

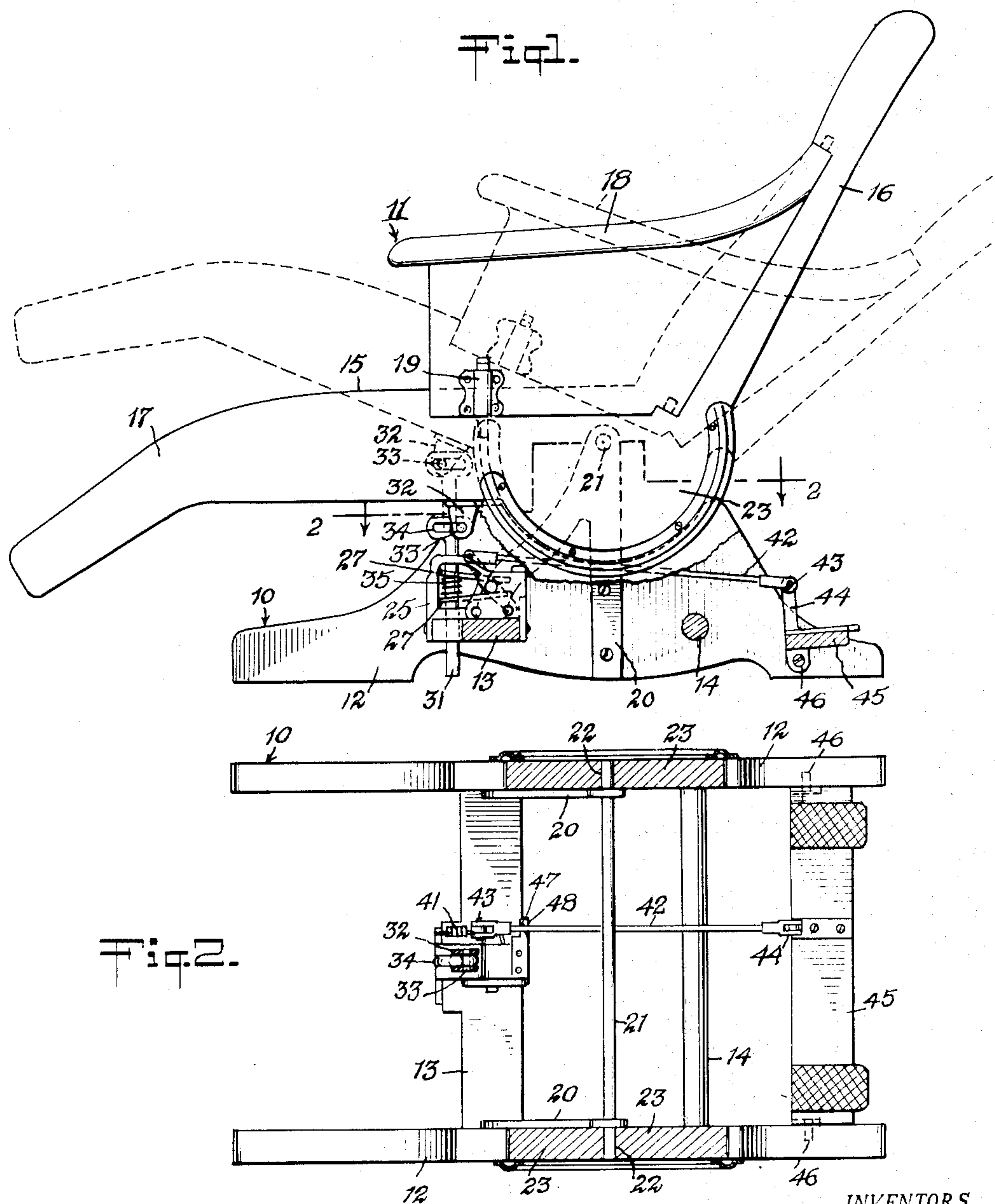
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T. KLUGLEIN ET AL
ADJUSTABLE RECLINING CHAIR

