B. McINTOSH.

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APPLICATION FILED JAN. 17, 1916.

1,230,913. Patented June 26, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

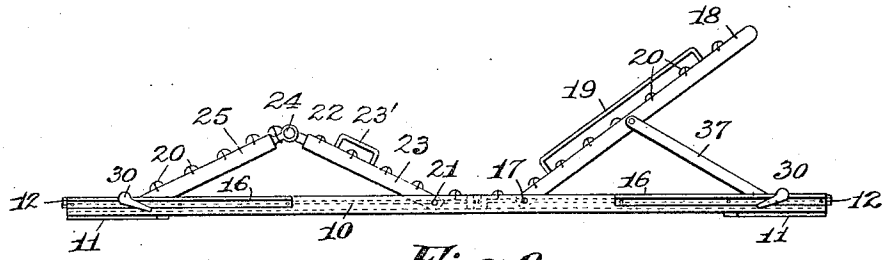


Fig. 2.

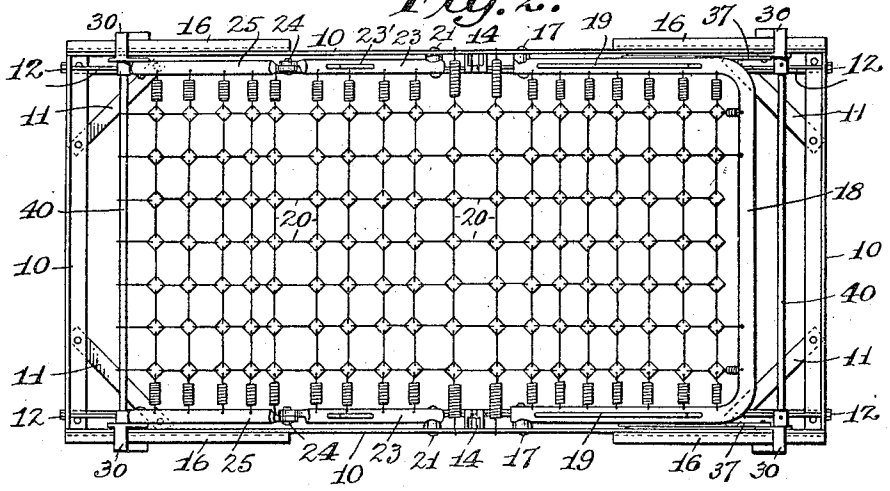


Fig. 3.

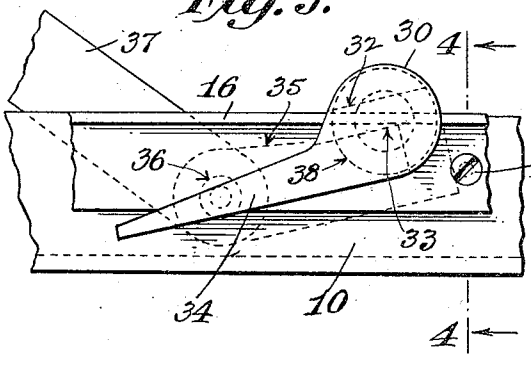
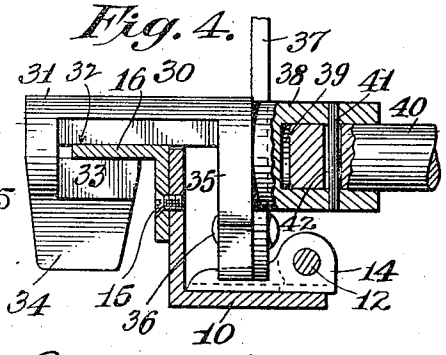


Fig. 4.



Attest:

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2 SHEETS—SHEET 2.

Fig. 5.

