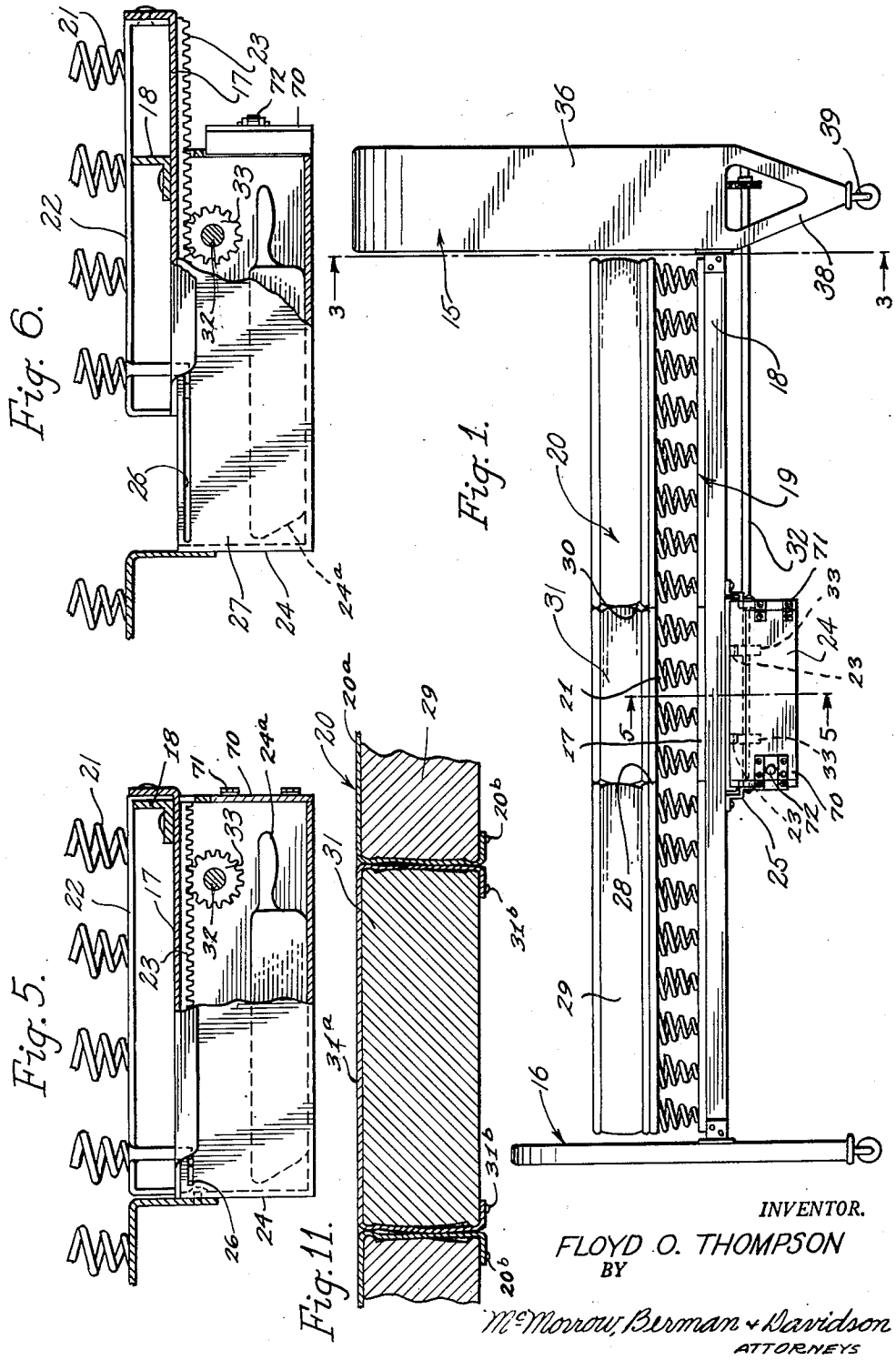
June 3, 1952 F. O. THOMPSON 2,598,859

HOSPITAL BED

Filed May 14, 1948 3 Sheets-Sheet 1



June 3, 1952 F. O. THOMPSON 2,598,859

HOSPITAL BED

