

Feb. 7, 1928.

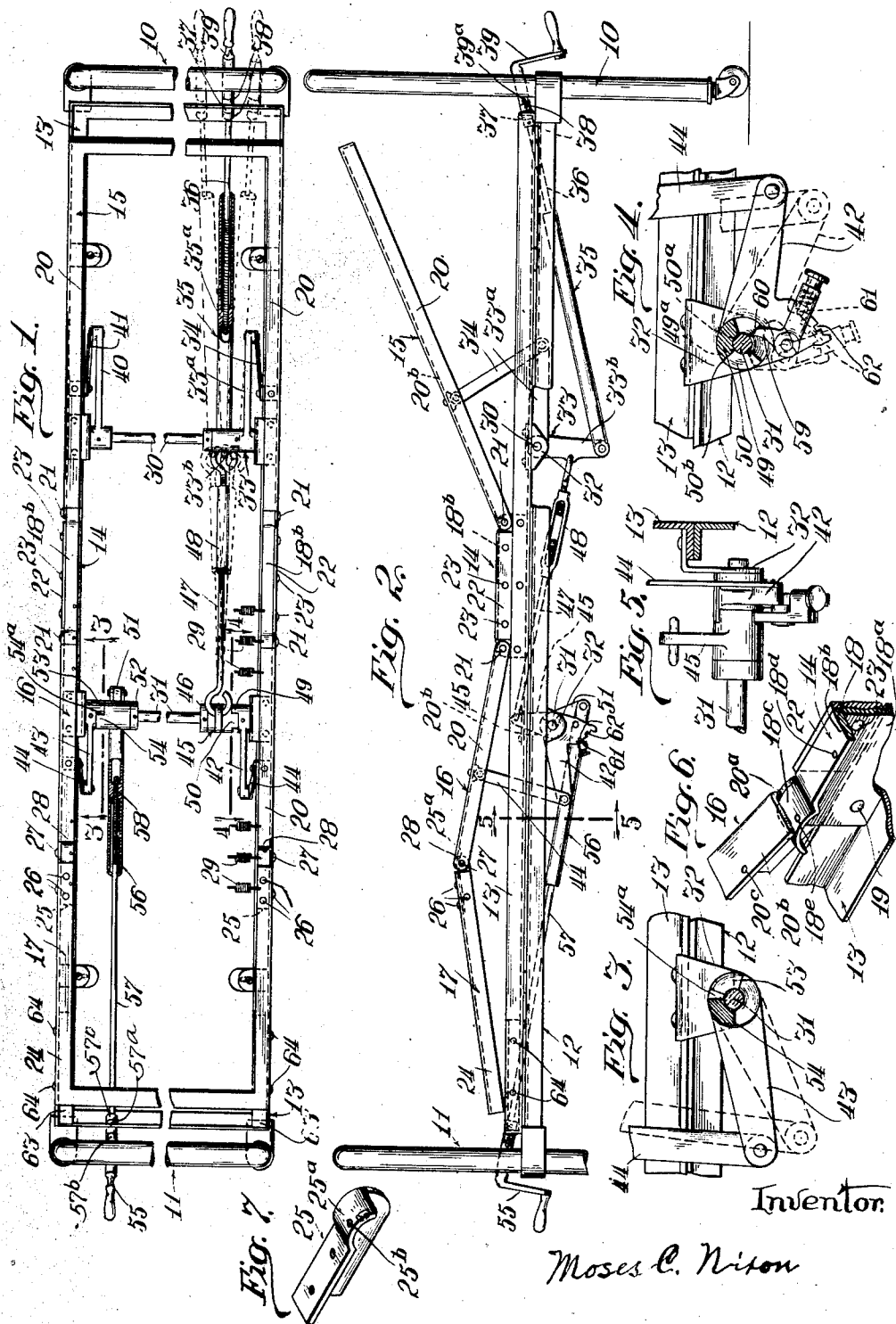
M. C. NIXON

1,658,780

BED OR ATTACHMENT THEREFOR

Filed Oct. 25, 1927

2 Sheets-Sheet 1



Feb. 7, 1928.

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2 Sheets-Sheet 2

Fig. 9.

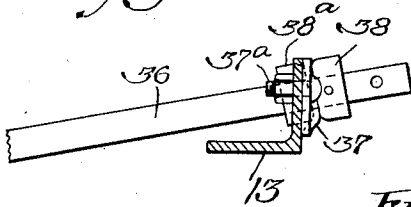


Fig. 8.

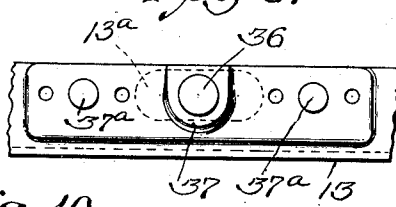


Fig. 10.

