Sept. 17, 1929. T. B. POWERS 1,728,573

CHAIR

Filed Feb. 3, 1928 2 Sheets-Sheet 1

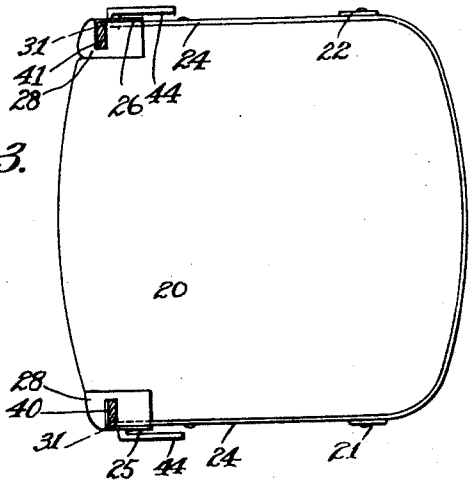



Fig.3.

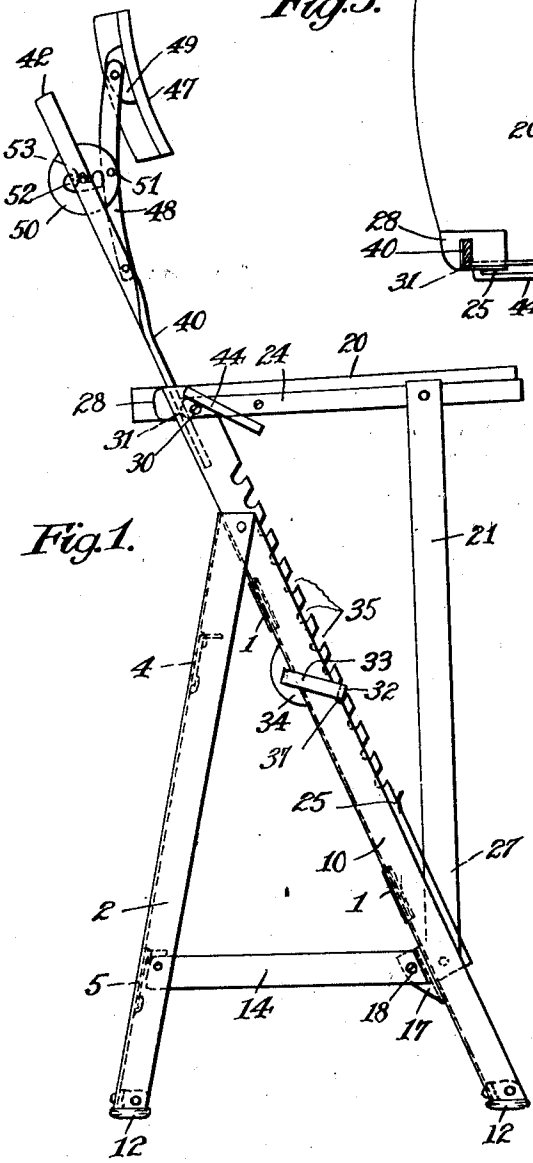
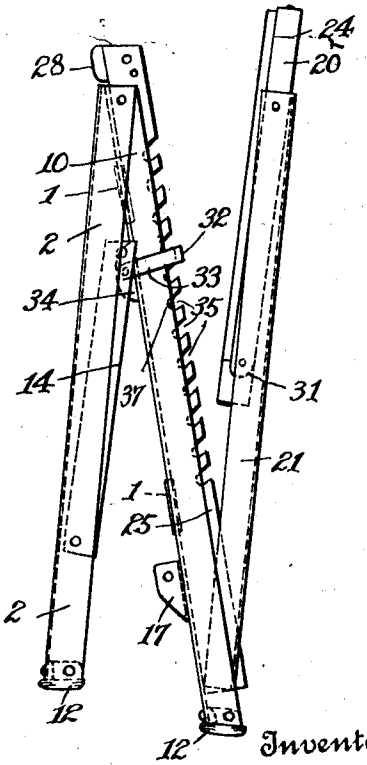



Fig.1.

