Dec. 18, 1934. D. P. ROWLAND 1,984,549

CHAIR

Filed May 31, 1932

Fig.1.

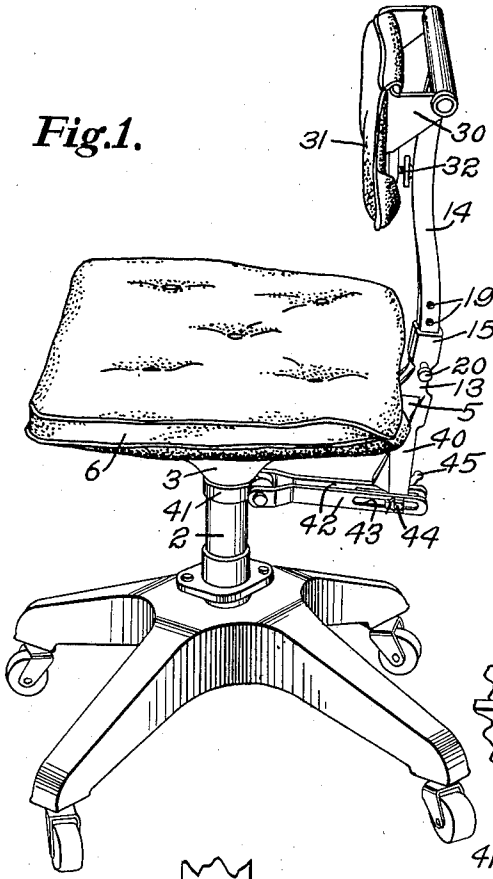


Fig.2.

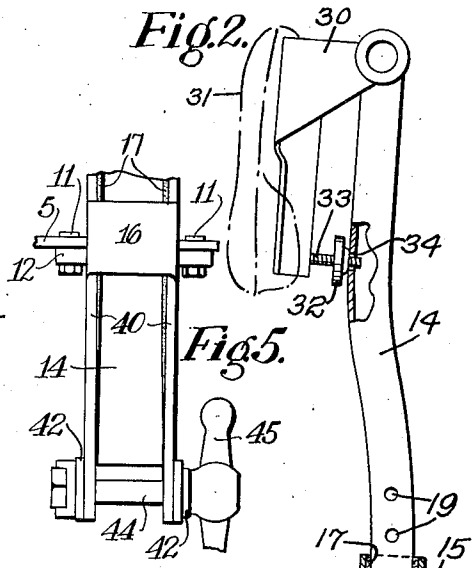


Fig.5.

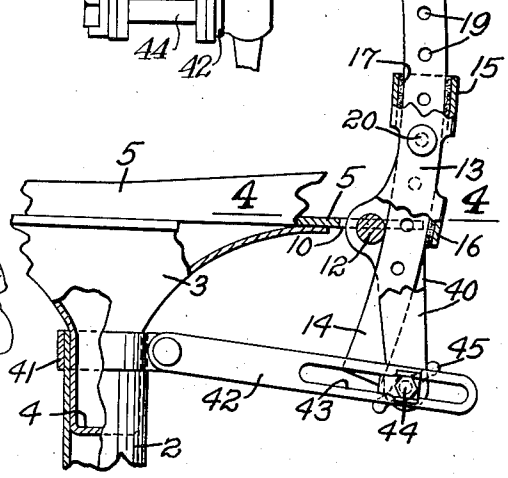


Fig.3.

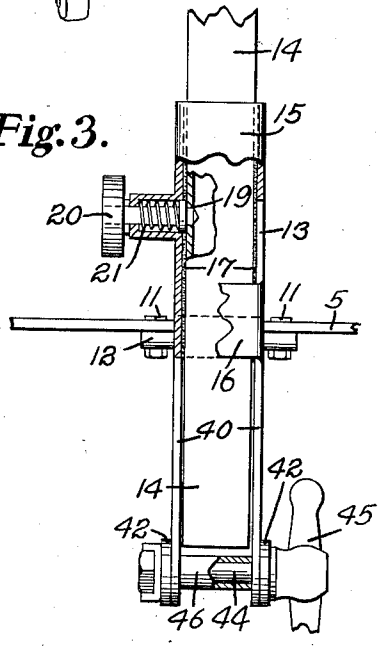
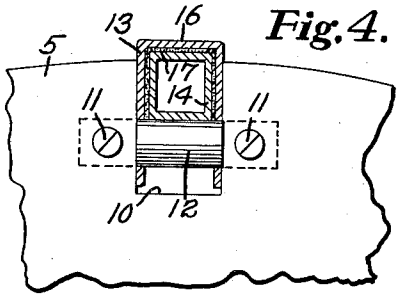


Fig.4.



