G. SOMBRA.

ADJUSTABLE CHAIR.

APPLICATION FILED APR. 14, 1917.

1,324,013. Patented Dec. 2, 1919.

Fig. 1.

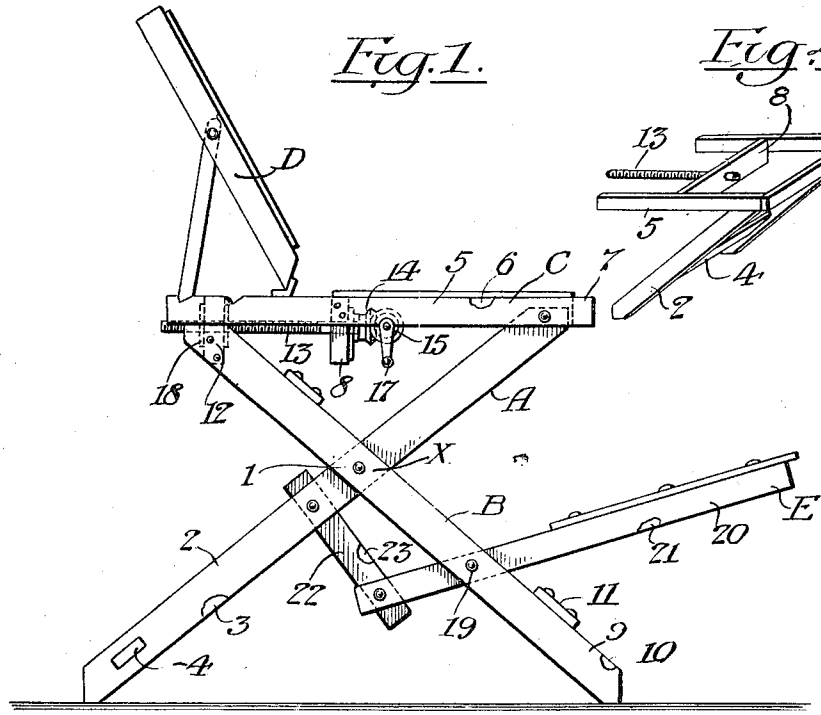


Fig. 4.

Fig. 2.

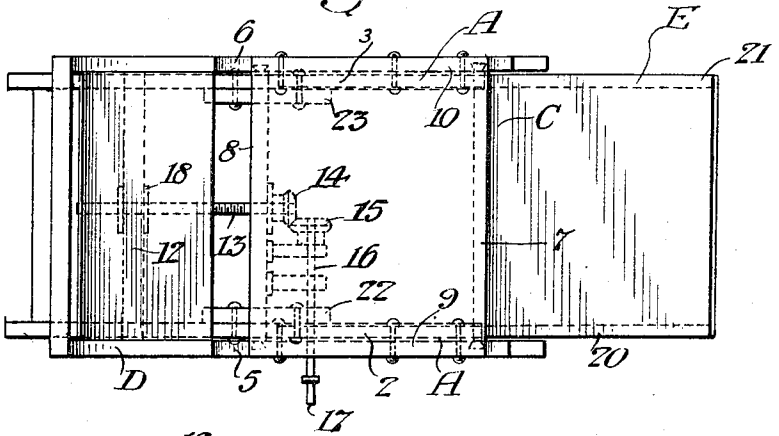
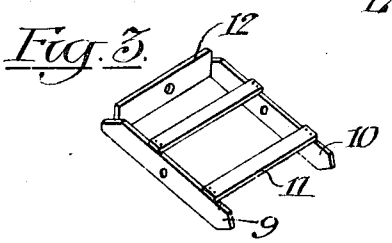


Fig. 3.



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UNITED STATES PATENT OFFICE.

GUILHERME SOMBRA, OF RIO DE JANEIRO, BRAZIL.

ADJUSTABLE CHAIR.

1,324,013. Specification of Letters Patent. Patented Dec. 2, 1919.

Application filed April 14, 1917. Serial No. 162,216.

To all whom it may concern:

Be it known that I, GUILHERME SOMBRA, citizen of Brazil, and resident of Rio de Janeiro, Brazil, have invented certain new and useful Improvements in Adjustable Chairs, of which the following is a specification.

This invention relates to adjustable chairs particularly adapted for use in connection with medical, dental or surgical operations, and has for its chief object to provide a chair of this character which may be easily erected or collapsed, thus providing an efficient portable operating chair.

A further object is to provide means for effecting the desired adjustment of the chair when the same is occupied, and which will incidentally serve to erect or collapse the chair.

In order that the said invention may be clearly understood and readily carried into effect, the same will now be more fully described with reference to the accompanying drawings, in which:

Figure 1 is an elevation of a chair embodying the present invention.

Fig. 2 is a plan view thereof.

Figs. 3 and 4 are perspective views of details thereof.

