

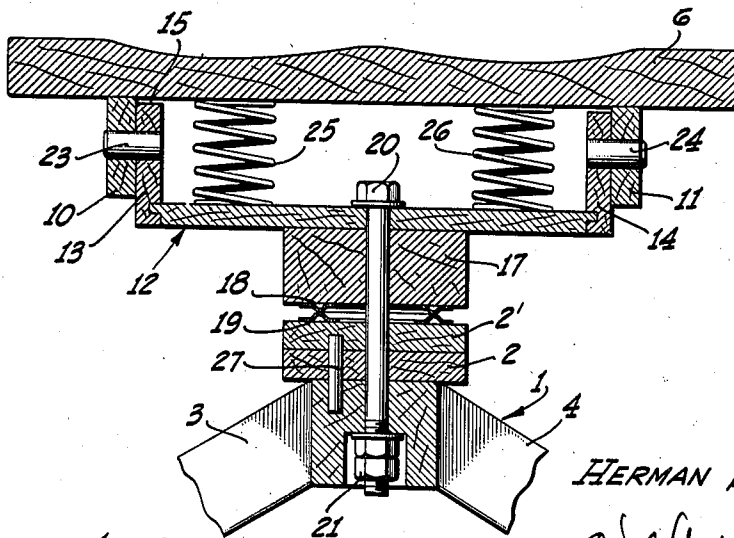
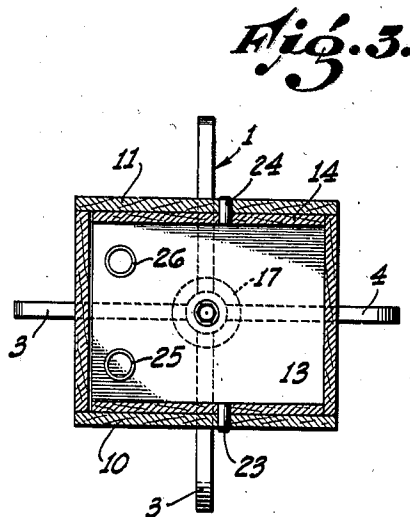
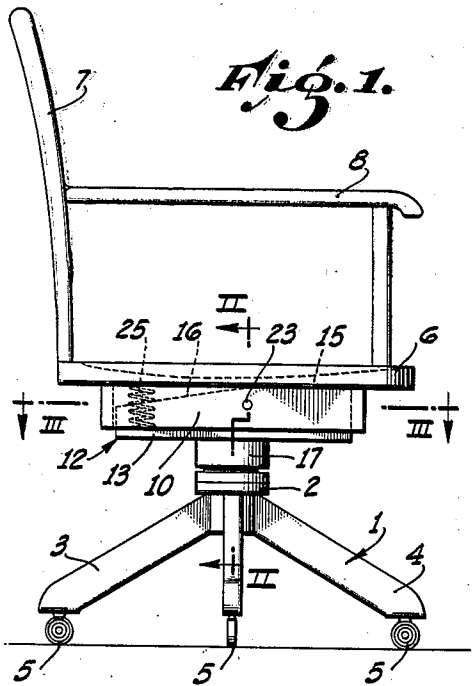
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TILT BACK SWIVEL CHAIR

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TILT BACK SWIVEL CHAIR

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1 Claim. (Cl. 155-77)

This invention pertains to the construction of a tilt back swivel chair. The construction of the present invention is characterized by its simplicity, effectiveness and by its freedom of metal parts or elements, thereby permitting the chair to be manufactured from relatively inexpensive, easily attained materials such as wood, without the necessity of employing numerous castings, fittings, machined parts and the like.

Tilt back chairs, particularly for office use, have been manufactured for a great many years and are characterized by the use of a pedestal or base coupled to a seat generally provided with a back and arms, whereby the seat may be pivoted about a vertical axis and simultaneously, under the control of the occupant of the chair, said seat may be tilted about a horizontal axis extending from side to side of the occupant. Chairs of this character have ordinarily employed a number of metal parts including springs and fittings which connected the seat to the pedestal and permitted the tilting motion to take place.

Tilt back chairs of the character described have been found conducive to increased efficiency of office workers, the tilting motion permitting a certain amount of relaxation and exercise without causing the occupant to leave his desk. However, such chairs require metal parts which need be cast, machined and otherwise finished and the shortage of metal and skilled metal workers has substantially curtailed the manufacture of tilt back chairs.

The present invention is directed to a tilt back chair capable of pivoting about a vertical axis, the chair construction of the present invention virtually eliminating the use of metal.

Generally stated, the construction of the present invention contemplates the use of a platform pivotally connected to the pedestal or base, said platform interlocking with downwardly extending retaining members carried by the bottom of the seat, the platform and retainers being pivotally connected about a horizontal axis, the elements being so arranged that a limited tilting motion may be imparted to the chair seat. Since the platform, retainers and even the horizontally disposed hinge pins may be made of wood or other non-strategic material, a great saving in metal and the time of skilled metal workers is attained.

An object of the present invention, therefore, is to disclose and provide a tilt back chair of improved simple construction.

A further object of the invention is to disclose and provide an effective tilt back chair in which metal parts have been virtually eliminated.

