Jan. 10, 1939. W. S. SAUNDERS 2,143,634

ADJUSTABLE SEAT CONSTRUCTION

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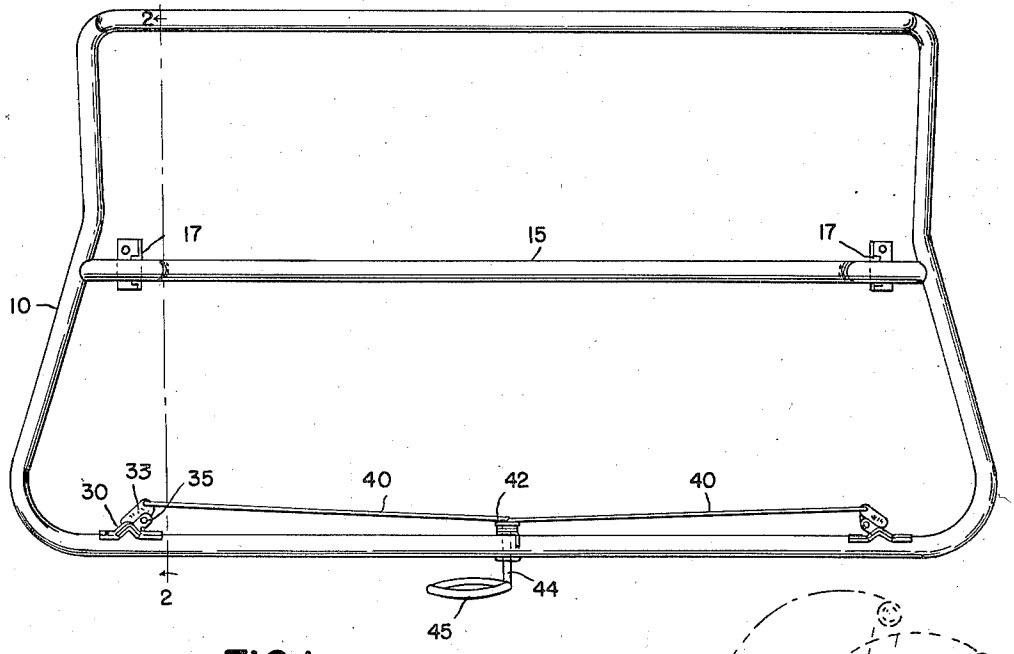


FIG.1.

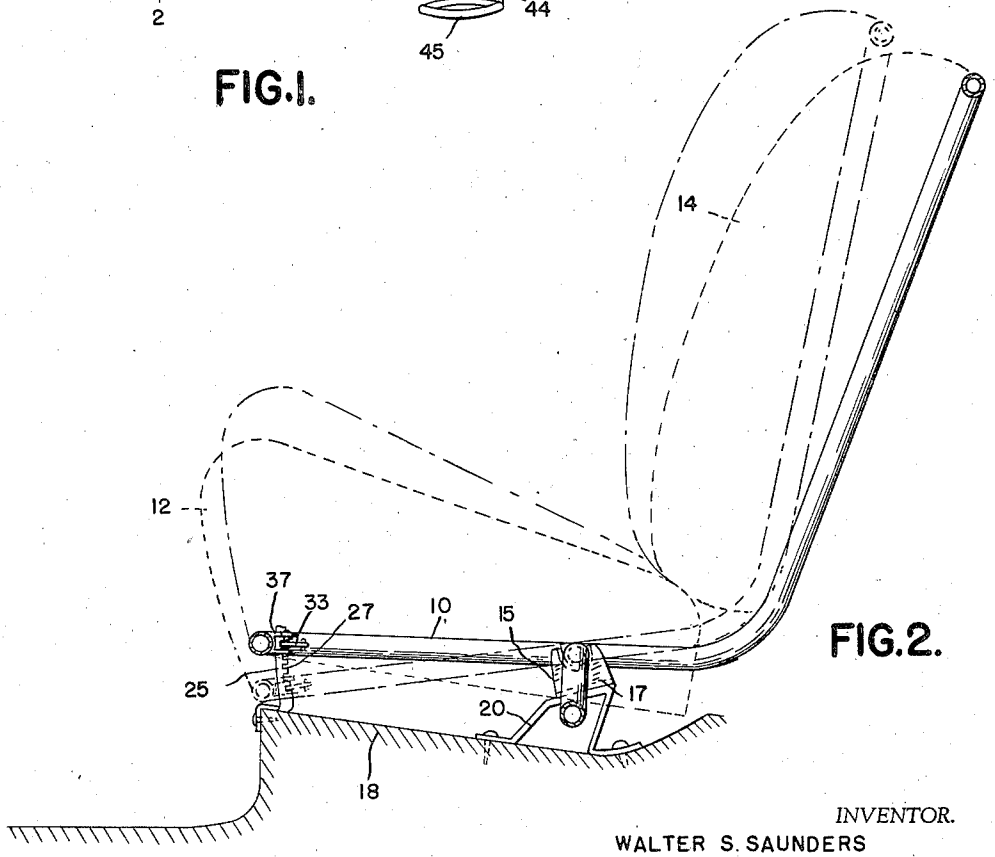


FIG.2.

