against the tension of the mattress section 7. Loosely mounted on the rock shaft 14 close beside the arm 10 at one end of the couch bed, is the double treadle 16 having at each extremity a foot piece 17. At the side of the arm opposite to said treadle, is a plate 20 rigidly connected to the treadle by studs 21 and also loosely mounted on the extended

end of said rock shaft. These studs are so positioned that when the arm 10 is in either extreme of its angular position, as in that holding the movable section drawn forward illustrated in Fig. 1, said arm will be resting against the stud at that side, and that end of the pedal or lever 16 at such side will be on the level with the frame-member 2 and resting in a socket or hook 22. When one end of the lever 16 is thus in one socket or hook 22, the other end will be elevated, as shown in Fig. 1, and by pressing the foot forcibly upon the foot-piece or treadle 17 thus elevated, the stud 21 in contact with the arm 10 will cause the latter to be raised up to and then past a vertical position, carrying the movable bed-section with it, until the latter descends by its own gravity onto the stationary section. During this latter action, the arm will move into contact with the other stud 21 and so swing down with it the formerly elevated treadle 17 into its socket or hook 22.

For counterbalancing the movable bed section, the spring shown in Fig. 5 is provided, the central coil 23 of which encircles the rock shaft 14, while its ends 24 press toward the abutment 25 having opposite notches 26, as illustrated in Figs. 3 and 5. When the arms 10 swing past the vertical, the brace bar 15 comes against one of the terminal sections of said spring and carries the same along with it against the spring-resistance thereof, thereby effecting two very important results, one being to cushion the descent of the arms 9, 10 and the movable bed section, and the other being to render their elevation easier. As the bar 15 swings over, it permits the depressed spring-terminal to return to its abutment-notch 26, and then the bar takes the other spring-terminal from its abutment-notch and carries it along.

Another important function which is performed by this construction is that of locking the movable bed-section down in each of its lowermost positions. To accomplish this, I provide the strip of spring metal 27 having holes at its ends through which pass the said studs 21, and located between the arm 10 and the lever 16. Near each stud, is a corrugation 29 the crest of which is adapted to permit the arm 10 to forcibly pass it and then to lock the latter in its position against such stud, as indicated in Figs. 3 and 4. Said spring strip 27 is preferably slightly

bowed, as shown in Fig. 4, to better insure the friction grip of the corrugations on said arm. These locking corrugations perform this function, and in addition, serve the purpose of further deadening the descent of the movable bed section into its lowermost positions, said spring strips being adapted to absorb a considerable proportion of the shock of such descent, by the resistance to the arm 10 given by the corrugation which it meets. Without such shock-absorber, the movable bed-section would land upon the floor with a heavy pound, for after the lever arm 16 has moved the arms 9, 10 well past their vertical positions, gravitation or momentum or both carries the bed-section the rest of the way over and down to the floor. After a quick pressure upon a treadle well has impelled the movable bed section well past its intermediate position, its own gravity and momentum drive it onward and out of the grip of the corrugation 29 confining its arm 10.

Although I have shown and described this device as applied to a couch bed wherein the movable bed section is made to maintain a parallel motion, yet it will work substantially as well with a couch bed in which the arms 9 are omitted, and the said section is supported at its outer side by its legs 5, and the casters 30 roll back and forth upon the floor; the inner side of the movable section being supported upon the arms 10.

Without the sockets or hooks 22, the depressed end of the treadle arm 16 would be carried to the floor, and so interfere with the rolling of the couch bed about the room.

What I claim as my invention and for which I desire Letters Patent is as follows, to wit;—

1. A couch bed comprising a stationary section, a movable section, a rocking frame carried by the stationary section and supporting the movable section, a treadle lever pivotally supported at its mid-length to rock concentric with and relative to said frame, fixed stops for limiting the degree of movement of said lever, means for limiting the extent to an angle materially less than that subtended by the rocking frame of said lever's movement relative to said frame, and a yielding buffer carried by said lever for absorbing the shock of the movable section's termination of movement whereby the swing of said lever is considerably less than that of said frame whereby the operative length of each section of the treadle lever is made long enough to give ample purchase for shifting the movable section, and yet the treadle move through a conveniently limited arc.

2. A couch bed comprising a stationary

section, a movable section, a rock-shaft supported by the stationary section, arms fixed to said shaft and pivoted at their free ends to a side of the movable section, a treadle lever loosely mounted at its mid-length upon said shaft close beside one of said arms, a plate loosely mounted on said shaft close beside the said arm, and studs rigidly connecting said plate and lever, said studs being far enough apart to permit a limited play of said arm between them.

3. A couch bed comprising a stationary section, a movable section, a rock shaft supported by the stationary section, arms fixed on said shaft and connected with the movable section, a treadle lever loosely mounted at its mid-length upon said shaft close beside one of said arms, a plate loosely mounted on said shaft close beside the last-mentioned arm and opposite to said lever, studs rigidly connecting said plate and lever at a distance each side said arm, stops for limiting the movements of said lever, and a shock absorber for the last mentioned arm carried by said lever.

4. A couch bed comprising a stationary section, a movable section, a rock shaft supported by the stationary section, arms fixed on said shaft and connected with said movable section, a treadle lever loosely mounted at its mid-length on said shaft close beside one of said arms, a plate loosely mounted on said shaft close beside the last-mentioned arm and opposite to said lever, studs rigidly connecting said plate and lever at a distance each side said arm, stops for limiting the movements of said lever, and a resilient plate having openings loosely fitting said studs and corrugations adapted to act as shock absorbers for the last mentioned arm.

5. A couch bed comprising a stationary section, a movable section, a rocking frame including a shaft supported by the stationary section, and a spring for partially supporting the movable section, said spring consisting of a length of resilient wire-rod bent at its mid-length into a coil encircling said shaft, the stationary section being provided with a stop above said shaft adapted to be engaged by the terminal sections of said spring, said swinging frame having a member adapted to engage said terminal sections one at a time.

In testimony that I claim the foregoing invention, I have hereunto set my hand this 4th day of December, 1911.

CLARENCE H. YOUNG.

Witnesses:

I. G. KEENAN,
J. G. SUTHERLAND.