Jan. 20, 1942. M. FOX 2,270,430

METAL FIXTURE FOR RECLINING CHAIRS

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Fig. 2.

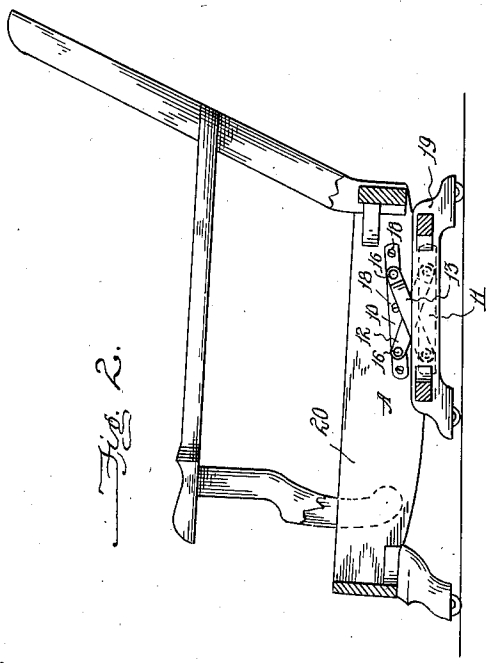


Fig. 4.

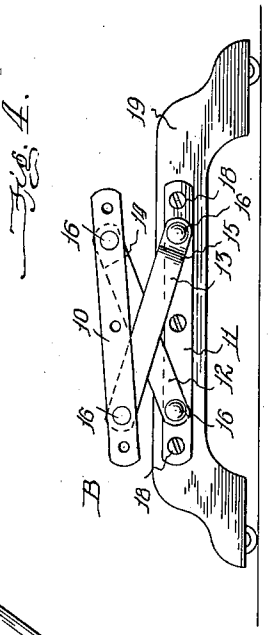


Fig. 1.

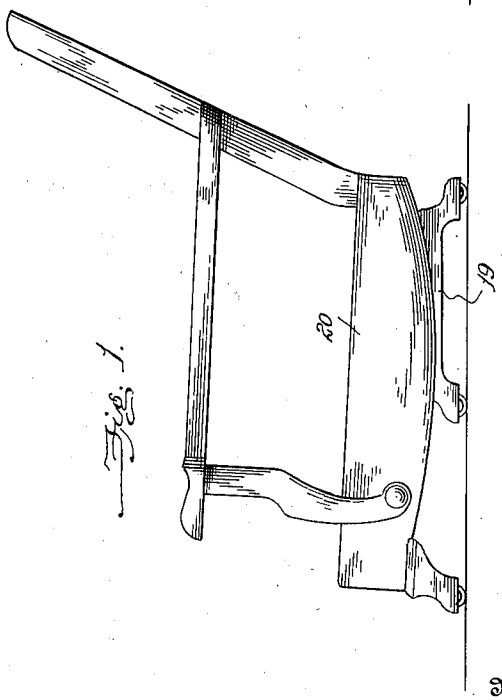
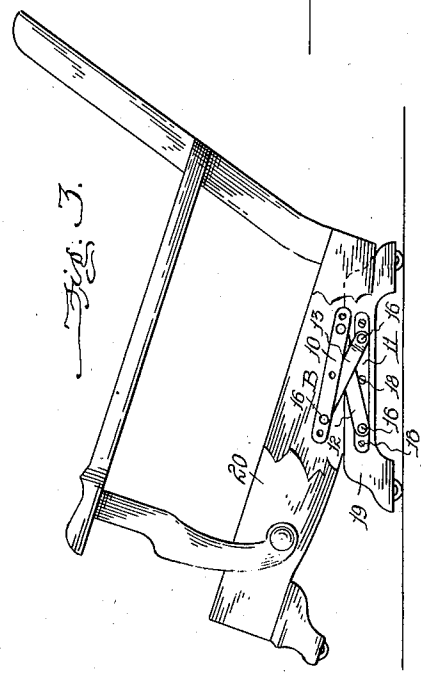


Fig. 3.