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FIG.3.

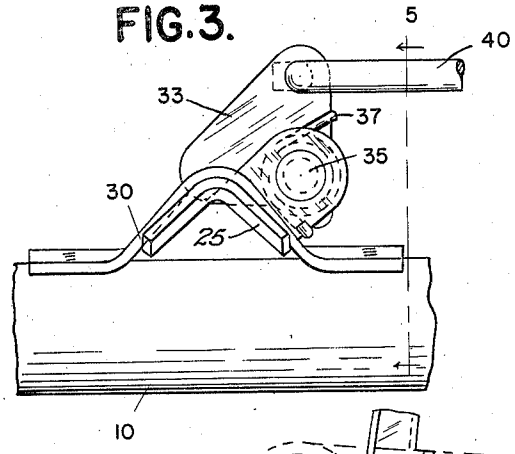


FIG.4.

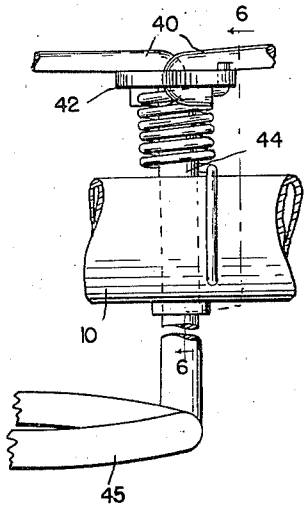
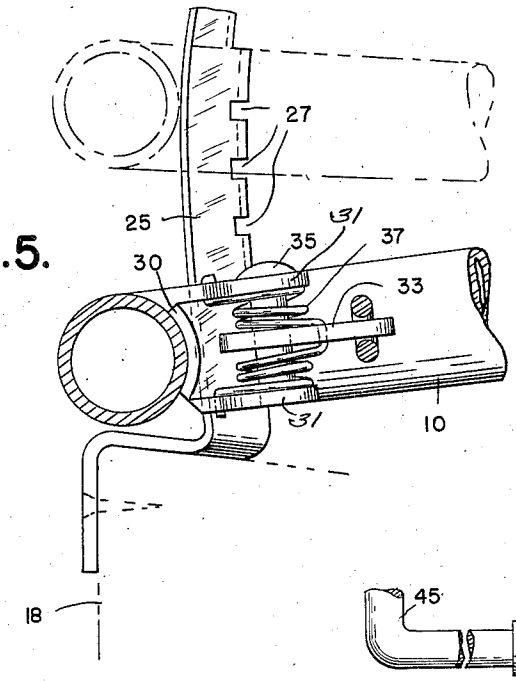


FIG.5.



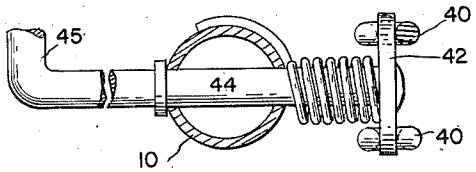


FIG.6.

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2,143,634

ADJUSTABLE SEAT CONSTRUCTION

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Application June 18, 1937, Serial No. 148,887

2 Claims. (Cl. 155—116)

This invention relates to the construction of adjustable seats, chairs, and the like, concerning itself especially with the provision of improved supporting means which allows rocking of the seat to, and rigidly fixing it in, any of various desired angular positions of adjustment. An important object is the provision of holding mechanism for such an adjustable seat construction, selectively releasable to allow tilting of the seat by its occupant in a very easy manner, extremely simple both in construction and in operation, yet which holds the seat very rigidly against movement when in its normal latched position.

A further object is the provision of such tilt-adjusting mechanism incorporating simple locking means carried by and movable with the seat, which mechanism when released allows the seat to be freely rocked at will, while when latched it forms the entire supporting and anchoring means for the seat.

Still another object is the provision of such supporting and tilt-adjusting mechanism adapted especially for use in conjunction with a seat or chair having a welded tubular or other form of metal frame, and so arranged that all of the seat-carried parts are attached to such metal frame.

In the drawings:

Figure 1 is a plan view of a seat frame provided with supporting and adjusting mechanism constructed in accordance with the principles of this invention.

Figure 2 is a vertical section taken substantially on the line 2—2 of Figure 1, and looking in the direction of the arrows.

Figure 3 is an enlarged fragmentary detailed plan view.

Figure 4 is an enlarged detail plan view, similar to Figure 3, showing the remotely located operating handle for the latching mechanism.

