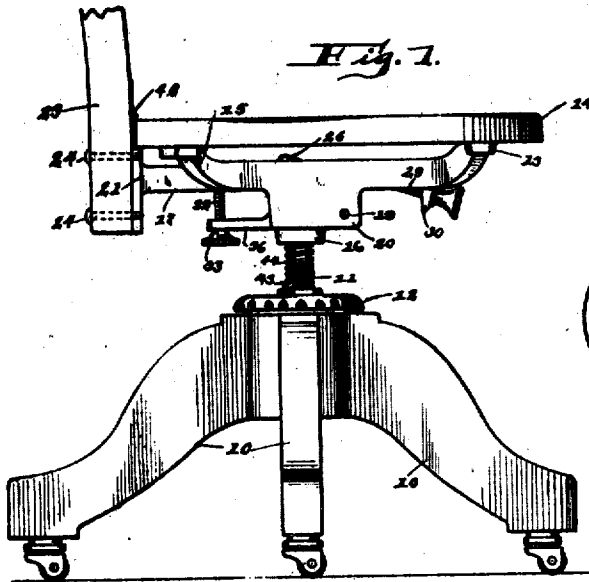
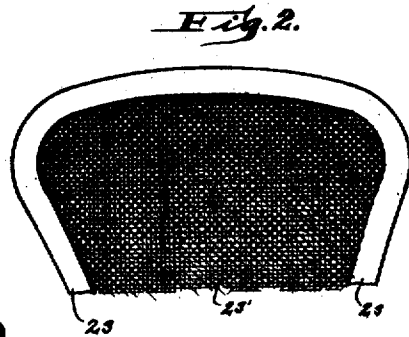
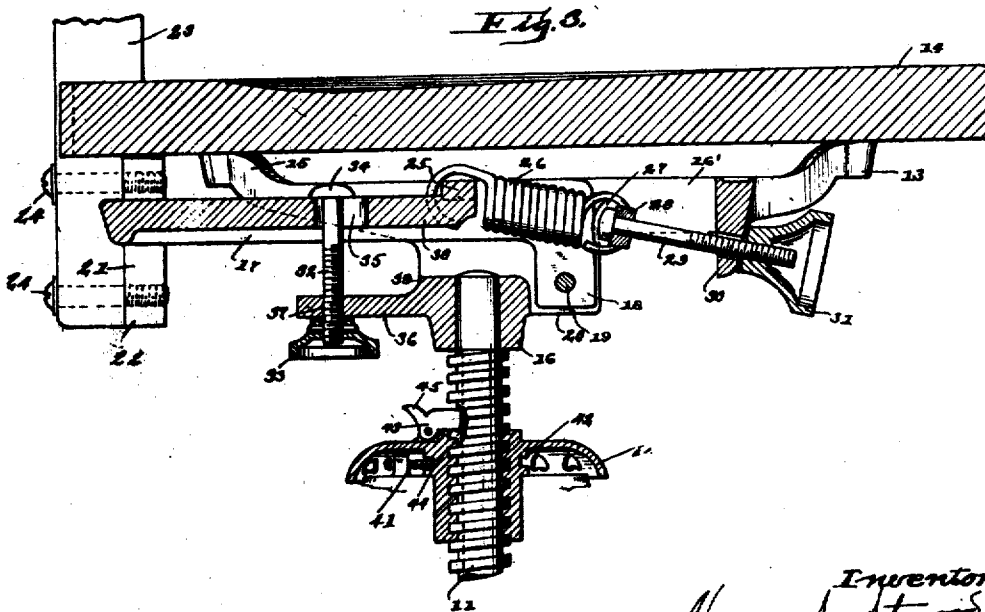


H. A. ATWOOD.
CHAIR.
APPLICATION FILED NOV. 15, 1919.

1,368,469.

Patented Feb. 15, 1921.
2 SHEETS—SHEET 1.



