Aug. 31, 1954 R. G. MILLER 2,687,536

ADJUSTABLE BED

Filed Feb. 23, 1950

4 Sheets-Sheet 1

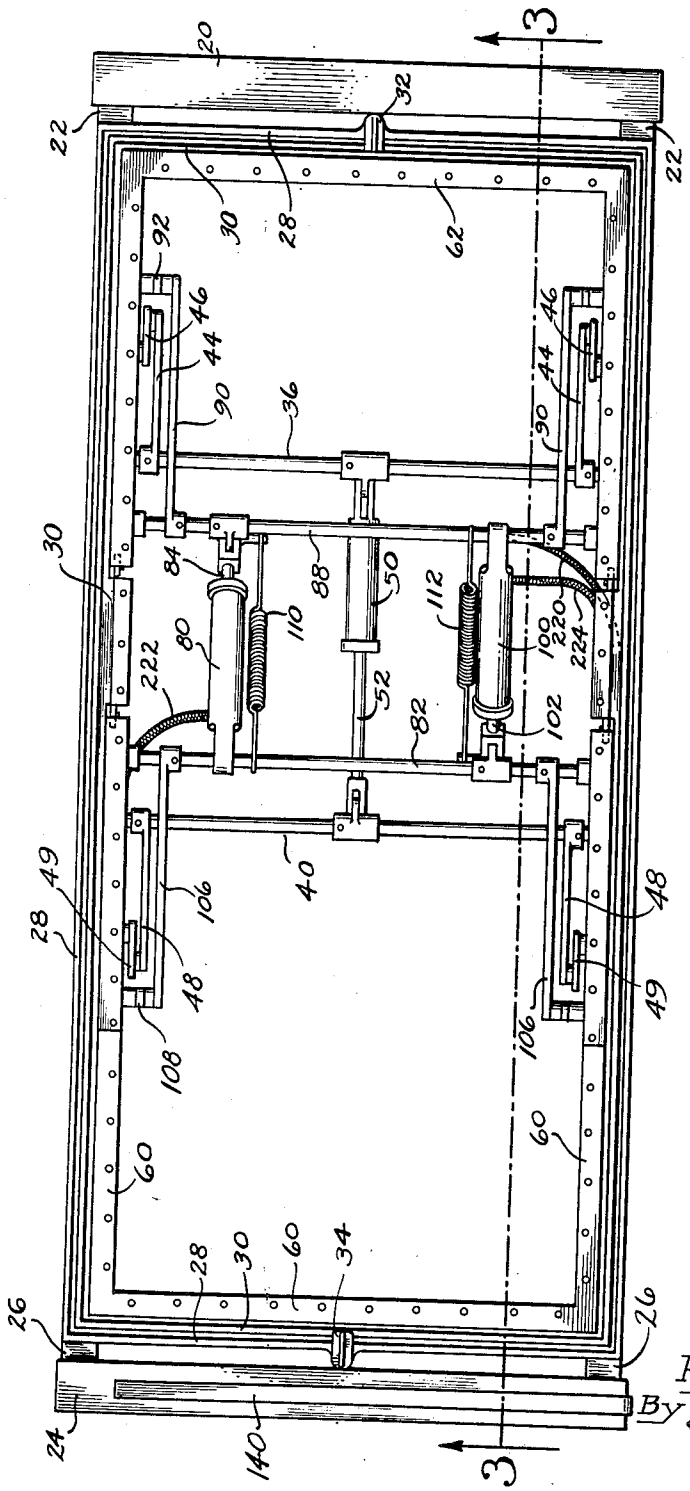


Fig. 1.

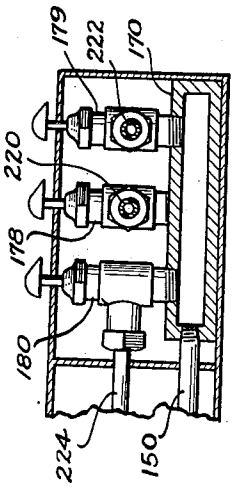


Fig. 12.

INVENTOR
Roy G. Miller
By Eugene D. Farley
Atty.