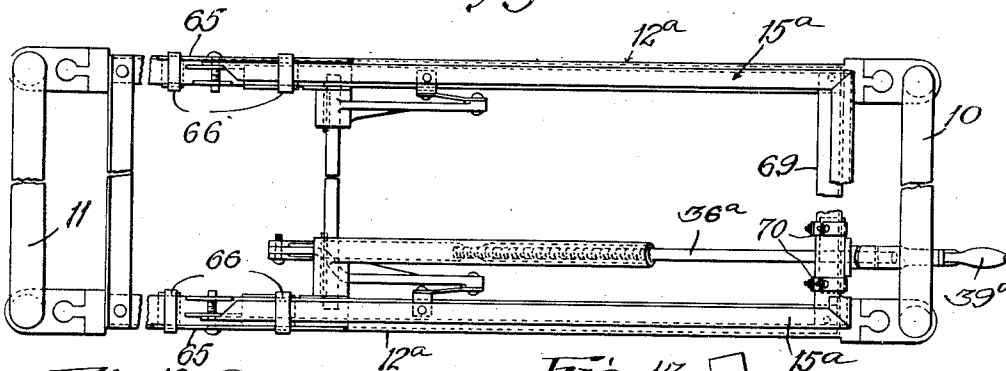


Fig. 12.

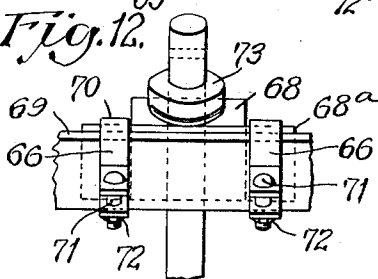


Fig. 13.

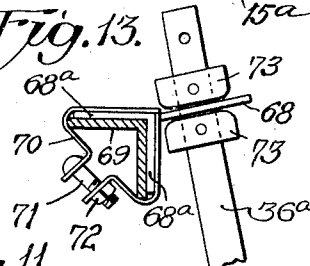
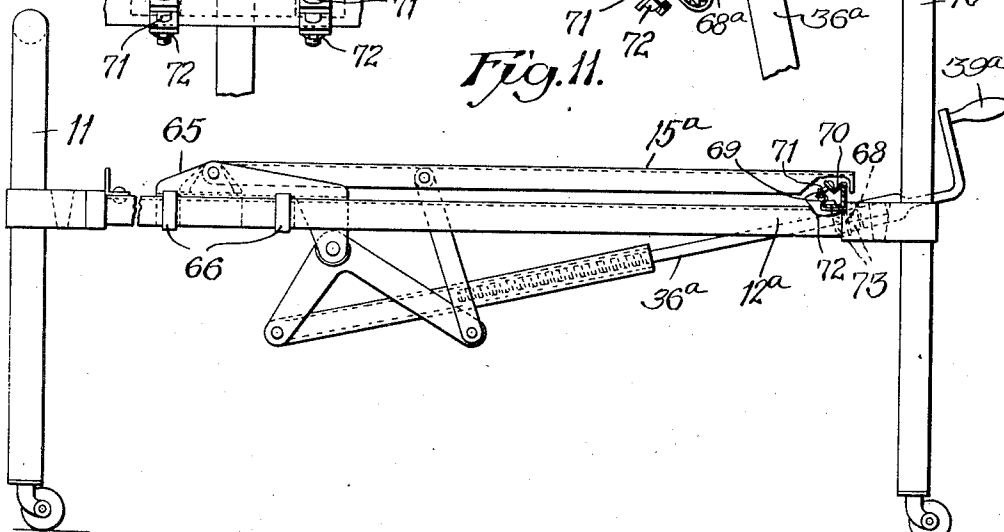


Fig. 11.



Inventor
Moses C. Nixon

Patented Feb. 7, 1928.

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UNITED STATES PATENT OFFICE.

MOSES C. NIXON, OF CHICAGO, ILLINOIS.

BED OR ATTACHMENT THEREFOR.

Application filed October 25, 1927. Serial No. 228,514.

This is a continuation in part of my co-pending application Serial No. 117,893, filed June 23, 1926, which will be abandoned in favor of this application.

My invention relates to beds, particularly to such structures adapted for use by invalids; and among the objects of the invention are to provide a structure which may be built as a part or placed as a unit upon the bed of ordinary construction or other suitable support and which will embody a complete sectional supporting structure for the mattress and operating mechanism for the sections so arranged that they may be readily and conveniently placed in various relative positions best adapted to care for the comfort of the occupant. To provide operating mechanism for the various sections of the structure which is simple in construction, convenient to operate and so arranged that the body and thigh supporting sections may be raised relative to the central or seat section, and, if desired, the thigh section positively returned to its normal position simultaneously with respect to the body section. To provide supporting means for the outer end of the driving shaft of the operating mechanism adapted to be variously positioned relative to its support. To provide an improved structure to which the fabric for supporting the mattress, etc. may be attached, the structure being so arranged as to avoid open gaps between the various sections in manipulating the structure in which the bedding would be caught and possibly torn or cut; and to provide a structure in which the parts to which the supporting fabric is attached are so arranged that upon elevating the thigh and leg sections relative to the seat section the fabric is placed under an increased tension.

