Oct. 27, 1931. J. D. BAIR 1,829,434

CHAIR

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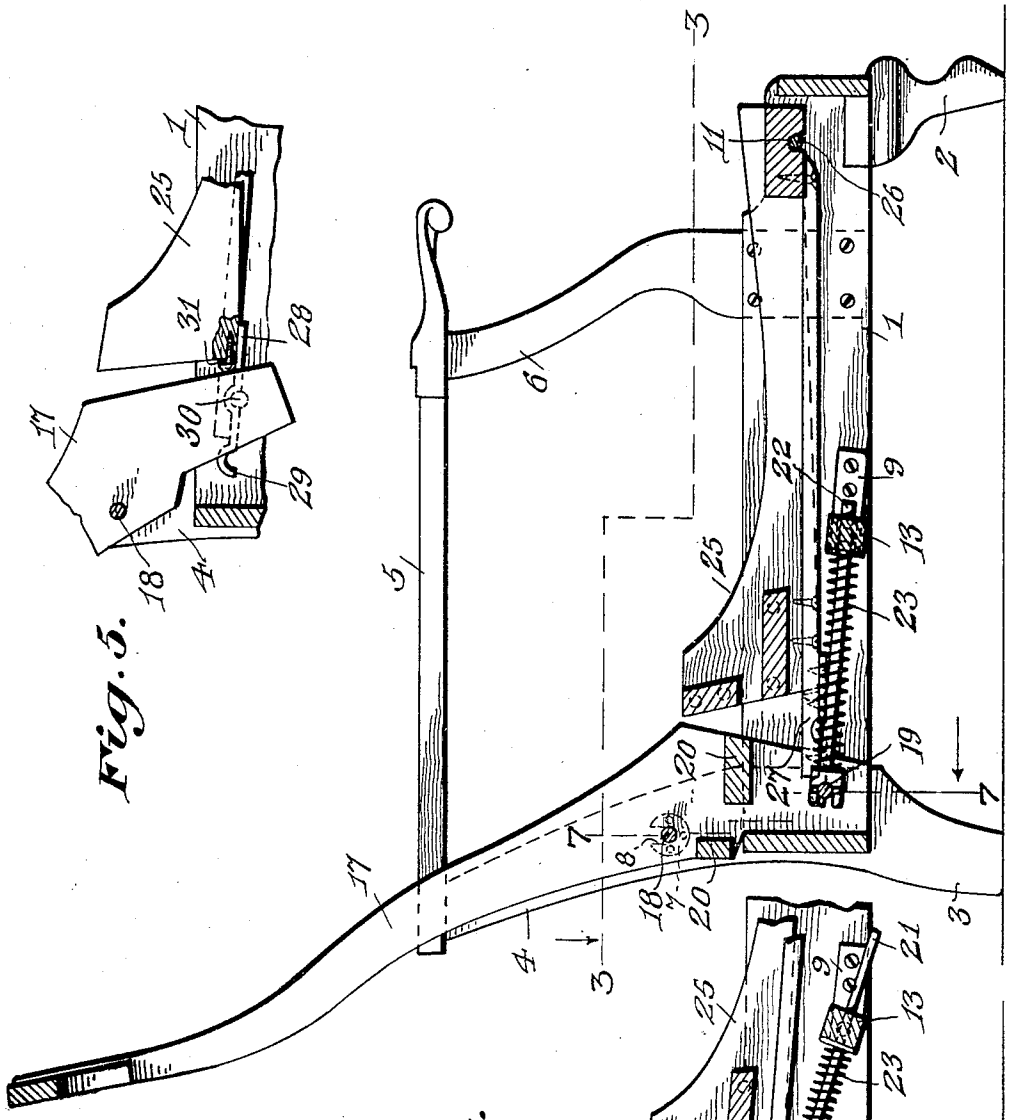


Fig. 1.

Fig. 5.

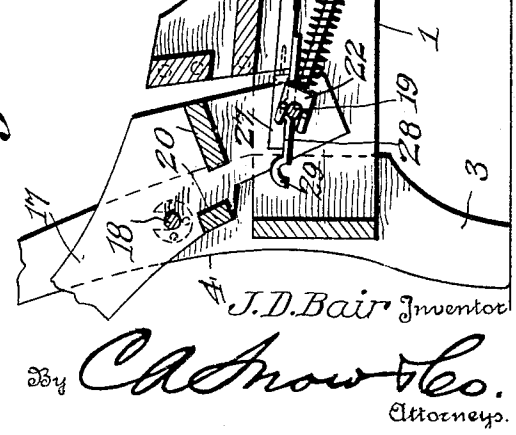


Fig. 4.

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Fig. 2.