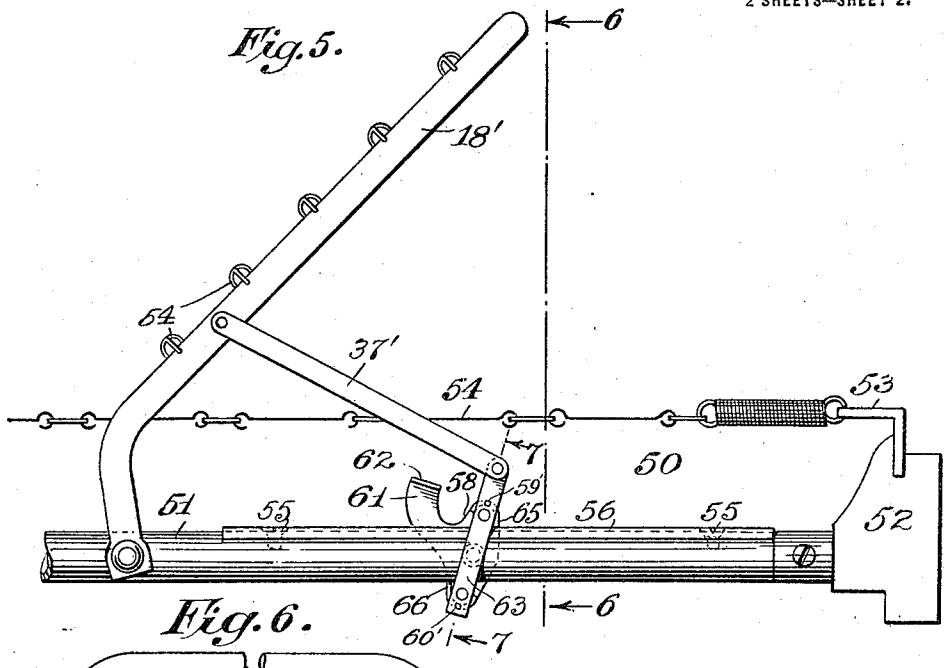


Fig. 6.

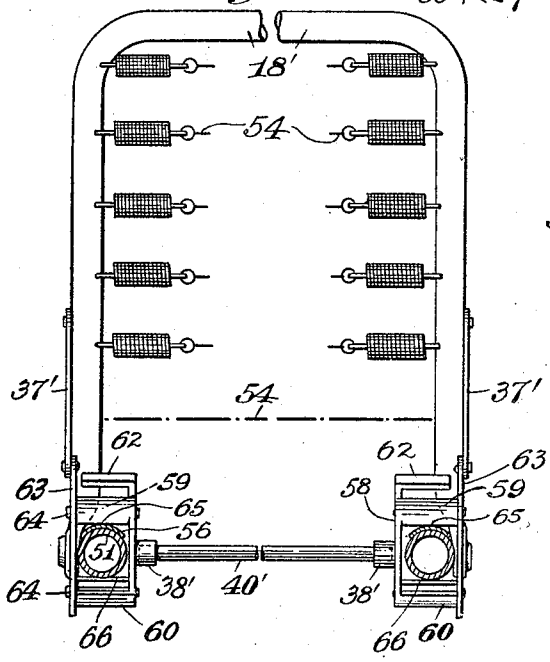
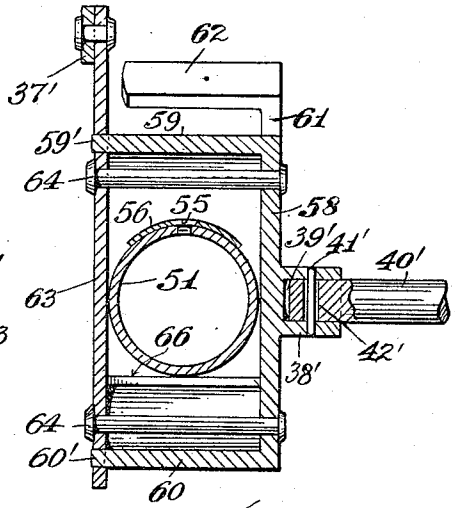


Fig. 7.



Witnesses:

Inventor:

Burtnett McIntosh

by Frank J. Kent Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BURTNETT McINTOSH, OF BROOKLYN, NEW YORK, ASSIGNOR TO FRANK A. HALL, OF MONTCLAIR, NEW JERSEY.

BED.

1,230,913. Specification of Letters Patent. Patented June 26, 1917.

Application filed January 17, 1916. Serial No. 72,376.

To all whom it may concern:

Be it known that I, BURTNETT McINTOSH, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Beds, of which the following is a specification.