Aug. 31, 1954 R. G. MILLER 2,687,536

ADJUSTABLE BED

Filed Feb. 23, 1950

4 Sheets-Sheet 2

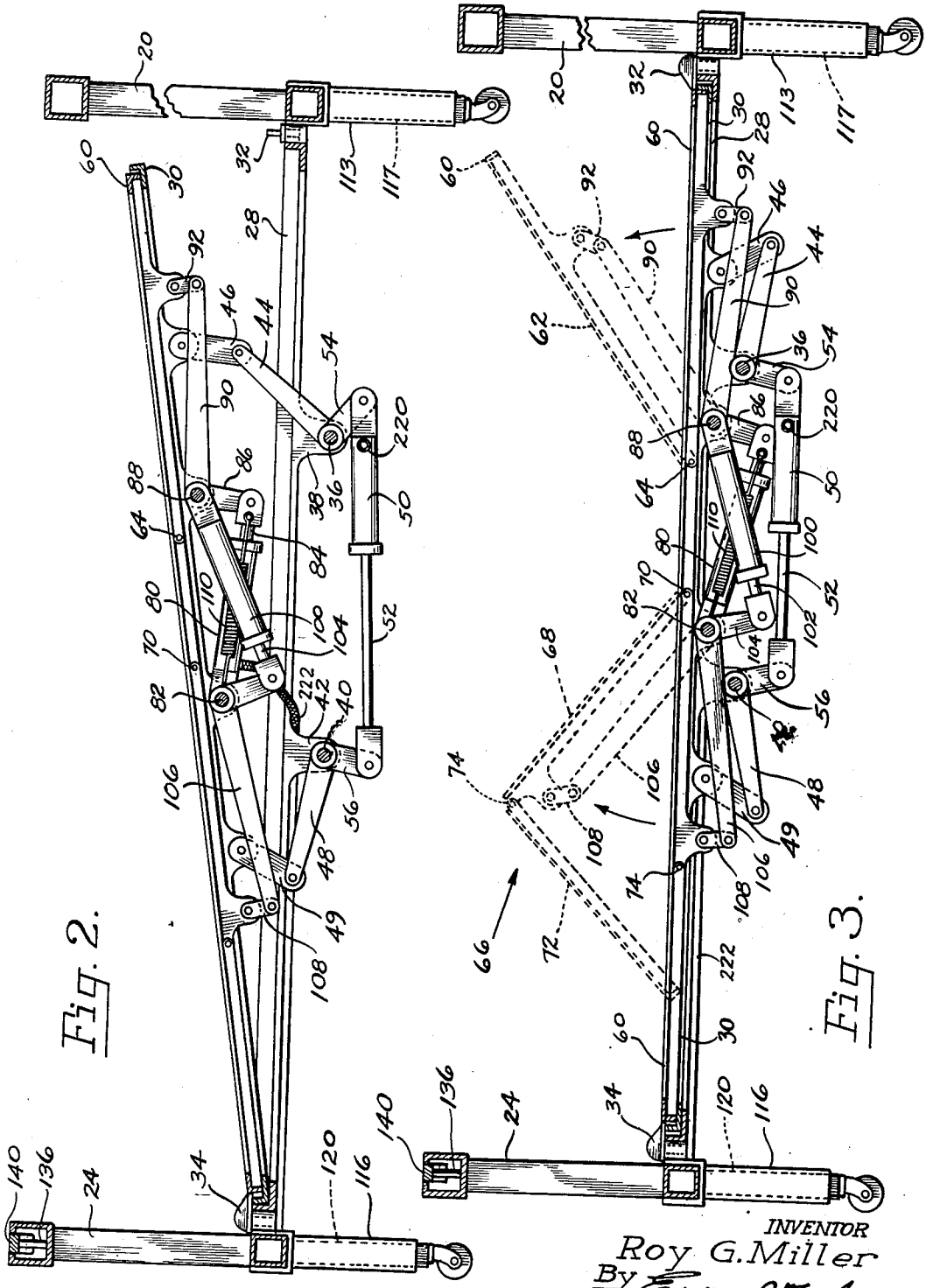


Fig. 2.

Fig. 3.

INVENTOR
Roy G. Miller
By Eugene D. Farley
Atty.

Aug. 31, 1954 R. G. MILLER 2,687,536

ADJUSTABLE BED

Filed Feb. 23, 1950 4 Sheets-Sheet 3

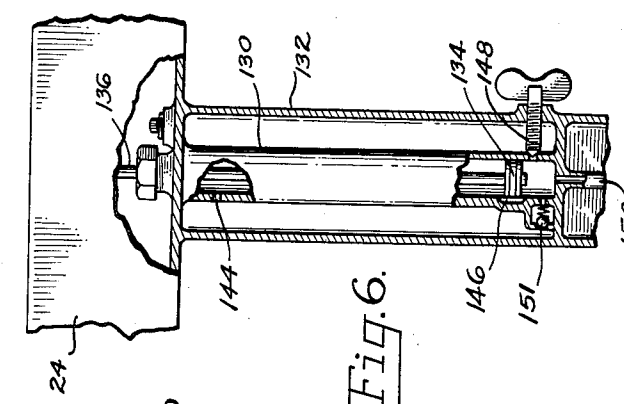


Fig. 6.

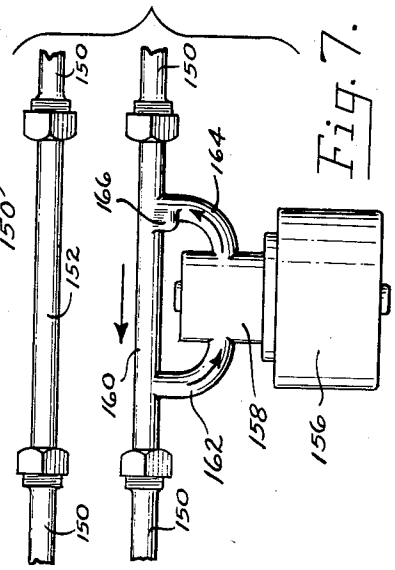


Fig. 7.