Fig.2.




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Sept. 17, 1929. T. B. POWERS 1,728,573

CHAIR

Filed Feb. 3, 1928 2 Sheets-Sheet 2

Fig.4.

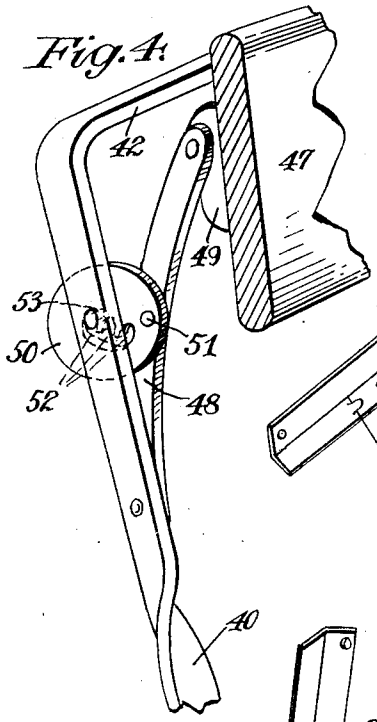



Fig.5.

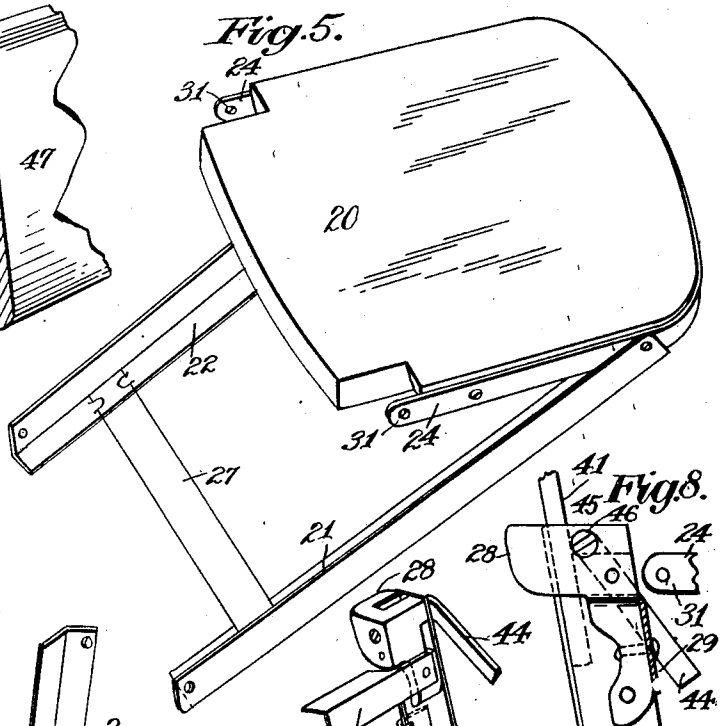



Fig.6.

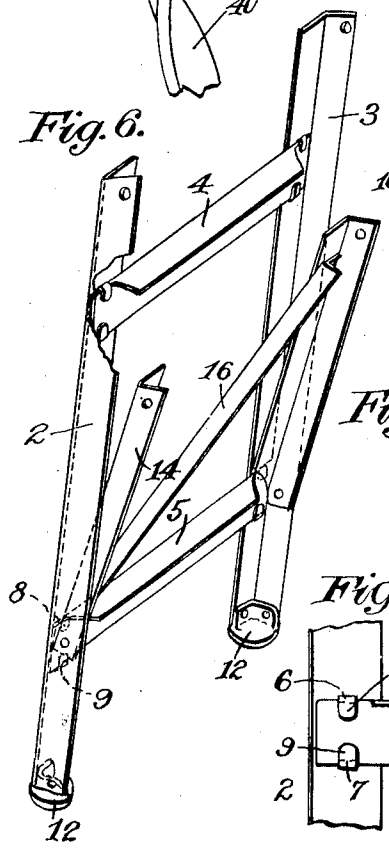



Fig.7.