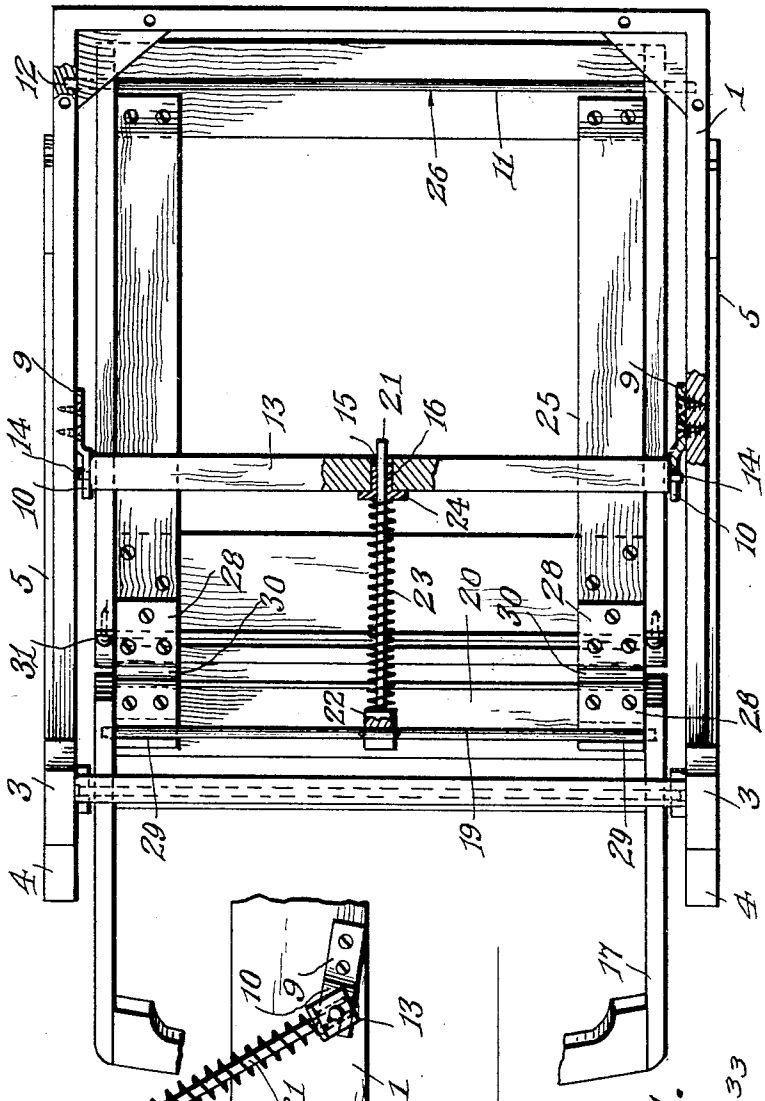


Fig. 6.

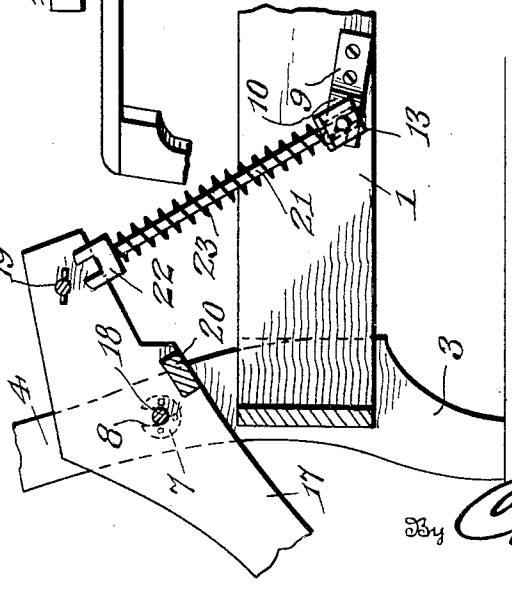
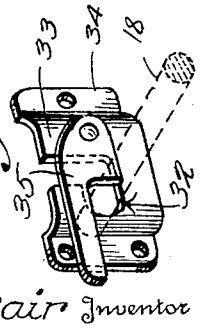


Fig. 4.



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Fig. 3.