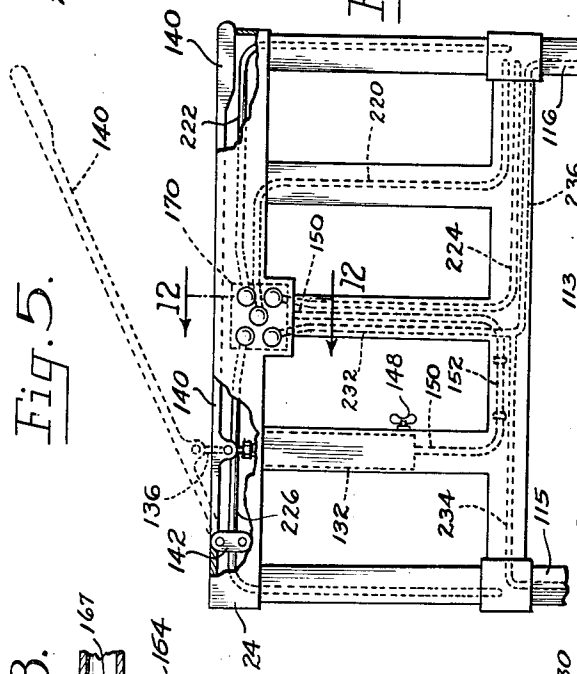


Fig. 5.

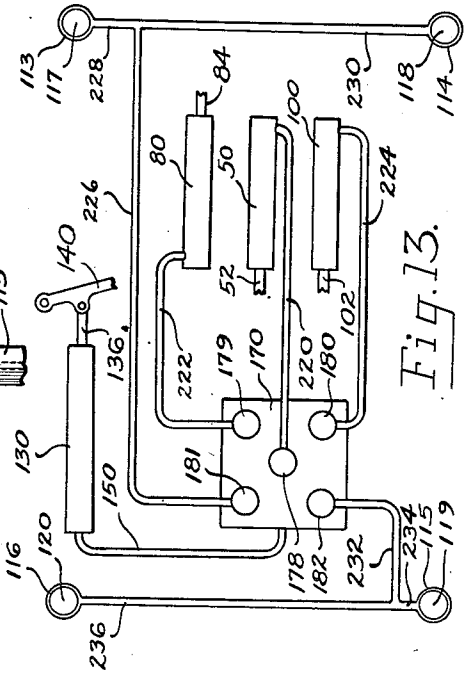


Fig. 13.

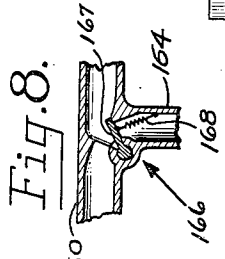


Fig. 8.

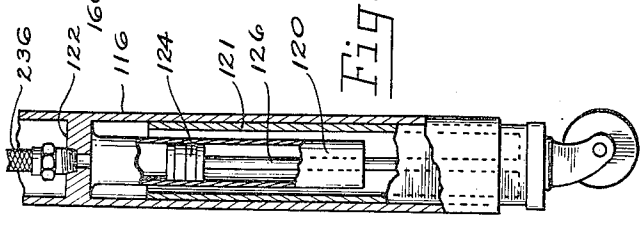


Fig. 4.

INVENTOR
Roy G. Miller
By Eugene D. Farley
Atty.

Aug. 31, 1954 R. G. MILLER 2,687,536

ADJUSTABLE BED

Filed Feb. 23, 1950 4 Sheets-Sheet 4

Fig. 9.