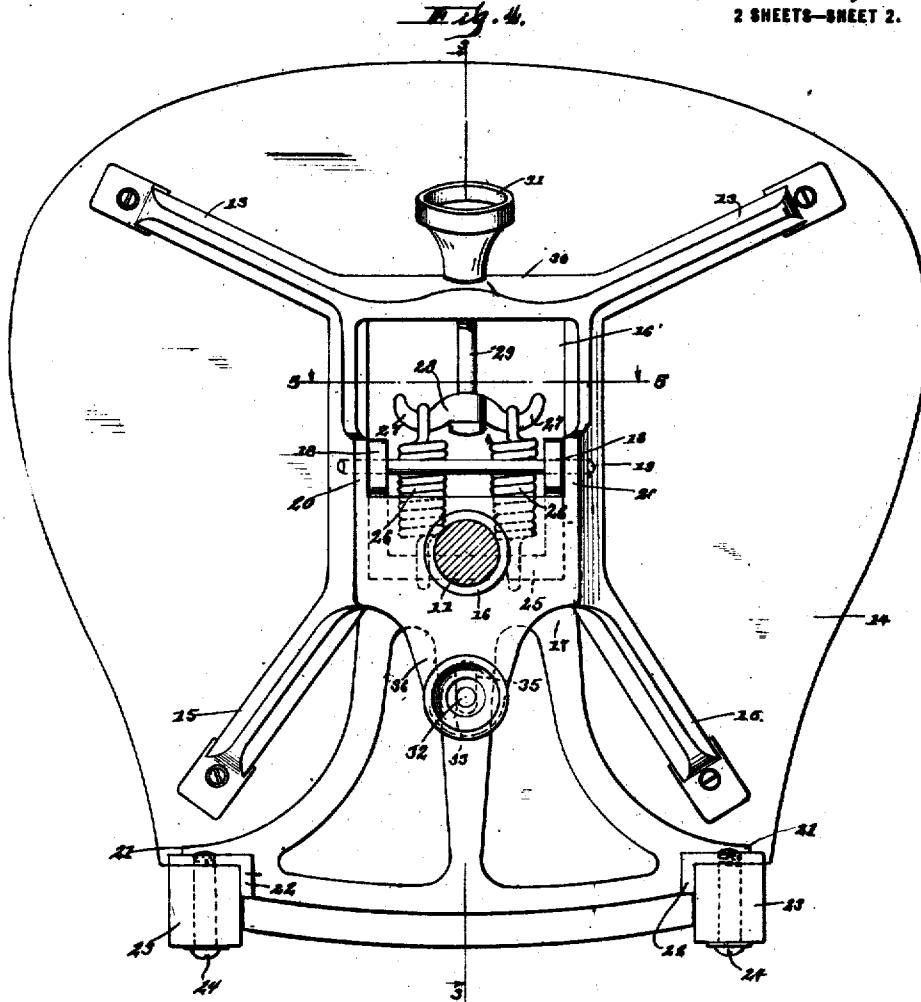
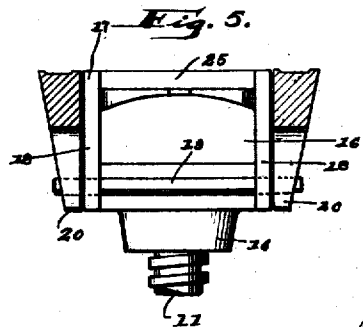
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UNITED STATES PATENT OFFICE.

HARRY A. ATWOOD, OF MILWAUKEE, WISCONSIN.

CHAIR.

1,368,469.

Specification of Letters Patent.

Patented Feb. 15, 1921.

Application filed November 15, 1919. Serial No. 338,303.

To all whom it may concern:

Be it known that I, HARRY A. ATWOOD, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Chairs, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to certain new and useful improvements in chairs in general, but refers more particularly to features of novelty and advantage in chairs with adjustable yielding backs such as are ordinarily used by stenographers.

My invention has for one of its objects to provide a chair of this type which may employ a "full" back, that is, one which will have a back extending thereacross its full width throughout the entire height thereof.