The invention consists in the novel constructions, arrangements and devices to be hereinafter described and claimed for carrying out the above stated objects and such other objects as will appear from the following description taken in connection with the accompanying drawings in which:

Figure 1 is a plan view of a structure embodying the principles of my invention, certain parts being broken out and shown in section; Fig. 2 is a side elevational view of the structure shown in Fig. 1; Fig. 3 is a detail view taken on the line 3—3 of Fig. 1; Fig. 4 is a detail sectional view taken on the line 4—4 of Fig. 1; Fig. 5 is a

sectional view taken on the line 5—5 of Fig. 2, said Fig. 5 showing an end elevational view of the parts illustrated in Fig. 4; Fig. 6 is a detail perspective view of a fragmentary portion of the seat section and one of the parts pivoted thereto; Fig. 7 is a perspective view of one of the fabric supporting and tensioning members carried by the leg section; Fig. 8 is a detail view of one end of the frame with a supporting bearing for the outer end of the operating rod and means for adjustably securing the bearing to the frame; Fig. 9 is a side view of Fig. 8, with the end of the frame member in section; Fig. 10 is a plan view of a bedstead with parts broken out, and showing modification of certain parts of my invention; Fig. 11 is an elevational view of Fig. 10; Fig. 12 is an enlarged view of a section of the supporting structure illustrating means for adjustably securing the supporting bearing of the outer end of the operating rod, and Fig. 13 is a side view of Fig. 12, showing the end supporting member in section.

In the drawings similar numerals of reference indicate corresponding parts of the different views, and referring to the same, 10 and 11 denote the head and foot respectively and 12 the side rails of a bed, of which the present invention may be made as a part, or as a self-contained independent structure of which 13, preferably of angle bars, forms a base frame adapted to rest upon the side rails of the bed or other suitable support, and may be secured thereto in any suitable manner.

The sectional frame includes a seat section 14, body section 15, thigh section 16 and leg section 17, it being understood that in referring to the body, thigh and leg sections in the claims, the terms member or members may be used in place of section or sections as desired. The seat section includes angle members 18, having their vertical angles or webs secured to the inner face of the sides of the base frame 13, as by rivets 19, said members 18 being disposed so that their horizontal angles 18^b extend inwardly toward each other. The side members of the body and thigh supporting sections are preferably formed of angle bars 20, the pivotal connection between said sections and the seat section being best shown in Fig. 6. The vertical angles 20^a are pivotally attached to the vertical angles or webs of the seat section 18, as by rivets or bolts 21, the horizontal angles

of bars 20 being cut back or relieved so that the angle bars 20 may freely swing relative to the angle members 18. The horizontal angles 18^b extend under the horizontal angles 20^b and their ends are curved at 18^c which are so arranged that they will at all times be close to the extremity of the horizontal angle 20^b when the angle bar 20 is swung relative to the angle members 18. A side plate 22 may be attached as best shown in Fig. 2, to the vertical web or angles of the members 18, as by rivets 23, so as to provide an unbroken continuous surface at the sides of the sectional frame.

The leg section 17 is also preferably formed of angle bars, and its side frame members 24 at their pivotal ends are provided with angle members 25, such as shown in Fig. 7. These members are positioned at the inner and lower sides of the angles of the side members 24 and are firmly secured thereto by rivets 26. The members 25 being pivotally secured to the vertical angle of bars 20 by bolts or rivets 27. The extending ends of the horizontal angles of members 25 are curved at 25^a, said curved portions and the adjacent ends 28 of the horizontal angles of the side members 20 of the thigh section being so arranged that the gaps between the horizontal angles of the side members of the thigh and leg sections are closed at all times.

The fabric that supports the mattress is stretched over the sectional frame and secured to the horizontal angles of the side and end angle bars of the various sections of the pivoted frame, as by helicals 29, shown in Fig. 1, at the pivot connections of the seat, thigh and leg sections.

It is desirable to prevent any substantial sagging of the mattress supporting fabric at the seat section when the body, thigh and leg sections are raised relative to the seat section. As best shown in Fig. 6, the horizontal angle of member 18 of the seat section is perforated at 18^a, the gap closing curved portion at 18^c, and the attached member of one of the pivoted sections at 20^c. In like manner the angle member shown in Fig. 7 is perforated at 25^b, and the perforations 18^a and 26^b are preferably located directly over the axes of the pivots of the various sections. It will be observed, therefore, that the fabric is stretched tightly over the sectional frame when the latter is in normal or flat position and will remain more tightly over the seat and the body and thigh sections when the two latter are elevated relative to the former, then if secured to the horizontal angle of the frame members of the different sections at the sides of the cut out portions of said angles to provide for free swinging movement of the pivoted sections. To further avoid sagging it will be apparent that since members 25 are carried by the leg section, that when the leg and thigh sections are

moved from the normal or flat to an elevated position, the distance between perforations 18^a and 25^b will be increased and thus cause the fabric to be placed under an increased tension, and thereby further reduce sagging at the seat section.

