July 15, 1924. 1,501,181

C. H. PETERS ET AL.

CHAIR

Filed April 24, 1922 2 Sheets-Sheet 1.

Fig-7

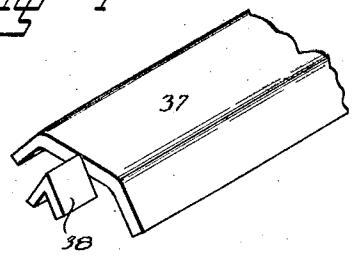


Fig-1

Fig-6

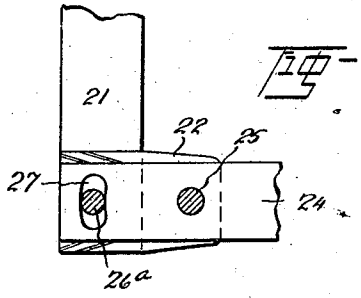
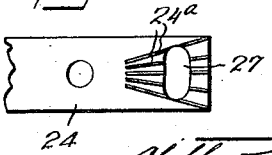


Fig-8



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CHAIR

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Fig-2

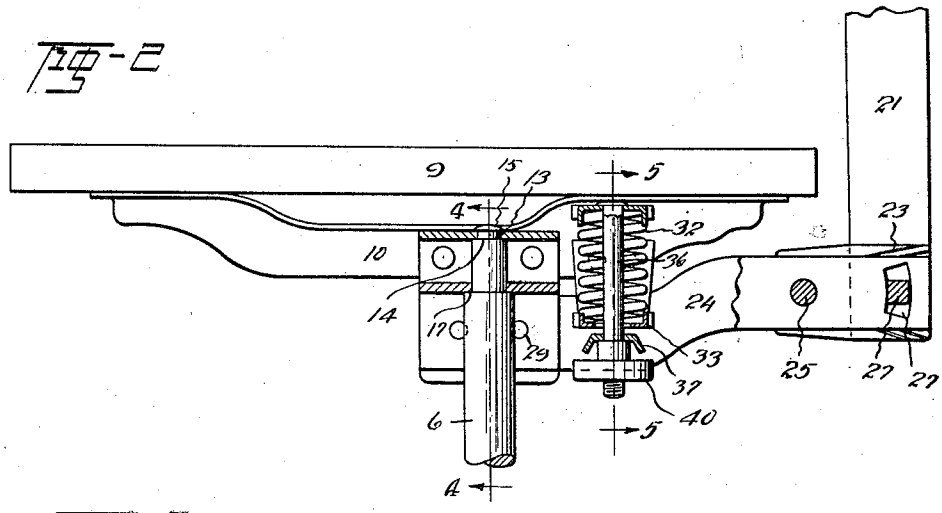


Fig-3

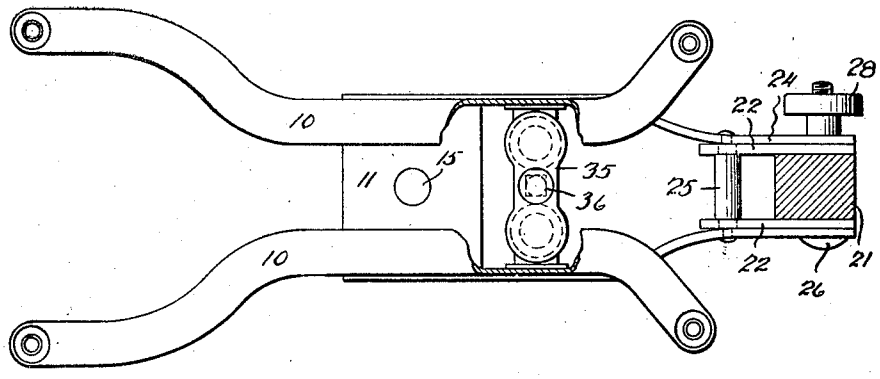


Fig-4

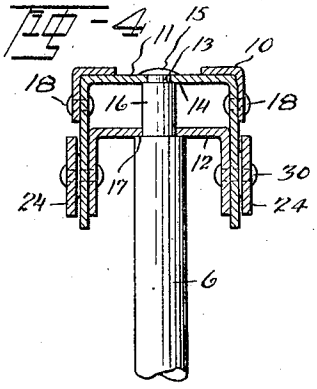
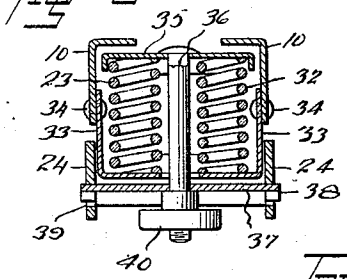


Fig-5



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Patented July 15, 1924. 1,501,181

UNITED STATES PATENT OFFICE.