Filed May 14, 1948 3 Sheets-Sheet 2

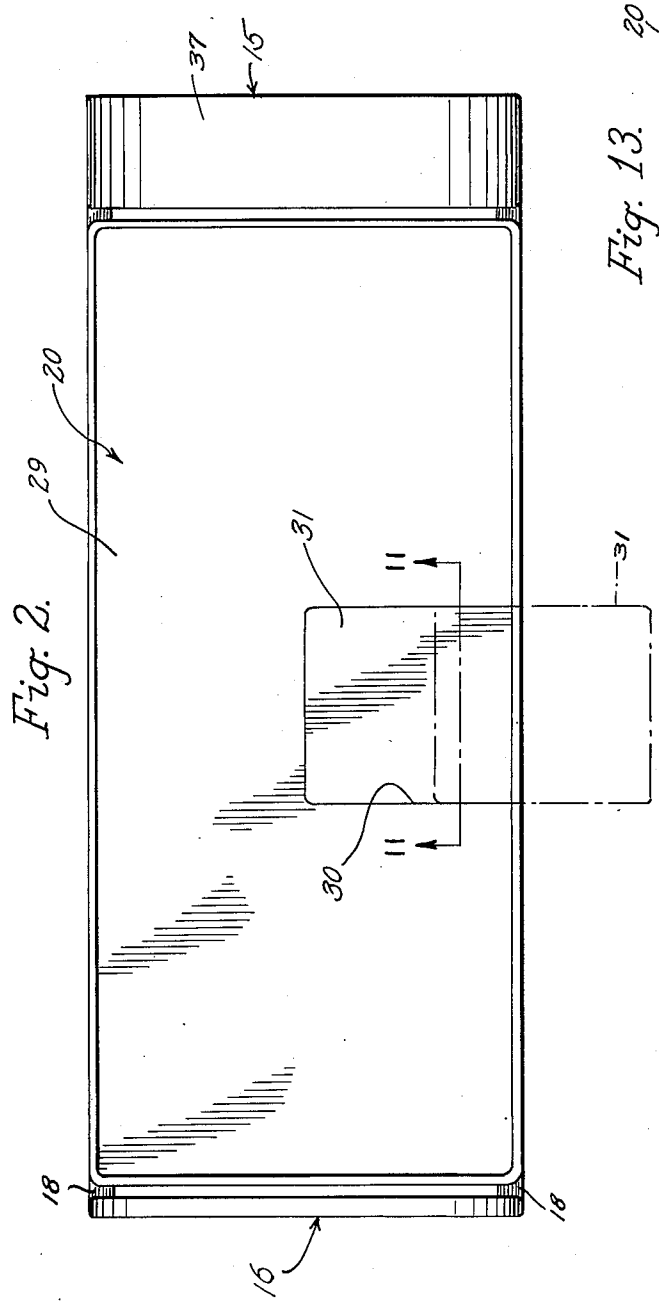


Fig. 2.

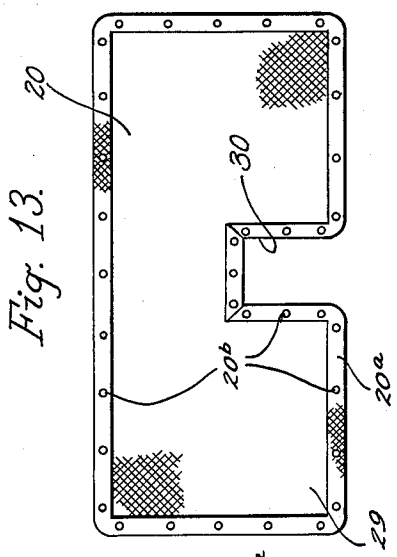


Fig. 13.

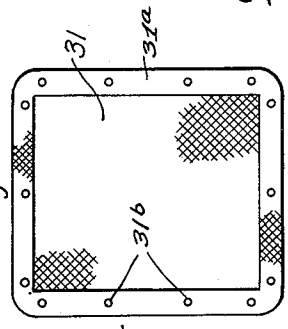


Fig. 12.

