

June 26, 1928.

1,674,846

C. F. STREIT

CHAIR

Filed Sept. 19, 1925

2 Sheets-Sheet 1

Fig. 1

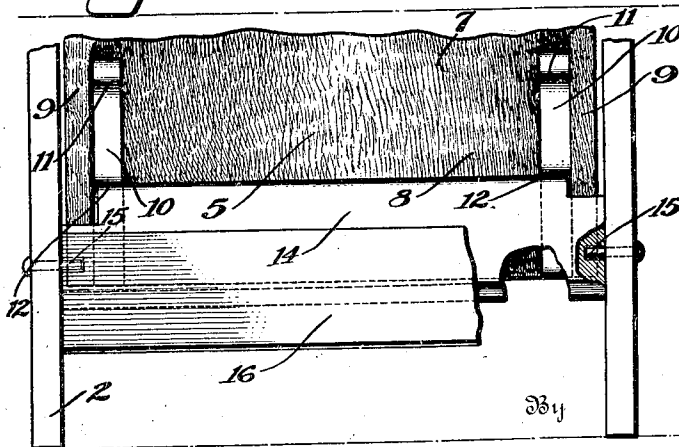
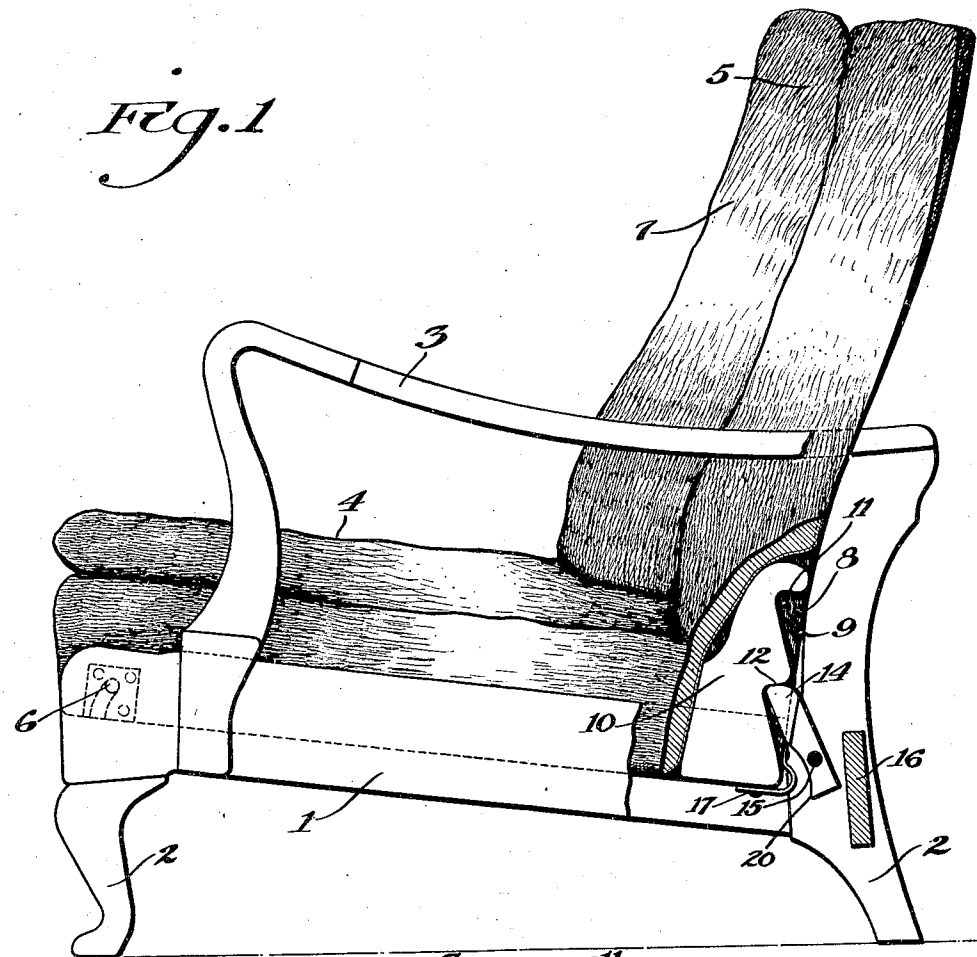