CLIFFORD H. PETERS, OF LAKEWOOD, AND EDWARD D. BUMP, OF CLEVELAND, OHIO, ASSIGNORS TO THE BETTCHER STAMPING & MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

CHAIR.

Application filed April 24, 1922. Serial No. 556,249.

To all whom it may concern:

Be it known that we, (1) CLIFFORD H. PETERS and (2) EDWARD D. BUMP, citizens of the United States, residing at (1) Lakewood and (2) Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Chairs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to chairs of the type commonly known to the trade as stenographer's chairs. In chairs of this type, the seat is mounted on a turning post and the back is spring-supported in such manner that it can be tilted back and forth to a certain extent; the back is also adjustable with respect to its supporting arms, so that it can be set at various inclinations.

The object of the present invention is to improve the general structure of such chair, particular attention being given to the means for supporting the back in position to enable it to be inclined under yielding pressure. The structure also has other advantages in detail, as will be more fully apparent from the following description.

In the accompanying drawings, Fig. 1 represents a side elevation of the chair; Fig. 2 a partial vertical section of the same; Fig. 3 a plan view, the seat being removed and certain parts being shown in section; Fig. 4 a sectional view on the line 4—4 of Fig. 2; Fig. 5 a sectional view on the line 5—5 of Fig. 2; Fig. 6 a detail of the adjusting device for the back, showing a slight modification of the pin-and-slot connection; Fig. 7 a detail in perspective of a rocking bar or cross member; and Fig. 8 a detail of one of the back-supporting arms.

As shown in the drawings, the chair includes a post 6 mounted to turn in a hub 8, supported by legs 7 in any suitable manner. The seat 9 is fastened to right and left brackets 10 which preferably consist each of an angle iron pressed to the form shown, the seat being mounted on the upper horizontal flanges of the angles. The post 6 is connected to the seat brackets by means of a head consisting of an upper and outer channeled member 11 and a lower and inner channeled member 12, the former member having a hole to receive a stud 13 at the top of the post and resting on a shoulder 14 beneath the stud, the stud being riveted to the head member 11, as indicated at 15. The lower head member 12 has a hole through which a neck 16 at the top of the post extends and rests upon a shoulder 17 beneath said neck. The brackets are riveted to the upper head member, as indicated at 18; and, by the construction shown and described, the head is rigidly fixed to the post and connected to the seat brackets.

The back piece 20 is mounted on an upright standard 21 the lower end of which is fastened between two plates 22 the outer sides or faces of which are grooved, as indicated at 23, to engage with corresponding grooves or indentations 24^a in the adjacent faces of the rear ends of arms 24 which support the back; see Figs. 1, 2, 6 and 8. The plates 22 are pivoted at their front ends on a cross pin 25 which is riveted to and extends between the arms 24. A bolt 26 extends through the lower end of the standard 21 and through slots 27 in the ends of the arms 24 and may be tightened by a hand nut 28 so as to clamp the parts at adjustment. The slots are concentric with the pin 25 and permit the standard 21 and the plates 22 to be turned on such pin to vary the inclination of the standard 21 with respect to the arms 24, and the parts may be held as set by tightening the nut 28. The pin 26 may be angular in section to prevent turning, as indicated in Fig. 2; or it may be of ordinary round stock, as indicated at 26^a, Fig. 6.

The arms 24 which support the back are pivoted to the head by pivot pins 29, and the arms will swing up and down to the extent permitted by pins 30 which are set in the depending flanges of the head sections 11 and 12 and project into slots 31 in the front ends of the arms 24. The pins 30, by striking the arms at the ends of the slots, serve as stops to limit the swinging of the arms; and when the arms swing, the back will tilt forwardly or backwardly to a corresponding extent.