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CHAIR

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6 Claims. (Cl. 155—157)

This invention relates to a chair and it is particularly concerned with the seat and back rest constructions of a metal chair.

It is desirable, in chairs, particularly office chairs, to have them as small as possible in order that they may occupy a minimum amount of space and not be bulky. At the same time the chair seat must have sufficient area to comfortably support an occupant. It is likewise very desirable to have the back rest positioned so as to conform to the natural body curves in order that an occupant who is continuously seated in the chair may not tire. It has been found that, if the back rest standard is supported closely adjacent the rear of the seat, the standard interferes with the operator sitting far enough back on the seat to get the benefit of the entire area of the chair seat. This requires that the chair seat be extended farther forward than would otherwise be necessary. The present invention has been directed to a combination seat and back rest construction in which a minimum area of chair seat is employed and at the same time the back rest standard is constructed in such a way as not to interfere with the body of the operator.

Accordingly, one of the objects of the invention is to provide an improved seat and back rest construction for chairs.

A more particular object is to provide an improved back rest support.

In constructing a chair seat out of metal, it is desirable to have the construction as simple as possible and, at the same time, to have it present an artistic appearance. The present invention has been directed to the provision of such a construction.

Another object is, therefore, to provide an improved seat construction.

Other objects of the invention will appear from the following specification and drawing.

An embodiment of the invention is shown in the accompanying drawing in which:

Figure 1 is a perspective side view of the chair showing both the seat and the back rest;

Fig. 2 is a side elevation of the improved back rest with certain parts cut away to show the construction and method of adjustment;

Fig. 3 is a partial rear elevation with certain parts cut away to show the construction more clearly;

Fig. 4 is a sectional plan view on the line 4—4 of Fig. 2; and

Fig. 5 is a partial rear elevation of a portion of the structure shown in Fig. 3 of a modified form of the invention.

The chair is provided with a base 1 rotatably supporting a seat standard 2.

The seat comprises a member 3 stamped out of a single sheet of metal and formed in the shape of a truncated cone which, when the seat is mounted on the chair, is in inverted position. The lower end 4 of this cone (Fig. 2) is shaped in the form of a cylindrical sleeve adapted to fit inside of and be attached to the seat supporting standard 2. Fixed to the top of the cone 3 is a single sheet of metal 5 which is preferably spot welded to member 3 so that the two are integral. This flat metal sheet forms the seating surface of the chair and it is of a size and shape as desired, being, in the chair shown, of relatively small area and covered with a cushion 6. The cone 3 supports the sheet around its outside edges, thus leaving the center of the sheet unsupported. The sheet has enough flexibility to yield slightly at the center so as to get away from the hard, unyielding surface often encountered in chairs.

The back rest is connected to the seat and held in position on the chair by a construction as follows:

The metal plate 5 of the chair seat has a slot 10 in its rear edge as shown in Fig. 4. Fixed to the plate by the bolts 11 is a pivot pin 12 which is positioned in the slot 10 as indicated in Figs. 2 and 4. Journaled on this pivot is a tubular metal sleeve 13 of rectangular cross section, preferably square and slidably mounted in this sleeve is a back rest standard 14 which is also made of tubular metal and rectangular in cross section, preferably square. The portion 15 of the sleeve 13 which is above the pivot 12 is curved, as indicated in Fig. 2, preferably on a radius of about 20 inches. This upper end 15 of the sleeve surrounds the four sides of the tubular back rest standard 14 as indicated in Figs. 1 and 2. While the lower portion 16 of the sleeve surrounds only three sides of the tubular back rest standard 14, said standard contacting the pivot 12 on its forward side as shown in Fig. 2. The interior of the sleeve 13 is provided with a lining 17 of felt or the like which prevents the surface of the back rest standard from becoming marred by the sliding of it during adjustments. The back rest standard 14 is provided with a plurality of openings 19 with which a spring pressed pin 20 is adapted to cooperate as shown in Fig. 3. This pin is urged by spring 21 into the opening 19 with which it is in register and, when it is desired to adjust the back rest standard up or down, the pin 20 is pulled out and the standard moved to the proper

position after which the pin is allowed to enter the opening then registering with the pin.

A back rest 30 is pivoted to the top of the standard 14 and a cushion 31 is attached to this back rest. The angle of the back rest may be adjusted by means of a thumb nut 32 screw threaded onto a stud 33 attached to the back rest 30 and extending loosely through an opening 34 in the standard 14.