Figure 5 is a view partly in vertical section and partly in side elevation, showing one of the latching assemblies, taken substantially on the line 5—5 of Figure 3, and looking in the direction of the arrows.

Figure 6 is a detailed sectional view taken substantially on the line 6—6 of Figure 4 and looking in the direction of the arrows.

Referring now to the drawings in which reference character 10 designates a tubular outer frame member of the well-known looped contour which encircles the entire seat and back assembly, extending around the front and sides of the seat portion and the sides and top of the back, to form a one-piece main supporting element carrying seat and back cushions 12, 14 respectively, shown only diagrammatically and in dotted lines. Centrally across the substantially horizontal side sections of the seat portion of the frame extends a dropped-center cross bracing element 15 also tubular and welded at its ends to the frame member. Such cross bracing element rests in pillow blocks 17 arranged near its ends and upon either side of the dropped center section. The pillow blocks form trunnion supports for the entire seat frame, which may be rocked therein when not restrained by the latching mechanism presently to be described. Each pillow block is carried upon the seat-supporting floor portion 18, as by means of the sheet metal bracket 20.

Releasable holding means are provided normally preventing the seat frame assembly from rocking in the pillow blocks. Such means include serially notched upstanding keeper portions 25 formed of sheet metal and secured to the seat support portion 18 in such position as to project upwardly just inside the path of movement of the front cross bar of the tubular frame 10. One such keeper portion is preferably fixedly located near each end of the seat, each being arced concentrically about the axis of swinging movement. Each keeper portion is also of V-section, as best shown in Figure 3, its rearwardly facing apex being cut to form the keeper notches 27. A sheet metal strap bracket portion 30 secured at its ends to the tubular frame 10 extends rearwardly and around the keeper and is vertically slidable thereover as the seat is rocked.

Bracket 30 also supports a triangular swinging latch plate 33 pivoted between upper and lower lug portions 31 extending rearwardly from the bracket, a pivot pin 35 being carried in such lugs. A torsion spring 37 wrapped about the pivot pin urges the latch plate in engagement with the keeper notches, while an operating link 40 articulated to a rearwardly projecting extremity of the latch plate serves to enable swinging the nose of the plate outwardly to free it from the notches, when it is desired to rock the seat.

As best shown in Figure 1, one such operating link extends to each latch assembly, from a point at the approximate center of the front cross bar of the seat frame, where the inner end of each such link is articulated to an operating crank portion 42. The crank portion comprises a plate riveted or otherwise secured to the inner end of the shaft portion 44 of an operating handle 45, the shaft portion extending substantially horizontally through and being journaled in the frame 10, while the handle portion extends in

convenient position in front of the frame. A torsion spring carried by the shaft portion tends to so turn it and the crank **42** as to return the handle and entire latching assembly to latched position, cooperating with the springs **37**. When in operation the handle is turned against the effort of the springs, both plates **33** are swung rearwardly, free of the notches **27**, whereupon the seat may be tilted to any desired position, while upon releasing the handle the latch plates will of course re-enter the notches nearest them, and again secure the seat against further tilting.

I claim:

1. In an adjustable seat construction, in combination, a relatively rigid framework defining seat and back portions and formed as a unit, pivot means supporting said framework for rocking movement about a transverse axis, one of such pivot means being located at either end of the framework, latching means spaced from such pivot means for releasably holding the framework against rocking, comprising an upstanding keeper member located near the front of the seat portion of the framework and provided with serially arranged abutments, said keeper member being arced substantially about the axis of rocking movement of the framework and extending slidably through a guide portion carried by the framework, a latch member movably carried by the framework and projectable through said guide portion, releasably engageable with said keeper member to hold the framework in any of various angular positions, said keeper member being of angular cross section, and said guide portion comprising a sheet metal element slidably over-engaging the keeper portion, the latch member being pivotably mounted upon said guide portion and movable into and from engagement with the apex of said angular portion.

2. In an adjustable seat construction, in combination, a relatively rigid framework defining seat and back portions and formed as a unit, pivot means supporting said framework for rocking movement about a transverse axis, one of such pivot means being located at either end of the framework, latching means spaced from such pivot means for releasably holding the framework against rocking, comprising an upstanding keeper member located near the front of the seat portion of the framework and provided with serially arranged abutments, said keeper member being arced substantially about the axis of rocking movement of the framework and extending slidably through a guide portion carried by the framework, a latch member movably carried by the framework and projectable through said guide portion, releasably engageable with said keeper member to hold the framework in any of various angular positions, said keeper member being of angular cross section, with the apex of the angle facing the rocking axis, said abutments comprising notches cut in the apex, said guide portion encircling the keeper member, and the latch member being pivotally mounted to swing through said guide portion into and from engagement with said notches.

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