The arms are normally supported with the back tilted forwardly by a pair of coiled springs 32 which rest in seats in a hanger 33 riveted as at 34 to the vertical flanges of the seat brackets 10, and the upper ends of

the springs are confined by a double cap 35 through which extends the headed end of a bolt 36, which depends between the springs and extends at its lower end through a cross plate or bridge piece 37. This bridge piece, as shown in Fig. 7, is flanged to give it strength and is formed at its outer ends with knife-edge bearings 38 which project into V-shaped notches 39 in the arms 24, the knife edges resting against the arms at the apexes of the notches. The tension of the springs is controlled by a hand nut 40 on the lower projecting end of the bolt 36.

It will be apparent that, when the back is forced or inclined backwardly, the arms 24 will swing downwardly on their pivots 29 and thereby compress the springs between the hanger 33 and the cap piece 35, thereby providing a yielding support for the back; and the springs are conveniently housed under the rear of the seat and between the side arms which support the back. When the pressure on the back is removed, the springs lift the arms and carry the back to its original position.

By the means described, a simple and effective structure is provided for mounting a yielding back on a chair of the type referred to and also for permitting an initial adjustment of the back to any desired angle; and this result can be accomplished by means of parts most of which can be pressed or stamped and punched from sheet metal, with the advantage of cheapness and rapidity of manufacture.

The details are capable of change or modification, and no limitation in this respect is implied.

Having thus described our invention, what we claim is:

1. A chair comprising a seat and its support, a pair of horizontally extending arms pivoted to the support at their front ends and extending rearwardly beyond the seat, a back mounted on the rear ends of said arms, a hanger secured to the under side of the seat, a pair of springs standing vertically upon said hanger, a cap on the upper ends of the springs, a bolt extending downwardly from said cap and through the hanger, and a cross-connection between the lower end of the bolt and the arms.

2. A chair comprising a supporting post having a head thereon, a pair of seat brackets secured to opposite sides of the head, a pair of rearwardly extending arms pivoted at their front ends to opposite sides of the head, a back mounted on the rear ends of the arms, a spring hanger attached to the seat brackets behind the head, a spring standing on said hanger between said brackets, a bolt supported on the upper end of the spring and extending downwardly through the hanger, and a cross piece connected to the lower end of the bolt and bearing upwardly against the arms, whereby the spring resists depression of the arms.

3. A chair comprising a supporting post having a head thereon, a pair of seat brackets secured to opposite sides of the head, a pair of rearwardly extending arms pivoted at their front ends to opposite sides of the head, a back mounted on the rear ends of the arms, a spring hanger attached to the seat brackets behind the head, a spring standing on said hanger between said brackets, a bolt supported on the upper end of the spring and extending downwardly through the hanger, and a cross piece connected to the lower end of the bolt and bearing upwardly against the arms, whereby the spring resists depression of the arms, said arms having notches therein and the cross piece having knife bearings at its ends projecting into said notches.

4. A chair comprising a supporting post, a pair of inverted channel members fastened to said post in spaced relation, a pair of seat brackets fastened to the upper of said members, a pair of rearwardly extending arms pivoted at their front ends to opposite sides of said channel members, a back mounted on the rear ends of said arms, a spring hanger attached to said seat brackets, a spring positioned on said hanger between said brackets, a bolt connected to the upper end of said spring and extending downwardly through said hanger, and means connecting the lower end portion of said bolt with said arms whereby said spring resists depression of said arms.

5. A chair comprising a supporting post having a head thereon, a pair of seat brackets secured to opposite sides of the head, a pair of rearwardly extending arms pivoted at their front ends to opposite sides of the head, a back mounted on the rear ends of the arms, a spring hanger attached to the seat brackets behind the head, a pair of springs standing on said hanger between said brackets, a cap spanning the upper ends of said springs, a bolt attached to said cap and extending downwardly between said springs and through said hanger, and a cross piece connected to the lower end of the bolt and bearing upwardly against said arms whereby the springs resist depression of the arms.

In testimony whereof, we hereunto affix our signatures.

CLIFFORD H. PETERS.
EDWARD D. BUMP.