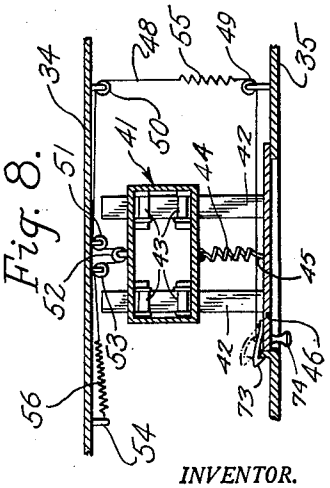


Fig. 8.

INVENTOR.
FLOYD O. THOMPSON
BY

McMorrow, Berman & Davidson
ATTORNEYS

June 3, 1952 F. O. THOMPSON 2,598,859

HOSPITAL BED

Filed May 14, 1948 3 Sheets-Sheet 3

Fig. 3.

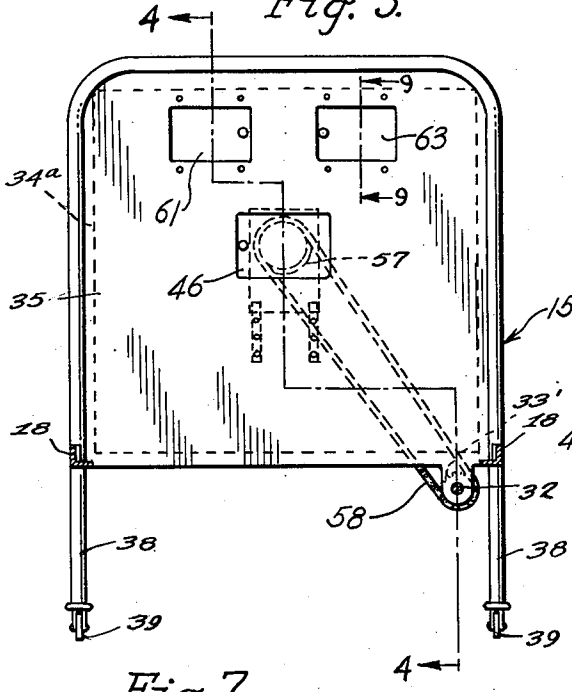


Fig. 4.

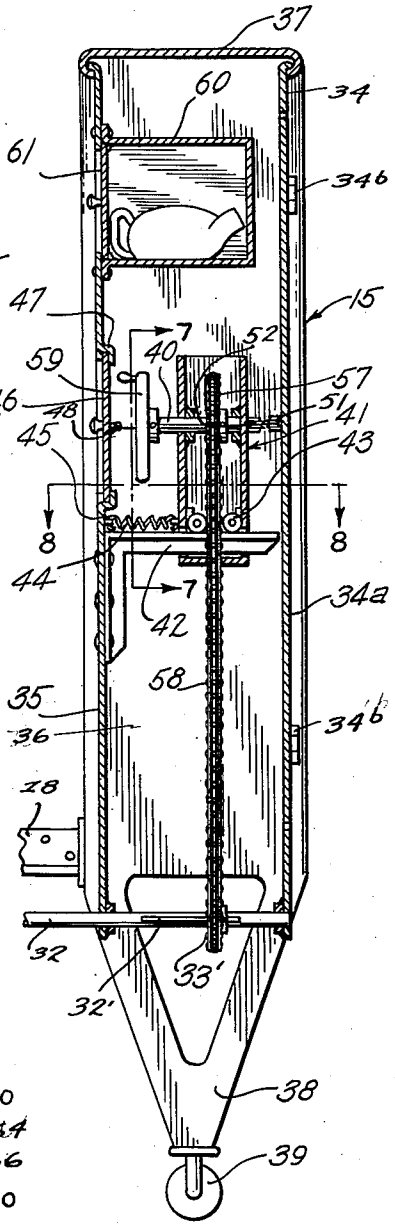


Fig. 7.