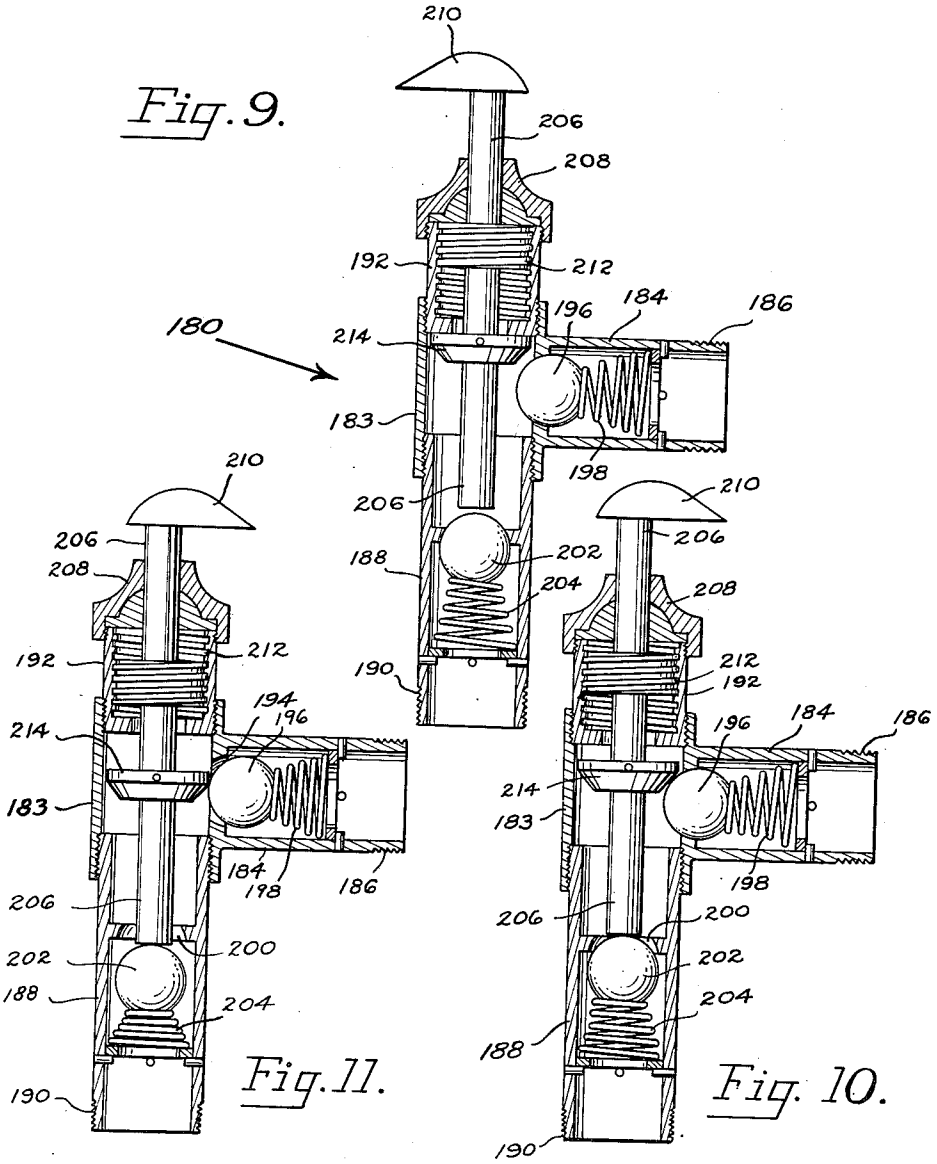


Fig. 11.

Fig. 10.

INVENTOR.
Roy G. Miller
BY
Eugene D. Farley
Atty.

Patented Aug. 31, 1954

2,687,536

UNITED STATES PATENT OFFICE

2,687,536

ADJUSTABLE BED

Roy G. Miller, Tacoma, Wash.

Application February 23, 1950, Serial No. 145,776

4 Claims. (Cl. 5—62)

1

This invention relates to an adjustable bed of the class employed in hospitals and elsewhere for moving patients into positions best suited to their comfort and the demands of the therapy to which they are subjected.

It is a primary object of this invention to provide a versatile adjustable bed, the various parts of which may be moved in stages of any desired magnitude to make the necessary or desired adjustment.

It is another important object of this invention to provide an adjustable bed which is hydraulically actuated and therefore is characterized by smooth, positive operation.

It is still another object of this invention to provide an hydraulically actuated, adjustable bed wherein the hydraulic system is of simple, efficient design comprising a minimum number of valves and fluid conduits.

It is a further object of this invention to provide an hydraulic drive which may be applied readily to adjustable beds of conventional design without making significant alterations in the latter.

It is another object of this invention to provide a valve for an hydraulic system which controls the flow of fluid to an hydraulic cylinder in such a manner that the piston of the cylinder may be moved against substantial loads, maintained stationary in any desired position in its travel, even though under sustained load, and retracted to its original position, all of these operations being accomplished through a single fluid carrying conduit.

It is another object of this invention to provide an hydraulically actuated adjustable bed, the hydraulic drive for which occupies minimum space and may be concealed in or beneath the conventional parts of a bed so that there are no projecting elements, a factor which is of importance from the standpoint of sanitation and convenience.

Still another object of this invention is the provision of an hydraulic actuating system for adjustable beds wherein the hydraulic cylinder is contained within the reservoir for the hydraulic fluid.

It is another object of this invention to provide an adjustable bed of safe, stable construction which may be moved to is various positions without annoying and uncomfortable jerks and tilting.

It is a further object of the present invention to provide an hydraulically actuated, adjustable bed having a mechanical advantage in the adjusting mechanism such as to make possible employment of hydraulic cylinders and an hydraulic motor of minimum size.

2

The manner in which the foregoing and other objects of this invention are accomplished will be apparent from the following specification and claims considered together with the accompanying drawings wherein:

Figure 1 is a plan view of the adjustable bed of the present invention;

Figure 2 is a sectional view in elevation of the presently described bed illustrating the manner in which the bed may be adjusted to an inclined position;

Figure 3 is a sectional view in elevation taken along the lines **3—3** of Figure 1, illustrating the manner in which the body section and knee section of the bed of the present invention may be adjusted to desired elevations;

Figure 4 is a detail sectional view in elevation of one of the legs of the presently described adjustable bed, illustrating the elevating mechanism therein;

Figure 5 is a view in elevation of the foot piece of the adjustable bed of the present invention illustrating the manner of incorporating elements of the hydraulic system therein;

Figure 6 is a detail view of an hydraulic cylinder which may be employed for supplying fluid under pressure to the elements of the presently described adjustable bed;

Figure 7 is a detail view illustrating the manner of application of a motor driven hydraulic pump to an hydraulic system for actuating the presently described adjustable bed;

Figure 8 is a detail sectional view of a valve element of the motor driven pump assembly of Figure 7;

Figures 9, 10 and 11 are detail sectional views illustrating a valve which may be employed in the hydraulic system actuating the adjustable bed of the present invention;

Figure 12 is a detail sectional view taken along the lines **12, 12** of Figure 5 illustrating the means for distributing the hydraulic fluid to the various elements of the hydraulic system; and

Figure 13 is a schematic view of the hydraulic system employed in adjusting the presently described adjustable bed.

