May 14, 1929. T. M. DENSON ET AL 1,713,034

ADJUSTABLE CHAIR

Filed Oct. 24, 1927

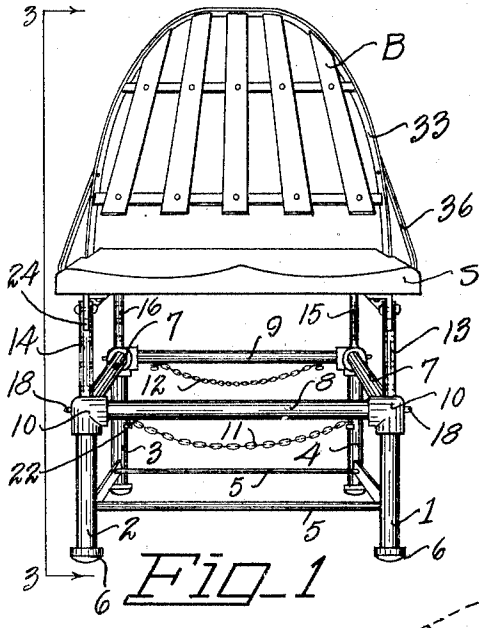


Fig_1

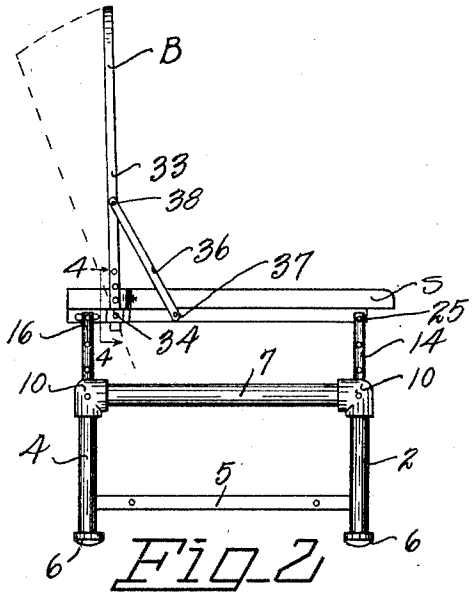


Fig_2

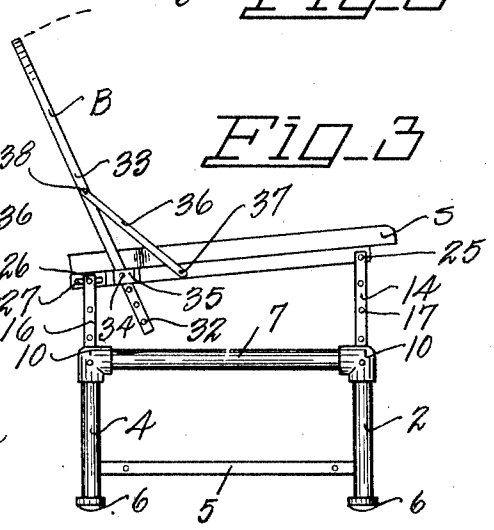


Fig_3

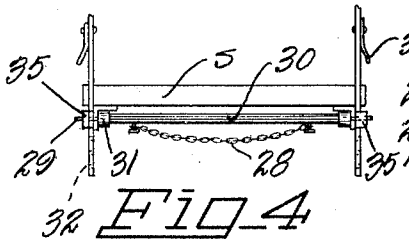


Fig_4

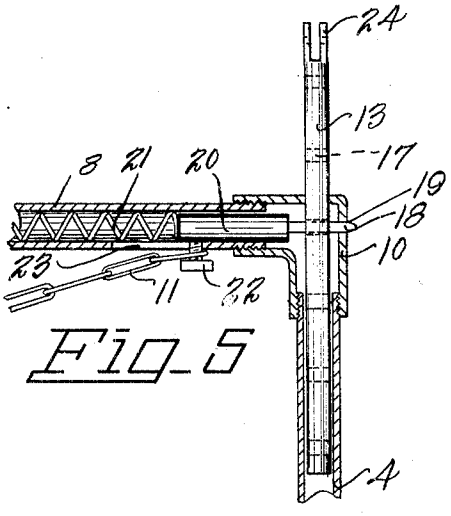


Fig_5

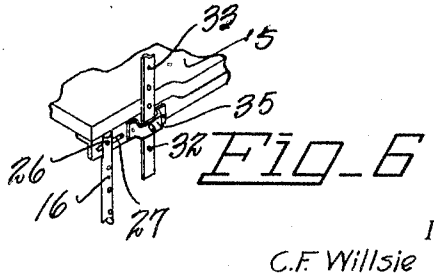


Fig_6

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UNITED STATES PATENT OFFICE.

THOMAS M. DENSON AND CHARLES F. WILLSIE, OF SPOKANE, WASHINGTON.

ADJUSTABLE CHAIR.

Application filed October 24, 1927. Serial No. 228,213.

Our invention relates to improvements in adjustable chairs which, while adapted for various uses, are particularly designed for use by operators of linotype machines. Because of the position of the low keyboard of linotype machines, the operator is required to use a low chair that must be adjustable for his convenience and comfort. The chair of our invention is provided with a seat that is vertically adjustable, and also capable of being tilted either to the front or to the rear, and the adjustable seat is provided with a back that also is capable of adjustment with relation to the seat. Our invention consists in certain novel combinations and arrangements of parts whereby the various adjustments may be accomplished with facility and convenience as will hereinafter be more fully pointed out and claimed.