Fig. 2

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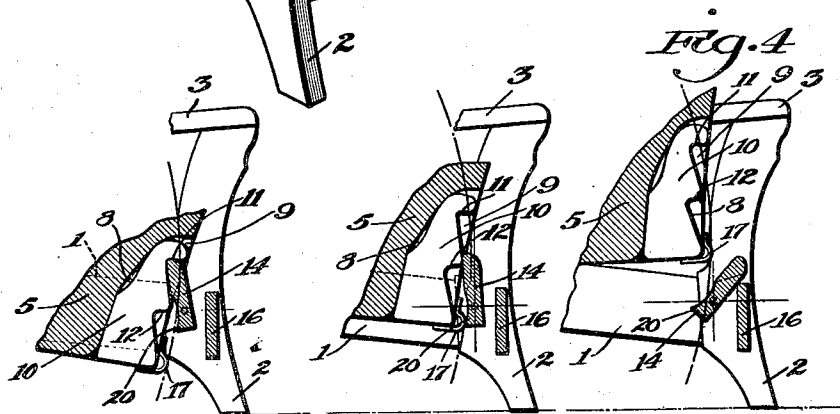
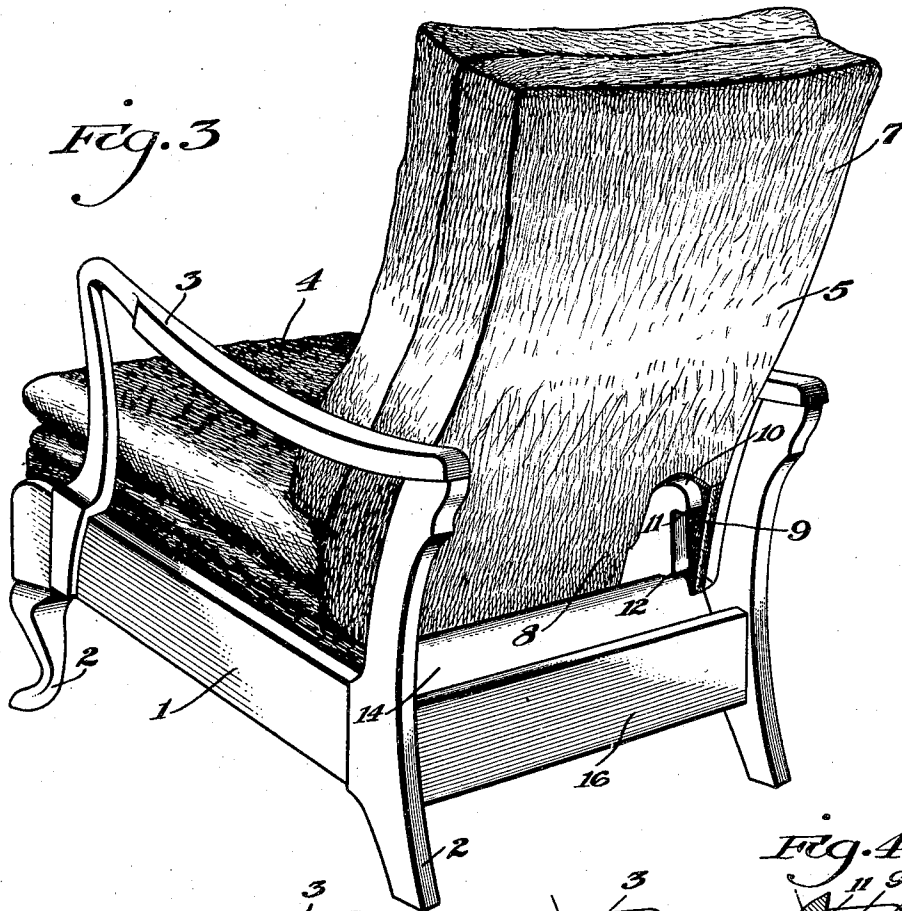


Fig. 6

Fig. 5

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UNITED STATES PATENT OFFICE.