The mechanism for raising and lowering the body, thigh and leg sections relative to the seat section will now be described, transverse shafts 30 and 31 are journaled in suitable bearings 32 carried by the base frame 13. A bell-crank lever 33 is fixed to the shaft 30, and arm 33^a thereof being connected by a link 34 to the body section 15 and the other arm 33^b thereof being pivotally connected to a tubular member 35. A rod 36 externally threaded at its inner end extends into the tubular member 35 and has threaded engagement with a nut 35^a secured therein about midway of the tubular member. The outer end of the operating rod 36 extends through a laterally disposed slot 13^a in the vertical angle of the end bar of the base frame 13 and an adjustable bearing 37 (see Figs. 8 and 9), which is formed to furnish a surface at right angles to the axis of said rod, and is adjustably secured to the vertical angle of said end bar, as by bolts 37^a. A collar 38 is fixed on the rod 36 at the outer side of the bearing 37 to prevent inwardly axial movement of the rod 36 in the bearing 37, and a collar 38^a is also secured to the rod 36, which contacts with the bearing to prevent outwardly axial movement of the rod 36, the contacting faces of the collars 38 and 38^a being formed so as to provide for slight tilting of the rod 36 in its bearing, the intention being to provide means so that the outer end of the rod 36 may be shipped (see dotted outline, Fig. 1) to avoid interfering parts, such as the uprights at the head or foot of a bedstead. A crank 39 is detachably connected with the outer end of the rod 36 and made operative by a pin 39^a in a corresponding slot in the crank hub. A lever 40 is fixed on the shaft 30 and its swinging end connected by a link 41 to the other side of the body section 15. It will now be apparent that when the crank 39 is turned in one direction the body section 15 may be raised and when the crank is turned in the opposite direction said section may be lowered.

The mechanism for raising and lowering the thigh section 16 includes levers 42 and 43 both fixed to the shaft 31 and having their swinging ends connected by links 44 to section 16. A lever 45 is loosely mounted on the shaft 31 adjacent the lever 42, axial movement of the lever 45 on the shaft being prevented by a fixed collar 46. The lever 45 is connected to the arm 33^b of the bellcrank lever 33 by a pull and thrust rod 47 which is made in two sections connected by a turn-buckle 48 to provide for

lengthening or shortening the rod as may be desired. The adjacent side faces of the hubs of the levers 42 and 45 have laterally projecting co-engaging lugs 49 and 50 respectively. The operating mechanism is so constructed and arranged that a substantial gap is present between the co-engaging faces of the lugs 49 and 50 when the sections 15, 16 and 17 are in their normal or flat position on the base frame 13. The position of lever 42, when the sections are in their normal flat position is shown in dotted lines in Fig. 4, in such case the meeting face of lug 49 is at dotted line 49^a and the meeting face of lug 50 is at dotted line 50^a, the lost motion gap being the space between these meeting faces. It will now be apparent that upon turning the crank 39 in the proper direction the bell-crank 33 will be turned anti-clockwise resulting in immediate raising or lifting of section 15. As the vertical arm 33^b of the bell-crank swings anti-clockwise the lever 45 is pulled clockwise and upon the lost motion between lugs 49 and 50 being taken up by the face of the lug 50 of the lever 45 engaging the face of the lug 49 of the lever 42 the shaft 31 begins to rotate clockwise which causes the levers 42 and 43 to raise the section 16. When the parts are in position shown in Fig. 2 the meeting line or face between the contacting lugs 49 and 50 is at the line 50^b shown in Fig. 4. It will thus be apparent that the section 15 may first be partially raised independently of the sections 16 and 17 upon the section 15 being raised to a predetermined extent, the sections 16 and 17 thereafter are raised simultaneously therewith; said predetermined extent being regulated by the length of the pull and thrust rod 47. In the construction shown levers 33^a and 40 that connect the operating mechanism with the body section 15 are longer than levers 42 and 43 that are operatively connected with the thigh section 16 and it is, therefore, apparent that the body section may be moved faster than the thigh section.