Referring now more particularly to the drawings, the presently described adjustable bed comprises a head piece **20**, having affixed thereto the blocks **22**, and the foot piece **24** having affixed thereto the blocks **26**. Rigidly attached to the head piece and the foot piece through

the blocks 22 and 26 is the supporting frame 28. This may be constructed of a suitable material such as angle iron and is adapted to receive in nesting relationship the supporting frame 30.

Associated with frame 30 are means for inclining either the head or the foot of the bed at any desired angle. To this end, there are provided the catches 32 and 34 rotatably mounted at opposite ends of frame 28. These catches are designed to overlie frame 30 and to prevent its vertical displacement when engaged therewith. However, when the catches are turned until they no longer overlie frame 30, one end or the other of the latter frame may be elevated.

The elevation of frame 30 is accomplished through a system incorporating the cross bar 36 journalled in bosses 38 on the frame 28, and the cross bar 40 journalled in bosses 42 on the same frame. Rigidly attached to the cross bar 36 are the lever arms 44 which are connected to the frame 30 through links 46, 46. Similarly, lever arms 48, 48 are rigidly attached to cross bar 40 and are connected to the foot portion of frame 30 through the connecting links 49, 49.

Actuation of the lever system by means of which the head and foot portions of the frame 30 may be elevated selectively is secured by means of a fluid operated cylinder, e. g. the hydraulic cylinder 50 with its reciprocable piston rod 52. The cylinder is pivotally attached to the lever arm 54 which is rigidly secured to the cross bar 36. The piston rod 52, in turn, is pivotally connected to the lever arm 56 which is rigidly affixed to the cross shaft 40.

It will be apparent, therefore, that, upon extension of the piston rod 52 one or the other of the lever systems associated with the cross bars 36 and 40 will be actuated. The particular system actuated will depend upon which of the catches 32, 34 has been moved out of engagement with the frame 30. If catch 32 has thus been moved out of engagement, the head end of frame 30 will be released and will be elevated upon extension of piston rod 52, and lowered upon retraction thereof. However, if catch 32 engages frame 30 and catch 34 is out of engagement therewith, then extension of the piston rod 52 will cause the elevation of the foot portion of frame 30. Subsequent retraction of piston 52 then will bring about the lowering of the foot portion. In this manner, the bed spring and mattress resting thereon may be inclined to and maintained at any desired angle, either the foot or the head being elevated, to meet the requirements of the person occupying the bed.

Means also may be present for elevating selectively the portions of the bed supporting the knees and the body of the occupant. Nesting within frame 30 is the frame 60 formed from angle iron or other suitable constructional material. Associated with the frame 60 is the back supporting member 62 pivotally attached to the frame by means of pins 64. Also associated with the frame 60 is the knee supporting member indicated generally at 66. This comprises the section 68 pivotally attached to frame 60 through pins 70, and the section 72 pivotally connected to section 68 through pins 74. The free end of section 72 slidably engages frame 30 and is adapted to slide along the latter as the knee supporting section 66 is raised and lowered.

Raising and lowering of the back supporting section 62 is effectuated by means of an hydraulic cylinder 80 journalled on rock shaft 82. The

piston rod 84 of cylinder 80 is connected pivotally to lever arm 86 which, in turn, is rigidly affixed to rock shaft 88. Also rigidly attached to shaft 88 is the lever arm 90 connected to the back supporting member 62 through link 92. Hence, upon extension of the piston rod 84, the back supporting member will be elevated and maintained at an elevation corresponding to the degree of extension of the piston rod. Upon retraction of the latter, the back support will be lowered gradually until it again rests against the frame 30.

The knee supporting assembly 66 is actuated by means of the hydraulic cylinder 100. This driving unit is journalled on the rock shaft 88, its piston rod 102 being pivotally connected to lever arm 104 which, in turn, is rigidly affixed to rock shaft 82. Also rigidly attached to rock shaft 32 are the lever arms 106 connected through links 108 to member 68 of the knee supporting assembly. Thus upon extension of piston rod 102, lever arms 106 will be lifted, thereby lifting the knee supporting assembly and maintaining it at a desired elevation. Upon retracting piston rod 102, gradual lowering of the knee supporting assembly occurs, the assembly eventually coming to rest against the frame 30.

Retraction of piston rod 102 controlling the knee supporting assembly, like retraction of piston rod 84 controlling the back supporting assembly, may be caused by gravitational forces, the bed assembly having substantial weight particularly if occupied. In the event, however, that it is desired to accelerate the retraction, there may be provided retracting springs such as spring 110 associated with cylinder 80 and spring 112 associated with cylinder 100.