CARL F. STREIT, OF CINCINNATI, OHIO.

CHAIR.

Application filed September 19, 1925. Serial No. 57,443.

My invention relates to an easy chair of the type in which the seat is hinged in relation to the supporting frame so that the seat and back may be unitarily adjusted to different sitting positions after the fashion of the Morris chair.

One of the objects of the invention is to provide a self-adjustment of the back in relation to the supporting frame effected by simply raising or lowering the back to selected position without the necessity of shifting or adjusting a supporting rod for the back.

Another object of the invention is to dispense with any manually adjustable element which is functionally detachable and therefore liable to be lost or to fall down when the chair is being adjusted. That is to say, instead of requiring one movement of the back and a second movement or adjustment of the support for the back, my invention provides self-contained elements functioned by the hinged movement of the back in relation to a supporting frame for the different adjustments.

Another object of the invention is to provide an adjustable chair which can be entirely made and assembled in the ordinary furniture factory by cabinet makers there being no necessity for buying accessory metal parts, brackets, rods or the like, commonly required for adjustment purposes.

Another object of the invention is to dispense in the main with metal work or bracket attachments which project in an unsightly manner from the rear of the chair and to produce a self-adjusting back and seat wherein the adjustable elements are complementary to the cabinet work of the chair itself, producing what I may call an all cabinet-work job.

Another object of the invention is not merely to simplify the adjusting mechanism but to produce an article of furniture of more artistic value, in which the mechanically working elements are to a large extent concealed or at least unobtrusive.

The features of the invention are more fully set forth in the drawings forming part of this specification, in which:

Figure 1 is a side view showing part of the members in section.

Figure 2 is a fragmentary rear view of the chair with certain parts broken away to show the operating elements more clearly.

Figure 3 is a general perspective view of the chair.

Figure 4 is a diagrammatic view showing the chair back raised from the position shown in Figure 3 for adjustment.

Figure 5 is a similar diagrammatic view showing the chair back in process of shifting from one adjustment to another.

Figure 6 is a similar diagrammatic view showing the chair in the extreme adjustment from the one shown in Figure 3.

The supporting frame comprises a base 1, legs 2 and arms 3, the unitary seat 4 with its back 5 being hinged at the forward portion of the seat by means of the bracket and pivot or hinge bolt 6, there being one on each side. The upholstery 7 is appropriately placed upon the seat and back.

The rear intermediate portion of the back is caved out, as it were, forming at the lower portion, adjacent the seat, a pocket 8 as shown in Figure 1, defining the side portions 9 to the inner surfaces of which are secured ratchet blocks 10, one upon each side of the chair, formed with ratchet shoulders or notches 11, 12 respectively.

Preferably the entire back is upholstered and the ratchet blocks 10 are secured to the inner surfaces of the lower portions 9 of the back as shown in Figure 3, and preferably these ratchet blocks are of wood which can match cabinet work of the chair in finish and design. While I have shown two of these ratchet blocks, one upon each side of the back, it is obvious that it may be unitarily considered as a single ratchet block. For engaging the two ratchet blocks adjustably, I preferably provide a single cross member in the nature of an intermediately fulcrumed pawl 14, also preferably of wood, which is pivoted by studs 15 to the opposite side portions of frame 1, as shown in Figure 1. In rear of the pawl 14, I preferably place the wooden or cabinet cross-piece 16, secured between the side portions of the frame 1 or the rear legs as it were, which conceals the pivotal connection of the pawls and the upper margin of which constitutes a rest for the upper end of the pawl when it is swung over or outwardly to the position shown in Figure 4, wherein the back is completely raised. Upon the lower end of each of the ratchet blockets 10, I preferably provide a pawl tripping plate or strip 17 projecting from the rear of the chair back