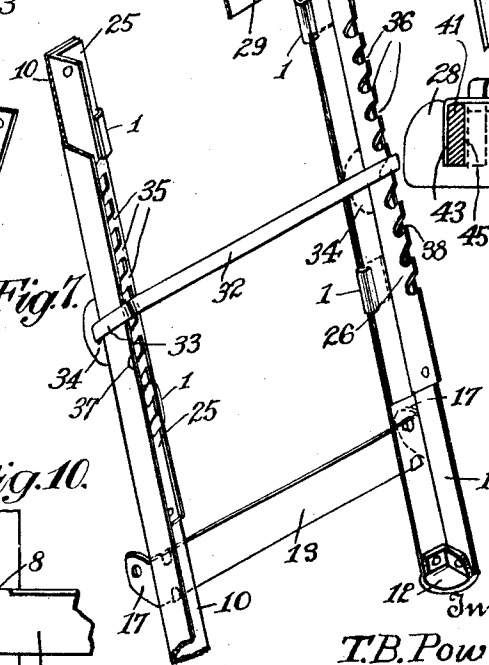



Fig.8.




Fig.9.

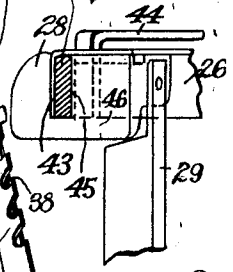



Fig.10.




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Patented Sept. 17, 1929 1,728,573

# UNITED STATES PATENT OFFICE

TIMOTHY B. POWERS, OF BROOKLYN, NEW YORK

## CHAIR

Application filed February 3, 1928. Serial No. 251,477.

This invention has reference to a chair or stool, in which the seat is adjustable to be secured on the floor portion at different heights from or above the floor.

The main object of this invention is to provide a device of this character that can be constructed out of very simple and cheap parts, with very little machine work, or hand labor to produce, and in which the adjustment elements are simple and secure, and will function with ease and facility, and yet will securely and reliably retain the adjusted members in all positions without liability to derangement.

A further object of the invention is to provide a chair of this character that can be made of structural metal pieces, such as angle iron, that can be easily produced by cutting and bending dies and punches; and which is constructed to facilitate the folding of the chair into small compact form for transportation, and yet which when it is to be used can be swung open, and secured in the operative position by mere insertion of four screws or bolts, the other parts having hinged connections.

Another object of the invention is to provide an improved form of structural joint between the bars that is composed of bent portions of one of both members, without any additional member being used in the joint.

Another object is to provide an improved form of locking means for the back rest, to adjust it at different heights; and to further adjust the back piece on the back rest.

In the accompanying drawing showing embodiments of my invention:—

Fig. 1 is a side elevation of the chair in position for use.

Fig. 2 shows the same with the back rest removed and partly folded.

Fig. 3 is a view of the seat member.

Fig. 4 is a detail of the back rest.

Fig. 5 shows the seat and attached bars.

Fig. 6 shows the rear lower member detached.

Fig. 7 is a detail of the sliding bar and the bail.

Figs. 8 and 9 show the locking adjustment for the back rest and the detachable connection of the seat with the sliding bars.

Fig. 10 shows the joint.

The device as shown comprises essentially two members, a seat member and a floor member, and which may be further provided with a back member. The floor member is shown formed of two upright bars 2 and 3 of angle iron, connected by cross bars 4 and 5 that are permanently secured by suitable means. This joint may comprise notches at 6 and 7 in one flat edge of bar 5, and tongues 8 and 9 are bent up from the bar 2, and enter these notches and are then bent down flat onto the bar 5, as shown in Fig. 10. This has been found in practice to produce a strong rigid joint without use of any third member, such as a bolt or screw. This form of joint is used on both ends of the bars 4 and 5, and other places.