2,628,661

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2 SHEETS--SHEET 1



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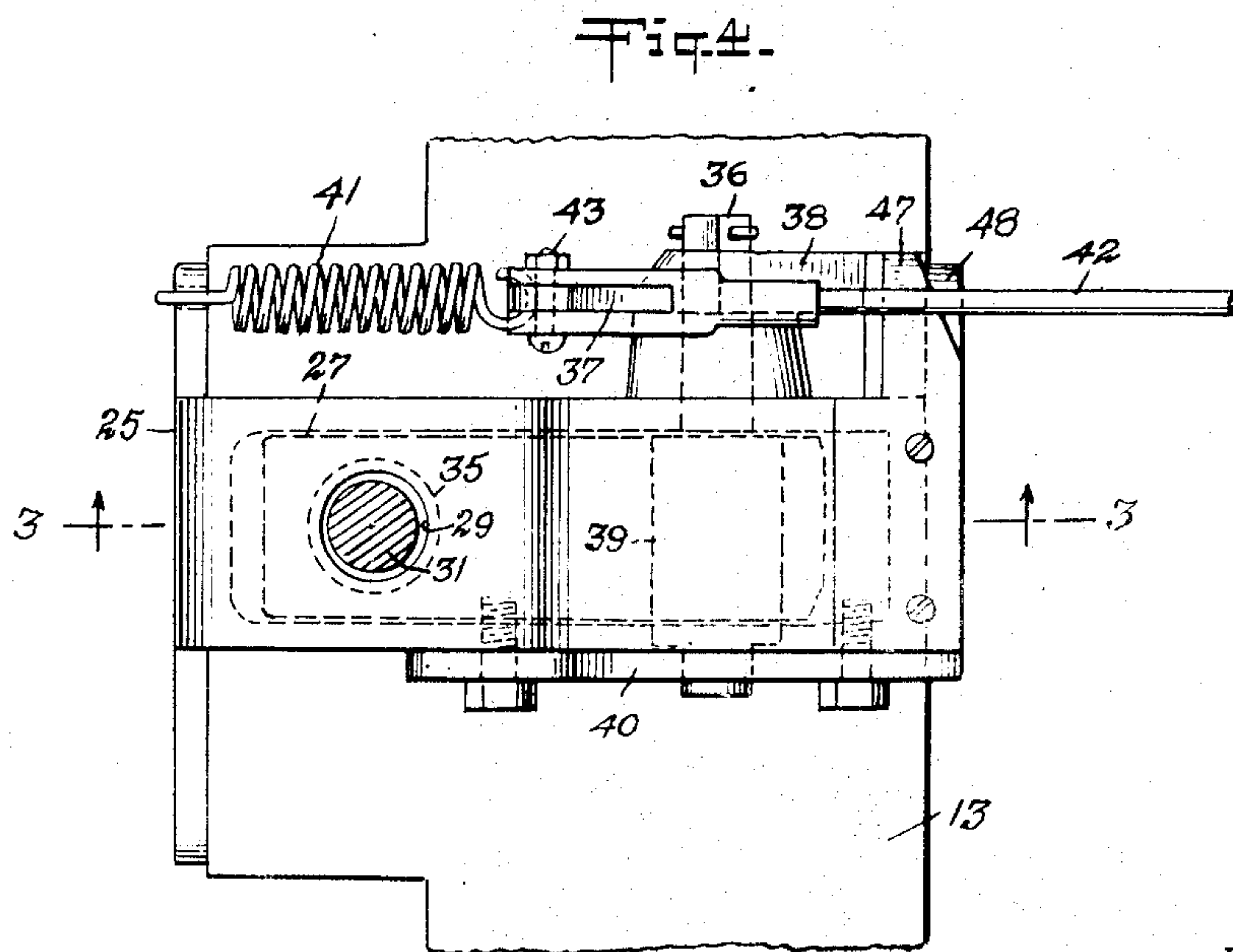
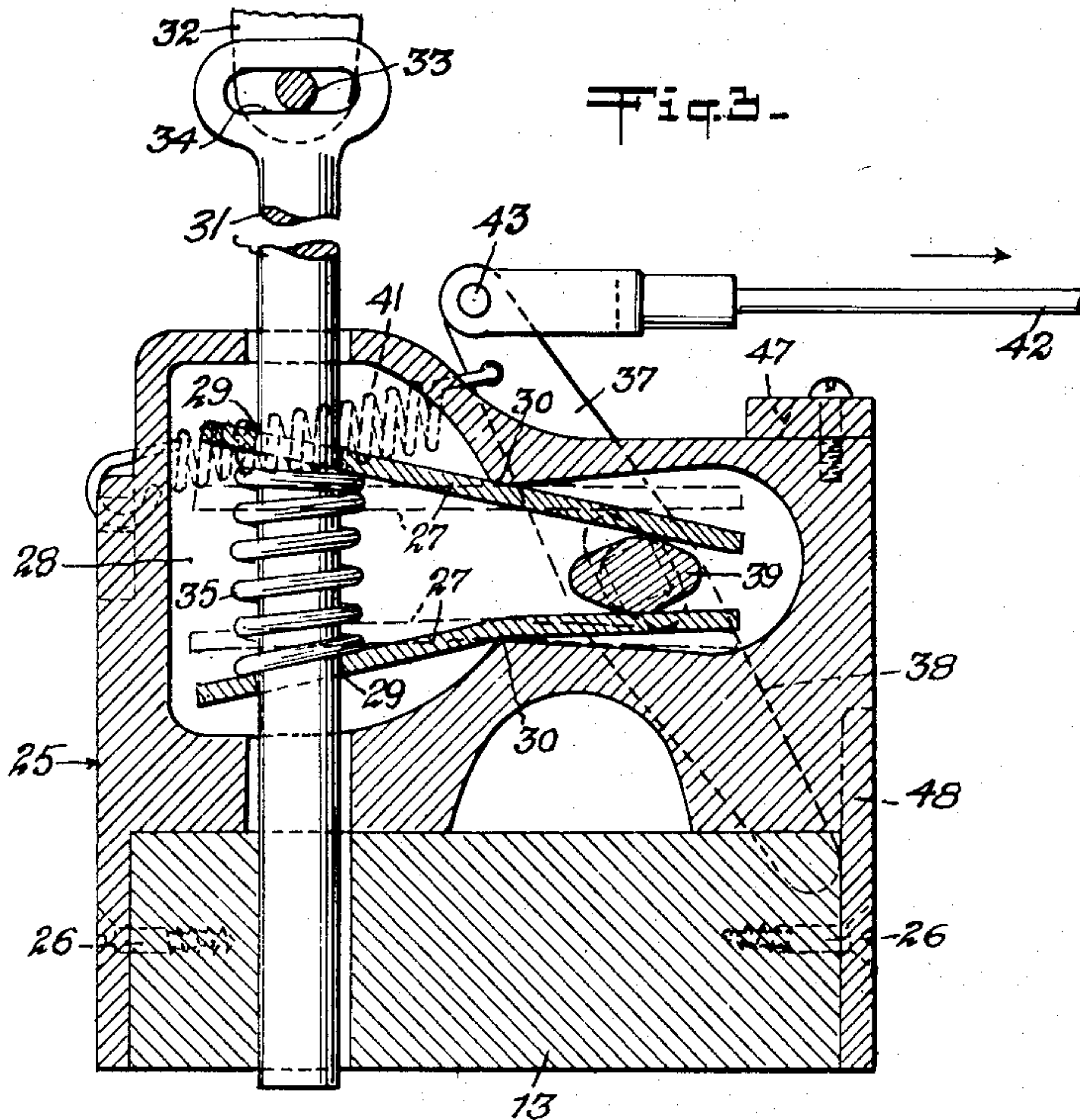
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ADJUSTABLE RECLINING CHAIR

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3 Claims. (Cl. 155—116)

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This invention relates to a chair having an adjustable section for supporting a person in different positions.