Although frame 30 with associated drive serves the desirable function of inclining the bed of the present invention at a desirable angle, it may be desirable in some instances to provide alternate means for securing this result. Such means may be employed in combination with frame 30 and associated drive, or independently thereof as in the case where frame 30 is omitted from the bed assembly, frame 60 resting directly on frame 28. They comprise extensible legs 113–116, inclusive, one of which, 116, is illustrated in Figure 4. The legs are fitted with cylinders 117–120, inclusive, and may be provided in pairs, a single pair being located at the head of the bed or at the foot thereof, or two pair being employed to provide a bed of which all the legs are extensible.

The extensible leg assembly comprises an outer casing 116 which may be the hollow leg of a hospital bed. Slidably mounted within casing 116 is the tube 121 which extends downwardly from the casing and carries a caster or other ground engaging means. Mounted within the tube 121 is the hydraulic cylinder 120 affixed to a perforated base 122 which, in turn, is attached to the inner surface of casing 116.

A piston 124 reciprocates within cylinder 120 and carries with it piston rod 126 affixed to the lower end of tube 121. Therefore as the piston rods in a given pair of the extensible legs are extended, the corresponding part of the bed will be elevated and maintained at the selected elevation until the piston rods are retracted, whereupon a corresponding lowering of the part will occur. Such a retraction may be secured by gravitation, or, if desired, a suitable retracting mechanism may be associated with the cylinders 120. In the event that all four of the legs of

the bed are provided with extending cylinders and all four are employed simultaneously, it will be apparent that the bed as a whole may be elevated and lowered to any desired level, e. g. from hospital to domestic height.

It is a particular feature of the adjustable bed of the present invention that fluid under pressure is supplied to the hydraulic cylinders 50, 80, 100 and 117–120 through a simple, highly efficient hydraulic system, which comprises broadly a reservoir for hydraulic fluid, a pump, a chamber for receiving fluid from the pump and for directing it to a selected one of several conduits, and valve means for controlling the flow of fluid in each of the conduits. A preferred pump means and its arrangement in the bed is illustrated in Figures 5 and 6. As shown in these figures, a manually operated pump 130 is housed within the reservoir 132 which contains the hydraulic fluid. This combination, pump-reservoir unit may be inserted in one of the bars of the head piece or foot piece of the bed, preferably the foot piece, where it is concealed from sight and out of the way.

Within the cylinder 130 is the reciprocable piston 134 with attached piston rod 136. The latter extends outwardly and upwardly from the cylinder and is pivotally connected to the lever arm 140. This is an elongated member having a handle at its free end and being pivotally connected to the cross piece of the foot of the bed through toggle link 142, which prevents binding of the piston rod during its reciprocation. The handle preferably is countersunk in the top of the foot piece so as to be flush with it and thus present a substantially continuous surface to the exterior.

Cylinder 130 is provided with a plurality of perforations 144 adjacent its upper margin. These permit the flow of hydraulic fluid between the interior of the cylinder and tank 132. Cylinder 130 also has a channel 146 stationed opposite the piston when the latter is in its position of maximum advancement and adapted to provide a passage about the piston for hydraulic fluid. To afford a means of transferring fluid from the cylinder ahead of the piston directly to the reservoir, the cylinder is constructed with valve means such as needle valve 148. When this valve is open, the piston 134 may be advanced and the lever 140 lowered to its position of rest even though line 150 leading from the cylinder is closed. Still further, a check valve such as ball check valve 151 is included in the pump assembly ahead of the piston to permit the introduction of fluid from the tank to the cylinder upon retraction of the piston. Thus it will be apparent that, upon raising piston 134 and lowering it by operation of lever arm 140, hydraulic fluid will be drawn into the cylinder through check valve 151 and then forced into conduit 150 and the rest of the hydraulic system.

As an auxiliary or alternate to the manually operated pump of Figure 6, there may be supplied the motor drive unit of Figure 7. This may be installed in a removable section 152 of line 150, located preferably at the base of the bed. In this embodiment, an electric motor 156 drives an hydraulic pump 158 of conventional design drawing fluid from the reservoir 132 through line 150 and branch line 162, and pumping it to the operating units of the hydraulic system through branch line 164. Also included in this circuit is an alternate clapper valve 166 (Figure 8) comprising a pivotally mounted blade 167 with associated spring 168 and having for its function the directing of the fluid flow to and from the reservoir. When the valve is in the position indicated in Figure 8, fluid driven by the pump passes through line 162, opens blade 167 against the tension of spring 168, closing line 160 and passes then to the hydraulic system. However, when the pump is shut off, blade 167 returns to its normal position closing off the line 164. Thereafter the return flow of fluid is directed to the reservoir through lines 160 and 150, and the barrel of manual pump 130. This is possible when piston 134 is in its position of maximum displacement opposite the channel 146, through which fluid returning from the hydraulic system can pass around the piston, into the cylinder behind the piston and thence through perforations 144 to reservoir 132.

The flow of fluid from pump 130 or motor 156 is directed to the various operating units of the system by means of a chamber or branch block 170 provided with a plurality of ports the number of which is determined by the number of conduits to be connected thereto. In the embodiment illustrated, there are six such ports. To one of these is attached line 150 leading from the pumps 130 and 158. The remaining ports communicate through suitable valve means with the outfeed conduits leading to the various elements of the hydraulic system.