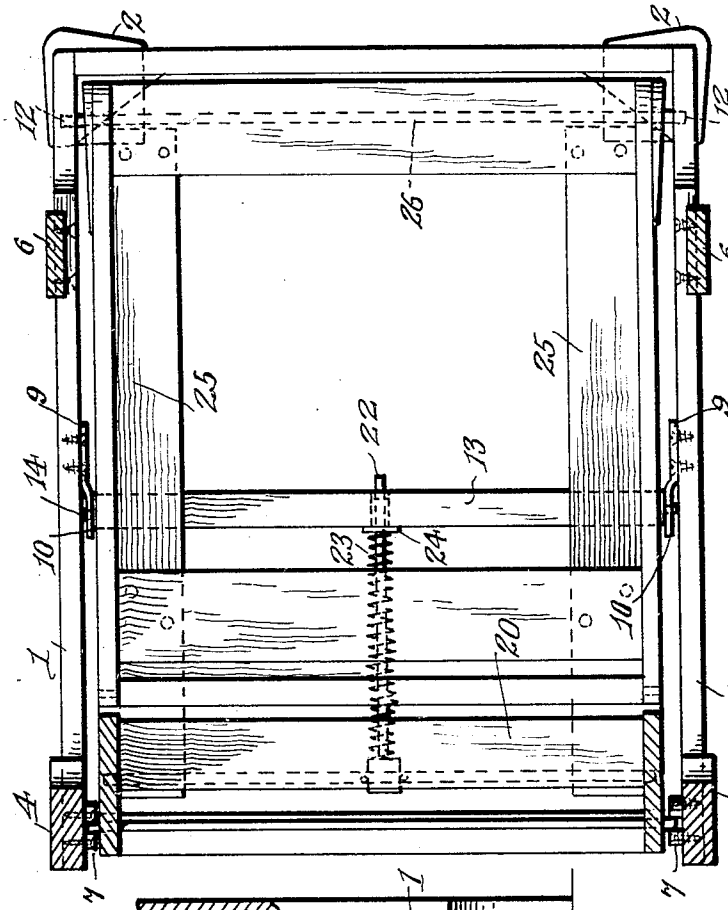


Fig. 10.

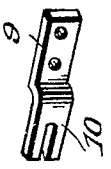


Fig. 9.



Fig. 7.

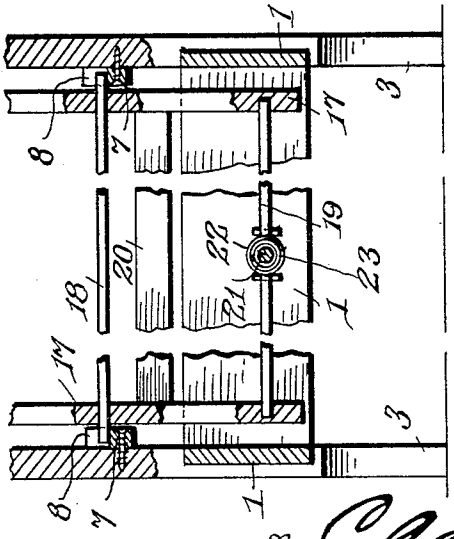
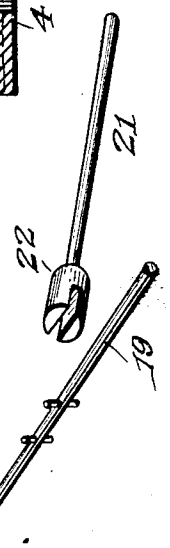


Fig. 8.



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Patented Oct. 27, 1931

1,829,434

UNITED STATES PATENT OFFICE

JACOB D. BAIR, OF MONTGOMERY, PENNSYLVANIA

CHAIR

Application filed March 21, 1930. Serial No. 437,822.

This invention relates to chairs and more especially to reclining chairs.

It is an object of the invention to provide a chair having a yieldingly restrained movable back with which is associated a movably supported seat so mounted that the weight of the occupant of the chair constitutes a supplemental means for resisting the backward movement of the chair-back when the occupant presses thereagainst.

Another object is to provide a chair the seat and back portions of which can be removed readily from the frame for convenience in shipping and storing and also to facilitate cleaning, upholstering, or repairing the parts.

A still further object is to provide a chair which is of simple construction and will not readily get out of order.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings

Figure 1 is a central vertical section through the chair.

Figure 2 is a bottom plan view, parts being broken away and the front legs removed.

Figure 3 is a section on line 3—3 Figure 1.

Figure 4 is a section through a portion of the chair showing the relative positions of the parts when the back is pressed backwardly to an inclined position.

Figure 5 is a view partly in section and partly in elevation showing portions of the near side of the back and seat frames at their co-operating ends.

Figure 6 is a view similar to Figure 4 showing the relative positions of the back and the chair frames after the seat frame has been removed and the back frame has been swung to released position.

Figure 7 is a section on line 7—7 Figure 1.

Figure 8 is a perspective view of the co-operating rods of the back restraining mechanism.

Figure 9 is a perspective view of one of the bearing blocks for supporting the back frame.

Figure 10 is a perspective view of a bracket for supporting the cross-bar.

Figure 11 is a detail view of a modified form of bearing member which can be used on the chair.

Referring to the figures by characters of reference 1 designates a chair frame supported at its front corners by legs 2 and, at its rear corners by legs 3. If desired, and as shown in the drawings, the legs 3 can be made integral with standards 4 supporting the back ends of the chair arms 5. The front portions of these arms can be supported by standards 6 secured to the sides of the frame. It is to be understood, however, that any desired construction of the frame and arms can be used.