These and other objects of the invention will become apparent to those skilled in the art from the following detailed description of the invention, reference being had to the appended drawing for the purpose of facilitating understanding.

In the drawing:

Fig. 1 is a side elevation of one form of chair embraced by the present invention.

Fig. 2 is an enlarged transverse section taken along the plane II-II of Fig. 1.

Fig. 3 is a horizontal section taken along the plane III-III.

As shown in the drawing, the chair may include the usual elements, such as a pedestal, generally indicated at 1, embracing the centrally disposed pier 2 and radially and downwardly extending legs 3, 4 and the like, such legs being ordinarily provided with casters as indicated at 5. Positioned above the pedestal is the seat 6 provided with a back 7 and arm rests 8.

A pair of spaced, downwardly extending retainer elements is attached to the bottom of the seat, such elements being indicated at 10 and 11. These elements extend from front to rear of the seat 6 and are preferably spaced a distance not less than one-half the total width of the seat.

A platform, generally indicated at 12, is provided, said platform having a pair of spaced upwardly extending members 13 and 14 adapted to nest within the downwardly extending retainers 10 and 11. These upwardly extending members 13 and 14 preferably have a length in excess of 0.5 or 0.6 of the depth of the seat. The upper edges of the members 13 and 14 are substantially flat or horizontal in their front portions, the rear portion of the upper edges of said members being rearwardly and downwardly inclined.

The front or substantially horizontal upper edge is indicated at 15 whereas the rearwardly and downwardly inclined edge is indicated at 16. The flat or horizontal edge portions 15 are adapted to rest against the bottom of the seat 6 and the length of these flat horizontal edges 15 is less than the length of the inclined edges 16.

Means are provided for attaching the platform 12 to the pedestal for pivotal movement about a vertical axis. Such means may include a boss 17 carried by the platform, the lower surface of the boss being provided with an annular ring 18 having a downwardly extending bead or annular protuberance. The ring 18 is preferably of metal or some relatively hard, smooth material. Opposing this ring is the top of the pier 2 which is also provided with an annular ring 19 having an

upwardly extending bead or protuberance adapted to contact with the ring 18. An axial bore is formed through the boss 17 and the pier 2 of the pedestal and the platform 12 is connected to the pedestal as by means of a bolt 20 and lock nuts 21. Pivotal movement of the platform on the pedestal is thus permitted.

Horizontally extending pivot pins 23 and 24 connect the retainers 10 and 11 with the corresponding upwardly extending members 13 and 14. Instead of separate pins 23 and 24, a single long pivot pin may be used. The axis of the pivot pins 23 and 24 preferably lies forwardly of the vertical axis of pivotal movement between the platform and the pedestal as best illustrated in Fig. 1, since it has been found that when the pivot axis is so disposed substantially no load is carried by the pivot pins, substantially all of the weight being supported directly by the upper edges of members 13 and 14. Two or more compression springs are carried by the rear of the platform 12 and between the platform and the bottom of the seat 6. Said springs are indicated at 25 and 26 and normally cause the bottom of the seat 6 to be in contact with the flats 15 of the upwardly extending members 13 and 14. The occupant, however, may lean against the back 7 and overcome the springs 25 and 26, thereby causing the seat 6 to tilt about the pivot pins 23 and 24 so as to cause the bottom of the seat 6 to contact the inclined portions 16 of the members 13 and 14. It is to be understood that instead of springs 25 and 26, compressible elements made of plastic, rubber composition or the like may be substituted.

In order to permit vertical adjustment, the pier 2 may be made of more than one piece and provision made for the insertion or removal of certain shims or portions thereof so as to raise or lower the level at which the two opposing rings 18 and 19 are placed. The pier 2, for example, may be made of the elements 2 and 2' pinned together as by means of a pin 27. An additional annular ring of material could then be inserted

between the elements 2 and 2', such element being provided with a suitable perforation to receive the pin 27, thereby increasing the height of the chair.

It will be evident from the description given hereinabove that a chair of simple construction has been provided, the chair being capable of pivotal movement about a vertical axis and tilting about a horizontal axis without the necessity of employing complex arrangements of springs, castings and other metal parts requiring careful workmanship. All changes and modifications coming within the scope of the appended claim are embraced thereby.

I claim:

In a tilt back swivel chair including a seat and a pedestal, the combination of: a pair of spaced downwardly extending retainer elements attached to the bottom of the seat and extending from front to rear thereof; a platform provided with a pair of spaced upwardly extending members adapted to nest within said retainers, said members having a length not less than 0.6 of the depth of the seat, the upper edge of each of said members being flat in front and downwardly and rearwardly inclined in back, the length of said inclined upper edges being greater than the length of the front portion of said upper edges; means for attaching said platform to the pedestal for pivotal movement thereon about a vertical axis, said means including a pair of opposed annular rings provided with opposing protruding beads adapted to slidably contact each other, one of the rings being connected to the pedestal and another to the platform; horizontally extending pivot pins connecting said retainer elements and upwardly extending members, said pivot pins lying forwardly of the vertical axis of pivotal movement between platform and pedestal; and spring means carried by the rear of the platform and between the platform and bottom of the seat.

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