Another object of the present invention is to provide a chair of this type in which the position of the back may be readily adjusted or regulated without modifying the spring tension imposed on the same, the adjustment being effected by an accessible regulating screw capable of manipulation by the occupant of the chair without changing her position.

A further object of my invention is the adjustment for the spring cushion or tension by means of a handle or nut in such position as it can be operated by the person seated in the chair.

A still further object of the present invention resides in the novel means for adjustably holding the back to the upright post or standard by which it is supported. Besides the accomplishment of these and other purposes, other salient features of the invention are simplicity in structure, economy in manufacture, accessibility of adjustable parts and a construction of pleasing appearance.

With the above and other objects in view which will appear as the description proceeds, my invention resides in a novel construction, combination, and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

In the accompanying drawings I have illustrated one complete example of the

physical embodiment of my invention, constructed according to the best mode I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a side elevation of a chair embodying the features of my invention, a portion of the back thereof being broken away.

Fig. 2 is a front plan view of the upper half of the back rest employed in connection with my chair.

Fig. 3 is a sectional view taken through the chair seat on the plane indicated by the line 3—3 of Fig. 4.

Fig. 4 is a bottom plan view of the under side of the chair seat, and

Fig. 5 is a fragmentary sectional view, said view being taken on the line 5—5 of Fig. 4.

Referring now more particularly to the accompanying drawings, it will be perceived that the improved chair comprises a suitable supporting base composed of a plurality of legs 10, an adjustable threaded vertical post or shaft 11, the position of which may be regulated by an adjusting nut 12, to be later described, and a seat frame on the top of the post having diverging forwardly extended arms 13 fastened to the bottom of seat 14, and a pair of shorter diverged rearwardly extending arms 15 likewise secured to the under face of the seat. These seat supporting spider arms are connected together beneath the middle of the chair by a web or hub portion 16 into an aperture of which the upper end of the threaded shaft or post 11 is fitted.

As best shown in Figs. 3 and 4, the seat supporting spider is provided with a substantially central rectangular shaped space or spring receiving compartment 16' adjacent the forward end of which is hinged a fulcrumed frame or arm 17. The arm 17 is formed on its forward end with two spaced apart depending lugs or ear members which are pivoted on a cross pin 19 extending across the space between two projections or lugs 20 formed integral with the hub portion 16 just to the rear of the post 11, and forming a part of the walls defining the compartment 16'.

The frame 17 is of substantially triangular shape and as best shown in Fig. 4, with the depending spaced apart ears 18 formed at the inner angle or corner thereof. The other corners 21 of the frame 17 are provided with marginal flanges 22 overlapping

the inner side of two upright staffs 23, the lower ends of which are securely, permanently, and rigidly fastened to the frame 17 by two pairs of screws 24, the threaded ends of which take into threaded holes in the enlarged ends or corners 21 of the frame.

As is clearly shown in Figs. 3 and 4, the front fabricated portion of the hinged frame 17 has its two spaced ears 18 cross connected together at a point inwardly thereof by a bar portion 25 integral therewith to afford means for detachment of the rear end of two coil contractile springs 26 the forward ends of which engage the hooks 27 of a yoke member 28 carrying a threaded rod 29 which extends forwardly through a hole in a downwardly directed transverse portion 30 disposed at the forward end of the spring compartment 16'. A handle or nut 31 is mounted on the end of the rod 29 outwardly of the portion 30 whereby the tension of the springs 26 may be readily adjusted or regulated by the occupant of the chair without shifting his or her position, since such nut is accessible by reason of its location directly beneath the front portion of the seat. As clearly shown in Fig. 3, the transverse bar 25 is disposed above the pivot 19 of the frame 17, and the spring 26 has its forward end below its rear end, whereby the action of the springs will be to yieldingly pull or rock the staffs 23 forwardly toward the seat.

In order to regulate the forward movement of the staffs 23 and with them the seat back 23', I provide a substantially vertically adjustable abutment or stop screw 32 equipped with a turning handle 33 and a head 34 adapted to abut against the adjacent portion on the top side of the frame 17, through the elongated aperture 35 of which the screw projects. This adjusting screw 32 is carried by a projection 36 formed on the hub 16 and is in threaded engagement with an aperture 37 therein.