Secured to the inner sides of the standards 4 close to but above the rear portion of frame 1 are bearing blocks 7 each of which has a slot or recess 8 extending downwardly thereinto. To the inner sides of the sides of frame 1 are fastened brackets 9, each of which has an offset slotted tongue 10.

Extending transversely of frame 1 near its front end is a rod 11 the ends of which are suitably seated in the sides of the frame as shown at 12 or are otherwise supported. Parallel with this rod and adjacent to the center of the frame 1 is a cross-bar 13 having pins 14 projecting from its ends and removably seated in the slotted tongues 10 of brackets 9. This rod has an opening 15 in which can be seated a guide sleeve 16.

The back frame of the chair has been indicated at 17 and is provided above its lower end with a transverse rod 18 the ends of which project laterally from the back frame and are removably seated in the blocks 7. This arrangement is shown clearly in Figures 3 and 7. The lower ends of the sides of frame 17 are connected by a rod 19 and these ends are adapted to bear backwardly

against the back of the chair frame 1 when the back frame 17 is in its normal or fully raised position. This has been illustrated clearly in Figure 1. Obviously the back frame can be reinforced by cross-strips 20 located wherever desired.

For the purpose of maintaining the back frame 17 normally in the position illustrated in Figure 1, a rod 21 is slidably mounted in the sleeve 15. This rod has a forked head 22 which straddles the rod 19. A coiled spring 23 is mounted on the rod and bears at one end against head 22 while its other end bears against the bar 13 or a flange 24 integral with sleeve 15. Thus it will be seen that spring 23 will be held normally under compression so that the lower end of frame 17 is normally pressed against the back end of frame 1. When frame 17 is pressed backwardly at its upper end the rod 19 will push against head 22 so as to further compress spring 23 and if there is nothing to prevent it, the back frame 17 can be swung rearwardly and downwardly to move rod 19 past its dead center, as shown in Figure 6 so that frame 17, rod 21, bar 13, and spring 23 can be removed as will be obvious.

The seat frame has been indicated at 25 and is of such size as to fit loosely between the sides of frame 1 and between the front of said frame and the lower portion of frame 17. A transverse groove 26 is provided in the bottom of the frame 25 near its front end and is adapted to receive rod 11 so that the front portion of seat frame 25 will thus be supported. Tongues 27 are extended rearwardly from the seat frame 25 and to each of these tongues is secured a bearing plate 28 the free end portion of which is offset to form a small yoke 29 adapted normally to straddle rod 19 as shown, for example, in Figures 1 and 2. Each plate can be further offset transversely to provide a groove 30 adapted to receive the rod 19 when the back frame 17 is swung rearwardly to the limit of its movement as shown in Figures 4 and 5 at which time the lower end portions of the sides of frame 17 press against the rear end of frame 25. Wear buttons 31 can be mounted on the end of frame 25 to receive thrusts from frame 17.

As before stated, spring 23 holds the frame 17 normally in the position shown in Figure 1. When the chair is occupied the weight of the occupant further acts to restrain frame 17. When the occupant of the chair presses backwardly against the back of the chair the rod 19 will swing forwardly and upwardly. This will cause the spring 23 to be placed under increased compression and at the same time rod 19 will move out of the yoke 29 and thrust upwardly against the plates 28. When the occupant leaves the chair the spring 23 will return frame 17 to its normal position and the frame 25 will gravitate back to its normal position. Obviously the backward movement of frame 17 will be limited by its contact with frame 25 or the stops 31 thereon and when the back is in this position rod 19 will be seated in grooves 30 so that the pressure against the back of the occupant will be relieved to a certain extent.

When it is desired to separate the movable parts of the chair the front portion of the frame 25 is lifted from engagement with rod 11 and said frame is then removed upwardly and forwardly to withdraw plates 28 from rod 19. Frame 17 can then be swung backwardly to the position shown in Figure 6 and the parts separated as heretofore explained.

Instead of using the bearing blocks 7 the ends of the rod 18 can be seated removably in angular slots 32 formed in the offset intermediate portions 33 of plates 34 which are attached to the standards 4. Levers 35 are pivotally connected to these plates and serve to hold the ends of the rod against accidental withdrawal from the inner ends of the slots in which the rod is seated.

What is claimed is:

The combination with a chair frame and a cross-bar removably and rotatively mounted therein, of a back frame removably and pivotally supported by the chair frame, a cross-rod carried by the back frame below the pivot thereof, a slidable removable connection between the cross-rod and the bar, and yielding means carried by said connection for exerting a thrust against the rod to hold the back frame normally in a predetermined position, said back frame being movable to shift the rod past a dead center and release the back frame bar, and slidable connection for separation and removal from the chair frame.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

JACOB D. BAIR.