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METAL FIXTURE FOR RECLINING CHAIRS

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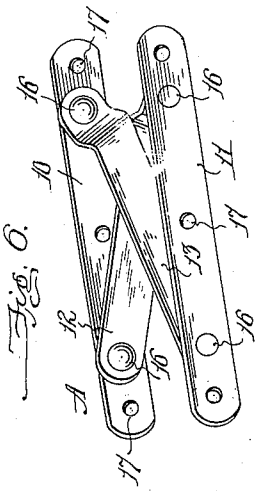


Fig. 6.

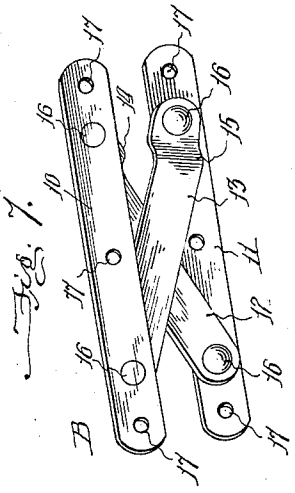


Fig. 7.

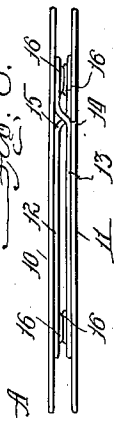


Fig. 8.

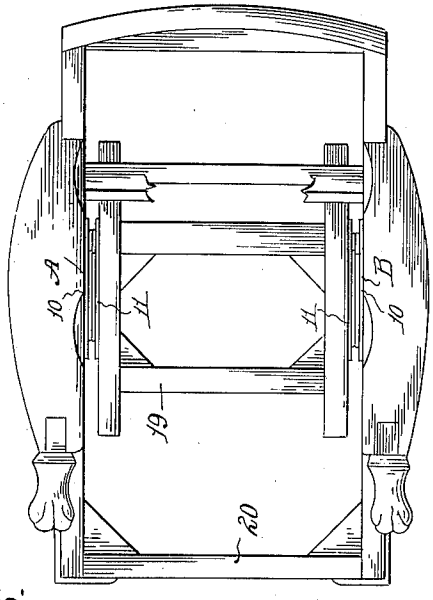


Fig. 5.

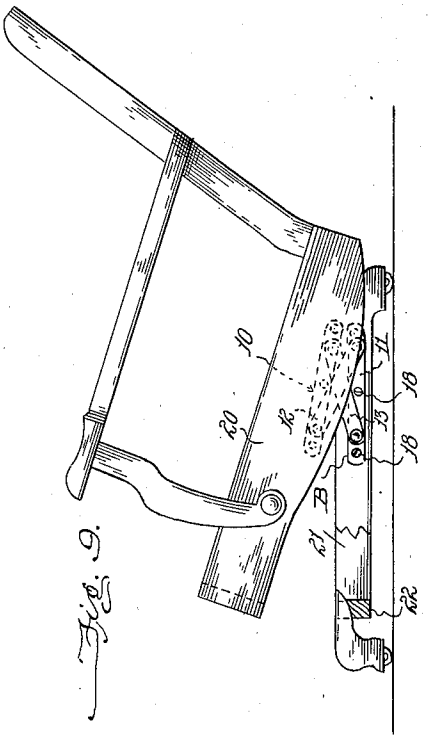


Fig. 9.

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Patented Jan. 20, 1942 2,270,430

UNITED STATES PATENT OFFICE

2,270,430

METAL FIXTURE FOR RECLINING CHAIRS

Martin Fox, Chicago, Ill., assignor to The Seng Company, Chicago, Ill.

Application March 8, 1939, Serial No. 260,627

3 Claims. (Cl. 155—56)

My invention is an improvement in chairs of that particular type in which the rigidly connected seat and back are mounted on a stationary supporting base in such manner as to be capable of tilting movement for a reclining position of the occupant.