Another part of the floor member comprises supporting bars 10 and 11, hinged at the upper ends of the bars 2 and 3 respectively, and which supporting bars may be of angle iron as shown. At the bottom of these four upright leg members a kind of block 12 with the flat bottom is provided to rest on the floor. The supporting bars 10 and 11 may be connected at the lower ends by a cross bar 13 secured thereto by the same form of tongue and slot joint as described. Suitable braces are provided to look these pairs of upright bars in the angular position, as indicated in Fig. 1, and angle bars 14 and 15 are shown hinged to the bars 2 and 3 respectively, and which may be connected with ears 17, 17 on the ends of the cross bar 13, as by screw bolts 18. It will be understood that this will form a rigid floor member by insertion of these bolts, and on removal of the bolts, the brace bars 14 and 15 can be swung up against the bars 2 and 3, and the other upright bars 10 and 11 that are hinged on their top ends to the bars 2 and 3, can be swung together, somewhat as indicated in Fig. 2 where these parts are shown partly folded. A diagonal bar 16 connects bars 14 and 15.

The seat member is shown as comprising a seat 20, having angle bars 21 and 22

hinged at the front, and a band 24 of metal may extend around the front and two sides of the seat as shown, where the seat is preferably of wood or other material. These bars 21 and 22 at their lower ends are hinged to a pair of notched angle bars 25 and 26, and which latter slide in the said upright angle bars 10 and 11. These seat bars 21 and 22 are connected at their lower portions by a cross bar 27 and the upper ends of the notched bars 25 and 26 are detachably connected with the front of the seat. Suitable means such as a block 28 is secured on each side to the upper ends of these bars, and also to a cross bar 29, since the seat bars 21 and 22 are hinged to the seat, and also hinged to the uprights 25 and 26. These bars can be secured as shown in Fig. 1 in the open position by bolts 30, that pass through the end portions 31 of the strip 24, see Fig. 5. When these bolts are removed, the seat can swing down onto the hinged bars, and the latter folded in against the notched bars 25 and 26, as indicated in Fig. 2, but it is to be understood that these bars can be folded much closer together, and occupy a very compact form. It will be further understood that the seat member has its supporting bars 21 and 22 slidable in the floor member bars 10 and 11, see Fig. 7, by means of which the seat can be locked at different distances above the floor, by any suitable locking means between these slidable bars.

As shown I provide a cross bail 32 having its bent ends 33, 33, pivoted on an angle plate 34, fast to each supporting bars 10 and 11, and which may be secured by the tongue and slot connection described. The bars 25 and 26 are provided with a series of notches 35 and 36, the bars 10 and 11 having a single notch each, 37 and 38, into which the bail swings when one of the notches in the other bars registers therewith, and this locks these sliding bars in various positions of adjustment. Cleats 1 on the bars 10 and 11 are bent around the bars 26 and 27 to guide this movement.

The chair is practically complete as described, but can also be provided with a back member, and a pair of bars 40 and 41 that may be of one piece connected by a cross bar 42 at the top, are arranged to slide in a slotted portion 43 of the block 28, see Fig. 9. Suitable locking means are provided to secure these bars 40 in adjusted positions and as shown a lever 44 has a flat or cam portion 45 arranged to turn in a bore 46 in the block 28, so that when swung down will engage the bar 40 and lock it against movement.

The back member is shown provided with a back rest 47 carried by bars 48 one on each side that are hinged to an ear 49 on the back rest and hinged at the other end to the bars 40, see Fig 4. Adjustment is further provided by arranging a disk 50 pivoted at 51 of the bar 48, and having an open portion with slots at 52 that engage a pin 53 on the bar 40. These three bars will permit three adjustments for position of the bars 48.