I preferably provide means for holding the thigh section 16 in an elevated position if desired while the body section is being returned to its normal position and this same means may also be employed for raising and lowering the thigh section 16 independently of the body section. The aforesaid means for accomplishing these results include a lever 51 freely rotatable on the shaft 31 adjacent the lever 43, axial movement of the lever 51 on the shaft away from the lever 43 being prevented by a collar 52. The meeting faces of the levers 43 and 51 are provided with laterally projecting lugs 53 and 54 respectively which have co-engaging faces. In Fig. 1 the lug 54 is in its normal position, that is to say, the position it must occupy when sections 16 and 17 are in their normal or flat position. Since the sections 16 and 17 are shown in partially elevated position there is a gap 54^a between the lugs 54 and 53, as the lug 54 remains stationary while sections 16 and 17 are elevated through the pull and thrust rod 47. The mechanism for turning the lever 51 on its shaft includes a crank 55, tubular member 56 and rod 57. The outer end of said rod 57 extends through a bearing 57^a in the vertical angle of the end bar of the base frame 13, which is formed to furnish a surface at right angles to the axis of rod 57, collars 57^b being fixed on the rod 57 at each side of the bearing to prevent axial movement of the rod 57 in the bearing 57^a, the contacting faces of the collars 57^b being formed so as to provide for slight tilting of the rod 57 in the bearing, said mechanism operates in the same manner as the means attached to the vertical arm of the bell-crank lever 33 heretofore described. Referring to Fig. 4 it will be noted that a substantial gap is provided on the underside between the lugs 49 and 50. By referring to Fig. 1, it will now be apparent that upon turning the crank 55 in the proper direction the lever 51 will turn clockwise on the shaft 31 and the lug 54 will move to close the gap 54^a and engage the lug 53 of the lever 43 and further turning of the crank 55 will cause the thigh section 16 to be raised and raising of the section may be continued until the under or lower face of the lug 49 (see Fig. 4) engages the face of the lug 50. When the thigh section 16 is raised by turning the crank 39, it will be apparent that the lug 53 will travel away from the lug 54 thereby increasing the length of the gap 54^a between the adjacent faces on the top side of said lugs. If it is desired to hold or maintain the thigh section in an elevated position while the body section is lowered, it is only necessary to turn the crank 55 so that the lever 51 will be moved to close the gap between the lugs 53 and 54. As heretofore explained the leg section 17 is pivotally connected to the swinging end of the thigh section 16. As the thigh section is raised the leg section tends to assume a position more nearly vertical. I have found that the leg and thigh sections under gravity alone do not always return to the normal or flat position on the base frame and in my present invention I have provided means for insuring, if desired, positive return of the leg and thigh supporting sections to the normal position when the body section is returned to its normal position. The means for accomplishing the result just mentioned includes a two-positioned member 59 (see Fig. 4) which is in the form of a pawl and is pivotally attached to a depending portion of the lever 42. The member 59 has a toe 60 adapted to be en-

gaged by the underside of the lug 50 of the lever 45. The member 59 is provided with a spring pressed plunger 61 adapted to snap into either one of the recesses 62. The member 59 as shown in full lines in Fig. 4 is in its operative position. The member being in its inoperative position when it is in its second position as indicated by dotted lines in Fig. 4. It will be apparent from the foregoing description and working of the operative mechanism that, when the crank 39 is turned so as to move the bell-crank lever 33 in a clockwise direction to lower the body section 15, the lever 45 will be thrust in an anticlockwise direction and, assuming the member 59 is in its operative position, the under side of the lug 50 will presently engage the toe 60 of the pawl and thereafter result in the lever 42 being forced in an anti-clockwise direction thus insuring positive return of the thigh and leg section to the normal position.

As the vertical angle of the base frame 13 extends upwardly a base for the free end of the leg section to ride upon is lacking, and to remedy this defect short sections of angle bars 63, with their horizontal angle extending inwardly and flush with the top of the base frame are secured to the latter at each side of said frame by rivets 64, thereby providing flat bases for the free end of the leg section to ride upon as its pivoted end is raised and lowered.

Figs. 10, 11, 12 and 13 illustrate a modified form in which the base frame 13 of Figs. 1 and 2 is omitted and only the body section 15^a of the sectional frame is shown, the latter being pivotally attached to brackets 65 secured directly to the bed rails 12^a, in a manner fully described in my co-pending application Serial No. 585,940. Said brackets may be firmly but detachably secured to the bed rails, as by clamp-straps 66, formed of flat steel with a hole near each end, near which they are bent to right angles. Near the base of the brackets are openings through which the clamp-straps 61 pass, and are bent around the base of the brackets and the bed rails and drawn by bolts, not shown, but fully described in my copending application previously mentioned. The mechanism for raising and lowering the body section 15^a is similar to that previously described in connection with Figs. 1 and 2, except that only the body section is shown and the outer end of the operating rod 36^a is carried by somewhat different detachable supporting bearing 68 adapted to be attached to beds without marring them when the base frame 13 is not used; the end portions of said bearing being formed to fit the outer and lower sides of the angle bar 69 at or near the end of the bedstead, which in the present case is the bar to which the bed fabric is attached, and is firmly secured thereto, as by

clamp straps 70, bent around the supporting bearing 68 having angular portions 68^a and the angle bar 69 fitting therein and drawn by bolts 71 and nuts 72. The central or bearing portion 68 is formed to present surfaces at right angles to the axis of the operating rod. Said rod is provided with collars 73 secured thereto at each side of the bearing to prevent axial movement of the rod in the bearing. The contacting faces of said collars are formed to provide for slight tilting of the rod in its bearing, and is operated by the crank 39^a as previously described in connection with crank 39 and operating rod 36, shown in Figs. 1 and 2.