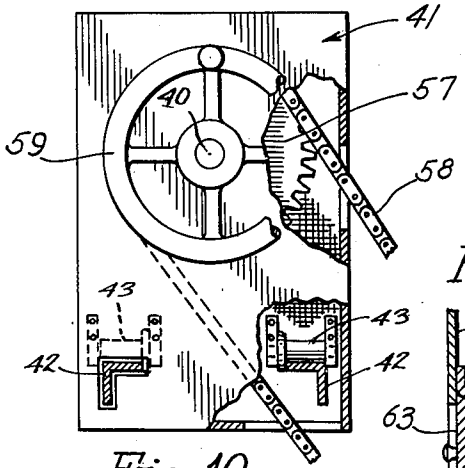


Fig. 9.

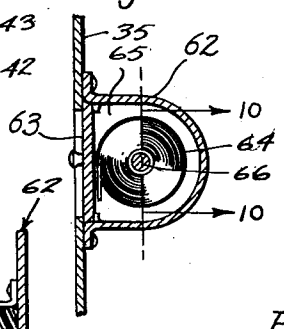
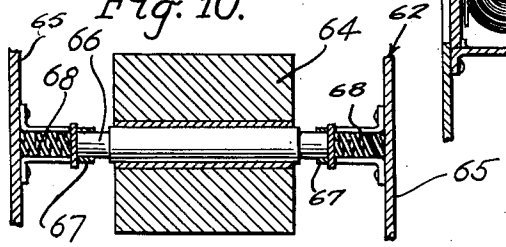


Fig. 10.



INVENTOR.
FLOYD O. THOMPSON
BY
McMorrow, Berman & Davidson
ATTORNEYS

Patented June 3, 1952 2,598,859

UNITED STATES PATENT OFFICE

2,598,859

HOSPITAL BED

Floyd O. Thompson, Sedro-Woolley, Wash.

Application May 14, 1948, Serial No. 27,131

4 Claims. (Cl. 5—90)

1

This invention relates to hospital beds, and more particularly to a bed formed with a movable central portion.

It is an object of this invention to provide a bed having a movable central portion with remotely disposed means in the head of the bed for moving the central portion.

Another object of this invention is to provide a bed of this kind which includes a head formed of a hollow body forming compartments for receiving articles for use by the patient and also including an operating means for actuating the movable central portion of the mattress and springs.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings,

Figure 1 is a detailed side elevation of a bed including a spring and mattress constructed according to an embodiment of this invention,

Figure 2 is a plan view of the device,

Figure 3 is a sectional view taken on the line 3—3 of Figure 1,

Figure 4 is a sectional view taken on the line 4—4 of Figure 3,

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 1,

Figure 6 is a fragmentary sectional view similar to Figure 5 showing the movable mattress portion in open position,

Figure 7 is a fragmentary sectional view taken on the line 7—7 of Figure 4,

Figure 8 is a fragmentary sectional view taken on the line 8—8 of Figure 4,

Figure 9 is a fragmentary sectional view taken on the line 9—9 of Figure 3,

Figure 10 is a fragmentary sectional view taken on the line 10—10 of Figure 9,

Figure 11 is a fragmentary sectional view taken on the line 11—11 of Figure 2,

Figure 12 is a bottom plan view of the movable mattress member, and

Figure 13 is a bottom plan view of the main mattress member.

Referring to the drawings, the numerals 15 and 16 designate generally the head and foot members of a bedstead which are connected together by side rails 18.

The rails 18 have mounted thereon a spring structure generally designated as 19 and a main mattress member 20 is mounted on the spring structure 19 and includes a sheet 20a secured

2

thereto in any suitable manner as by snap fasteners 20b, Figures 11 and 13. The main spring structure 19 includes an auxiliary or movable spring structure including a frame 17 having springs 21 mounted on upper bars 22 thereof.