Although various types of valve means may be employed in conjunction with the chamber 170, a novel and preferred valve means is illustrated in Figures 9, 10 and 11. The valve of these figures, indicated generally at 178—182 in Figure 13, is designed to make possible the infeed and outfeed of hydraulic cylinders 50, 80, 100 and 120 through single lines, i. e. without the necessity of providing a separate return line from each of the cylinders to the chamber 170. In addition, positive control of the flow of fluid is afforded so that the piston rods of the hydraulic cylinders may be extended or retracted by any desired increments, or maintained stationary at any desired displacement.

Thus valve assembly 180 comprises a body portion 183 formed with a transverse extension 184 having a threaded end 186. At one end of the body portion is the longitudinal extension 188 with threaded end 190 and at the other end of the body portion is the longitudinal extension 192, these two extensions preferably being removably attached to the body member as by being in threaded engagement therewith.

Transverse extension 184 is provided with a valve seat 194 and has mounted therein the ball check valve 196 with associated spring 198. This check valve controls the flow of fluid in the outfeed line emanating from valve assembly 180.

Longitudinal extension 188 is formed with a valve seat 200 which is adapted to receive ball check valve 202 with associated spring 204. This check valve is directed to control of the flow of fluid in the infeed line by means of which fluid is introduced into valve assembly 180.

Check valves 196 and 202 are actuated by means of shaft 206 extending into the interior of the body portion 182 through seal nut 208. Shaft 206 is provided with an operating handle 210, a threaded collar 212 adapted to engage internal threads in the extension 192, and a bevelled collar 214 adapted to engage ball check valve 196. Shaft 206 is of sufficient length so that its inner end may be used to actuate ball check valve 202.

Collar 214 is a spaced distance from the end of shaft 206, the spacing being such as to make possible the selective actuation of one or both of ball check valves 196 and 202. Upon advancing shaft 206 within body portion 182, as by rotating handle 210 in a clockwise direction, the first effect is to place the end of shaft 206 in contact with ball check valve 202, opening this valve without opening ball check valve 196 (Figure 10). When the two valves are in this position, fluid introduced into valve assembly 180 via extension 186 is free to pass through the body of the valve, through check valve 196, and thence into the operating system. Its return is prevented, however, by the direction of seating of check valve 196.

Upon further advancement of the shaft 206, the end thereof maintains its engagement with ball check valve 202, keeping it open. Such advancement has the additional effect, however, of placing collar 214 in engagement with ball check valve 196, opening the latter. In this position (Figure 11), fluid from the operating system is free to return to the reservoir through opened check valves 196 and 202.

As is apparent particularly from the flow diagram of Figure 12, upon actuation of pump 130 (or its equivalent motor 156), hydraulic fluid may be directed to any of cylinders 50, 80, 100 and 120. Upon depressing lever 140, piston 134 is advanced, forcing fluid through conduit 150 to distribution chamber 170. During this operation, valves 148 and 151 remain closed.

The path of the hydraulic fluid from distribution chamber 170 is determined by which of the valves 178—182 has been opened to the position illustrated in Figure 10. If valve 178 has been adjusted to the position of Figure 10, then the fluid passes through conduit 220 to cylinder 50, extending piston rod 52. This inclines the supporting frame 30 and the superimposed structure including the spring and mattress, provided one of catches 32 and 34 has been released. If catch 32 has been released, the inclination will be toward the head of the bed; while if catch 34 has been released, the inclination will be toward the foot.

When the desired degree of inclination of frame 30 has been obtained, valve 178 is adjusted to the position of Figure 9, thereby permitting operation of other units of the assembly without interfering the setting of cylinder 50 and frame 30. However, when it is desired to lower frame 30, valve 178 may be adjusted to the position of Figure 11. In this position, with both of ball check valves 196 and 202 open, fluid is free to flow back through line 220, distribution chamber 170, line 150, through bypass channel 146 in cylinder 130, and thus around the piston 134, and finally through perforations 144 back into reservoir 132.

If the desired degree of inclination of frame 30 is reached with pump operating lever arm 140 in an elevated position, valve 148 in the pump may be opened, thereby permitting the return of fluid from the barrel of the pump to reservoir 132. This results in advancement of piston 134 until it is in a position of maximum displacement opposite bypass channel 146, with lever arm 140 nesting within the top of the footpiece 24 of the bed.

If, upon actuation of pump 130, valve 179 has been opened to the position of Figure 10, then fluid leaving the pump will pass through conduit 150, distribution chamber 170, valve 179, and line 222 to cylinder 80. There it extends piston rod 84, which operating through rock shaft 88 elevates the back support section 62 of frame 60, the degree of elevation being commensurate with the degree of extension of the piston rod.

When back support 62 has been raised to the desired extent, valve 179 may be adjusted to the position of Figure 9, thereby maintaining the back support at the selected elevation while permitting the use of the other elements of the hydraulic system. When it is desired to lower the back support, however, valve 179 may be adjusted to the position of Figure 11, whereupon the hydraulic fluid will reverse its flow, passing in a reverse direction through line 222, valve 179, distribution chamber 170, line 150, and thence back to reservoir 132 via pump 130.

