H. HEYER.

CHAIR.

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1,088,419. Patented Feb. 24, 1914.

Fig. 1.

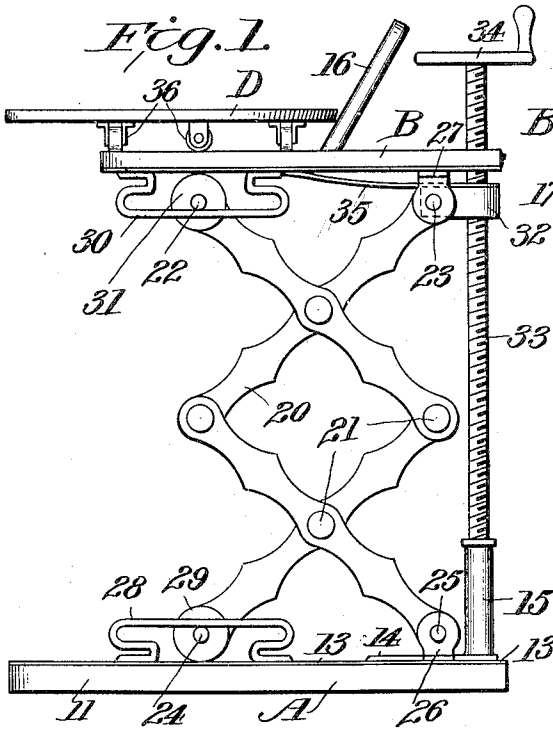
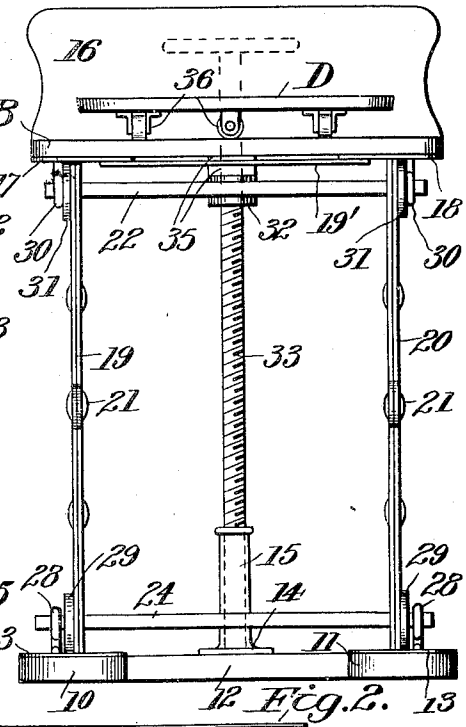


Fig. 2.



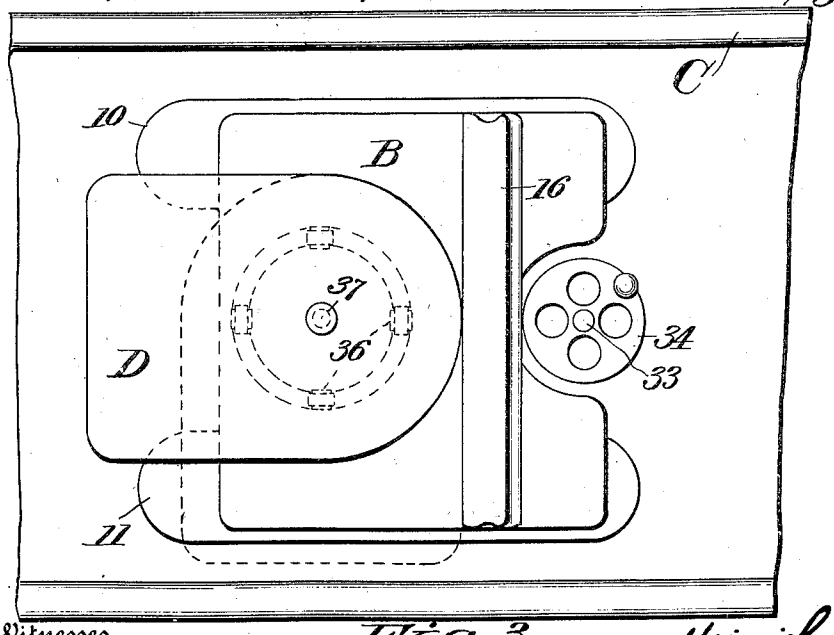


Fig. 3

Witnesses

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CHAIR.

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To all whom it may concern:

Be it known that I, HEINRICH HEYER, a subject of the German Emperor, residing at Bremerhaven, in the State of Bremen, Germany, have invented certain new and useful Improvements in Chairs, of which the following is a specification.

This invention relates to chairs.

One object is to provide a chair particularly adapted for use in hospitals and capable of being positioned in a bath tub for the purpose of bathing invalids or other persons and embodying among other characteristics means whereby the patient may be readily lowered into the water in the tub and lifted out of it without undue exertion on the part of the nurse or other attendant.

Another object resides in the provision of a chair which is vertically adjustable so that it may be quickly and readily raised and lowered into and out of the bath tub or with relation to any other place where the chair may be disposed.

A still further object is to provide a chair whose seat is readily adjustable by means of a plurality of levers pivotally connected together and operable for contraction and expansion to raise and lower the seat and embodying means whereby slack in the joints of the levers may be taken up.

It is still further designed to provide an adjustable chair embodying a seat on which there is preferably mounted an auxiliary seat movable independently of the adjustability of the main seat.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that changes may be made in the form, proportion, size and minor details without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a side elevation of the invention. Fig. 2 is a front view. Fig. 3 is a plan view illustrating a portion of a bath tub with the chair disposed therein.