The main object of my invention is to provide a set of metal fixtures for chairs of this special type which can be readily and conveniently attached to the supporting base and seat frame, respectively, for connecting them together in such manner as not only to insure a substantial connection of the parts constituting the reclining chair but also provide a frictional engagement of the parts of the fixture whereby the chair seat and back may be arrested at any intermediate position in which the occupant desires to recline.

A further object of my invention is to provide metal fixtures for this general purpose of sturdy construction to promote the stability of the connection between the chair frame and base thereby materially increasing the durability of the article of furniture.

With these principal objects in view my invention contemplates a particular form of metal fixture for connecting the seat of a reclining chair to the supporting base for tilting movement of the seat, and in the present instance comprises a pair of fixtures to be located at opposite sides of the chair, each fixture comprising spaced apart plates, and links connected at their ends to the plates and having cooperating abutments or shoulders for limiting the movement of the plates and corresponding movement of the seat on the base when the fixtures are applied.

In the drawings:

Figure 1 is a side elevation of a reclining chair illustrating an application of my invention.

Fig. 2 is a longitudinal sectional view through the chair with the seat structure in normal position.

Fig. 3 is a similar view with the seat and back structure tilted backward on the base.

Fig. 4 is an enlarged detail view, in side elevation, showing one of the fixtures attached to one end of the supporting base.

Fig. 5 is a plan view of the seat frame and supporting base with my improved metal fixtures attached at the opposite sides thereof.

Fig. 6 is a front elevation of the fixture applied to the supporting base at one end thereof.

Fig. 7 is a similar view of the fixture applied to the other end of the supporting base.

Fig. 8 is a top plan view of the fixture shown in Fig. 6, and

Fig. 9 is a side elevation illustrating a modification in respect to the supporting base on which the seat frame is mounted.

The pair of fixtures, A, B, in accordance with my invention are similar in construction, that is, each fixture is made up of a pair of attaching plates 10, 11 connected by links 12 and 13 pivoted to and extending between the plates from the inner sides thereof, the arrangement of the links being such that they cross each other and consequently each link extends from near the end of one plate to near the opposite end of the other plate. This provides for the usual rocking movement of one of the plates with respect to the other, whereby the attachment of one of the plates, 11, to the supporting base of a reclining chair and the other plate, 10, to the seat structure will permit of a tilting or rocking movement of the latter by the swinging movement of the links in opposite directions on their pivotal connections. In the present instance this swinging or rocking movement of the links, for a corresponding tilting movement of the seat on the base, is limited in one direction by providing said links with cooperating stops, 14, 15, preferably in the form of offset portions on the respective links at one end of the fixture adjacent the pivotal connections. As illustrated in the drawings the stops are provided by bending the links outwardly from the plates to form angle portions which engage one with the other, and as these stop shoulders are at the rear end of each fixture when applied to the chair they will serve to limit the backward tilting movement of the seat on the base.

The links are pivotally connected to the plates by means of rivets, 16, with the heads of the rivets bearing against the links and the ends upset on the plates at the outer sides thereof, the holes in the plates through which the links pass being countersunk so that the upset ends of said rivets will be flush with the outer surfaces of the plates which bear against the base and seat structure respectively. Furthermore, in connecting the links to the plates stout rivets are employed and are riveted tightly to provide sufficient friction at the pivotal connections to arrest movement of the links at any intermediate position so that the occupant can assume any desired reclining position, but instead of tightening the rivets ordinary spring washers (not shown) may be employed to produce the required friction. Consequently, the providing of the stops

to limit the movement of one part of the furniture on the other, and the frictional engagement of the links at the points where they are connected to the plates are important features of my invention, for the reason they adapt this form of connection for the special purpose of supporting a reclining chair on its base, and it will be understood that the fixture may be useful in other instances where it is desired to provide for a rocking motion of one part on the other.

The plates 10 and 11 are each provided with holes 17 through which the attachment means, as screws 18, pass in securing the fixture to the base and chair frame.