Referring to the drawings, A and B represent the back and front leg portions, respectively, which are pivotally connected at X by means of pivot pins 1. The back leg portion A consists of leg members 2 and 3 connected at their lower ends by means of a cross beam 4. The upper end of portion A is connected to a frame C formed of members or beams 5, 6, 7 and 8. The front leg portion B comprises leg members 9 and 10 connected at their lower ends by means of a cross beam 11 and at their upper ends by a cross beam 12.

The cross beam 8 is provided with a threaded shaft 13 which is adapted to engage with an internally threaded bushing 18 mounted on the cross-beam 12. A beveled gear 14 is provided at one end of said shaft and engages with a bevel gear 15, mounted on a transversely arranged shaft 16, passing through the member 5 of the frame C. Shaft 16 is adapted to be rotated by means of a handle or crank 17 arranged at the outer end thereof. It will be seen that when the crank 17 is operated, the threaded shaft 13 will be rotated through the intervention of the beveled gears 14 and 15 so as to bodily displace the beam 12 on the frame C owing to the threaded connections between said rod and the bushing. In this manner the relative positions of leg portions A and B are changed and they will turn on the pivots 1. Movably affixed to the leg portion B at 19 are members 20 and 21 forming a foot rest E, said members being connected to leg portion A by means of members 22 and 23 so arranged that the raising or lowering of the chair will cause the foot rest to be turned toward or away from the chair body.

The chair may be provided in the usual manner with detachable arm rests, cushions and instrument holders. D is the back or head rest of the chair and is suitably hinged to the frame C so as to be capable of angular movement or adjustment when the supporting struts thereof are set in one or other of a series of notches formed in the side members of the frame C.

It will be readily seen that the rotation of the crank or handle 17 will effect the simultaneous movement of the leg portions A and B of the chair and the foot rest E thereof. The adjustment of these parts may be readily effected when the seat is occupied so that surgical or dental operations may be considerably facilitated.

What I claim is:

1. A collapsible or portable chair comprising pivotally connected crossed legs, a seat frame supported by the upper ends of said crossed legs, a foot rest pivotally connected to one of the legs on the side of the common pivot thereof remote from the seat frame and means for varying the degree of separation of the upper end of said crossed legs to effect the vertical adjustment of the seat frame and foot rest, while maintaining the distance of separation thereof substantially constant.

2. A collapsible or portable chair comprising pivotally connected legs, a seat frame supported by the upper ends of said crossed legs, a movable cross beam on said seat frame, a pivotal connection between the upper end of one of said crossed legs and the movable cross beam, a pivotal connection between the upper end of the other crossed leg and the seat frame, a foot rest pivotally connected to the leg on the side of the common pivot thereof remote from the seat frame, and means for displacing the movable cross beam of the frame to vary the degree of separation of the upper

ends of said crossed legs to effect the vertical adjustment of the seat frame and foot rest, while maintaining the distance of separation thereof substantially constant.

3. A collapsible or portable chair, comprising pivotally connected legs, a seat frame supported by the upper ends of said crossed legs, a foot rest pivotally connected to the leg on the side of the common pivot thereof remote from the seat frame, a movable cross beam on said seat frame, a screwed bushing carried by said cross beam, a screwed rod passing through said threaded bushing, and gearing for rotating said screwed rod to effect bodily displacement of the cross beam of the seat frame, so as to maintain the distance of separation of said seat frame and foot rest substantially constant.

4. A collapsible or portable chair, comprising a seat frame, an adjustable back carried by said seat frame crossed leg portions pivoted together and supporting said seat frame, a movable cross beam on said seat frame, a pivotal connection between the upper end of one of the leg portions and the movable cross beam, a foot rest pivotally connected to said leg portion, and means for displacing the movable cross beam of the seat frame to effect vertical adjustment of the seat frame and foot rest, while maintaining the distance of separation thereof substantially constant.

5. A collapsible or portable chair, comprising a seat frame, an adjustable back carried by said seat frame, crossed leg portions pivoted together and supporting said seat frame, a movable cross beam on said seat frame, a pivotal connection between the upper end of one of the leg portions and the cross beam, a foot rest pivotally connected to said leg portion, an internally threaded bushing carried by said cross beam, a screwed rod engaging with said threaded bushing, a shaft arranged at right angles to the screwed spindle and passing through one of the side members of the seat frame, beveled gearing for connecting said shaft and spindle, and a crank for effecting the rotation of the said shaft, so as to displace said cross beam and maintain the distance of separation of said seat frame and foot rest substantially constant.

6. A collapsible or portable chair, comprising a seat frame, an adjustable back carried by said seat frame, crossed leg portions pivoted together and supporting said seat frame, a movable cross beam on said seat frame, a pivotal connection between the upper end of one of the leg portions and the cross beam, a foot rest pivotally connected to said leg portion, a nut carried by said cross beam, a screwed rod adapted to engage with said screwed nut, a shaft arranged at right angles to said screwed shaft, beveled gearing between said shafts and a crank at the end of one of said shafts for operating the same to effect the displacement of the movable cross beam of the seat frame, so as to maintain the distance of separation of said seat frame and foot rest substantially constant.

Signed at Rio de Janeiro, Brazil, this 29th day of May, A. D. 1917.

GUILHERME SOMBRA.