It will be readily understood that the adjustment of the screw 32 determines the forward limit of the travel of the seat back because the upper end or head 34 of the screw performs the function of the adjustable abutment or stop, but the staffs are free to swing rearwardly from said position under the cushioning and yielding restraint, however, of the coil-springs 26. Thus the degree of cushion spring action on the staffs may be determined or controlled by the handle nut 31 and the limit of forward swing of the staff regulated by screw 32, these two functions being capable by reason of this construction or independent control or regulation, see Fig. 3.

The backward swinging movement of the back is limited by the engagement of the inner portion 38 of the frame 17 with the top 39 of the hub 16.

By this construction of member 17, I am able to provide a cane back for the full width of the back rest, which heretofore has been impossible, in that the frames 17 have been so constructed that but a single staff could be secured thereto. If desired in order to prevent garments from becoming caught in the back of the seat, a strip of leather 40 may be fastened to these two elements, see Fig. 1, thus bridging the gap and preventing the garments from entering the same.

As best shown in Figs. 1 and 3 the novel form of adjusting nut 12 which I employ is rotatably secured to the base of the chair by means of a set screw 41 engaging within an annular recess 42 formed on the hub thereof and in order to prevent the accidental disarrangement of the adjustment of the shaft 11 I provide a pivoted dog 43 adapted to be readily detachably engaged in an elongated key way slot 44 as best shown in Fig. 3. The dog 43 is so shaped that the major portion of its weight is on the inside of its pivot whereby the same is normally held in engagement in the slot 44 and the same has a finger 45 integral therewith for disengaging the same from the recess.

What I claim as my invention is:

1. A chair of the class described, comprising a seat support, a substantially-horizontal arm member, a pivot connecting the forward end of said arm member with the support, means on the rear end of said arm member for securement with a back rest, an extension on said arm member above and spaced rearwardly from its pivot, and a spring passing over said pivot and having its rear end connected with said extension and its forward end connected with said seat support to normally yieldingly urge the rear end of said arm member upwardly.

2. A chair of the class described, comprising a seat support, a seat mounted thereon, a substantially-horizontal arm beneath the seat and having one end hinged to said support, a back rest carried by the rear end of the arm, a spring cushion connecting the forward end of said arm with the seat support to normally yieldingly urge the rear end thereof upwardly, a projection carried by said support, and a stop on said projection and engageable with said arm to limit the movement thereof.

3. A chair of the class described comprising a seat support, a hub portion formed on said support substantially centrally thereof, a rearwardly extending projection integral with said hub, a seat on said support, an arm member disposed beneath said seat and having its inner end pivotally connected with said support, said arm passing over said projection and having an elongated slot therein in its part above said projection, a

back rest connected with the outer end of said arm, means for normally urging the outer end of said arm upwardly, and an adjustable bolt adjustably carried by said hub
5 projection and passing through the elongated slot in the arm with its head abutting the top surface of said arm surrounding the slot when the same is at its upward limit of movement.
10 4. A chair of the class described comprising a base, a post mounted thereon, a seat support carried by said post and having a substantially central rectangular shaped spring compartment formed therein, a seat
15 on said support, a substantially horizontal and triangular shaped arm beneath said seat and having one corner thereof hinged to said seat support adjacent each end of said spring compartment, two back staffs

mounted on the other ends of said arm and 20 having a seat back connected therewith, a transverse extension on the front end of said arm above its pivot, a depending web portion formed on said seat support adjacent the forward end of said spring compart- 25 ment, a retractile spring having one end secured to the extension on the front end of said arm and its other end adjustably connected to said web at the forward end of the spring compartment whereby said spring 30 will be disposed in a spring compartment at an angle and exert a resilient force on said arm member to normally urge said back staffs forwardly, and means for limiting the movement of said back staffs in 35 their direction.

In testimony whereof I affix my signature.
HARRY A. ATWOOD.