By reference to Figs. 6, 7, and 8 of the drawings it will be noted that although the fixtures A and B are similar in general construction the attaching plates 10 and 11 and their cooperating connecting links are arranged differently for application to the opposite ends of the supporting base 19 and seat frame 20 of the chair, and therefore the fixtures are used in pairs, commonly termed "right" and "left," for the reason that the lower plate, 11, is attached to the outer end of the base 19, and the upper plate 10, attached to the inner side of the chair frame 20, and that the stops are at the rear end of each fixture. In the circumstances the fixture is not reversible for application to the opposite ends of the base, owing to the requirement that the flat sides of the plates must be attached to the outer end of the base and inner side of the chair seat frame, respectively, with the plate for attachment to the seat frame beyond the vertical plane of the plate for attachment to the supporting base, and as the stop shoulders are at the rear ends of the two fixtures, when applied to the reclining chair, and at the inner sides of the plates the links are bent accordingly, or as shown in Figs. 6 and 7.

From the foregoing description it will be understood that the pair of fixtures are attached at opposite sides of the chair, to the supporting base and seat frame, so as to provide for a rocking or tilting movement of the seat on the base and the arresting of this movement at any intermediate inclination, the forward rocking movement of the chair seat being arrested by the feet at the front of the chair, and consequently stop shoulders are not provided at the forward ends of the fixtures. It will be further understood that the extent of the rearward tilting movement of the chair can be regulated or adjusted by attaching the plates at a more or less inclination from the horizontal, as well as by the employment of longer links.

In application of the fixtures to reclining chairs any desired construction or design of base may be employed, and as examples Figs. 1 to 5, inclusive, show a short supporting base located entirely within the rear end of the seat frame, so that the forward movement of the tilting seat is arrested by the front feet resting on the floor; while in the modification, Fig. 9, a long base 21 is employed, and in this instance the forward end of the seat frame rests on a crosspiece 22 forming a part of the base at the front end thereof.

I claim:

1. A metal fixture for connecting the seat and supporting base of a reclining chair of that type in which the side pieces of the seat frame and end pieces of the base are out of vertical line with each other, said fixture comprising spaced apart attaching plates, a pair of links pivoted at their ends to the inner sides of the companion attaching plates and extending respectively from an end of one plate to the opposite end of the other plate so as to cross each other between the plates and provide for a tilting movement of one of the plates with respect to the other, and complementary stop shoulders at the pivot ends of the links at one end of the fixture for limiting the tilting movement, the outer sides or faces of the plates presenting flat surfaces for intimate contact with the inner side of a side rail of the seat and outer side of an end piece of the supporting base.

2. A metal fixture for connecting the seat and supporting base of a reclining chair of that type in which the side pieces of the seat frame and end pieces of the base are out of vertical line with each other, said fixture comprising spaced apart attaching plates, a pair of links pivoted at their ends to the inner sides of the companion attaching plates and extending respectively from an end of one plate to the opposite end of the other plate so as to cross each other between the plates and provide for a tilting movement of one of the plates with respect to the other, and complementary angular offsets in the links near corresponding ends thereof coacting to limit the tilting movement, the outer sides or faces of the plates presenting flat surfaces for intimate contact with the inner side of a side rail of the seat and outer side of an end piece of the supporting base.

3. In combination with a reclining chair including a seat and base in which the side pieces of the seat frame and end pieces of the supporting base are out of vertical line with each other, of metal fixtures for connecting the seat to the base at the opposite sides of the chair, each fixture comprising spaced apart attaching plates, a pair of links pivoted at their ends to the inner sides of the companion attaching plates and extending respectively from an end of one plate to the opposite end of the other plate so as to cross each other between the plates and provide for a tilting movement of the seat on the supporting base, and complementary angular offsets in the links near the corresponding ends thereof coacting to limit the tilting movement, the outer sides or faces of the plates presenting flat surfaces in intimate contact with the inner side of a side rail of the seat and outer side of an end piece of the supporting base.

MARTIN FOX.