It will be observed that part of the back rest standard 14 is curved in the same manner as is the tubular sleeve 13. The sleeve and the standard are not only located to the rear of their pivot 12, but they are also curved to the rear to clear the lower portion of the operator's body. The standard then curves forward to support the back rest 30 at a point where it will engage the middle of the back of an occupant and firmly and comfortably support him and, at the same time, allow him to sit well back on the chair seat. This has the important advantage that a relatively small seat area may be used because the operator can sit well back on the seat without being interfered with by the back rest standard. In other words, the size of the chair may be reduced to a minimum and at the same time a comfortable and amply large chair is provided.

The sleeve 13 has two downwardly extending side portions 40 as shown in Figs. 2 and 3. Pivoted to a collar 41 which is attached to the seat standard 2 are a pair of links 42 which extend on the opposite outside sides of the side portions 40 of the sleeve 13. The links 42 are slotted at 43, as shown in Fig. 2, and, extending through these slots and through openings in the sides 40 of the sleeve, is a bolt 44 (Fig. 3) on which a thumb nut 45 is screw threaded. A collar 46 is preferably positioned between the two side members 40 in order to space them. It will be clear that, when the thumb nut 45 is tightened, the links 42 will be clamped against the sides 40 of sleeve 13 which, in turn, are clamped against the ends of the collar 46. The sleeve 13 is thus adjustably held in position about its pivot. By loosening the thumb nut 45, the sleeve 13 may be adjusted about its pivot to different positions to rock the entire back rest assembly forward or backward.

From the construction thus far described, it will be clear that the construction provides three adjustments, namely, an adjustment for the angle of the back rest by means of the nut 32, a height adjustment for the back rest standard by means of which the height of the back rest may be varied, and a swinging adjustment for the entire back rest assembly about the pivot 12.

It is possible to use the thumb nut 45 to not only hold the sleeve 13 in adjusted position about its pivot but to also hold the back rest standard 14 in position in the sleeve 13. In order to do this the releasable pin 20 and the collar 46 are omitted. When the thumb nut 45 is tightened, the links 42 are not only clamped against the sides 40 of the sleeve 13, but the sides of the sleeve are sprung inwardly and clamped tightly about the standard 14. The one thumb nut thus performs the two functions of holding the sleeve in adjusted position and of holding the standard in position in the sleeve.

It is to be understood that the construction shown is for purposes of illustration only and that variations may be made in it without departing from the spirit and scope of the invention as defined by the appended claims.

I claim:

1. A chair having a seat comprising a metal seat, a slot in the rear of said seat, a tubular metal sleeve pivoted in said slot, means for holding said sleeve in different adjusted positions about its pivot, a tubular metal back rest standard slidably mounted in said sleeve, and means for releasably holding said tubular back rest standard in different adjusted positions of said sleeve.

2. A chair having a seat, a standard supporting said seat, a tubular sleeve pivoted to the rear of said seat, a pair of links pivoted to said seat standard, adjustable connections between said links and said sleeve to hold said sleeve in different adjusted positions about its pivot, a back rest standard slidably mounted in said sleeve, and means for holding said standard in different adjusted positions in said sleeve.

3. A chair having a seat, a standard supporting said seat, a tubular sleeve pivoted to the rear of said seat, means pivoted to said seat standard, adjustable connections between said means and said sleeve to hold said sleeve in different adjusted positions about its pivot, a back rest standard slidably mounted in said sleeve, and means for holding said standard in different adjusted positions in said sleeve.

4. A chair having a seat, a pivot carried directly by the seat adjacent the rear edge thereof, a sleeve pivotally supported by said pivot, a back rest standard slidable in said sleeve, means for holding said sleeve in different adjusted positions about its pivot, and means for holding said standard in different adjusted positions in said sleeve.

5. A chair having a seat, a standard supporting said seat, a tubular sleeve pivoted to the rear of said seat, a tubular back rest standard slidable in said sleeve, a pair of links pivoted to said seat standard and extending rearwardly on opposite sides of said tubular sleeve, and means for clamping said links against portions of said sleeve to hold said sleeve in adjusted position about its pivot and for clamping said portions of said sleeve against said back rest standard to hold said standard in adjusted position within said sleeve.

6. A chair having a seat, a standard supporting said seat, a tubular sleeve pivoted to the rear of said seat, a link connected to said seat standard and to said sleeve, one of said connections being adjustable to hold said sleeve in different adjusted positions about its pivot, a back rest standard slidably mounted in said sleeve, and means for holding said standard in different adjusted positions in said sleeve.

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