While I have shown and described the preferred embodiment of my invention I do not wish to be limited to the details shown as it is obvious that changes may readily be made without departing from the spirit of my invention.

What I claim is:

1. In a structure of the class described, the combination of a central section, members pivotally attached at the respective ends of said section, an operating device connected with one of said members and having power applying means therefor, an operating device for the other member and including a stiff pull and thrust element connected to the other operating device, the second named operating device having a lost motion connection between said element and the second named member, said devices being so arranged that the free end of one of the members may be raised first a predetermined amount, and then the free ends of both of the members raised simultaneously.

2. In a structure of the class described, the combination of a central section, members pivotally attached at the respective ends of said section, an operating device connected with one of said members and having a power applying means therefor, an operating device for the other member and attached by a rod to the first named operating device, and means including a lost motion connection for connecting the second named operating device to its member, said devices being so arranged that the free end of one of the members may be raised first a predetermined amount and then the free ends of both of the members raised simultaneously.

3. In a structure of the class described, the combination of a support including a central section, members pivotally attached at the respective ends of said section, an operating device mounted on said support and connected to one of said members and having power applying means therefor, two levers carried by said support, one of said levers being connected to the other of said members and the other of said levers being connected to said operating device, and a lost motion connection between said levers

whereby the free end of one of said members may be raised a predetermined amount first and then the free ends of both members simultaneously.

4. In a structure of the class described, the combination of a support including a central section, members pivotally attached at the respective ends of said section, a bell-crank mounted on said support having one of its arms pivotally connected to one of said members and power applying means connected to its other arm, two levers carried by said support, one of said levers being connected to the other of said members and the other of said levers being connected to said bell-crank lever, and a lost motion connection between said levers whereby the free end of one of said members may be raised a predetermined amount first and then the free ends of both members raised simultaneously.

5. In a structure of the class described, the combination of a support including a central section, members pivotally attached at the respective ends of said section, an operating device mounted on said support and connected to one of said members and having power applying means therefore, two levers carried by said support, one of said levers being connected to the other of said members and the other of said levers being connected by a pull and thrust rod to said operating device, and a lost motion connection between said levers whereby the free end of one of said members may be raised a predetermined amount first and then the free ends of both members raised simultaneously.

6. In a structure of the class described, the combination of a central section, members pivotally attached at the respective ends of said section, an operating device connected with one of said members and having power applying means therefor, an operating device connected with the other member and connected by a stiff pull and thrust element to the first named operating device, the second named operating device having a lost motion connection between the first named device and the second mentioned member and so arranged that upon operation of the first named device the free end of one of the members is first raised a predetermined amount and then the free ends of both members raised simultaneously and upon reversal of the power applying means both members are positively returned to their initial or normal position.

7. In a structure of the class described, the combination of a support including a central section, members pivotally attached at the respective ends of said section, an operating device mounted on said support and connected to one of said members and having power applying means therefor, two levers carried by said support, one of said levers being connected to the other of said

members and the other of said levers being connected by a pull and thrust element to said operating device, one of said levers having a projecting lug, and means carried by the other of said levers and so arranged that it may be moved into position to engage the lug on the other of said levers upon reversal of the power applying means and force return of the second named member to a flat or normal position.

8. In a structure of the class described, the combination of a support including a central section, members pivotally attached at the respective ends of said section, an operating device mounted on said support and connected to one of said members and having power applying means, therefor, two levers carried by said support, one of said levers being connected to the other of said members and the other of said levers being connected by a pull and thrust rod to said operating device, one of said levers having a projecting lug, and two positioned means carried by one of said levers and adapted in one position to engage said lug and in the other position to be free of said lug, for the purpose specified.

9. In a structure of the class described, the combination of a support including a central section, members pivotally attached at the respective ends of said section, an operating device mounted on said support and connected to one of said members and having power applying means therefor, two levers carried by said support, one of said levers being connected to the other of said members and the other of said levers being connected by a pull and thrust element to said operating device, one of said levers having a projecting lug, and one of said levers carrying a two-positioned pawl, said pawl being so arranged that in one position it engages said lug and in the other position is free of said lug, for the purpose specified.