The frame 17 slidably engages on the upper and lower sides of one of the side rails 18 and the lower side of the frame 17 has secured thereto a pair of spaced and parallel gear racks 23. A housing 24 is carried by a pair of transverse angle shaped guide members 25 which span the rails 18 and are fixed between the same, the housing 24 being formed with elongated slots 26 in the opposite sides 27 thereof within which the angle guide members 25 are adapted to loosely engage.

The housing 24 comprises a compartment for a bed pan 24a and is provided with laterally directed access door 70 which may be hinged at 71 and provided with a latch 72 to secure the same closed. Housing 24 is located beneath the auxiliary spring structure 17 and is exposed when the latter is moved laterally outwardly as will appear later. The main spring structure 19 is formed with a central opening 28 within which the supplemental spring structure 17 is adapted to loosely engage. The opening 28 extends inwardly from one edge of the main spring 19 and terminates in substantially the center of the main spring.

The mattress 20 includes a main mattress body 29 formed with an opening 30 adapted to overlie the opening 28 of the spring 19 and a supplemental or movable mattress section 31 is adapted when in normal position to engage in the opening 30. The supplemental mattress includes a supplemental sheet 31a secured thereto by any suitable means such as the snap fasteners 31b, Figures 11 and 12. The supplemental mattress 31 engages on the top of the springs 21 and is movable laterally with the springs 21 and the frame 17 relative to housing 24 and the bed pan 24a contained therein.

The supplemental or movable spring structure 17 with the mattress section 31 is adapted to be shifted laterally by means of a shaft 32 which has a pair of spaced spur gears 33 fixed on one end thereof and meshing with the racks 23.

The shaft 32 extends beneath the bed frame in the direction of the head 15 and has secured on the forward end thereof a sprocket 33'. Sprocket 33' is splined on shaft 32 by splines 32'. The head 15 comprises a housing formed of outer and inner end walls 34 and 35, opposite side walls 36 and a top wall 37. The outer end wall 34 includes a large door 34a which permits access to

the interior of the head to repair or adjust the parts therein. Door 34a is hinged at 34b to the outer end wall 34 and is secured in a closed position by any suitable latch 73 actuated by knob 74 (Figure 3). In the present instance, the side walls 36 and the top wall 37 are formed integral with each other, the opposite edges of the side and top walls being rolled or crimped to engage the outer and inner walls 34 and 35 respectively.

The side walls 36 at their lower ends taper downwardly to form tapered legs 38 on the lower ends of which are mounted casters 39. A shaft 40 is journaled in a housing 41 disposed within the confines of the head 15, the housing 41 being mounted for movement forwardly or rearwardly on angle guide rails 42 which are fixedly carried by the inner side of the inner wall 35.

The housing 41 has rollers 43 rotatably carried by the lower end thereof which engage the rails or guide members 42. A spring 44 is fixed at one end to the forward wall of the housing 41 and fixed as at 45 to the inner side of the inner wall 35. The spring 44 constantly urges the housing 41 forwardly and in order to provide for rearward movement of the housing 41 I have provided a sliding closure 46 which engages upper and lower guides 47 carried by the inner wall 35.

The closure 46 is connected to the rear portion of the housing 41 by means of a flexible housing operating member 48 which is trained over pulleys 49 and 50 carried by the inner and outer walls 35 and 34 respectively of the head 15.

The flexible member 48 is also trained about a pulley 51 carried by the outer wall 34 and is then passed about a pulley 52 carried by the rear wall of the housing 41. The flexible member 48 is then extended about a pulley 53 which is carried by the outer wall 34 and is fixed at its terminal end to an eye or fastening member 54 carried by the outer wall 34.

Preferably a spring 55 is interposed in the length of the flexible member 48 and a second spring 56 is connected between the terminal end of the flexible member 48 and the fastening member 54. The shaft 40 has secured thereto a sprocket 57 about which a chain 58 is trained and the chain 58 is also trained about the sprocket 33'.

A hand wheel 59 is secured to the shaft 40 and confronts the closure 46. A receptacle housing 60 is carried by the inner wall 35 extending inwardly from wall 35 and a closure 61 is adapted to normally close the housing 60. A second housing 62 which is normally closed by sliding closure 63 is carried by the inner wall 35 and is adapted to receive in the present instance, a roll 64 of toilet paper.