so as to engage the side of the pawl, when the lower rear portion of the back moves in its appropriate arc. When the pawl normally occupies the position shown in Figure 5, the most of the weight of the pawl is slightly in front of the vertical plane through the pivot so that the pawl rests normally against the ratchet surface. In Figure 5 it may be considered that the back has been adjusted from the lower ratchet shoulder to the upper ratchet shoulder. When the back is completely raised the trip member 17 engaging the side of the pawl swings the pawl rearwardly beyond the center of gravity so that it falls rearwardly upon the strip 16. When the back is lowered, the trip member 17 strikes against the lower, slightly forwardly curved end 20 of the pawl and throws the upper end of the pawl forward in position for engagement with the ratchet teeth. It will be seen from Figure 3 that the rear surfaces of cross-piece 16 and of the pawl 14 structurally resemble the cabinet work of the chair frame rather than operative mechanism.

I have only shown two positions of adjustment as representing the two extremes of upright or reclining positions, it being obvious that any amplification of this adjustment is not a departure in principle.

If the chair is adjusted to the upper notch 11, that is, the extreme inclined position indicated in Figure 6, it may be raised to the next notch and the pawl will move to the position shown in Figure 5, the continued raising bringing the upper end of the pawl under the lower ratchet 11.

When the chair is in this extreme position to be changed to the lower position the back is swung or raised to throw the pawl back as shown in Figure 4, and when the tripping strip 17 strikes the lower and forward projecting end 20 of the pawl the upper end of the pawl will strike against the ratchet and engage under the upper notch 11.

It will be recognized that the pawl is controlled by the swing of the seat structure in making the different seat reclining adjustments. In an upward swing of the seat the pawl is automatically engaged with the notches consecutively, until the seat is swung upwardly beyond the last notch when the pawl is thrown out of connection and thereafter upon lowering the seat the pawl is positioned for engagement with the first notch of the series.

Having described my invention, I claim:

1. In a chair, a chair frame, a unitary seat and back structure pivotally mounted at its forward end to the forward end of the frame, ratchets immovably attached to the rear of the seat and at relative opposite sides thereof, a pawl mounted within the frame and pivoted to the opposite sides thereof for engagement with said ratchets, and means extending from the seat at the base of the ratchets for controlling said pawl in the swinging movements of said seat for escaping the intermediate teeth of the ratchets for fully reclining said seat.

2. In a chair, a chair frame, a combined seat and back pivotally mounted in the frame at the forward end of the seat, ratchets immovably attached to the rear end of the seat and at relative opposite sides thereof, and a pawl extending across said frame and pivoted to opposite sides thereof for cooperating with said ratchets as the combined seat and back are swung.

3. In a reclining chair, a chair frame, a unitary seat and back structure disposed within the frame and pivoted at its forward seat end to opposite sides of the frame, ratchets at the rear end of said seat at relative opposite sides thereof, and a pawl extending across said frame and pivotally mounted at opposite sides thereof for engagement with the teeth of the ratchets, the rear end of the seat having extensions cooperating with the pawl for moving the pawl alternatively in active and inactive positions for adjusting the seat from one extreme position to the other.

4. In a chair, a chair frame, a unitary seat and back, the seat portion pivoted at its forward end to the forward end of the chair frame, ratchets immovably secured to the rear of the seat at the respective sides thereof, a pawl pivotally mounted between the frame sides for cooperation with said ratchets, and said seat having extensions at the rear thereof, the pivot point of said pawl being disposed adjacent the arc of swing of the extensions and near the base end of the pawl, whereby the extensions move the pawl in and out of engagement with the ratchets and the weight of the upper portion of the pawl past dead center maintains it in either of said positions.

In witness whereof, I hereunto subscribe my name.

CARL F. STREIT.