10. In a structure of the class described, the combination of a support including a central section, members pivotally attached at the respective ends of said section, an operating device mounted on said support and connected to one of said members and having power applying means therefor, two levers carried by said support, one of said levers being connected to the other of said members and the other of said levers being connected by a pull and thrust member to said operating device, one of said levers having a laterally projecting portion which extends into a recess on the other lever, said recess being of greater length than the projecting portion to permit a limited movement of one lever before the other lever is affected.

11. In a structure of the class described, the combination of a central section, members pivotally attached at the respective ends

of said section, an operating device connected with one of said members and having power applying means therefor, an operating device for the other member and including
 5 an adjustable pull and thrust element connected to the other operating device, the second named operating device having a lost motion connection, said devices being so arranged that the free end of one of the members
 10 may be raised first a predetermined amount and then the free ends of both of the members raised simultaneously.

12. In a structure of the class described, the combination of a support including a
 15 central section, members pivotally attached at the respective ends of said section, an operating device mounted on said support and connected to one of said members and having power applying means therefor, two
 20 levers carried by said support, one of said levers being connected to the other of said members, and the other of said levers being connected by an adjustable pull and thrust element to said operating device, and a lost
 25 motion connection between said levers whereby the free end of one of said members may be raised a predetermined amount first and then the free ends of both members raised simultaneously.

30 13. In a structure of the class described, the combination of a central seat section, and body and thigh supporting sections pivoted to the respective ends of said seat section, said sections having horizontally disposed
 35 inwardly extending flanges to which the fabric of the structure may be attached, the ends of the flanges on the seat section having curved portions and the ends of the flanges on the other sections having cut away portions,
 40 said curved and cut away portions being so arranged that the operation of the body and thigh sections the ends of the flanges on the body and thigh sections remain close to the respective curved portions,
 45 for the purpose specified.

14. In a structure of the class described, the combination of a seat section, a thigh section pivoted at one end to the seat section,
 50 and a leg section pivoted to the thigh section at its other end, said sections having horizontally disposed inwardly extending flanges to which the fabric of the structure may be attached, the adjacent ends of the aforesaid
 55 flanges on the thigh and leg sections being cut out to provide for relative movement of said sections, the leg section carrying curved members positioned over the pivotal connection between the leg and thigh sections, the fabric being attached to said curved
 60 members whereby upon raising the connecting ends of the thigh and leg sections the distance between the seat section and the curved members on the leg section is increased and the fabric tensioned.

65 15. In a structure of the class described,

the combination of a seat section, a thigh section pivoted at one end to the seat section, and a leg section pivoted to the thigh section at its other end, fabric to support the mattress attached to said sections, said leg
 70 section having members secured thereto extending to the pivotal connections between the leg and thigh sections, the fabric being attached to said members whereby upon raising the thigh and leg sections the fabric is
 75 placed under an increased tension.

16. In a structure of the class described, the combination of a seat section, a thigh section pivoted at one end to the seat section, a leg section pivotally secured to the thigh
 80 section at its other end, a bed fabric adapted to be secured to said sections, and means carried by the leg section and positioned adjacent the pivot connections between the thigh and leg sections and adapted to have
 85 the bed fabric secured thereto, and so positioned that when said pivot connections are raised the bed fabric between the seat section and said means will be tensioned.

17. In a structure of the class described,
 90 the combination of a seat section, a thigh supporting section pivoted at one end to the seat section, a leg supporting section pivoted to the thigh section at its other end, a bed fabric secured to said sections, and
 95 means carried by the leg section to which said fabric is attached and so arranged that when the pivot connections of the thigh and leg sections are raised the fabric between said connections and the seat section is placed
 100 under an increased tension.

18. In a structure of the class described, the combination of a seat section, a thigh supporting section pivoted at one end to the seat section, a leg supporting section pivoted
 105 to the thigh section at its other end, said sections having horizontally disposed inwardly extending flanges to which the bed fabric is attached, the adjacent ends of said flanges being cut away to provide for relative
 110 movement of said sections, means carried by the leg section adapted to extend into the openings caused by the cut away portions of the thigh and leg sections, the fabric being attached to said means and arranged
 115 so that upon raising the connecting ends of the thigh and leg sections the tension upon the fabric is increased.

19. In a structure of the class described, the combination of a seat section, a thigh supporting section pivoted at one end to the seat section, and a leg supporting section pivoted to the thigh section at its other end,
 120 said sections having horizontally disposed inwardly extending flanges to which the bed fabric is attached, the adjacent ends of the said flanges on the thigh and leg sections being cut away to provide for relative movement of said sections, one of said sections
 125 carrying members rigidly secured thereto
 130

and forming a part of the pivot connections between the thigh and leg sections and provided with curved portions, said curved portions and the ends of said flanges on the other section being so arranged that in relative movement of the thigh and leg sections the ends of the flanges remain close to the respective curved members, thereby substantially closing the gap caused by the cut away portions.