The end walls 65 of the housing 62 have disposed therebetween a roll shaft 66 which engages spring loaded tubular bearings 67 carried by the end wall 65 and a spring 68 is disposed in each tubular bearing 67 and normally holds the roller shaft 66 centrally between the end walls 65.

In the use and operation of this device in normal use, the mattress section 31 and the movable spring structure 17 will be disposed with the outer edges thereof flush with the adjacent edges of the spring 19 and the mattress 20. When it is desired to move the spring structure 17 and the mattress section 31, the closure 46 is moved to open position and spring 44 will pull housing 41 toward the inner wall 35 so that the hand wheel 59 will project out of the head 15. In this connection it is understood that the closure 46 is secured in the closed position if necessary by any suitable latch 73 adapted to actuate leg knob 74.

Rotation of the hand wheel 59 in one direction will effect lateral movement of the spring section 17 and the mattress section 31. When the need for the lateral disposition of the movable mattress and spring sections has passed, these sections may be returned to their normal position by reverse rotation of hand wheel 59 and this hand wheel with housing 41 may be automatically moved within the confines of the head 15 by movement of closure 46 to closed position.

Movement of closure 46 to closed position will pull flexible member 48 therewith and housing 41 will be drawn inwardly of the space between the outer and inner walls 34 and 35 respectively of the head 15.

It is, of course, understood that various changes and modifications may be made in the details of construction of this invention, such changes and modifications being limited only by the scope of the invention as hereinafter claimed.

Having thus described my invention, what I claim is:

1. A hospital bed comprising head and foot members, rails connecting said members together, a spring carried by said rails including a centrally disposed laterally movable spring section, a mattress on said spring, said mattress including a centrally disposed mattress section engaging said movable spring section and movable therewith, a toothed rack fixed to said spring section, a longitudinally disposed shaft beneath said spring section, a gear on one end of said shaft engaging said rack, a sprocket on the opposite end of said shaft, a counter shaft disposed above said first named shaft, means rotatably supporting said counter shaft on said head member, slidable means supporting said counter shaft supporting means for movement into and out of said head member, a sprocket carried by said counter shaft, and a chain connecting said sprockets together.

2. A hospital bed comprising head and foot members, rails connecting said members together, said head member comprising a hollow housing, a spring engaging said rails, a mattress on said spring, said spring including a centrally disposed and laterally movable spring section, means supporting said section for lateral movement, said mattress including a centrally disposed mattress section engaging said spring section and movable therewith, means for moving said spring and mattress sections, said means including an operator carried by said head member inwardly of the same, and slidable means supporting said operator for movement into and out of said head member, a sliding closure, and means operatively connecting said closure and said operator whereby the latter will be moved to an operative extended position outwardly of said head member upon movement of said closure to open position, and returned to an inoperative position inwardly of said head member upon movement of said closure to a closed position.

3. A hospital bed comprising a pair of end members, side rails connecting said members together, one of said end members comprising a hollow housing, a spring engaging said rails, said spring including a laterally movable spring section, means supporting said section for lateral movement, means for moving said spring section, said means including an operator carried by said one member in said housing, and slidable means supporting said operator for movement into and

out of said housing, a movable closure member, and means connecting said closure member to said operator whereby said operator will be moved to an operative extended position outwardly of said housing upon movement of said closure member to open position and returned to inoperative position within said housing upon movement of said closure to a closed position.

4. A hospital bed comprising a pair of end members, side rails connecting said members together, one of said end members comprising a hollow housing, a spring engaging said rails, said spring including a laterally movable spring section, means supporting said section for lateral movement, means for moving said spring section, said latter means including an operator carried

by said one member in said housing, and slidable means supporting said operator for movement into and out of said housing.

FLOYD O. THOMPSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,490,029	Scheliga	Apr. 8, 1924
1,545,415	Fazakerley	July 7, 1945
2,105,040	Hurst	Jan. 11, 1938
2,215,636	Comper	Sept. 24, 1940