My invention relates to bed springs and particularly to that type of spring suitable for use in hospitals. In the embodiment herewith shown I have provided a spring having an adjustable head rest, an adjustable leg rest and means for adjusting the rests in various positions and frictionally but securely locking them in such positions. The locking means provides a quick and easy adjustment of the rests from either side of the spring or bed without disturbing the patient; further a modified form of lock is shown in connection with a head rest applied to a spring of regular design.

While springs of this type may be used as a part of a regular cot or bed, that is, supported between the regular head and foot sections, it has been found desirable to provide a spring that could be placed on top of the ordinary spring of a bed for use in special cases, where it is desirable to raise the patient by means of the head rest or to raise the limbs by means of the leg rest.

To this end I have provided a spring that is flat on the under side and without projections that would interfere with the regular spring of the bed. Being flat and of regular shape it is easily stored until required for such a case as cited, when it can be readily laid on the spring of a regular bed and the patient comfortably supported thereon.

Other objects and aims of the invention, more or less broad than those stated above, together with the advantages inherent, will be in part obvious and in part specifically referred to in the course of the following description of the elements, combinations, arrangements of parts, and applications of principles constituting the invention; and the scope of protection contemplated will appear from the claims.

In the accompanying drawings, which are to be taken as a part of this specification, and in which I have shown a merely preferred form of embodiment of the invention, Figure 1 is a side elevation of my improved spring; Fig. 2 is a top plan view thereof; Fig. 3 is an enlarged fragmentary view of the frame of the spring adjacent to one of the locking devices; Fig. 4 is a transverse vertical section taken on the line 4—4 of Fig. 3; Fig. 5 is a modified form of locking device in connection with a head rest applied to regular type of spring; Fig. 6 is a transverse vertical section taken on the line 6—6 of Fig. 5; and Fig. 7 is an enlarged sectional view of the locking device and adjacent parts as indicated by the dotted line 7—7 in Fig. 5.

Referring to the numerals on the drawings, and particularly to Figs. 1 to 4, the frame 10 of the spring is made up of single irons; it is rectangular in shape and the sides are suitably riveted to the ends at the corners. Flat corner braces 11 are provided to give rigidity to the frame, and to supplement these I provide screw bolts 12 which pass through the ends near each corner and screw into a threaded socket 14 secured to each of the side angles of the frame 10. I construct the frame with guiding means. For this purpose, preferably adjacent each end of the frame 10, and on each side, there is secured to the side angles by screw 15 a guide bar in the form of an angle iron 16 adapted to be guided and be engaged by a locking device 30 hereinafter described.

Between the sides of the frame 10 there is mounted on pivots 17 a head rest 18 which consists of a tube bent in the form of the letter U; it is provided with handles 19 and has secured to it at various points the spring fabric 20, part of which is also secured to the frame 10.

On the opposite end of the frame 10 there is mounted on pivots 21 a leg rest 22 which consists of tubular arms 23, one end of each of which is secured to the pivots 21, the other end being pivoted at 24 to similar arms 25. The arms 23 are provided with handles 23′ while the spring fabric 20 is secured to both the arms 23 and 25.

The locking device 30 is connected to arms 25 of the leg rest 22, and this locking device is also connected to the head rest by means of flat arms 37. This locking device 30 is adapted to slide on the angle irons 16. It consists of a body portion 31 which is cut out so as to form jaws 32 and 33, the former adapted to engage the upper side of the angle 16 while the latter is adapted to engage the under side. Adjacent to the jaw 33 the body 31 is extended to form a finger piece 34, while on the opposite end

of the body 31 there is formed an arm 35 having a pivot pin 36 by which it is secured to the ends of the arms 37 of the head rest, or of the arms 25 of the leg rest. The arm 35 lies within the angle of angle irons which form the side of the frame 10. A boss 38 extends from the body portion 31; it is apertured at 39 to provide a socket for a cross-rod 40 which is secured into the boss 38 by means of a pin 41 which passes through a hole 42 in the rod 40, this hole being of slightly greater diameter than the pin in order to provide for play between the locking devices 30 on each side of the frame, which are connected by the cross-rod 40.