20. In a structure of the class described, the combination of a seat section, a thigh supporting section pivoted at one end to the seat section, and a leg supporting section pivoted to the thigh section at its other end, said sections having horizontally disposed inwardly extending flanges to which the bed fabric is attached, the adjacent ends of said flanges on the thigh and leg sections being cut away to provide for relative movement of said sections, one of said sections carrying members rigidly secured thereto and forming a part of the pivot connections between the thigh and leg sections and provided with curved portions, said curved portions and the ends of said flanges on the other section being so arranged that in relative movement of the thigh and leg sections the ends of the flanges remain close to the respective curved portions, said members being adapted to provide anchorage for the bed fabric in the gap caused by said cut-away portions.

21. In a structure of the class described, the combination of a seat section, a thigh supporting section pivoted at one end to the seat section, and a leg supporting section pivoted to the thigh section at its other end, said sections having horizontally disposed inwardly extending flanges, the adjacent ends of said flanges on the thigh and leg sections being cut-away to provide for relative movement of said sections, and one of said sections carrying members rigidly secured thereto and forming a part of the pivot connection between the thigh and leg sections and provided with curved portions positioned over said pivot connections and adapted to approximately close the gap caused by said cut-away portions.

22. In a structure of the class described, the combination of a seat section, a thigh supporting section pivoted at one end to the seat section, and a leg supporting section pivoted to the thigh section at its other end, said sections having horizontally disposed inwardly extending flanges, the adjacent ends of said flanges on the thigh and leg sections being cut-away to provide for relative movement of said sections, and one of said sections carrying members rigidly secured thereto and forming a part of the pivot connections between the thigh and leg sections, said members being provided with curved portions positioned over said pivot

connections and adapted to provide anchorage at the gaps caused by said cut-away portions.

23. In a structure of the class described, the combination of a seat section, body and thigh supporting sections pivotally secured at the respective ends of the seat section, said sections having horizontally disposed inwardly extending flanges, the ends of which on the body and thigh sections having cut-away portions to provide for their free swinging movement, and the ends of the flanges on the seat section being curved and adapted to substantially close the gaps caused by said cut away portions.

24. In a structure of the class described, the combination of a seat section, body and thigh supporting sections pivotally secured at the respective ends of the seat section, said sections having horizontally disposed inwardly extending flanges, the ends of which on the body and thigh sections having cut away portions to provide for their free swinging movement, and the ends of the flanges on the seat section being curved and adapted to substantially close the gaps caused by said cut away portion and provide anchorage for the bed fabric.

25. In a structure thus described, the combination of a substantially rectangular frame independent of and adapted to be supported by a bedstead or similar structure, said frame being substantially the length of the bed rails and having a seat section secured thereto, a supporting member with one end pivotally secured to the seat section, a bell-crank lever operatively connected with said supporting member, means carried by the independent frame comprising a tubular member with a member extending therein with threaded connection therewith, said means extending and being operable from the end of said frame and operatively connected with said bell-crank lever whereby the free end of the supporting member may be raised or lowered to different positions, the said means being wholly independent of and disconnected from the bedstead, said combination being thereby so arranged as to avoid interference with a bedstead when placed thereon.

26. In a structure of the class described, the combination of a substantially rectangular frame independent of and adapted to be supported by a bedstead or similar structure, said frame being substantially the length of the bed rails and having a seat section secured thereto, a supporting member with one end pivotally secured to the seat section, a bell-crank lever operatively connected with said pivoted member, means carried by the independent frame comprising a tubular member with a member extending therein with threaded connection therewith, said means being operable through the end of

said frame and wholly independent of the bedstead and extends longitudinally therewith and is operatively connected with said bell-crank lever whereby the free end of the supporting member may be raised or lowered to different positions.

27. In a structure of the class described, the combination of a supporting frame, an adjustable supporting section carried by the frame, means including an operating member for adjusting said section, said operating member extending through a laterally disposed slot provided in an end member of said supporting frame, a bearing for the end of said operating member, and means for connecting said bearing to said end supporting member of the supporting frame in any one of several positions.

28. In a structure of the class described, the combination of a supporting frame, an adjustable supporting section carried by said frame, means including an operating member for adjusting said section, said operating member extending through an opening in the end of said frame, a bearing for the operat-

ing member, and means for connecting said bearing to the end of the supporting frame in any one of several adjusted positions.

29. In a structure of the class described, the combination of an independent frame adapted to be supported by a bedstead or similar structure, a section pivotally carried by said frame, means including an operating member operatively connected with said section and adapted to pass through the end of said frame, a bearing for said operating member, and means for securing said bearing to the end of said frame in any one of several adjusted positions.

30. In a structure of the class described, the combination of an independent frame adapted to be supported on a bedstead or similar structure, a section pivotally carried by said frame, means including an operating member for adjusting said section, a bearing for said member carried in the plane of said frame, and means for connecting said bearing to the end of said frame in any one of several adjusted positions.

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