In the accompanying drawings we have illustrated one complete example of the physical embodiment of our invention wherein the parts are combined and arranged according to the best mode we have thus far devised for the practical application of the principles of our invention. The parts thus combined and arranged comprise a minimum number of elements that may be assembled with facility to form the chair, the parts are durable and simple in construction, and the adjustments may be accomplished by simple operations.

Figure 1 is a front perspective view of a chair according to our invention.

Figure 2 is a side view of the chair.

Figure 3 is a side view of the chair with the seat tilted backwardly and the back also tilted backwardly, at line 3—3 Fig. 1.

Figure 4 is a sectional detail view at line 4—4 of Figure 2.

Figure 5 is an enlarged, sectional detail view showing the spring locking means for the adjustable seat.

Figure 6 is a perspective view of a fragmental portion of the rear of the seat showing method of adjusting the seat and also the inclination of the chair back.

In carrying out our invention the supporting frame of the chair is preferably made up of tubular legs as 1, 2, 3, and 4 that may be fashioned of metal pipe sections and joined by rungs 5 to form a rigid base structure for the chair. The legs are of the same height and all provided with feet as 6, and at their upper ends are joined by a pair of tubular side bars 7, 7, and a tubular front bar 8 and tubular rear bar 9, the side, rear and front bars of course being horizontal. The horizontal bars and the vertical legs are joined together by use of the caps or castings 10 that have annular, threaded flanges in which the threaded ends of the bars and legs are screwed, and these caps as shown are hollow and communicate with the interior of the tubular legs and bars.

The seat S is vertically adjustable with relation to the base or frame of the chair, and the adjusting parts are unhooked through a pull on either of the chains 11 or 12, the former at the front and the latter at the rear of the chair. The seat S is supported above the base or frame by means of four posts 13, 14, 15 and 16 that telescope in the four tubular legs, through the hollow caps or heads 10, and each of these posts is fashioned with a series of transverse bolt holes 17 for the accommodation of bolts 18.

There are four of these spring bolts 18, two in the front bar and two in the rear bar, at the ends of the bars, and the bolts are designed to project through the bolt holes 17, in the posts, and through the bolt holes 19 in the outer walls of the caps, as best seen in Figure 5. Each bolt has a slide head, as 20 that is reciprocable in its tubular bar, as 8 or 9, and a spring 21 is enclosed within the tubular bar and interposed between the adjoining inner ends of the slide heads 20 of each tubular bar to normally spread the bolts and force them into the bolt holes 17 of the posts and holes 19 of the caps to lock the posts in the legs, and thus lock the seat S in adjusted position.

The bolt-releasing chains 11 and 12 are connected at their ends to screws as 22 that are passed through longitudinal slots 23 in the undersides of the front and rear bars and located near the ends of these bars, and it will be apparent that a pull on the chain will withdraw the bolts from the caps and posts against the tension of the spring 21 to release the posts for adjustment. After the seat S and its posts have been adjusted, the chains are released and the bolts are projected into locking position.

The posts that telescope into the tubular, vertical legs are each fashioned with forks 24 that are pivoted or hinged at 25 at the front of the chair seat, while the two rear

posts have pivot pins 26 that co-act with slots 27 at the rear sides of the chair seat S to provide for angular adjustment of the seat S.

Thus it will be apparent that the seat S may, while in horizontal position be vertically adjusted with relation to the chair base or frame, and the seat may be tilted rearwardly as in Figure 3 or forwardly, if desired, by manipulation of the four spring bolts.

The seat-back B may also be locked in various positions relative to the seat, as indicated in Figures 2 and 3, and the locked back is released for adjustment by pull on a chain 28 that releases bolts 29 carried in the tubular bar 30 the locking and unlocking action being the same as for the bolts 18. The tubular bar 30 is supported near the rear of and under the seat-back in brackets 31 and the bolts are projected through bolt holes 32 in the seat bars 33 and through bolt holes 34 in yokes 35, the latter attached at the opposite sides of the seat S. The spring bolts 29 in the holes 34 of the yokes 35 thus provide pivotal connections for the bolts with the seat bars, and the seat-back may be swung on these bolts as pivots or hinges within limits, to adjusted position. Or, it will be apparent that the seat back may be bodily elevated with relation to the seat as indicated in Figure 2, or lowered as in Figure 3. At each side of the chair a brace arm 36 is provided, said brace arms being pivoted to the seat S at 37 and to the seat bars at 38 to provide for the adjustment and retention of the seat-back after the latter has been adjusted.

By manipulation of the three chains the locking devices may be released, and it will be apparent that the adjustable parts may with facility be manipulated to the desired positions, after which the parts are locked by release of the chain or chains.

Having thus fully described our invention what we claim as new and desire to secure by Letters Patent is:—

The combination with a chair frame including a pair of tubular legs, hollow caps thereon and a slotted tubular cross bar connecting the caps, of posts telescoping said legs and provided with bolt holes adapted to aline with similar holes in the caps, a pair of bolts in the cross bar adapted to engage the holes of the caps and posts, a spring within the cross bar interposed between the bolts, screws secured in the bolts and guided in the slotted cross bar, and a flexible releasing-connection between said screws exterior of the cross bar.

In testimony whereof we affix our signatures.

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