In order to raise or lower the head or leg rests, all that is necessary is to grasp the finger piece 34 of any of the locking devices 30 and raise the said finger piece, this movement will cause the jaws 32 and 33 to rock and release their grip upon the angle irons 16 and allow the device to slide along on the angle iron. When the proper adjustment of the rest is obtained the finger piece is released and the weight of the rest causes the device to assume the locked position as shown in the drawings and the jaws 32 and 33 to bite into the angle irons 16.

The angle irons 16 being slightly higher than the upper edge of the angles of the frame 10 the wear is thus confined to the angles 16 which may be nickel-plated instead of painted or enameled.

Referring to Figs. 5, 6 and 7. Here I have shown a modification of the locking device as applied to regular spring 50, the upper end adjacent to the head rest 18′ being shown. The side frames 51 of this spring are tubular, while the ends 52 support angles 53 to which the spring fabric 54 is attached.

On the upper sides of the side frame 51 are secured, as by screws 55, wear plates 56. The locking device is mounted on the side frame 51 and each pair is connected by the usual cross-rod 40′; likewise each device is pivoted to flat arms 37′ which in turn are pivoted to the head rest frame 18′.

The locking device consists of flat plate body 58 having two semi-circular extensions 59 and 60. The body 58 has an arm 61 extending therefrom which is bent at right angles thereto to form a finger piece 62, and on the rear of the body 58 there is a boss 38′ having an aperture 39′ in which is mounted the cross-rod 40′, secured by a pin 41′ which passes through a hole 42′ in the end of the cross-rod 40′.

The semi-circular extensions 59 and 60 terminate in lugs 59′ and 60′ which are square in cross section. These lugs are adapted to fit into similarly shaped holes in a flat lever 63 which is further secured to the body 58 by means of rivets 64. The upper end of the lever 63 is pivoted to the arm 37′. One edge of the upper extension 59 is adapted to form a jaw 65 which is adapted to bite into the wear plate 56 on the upper side of the frame 51 while diametrically opposite the edge 66 of the extension 60 is adapted to form a jaw 67 and bite the lower surface of the frame 51.

Thus, if the finger piece 62 of the locking device be depressed the jaws 65 and 67 will release their grip on the frame 51 and the head rest 18′ will be free to be adjusted, as the locking device will be free to slide on the frame 51. In the modification it will be noted that in order to release the grip of the jaws 65 and 67 it is necessary to press down on the finger piece, while in the embodiment as shown in Figs. 1 to 4 it is necessary to raise the finger piece 34 in order to release the jaws.

Inasmuch as many changes could be made in the above construction, and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. A bed spring comprising a frame, an adjustable rest attached to said frame, locking devices mounted to slide longitudinally of said frame and having jaws, and braces attached to the said rest for supporting the same, said locking devices having arms attached to said braces so that the weight of the rest causes said jaws to lock said locking devices to said frame, said locking devices having means for rocking them to release said jaws.

2. A bed spring comprising a frame, an adjustable rest attached to said frame, frictional locking devices slidable longitudinally of the frame and constructed to have locking engagement with the frame upon rocking movement of the locking devices and braces for supporting the rest connected to the rest and to the locking devices at such point that the thrust of the braces under the weight of the rest tends to rock the locking devices into locking engagement with the frame.

3. A bed spring comprising a frame having longitudinal side members, a rest mounted for swinging movement in a vertical plane with respect to said frame, braces connected at one of their ends to said rest, locking devices comprising separated jaws

which lie above and below the side members of the frame and which are spaced apart such a distance that when the locking devices are rocked in one direction the jaws are released from the side members of the frame and the locking devices are capable of sliding movement with respect to said side members and when rocked in the opposite direction said jaws are caused to frictionally bind upon said frame and means for attaching the other ends of said braces to the locking devices at such a point that when the rest is drawn upwardly the jaws are moved out of engagement with the side members of the frame and when the rest is released the weight of said rest acts through the braces to move the jaws into locking engagement with the sides of the frame.

4. A structure as recited in claim 3 including a connection between the locking devices of the opposite side members of the frame whereby said locking devices are caused to rock in unison.

5. A structure as recited in claim 4 in which one of the locking devices is provided with a hand grasp portion to adapt it to be manually rocked to release the locking devices.

In testimony whereof I affix my signature.

BURTNETT McINTOSH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."