It will thus be seen that I have provided a chair that when set up for use appears as shown in Fig. 1. But by merely removing the bolt 20 connecting the rear of the seat to the notched frame members 10 and 11, the back having been previously removed, the seat can be folded down on the bars 21 and 22, as indicated in Fig. 5. On removal of the bolts 18 that connect the cross bars 14 and 15, the latter can be folded up as indicated in Figs. 2 and 6, and then the bars 21 and 22 are swung inwardly somewhat as indicated in Fig. 2. But it is to be understood that these parts can be brought together in very close compact form, for storage and transportation when the chair is constructed. Then when it is desired for use, the parts are simply swung open to the position indicated in Fig. 1, and by the mere application of four bolts, at 18 and 30, the chair is ready for use. The bail 32 is swung open and the bars 10 and 11 that carry the seat are moved up or down to bring the seat to the desired distance from the floor, and then the bail is swung down merely bringing one of the series of notches 35 to register with the notch 37 of the other bars in position. The back is applied by merely inserting the bars 40 in the slots in the block 28, and the lever 44 swung down to clamp the back bars in desired position. The back rest 47 is adjusted by the slotted plate 50 as described.

What I claim is:

1. In a folding chair, a pair of front legs including upper and lower telescopic sections, seat supporting bars pivoted to the lower ends of the upper leg sections, a seat hinged adjacent its front edge to the said bars and having its rear detachably connected to the upper leg sections at their upper ends, means to hold the telescopic leg sections in telescopically adjusted positions, and rear legs supporting the lower front leg sections in a rearwardly inclined position.

2. In a folding chair, a pair of front legs including upper and lower telescopic sections, seat supporting bars pivoted to the lower ends of the upper leg sections, a seat hinged adjacent its front edge to the said bars and having its rear detachably connected to the upper leg sections at their upper ends, means to hold the telescopic leg sections in telescopically adjusted positions, rear legs having their upper ends pivotally connected with the upper ends of the lower leg sections, and means between the lower

portions of the front and rear legs limiting spreading movement between the front and rear legs and arranged to permit folding movement of the rear legs on the front legs.

3. In a folding chair, a pair of front legs including upper and lower telescopic sections, seat supporting bars pivoted to the lower ends of the upper leg sections, a seat hinged adjacent its front edge to the said bars and having its rear detachably connected to the upper leg sections at their upper ends, means to hold the telescopic leg sections in telescopically adjusted positions, rear legs having their upper ends pivotally connected with the upper ends of the lower leg sections, and brace bars each pivoted to a respective leg adjacent its lower end and detachably connected to the coacting leg.

4. In a folding chair, a pair of front legs including upper and lower telescopic sections, seat supporting bars pivoted to the lower ends of the upper leg sections, a seat hinged adjacent its front edge to the said bars and having its rear detachably connected to the upper leg sections at their upper ends, means to hold the telescopic leg sections in telescopically adjusted positions, rear legs supporting the lower front leg sections in rearwardly inclined positions, and a cross bar extending between the upper ends of the upper leg sections and adapted to have the rear of the seat rest thereon and forming means to carry the weight of said seat.

5. In a folding chair, a pair of front legs including upper and lower telescopic sections, seat supporting bars pivoted to the lower ends of the upper leg sections, a seat hinged adjacent its front edge to the said bars and having its rear detachably connected to the upper leg sections at their upper ends, means to hold the telescopic leg sections in telescopically adjusted positions, rear legs having their upper ends pivotally connected with the upper ends of the lower leg sections, means between the lower portions of the front and rear legs limiting spreading movement between the front and rear legs and arranged to permit folding movement of the rear legs on the front legs, and a cross bar extending between the upper ends of the upper leg sections and adapted to have the rear of the seat rest thereon and forming means to carry the weight of said seat.

6. In a folding chair, a pair of front legs including upper and lower telescopic sections, seat supporting bars pivoted to the lower ends of the upper leg sections, a seat hinged adjacent its front edge to the said bars and having its rear detachably connected to the upper leg sections at their upper ends, means to hold the telescopic leg sections in telescopically adjusted positions, rear legs having their upper ends pivotally connected with the upper ends of the lower leg sections, brace bars each pivoted to a respective leg adjacent its lower end and detachably connected to the coacting leg, and a cross bar extending between the upper ends of the upper leg sections and adapted to have the rear of the seat rest thereon and forming means to carry the weight of said seat.

Signed at New York city, N. Y., this 2 day of February, 1928.

TIMOTHY B. POWERS.