If valve 180 has been opened prior to the operation of the pump, then the pump fluid will pass through line 150, distribution chamber 170, valve 180, line 224, and thus to cylinder 100 where it extends the piston rod 102. This elevates the knee support section 66 of frame 60 through rotation of rock shaft 82. When the knee section has been lifted to the desired extent, valve 180 is adjusted to the position of Figure 9. This maintains the knee section at the selected elevation in the manner described above. To return knee section 66 to its normal position, valve 180 is adjusted to the position of Figure 11, whereupon the hydraulic fluid passes in reverse direction from cylinder 100 through line 224, valve 180, line 150, the barrel of pump 130 and finally to the reservoir 132.

In the event that the bed is provided with extensible legs such as are illustrated in Figure 4, these may be operated through a similar control system. For example, if valve 181 is opened to the position of Figure 10, fluid will pass from pump 130 through lines 150, distribution chamber 170, valve 181, line 226, which brances into line 228 and 230 leading, respectively, to cylinders 117, 118 of legs 113, 114. There the fluid extends the pistons within the cylinders, elevating the head of the bed correspondingly. Valve 181 then is adjusted to the position of Figure 9, whereupon the head of the bed is maintained at the selected elevation without interfering with the adjustment of the other elements of the system. To lower the head of the bed, valve 181 is turned to the position of Figure 11, whereupon a reverse flow of the fluid is initiated, and it passes out of cylinders 117, 118, and back through lines 228 and 230, line 226, valve 181, distribution chamber 170, line 150, pump 130 and finally into reservoir 132.

The elevation of the legs at the foot of the bed may be accomplished in a similar manner. After adjusting valve 182 to the position of Figure 9, pump 130 is actuated, this driving hydraulic fluid through line 150 into distribution chamber 170. Thence it passes through line 232 which divides into lines 234 and 236 feeding, respectively, cylinders 119, 120 of legs 115, 116. This extends the piston rods within the cylinders, elevating the foot of the bed accordingly. When the foot has reached the desired level, valve 182 is adjusted to the position of Figure 9. When it is desired to lower the foot, valve 182 is adjusted to the position of Figure 11, whereupon fluid returns to reservoir 132 via lines 234 and 236, line 232, valve 182, distribution chamber 170, line 150, and the barrel of pump 130.

Thus by the present invention, I have provided

an adjustable bed, the various parts of which may be moved in stages of any desired magnitude and which is characterized by smooth, positive operation. Further, I have provided an hydraulic system for operating an adjustable bed, which system is of simple, efficient design comprising a minimum number of valves and fluid conduits, which is adaptable to adjustable beds of conventional design, and which occupies minimum space so that it may be concealed in or beneath the bed structure in a sanitary and convenient manner. Still further, I have provided a valve for the hydraulic system of an adjustable bed which affords positive control of the hydraulic system while keeping the number of members comprising the latter at an absolute minimum.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. An adjustable bed comprising a head piece, a foot piece, a first frame attached to the head piece and the foot piece interconnecting the same, a second frame resting on the first frame, independent interengaging means at each end of the bed releasably interlocking the first and second frames at the head and foot thereof, a pair of spaced rockshafts journalled in the first frame transversely thereof, a pair of lever means each operatively connecting a rockshaft and the second frame to tilt the second frame about an end thereof, and extensible power means interconnecting the lever means, one lever means of said pair, upon release of one of the interengaging means and actuation of the power means, functioning to pivot the second frame about its locked end.

2. The bed of claim 1 wherein the power means comprises a fluid actuated cylinder.

3. An adjustable bed comprising a head piece, a foot piece, a first frame attached to the head piece and the foot piece interconnecting the same, a second frame resting on the first frame, independent interengaging means at each end of the bed releasably interlocking the first and second frames at the head and foot thereof, a pair of spaced rock-shafts journalled in the first frame transversely thereof, a pair of lever means each operatively connecting a rockshaft and the second frame to tilt the second frame about an end thereof, extensible power means interconnecting the lever means, one lever means of said pair, upon release of one of the interengaging means and actuation of the power means, functioning to pivot the second frame about its locked end, and a third frame mounted upon the second frame and having pivoted back supporting and knee supporting sections, and means connected to the back and knee supporting sections for elevating and lowering the same independently of each other.

4. The bed of claim 3 wherein the power means comprises a fluid actuated cylinder.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,191,772	Dickerson	July 18, 1916
1,607,420	Williams	Nov. 16, 1926
1,957,082	Scheible	May 1, 1934
2,037,434	Pfauser	Apr. 14, 1936
2,057,934	Brown	Oct. 20, 1936
2,263,784	Peterson	Nov. 25, 1941
2,303,433	Caldwell et al.	Dec. 1, 1942
2,429,834	Madden et al.	Oct. 28, 1947
2,445,258	Beem	July 13, 1948
2,452,295	Elliott	Oct. 26, 1948
2,500,742	Taylor	Mar. 14, 1950
2,543,296	Meredith	Feb. 27, 1951