More particularly, the present invention relates to a chair of the type mentioned which may be used advantageously in giving medical and chiropractic treatments, and in carrying out massaging operations, and for other purposes and uses.

The principal object of the invention is the provision of a chair of the indicated character embodying improvements for locking the adjustable section in an adjusted position, and for unlocking said section so that it may be readjusted.

With the foregoing, other objects of the invention will appear when the following specification is read in conjunction with the accompanying drawing, in which —

Fig. 1 is a side view of a chair embodying the features of the present invention, portions being broken away and other portions being shown in section.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged vertical sectional view showing certain features of the locking device of the chair, the section being taken on the line 3—3 of Fig. 4.

Fig. 4 is a top plan view of the parts shown in Fig. 3.

Referring now more particularly to the drawings, it will be apparent that there is shown a chair comprising a base section 10 and a chair section or body 11. The section 10 comprises two similar side members 12 arranged in spaced parallel relation, and cross pieces 13 and 14 arranged in spaced relation between the members 12 and rigidly secured thereto. The side members 12 provide feet so that the chair may rest on a flat horizontal surface.

The chair section 11 comprises a seat 15 having a back 16, a leg rest 17, and arm rests 18. One of the arm rests is hingedly connected with the back 16. A latch 19 holds the hinged arm rest in place, but may be actuated to release the arm rest for lateral outward movement to an open position making it easy for a person to occupy the chair.

The chair section 11 is mounted on the base section 10 above the same for pivotal movement on a transverse axis into different tilted positions of adjustment with respect to the section 10. For this purpose use is made of brackets 20 secured to the side members 12. A shaft 21 is supported by the brackets 20 disposed trans-

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versely of the base section 10, with the opposite ends 22 extending in holes in rounded depending portions 23 of the chair section 11, as shown in Fig. 2. The members 12 are rounded complementary to the portions 23.

In order to lock or retain the chair section 11 against movement in an adjusted position with respect to the base section 10, there is provided a device presently to be described. A bracket 25 is fixedly secured to the cross-piece 13 by screws or the like 26. Grippers 27 in spaced apart relation are arranged in a cavity 28 in the bracket 25. Each gripper 27 consists of an elongated piece of metal having a hole 29 in it near one end thereof. The lower and upper walls of the cavity 28 each have a prominence constituting a fulcrum 30, there being one fulcrum for each of the grippers 27, so that one gripper is disposed directly above the other gripper with their holes 29 in substantially vertical alignment with each other.

Cooperating with the grippers 27 is a rod 31 depending from the chair section 11 at the underside thereof. Accordingly, use is made of a bracket 32 having a pin 33. The bracket 32 is secured to the section 11 on the underside. The pin 33 extends transversely through a slot 34 formed in the upper enlarged end of the rod 31. Thus, the rod 31 is connected with the chair section 11 by a pin-and-slot connection. The bracket 25 and the cross-piece 13 have holes therein which accommodate the rod with a certain amount of play, as shown in Fig. 3. A helical expansion spring 35 surrounding the rod 31 has its opposite ends bearing on the grippers 27 where the rod extends through the holes 29.

In Fig. 3, the grippers 27 are shown in full lines inclined wherein they grip the rod 31 to lock it against up or down movement and so hold the chair section 11 in its adjusted position. When the grippers are brought into position as shown in dotted lines they release the rod 31 for up or down movement, so that the chair section 11 may be moved into the desired tilted position. The spring 35 constantly tends to urge the grippers 27 to grip the rod.