Referring now more particularly to the accompanying drawings, the reference character A indicates a base which may be formed of a single piece of any suitable material but which is shown as a base composed preferably of two side members 10 and 11 of wood connected near their rear ends by a strip of wood 12. On the side members 10 and 11 and the connecting piece 12 there is preferably bolted or otherwise secured strips of metal 13. A lug 14 is secured in any suitable manner to the connecting piece 12 preferably intermediate the ends of the latter and projects rearwardly beyond the same and is adapted for the support of an internally screw threaded socket member 15 for a purpose presently explained.

The character B indicates the main seat of the chair and is preferably provided with a back 16. This seat B is preferably of wood and on its under side adjacent its ends are strips of metal or other suitable material 17 and 18 which are connected adjacent the forward edge of the seat B by a metallic or other strip 19 resulting in the provision of a slot or opening 20 between the strip 19 and the under side of the seat B for a purpose presently explained.

The base A and seat B are preferably connected together by means of adjustable lever frames 19 and 20. These lever frames consist of a plurality of levers pivotally connected together at 21 and form what may be termed lazy tongs. These lever frames 19 and 20 are preferably connected at their upper ends by the front and rear shafts 22 and 23 and at their lower ends by the front and rear shafts 24 and 25. The rear lower shaft is preferably journaled in suitable bearings 26, secured in any suitable manner on the base. The upper rear shaft 23 is preferably mounted in suitable bearings 27 secured in any suitable manner to the under side of the seat B.

Mounted on the base A at the forward portion thereof are oppositely disposed guide members 28 through which the ends of the front lower shaft 24 extend and in which guides said shaft is adapted to slide during adjustment of the seat B by the contraction and expansion of the lever frames 19 and 20 in a manner hereinafter explained. On the lower front shaft 24 between the guides 28 and the lever frames 19 and 20 are rollers 29 which are adapted to roll on the base A during the raising and lowering of the lever frames 19 and 20 so as to facilitate ready and easy contraction and expansion of the lever frames during the raising and lowering operation.

Secured to the underside of the seat B are

guide members 30, similar in form to the guide members 28 and arranged so as to be disposed over the latter whereby during adjustment of the seat B the guides 30 move toward and away from the guides 28 preferably in a line. The ends of the front upper shaft 22 extend through these guides 30 and on the upper shaft 22 between the guides 30 and the lever frames 19 and 20 are rollers 31 which roll against the under side of the seat B and thereby coöperate with the rollers 29 to facilitate ready and easy contraction and expansion of the lever frames.

To expand and contract the lever frames 19 and 20 and thereby raise and lower the seat B there is secured on the upper rear shaft 23 intermediate the ends of the latter a lug 32 which is provided with a screw threaded aperture adapted to aline with the screw threaded bore of the aforesaid socketed member 15. Operating in the screw threaded aperture of the lug 32 and in the screw threaded bore of the socket 15 is a screw shaft 33 provided preferably with a hand wheel 34. By manipulation of this screw shaft 33 the lever frames 19 and 20 are contracted and expanded to raise and lower the seat B. By turning the screw shaft 33 in one direction the lever frames 19 and 20 are contracted because of the screw shaft 33 having connection with the rear upper shaft 23 and because of the lower rear shaft 25 being fixed with both of the front shafts movable in the guides 28 and 30. By a reverse operation of the screw shaft 33 the lever frames 19 and 20 are expanded and the seat raised.

A spring arm 35 extends from the aforesaid lug 32 into and through the slot or opening 20′ formed between the strap 19′ and the under side of the seat B. This spring arm 35 reinforces the front edge of the seat B and takes up undue slack or loosening of the pivotal connections 21 between the levers of the lever frames.

From the foregoing it will be seen that there is provided an adjustable chair which may be readily raised and lowered and it will be understood that this chair, above described, may be used for various purposes other than for the purpose of placing it in a bath tub for use to conveniently raise and lower invalids into and out of the tub. The chair is particularly adapted for use, however, in hospitals and other places for the purpose of raising and lowering invalids into and out of the water in bath tubs.

In the accompanying drawings I have designated the bath tub by the letter C and in order to facilitate the seating of an invalid I may provide an auxiliary seat D which I mount on the aforesaid seat B so that it may rotate. The auxiliary seat D is preferably provided with roller bearings 36 adapted to travel around the axis 37 of the seat D. When this auxiliary seat D is used the attendant may seat the patient on the auxiliary seat D with the patient's lower limbs hanging over one side of the bath tub. Then, by raising the patient's lower limbs so that they may clear the side of the bath tub, the patient may be revolved on the seat D and his lower limbs then lowered into the tub. Then by manipulating the hand wheel 34 or otherwise manipulating the screw shaft 33 in any suitable manner, the seats B and D may be lowered together into the tub so that the patient may be readily bathed. After the bath the chair is adjusted vertically and the patient removed therefrom in a manner which should now be understood.

What is claimed is:—

A chair of the character described, comprising a base, a seat, lever frames connected at their lower ends to the base and at their upper ends to the seat, means for operating the lever frames to raise and lower the seat including a screw threaded shaft and an arm having connection with the screw threaded shaft and extending into engagement with the under side of the seat adjacent the forward edge of the latter so as to brace the same and take up slack in the joints of the lever frames.

In testimony whereof I affix my signature in presence of two witnesses.

HEINRICH HEYER.

Witnesses:

A. HEYER,

ERNA HEYER.