In order to move the grippers 27 to a releasing position there is provided a lever consisting of a rock shaft 36 having arms 37 and 38 on one end and a double acting cam 39 on its opposite end. In the present instance, one piece of material is used to provide the arms 37 and 38, and said piece has a square hole therein which receives a square end portion of the shaft 36. The shaft 36 is supported by the bracket 25 and a detachable

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plate 40 on the bracket. The cam 39 is arranged between the grippers 27. A retractile spring 41 has one end connected with the arm 37 and its other end is connected with the bracket 25. A pull rod 42 has one end pivotally connected with the arm 37, as at 43, and the opposite end of the rod 42 is pivotally connected with an up-standing arm 44 on a treadle 45 arranged between the side members 12 and pivotally connected therewith as at 46. The arm 37 is engageable with a stop 47 on the bracket 25 to limit the movement of the cam after it releases the grippers. The arm 38 is engageable with a stop 48 on the bracket 25 to limit the movement of the cam to a position in which the spring 35 may forcefully cause the edges of the holes 29 in the grippers to impinge against or bite the rod 31 and so lock it against movement.

From the foregoing it will be understood that an operator using one foot may press down on the treadle 45 causing the cam 39 to turn, through the intervention of the parts 44, 42, 37 and 36. The cam in turn will cause the pivotal movement of the grippers 27 so as to release the rod 31, so that the chair section may be readjusted. When pressure on the treadle 45 is withdrawn, the spring 41 will react causing the cam 39 to return to a normal position, thereby enabling the spring 35 to perform its function of urging the grippers 27 to lock the rod 31 and with it the chair section against movement out of its adjusted position. The weight of a person on the chair tending to cause the downward movement of the rod 31 will be resisted by the locking action of the lower gripper 27, and the upper gripper 27 will resist the weight tending to cause the upward movement of the rod 31.

The invention is not restricted to the details above described, but includes all constructions and modifications coming within the scope of the appended claims.

We claim:

1. A chair comprising a base section, a chair section, means pivotally mounting the chair section over the base section for movement into different positions of adjustment, a rod depending from the chair section by a pin and slot connection, a bracket on the base section, locking members fulcrumed on the bracket, said locking members having alined holes therein through which the rod depends and having gripping edges at the holes for gripping the rod, a helical expansion spring surrounding the rod between said members normally urging them into angular positions with respect to each other so that said edges grip the rod, thereby holding the chair section immovable in an adjusted position, and means supported by the bracket and the base section operable to move the locking members into positions to release the rod so that the chair section may have pivotal movement from one position of adjustment into another.

2. An article of the character described comprising a base section, a chair section, means pivotally mounting the chair section on the base section for movement into different positions of adjustment, a fixed bracket on the chair section

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at one side of the pivotal axis of the chair section, a pin on said bracket, a rod whose upper end has a slot disposed transversely thereof, said pin extending through said slot, a fixed bracket on the base section, locking members fulcrumed on the second mentioned bracket, said locking members having alined holes therein through which said rod depends, said locking members having gripping edges at the holes for gripping the rod, a helical expansion spring surrounding the rod between the locking members normally urging them into angular positions with respect to each other so that said edges grip the rod, thereby locking the chair section in an adjusted position, and means supported by the second mentioned bracket and the base section operable to move the locking members into positions so that said gripping edges release the rod, thereby enabling the movement of the chair section from one position of adjustment into another.

3. An article of the character described comprising a base section, a chair section, means pivotally mounting the chair section on the base section for movement into different positions of adjustment, a fixed bracket on the base section at one side of the pivotal axis of the chair section, a rod depending from the chair section by a pin and slot connection, locking members fulcrumed on said bracket, said locking members having alined holes therein through which said rod depends and having gripping edges at the holes for gripping the rod, a helical expansion spring surrounding the rod between said locking members normally urging them into angular positions with respect to each other so that said edges grip the rod, thereby holding the chair section immovable in an adjusted position, a rock shaft mounted on said bracket, said shaft having a double cam thereon between said locking members, an arm radially secured to said shaft, means connected with said arm to rock the shaft in one direction to cause the cam to release the locking members from gripping engagement with the rod for the adjustment of the chair section, and a contractile spring having its opposite ends connected with said bracket and the arm, respectively, to reversely rock the shaft to operate the cam so that the helical spring may urge the locking members into gripping positions for the stated purpose.

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