July 28, 1925. 1,547,849

J. VAN DEN BOOGAARD ET AL

CHAIR

Filed March 9, 1925

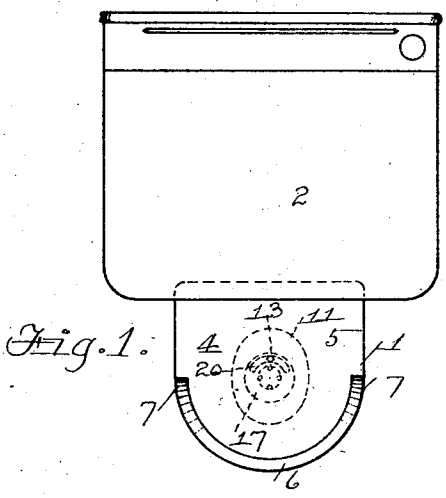


Fig. 1.

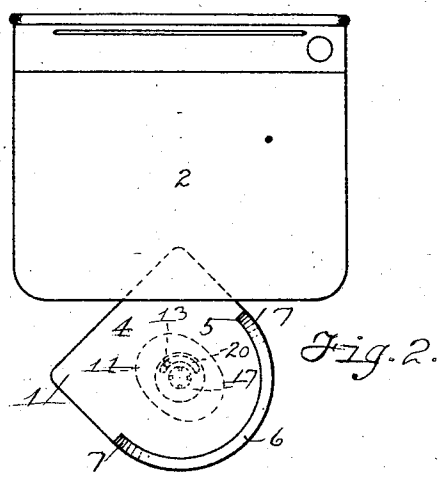


Fig. 2.

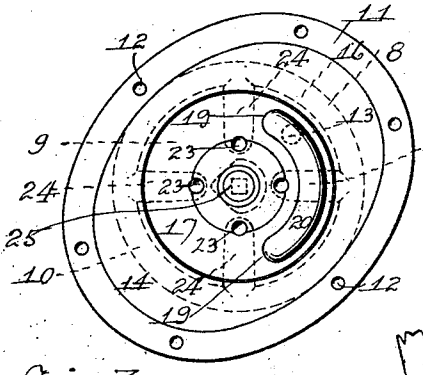


Fig. 3.

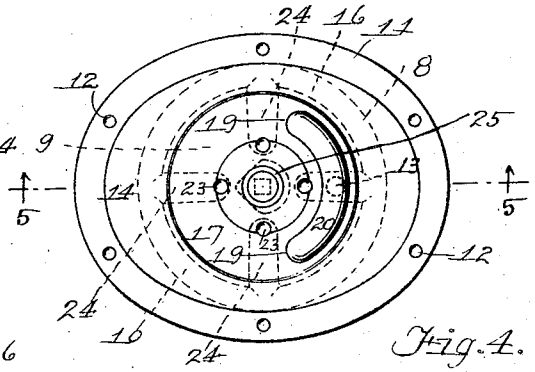


Fig. 4.

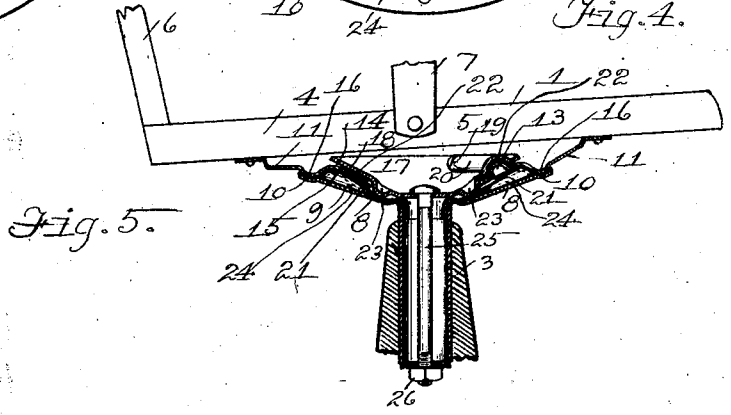


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN VAN DEN BOOGAARD AND GEORGE H. HAMILTON, OF GRAND RAPIDS, MICHIGAN, ASSIGNORS TO AMERICAN SEATING COMPANY, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF NEW JERSEY.

CHAIR.

Application filed March 9, 1925. Serial No. 14,020.

To all whom it may concern:

Be it known that we, JOHN VAN DEN BOOGAARD, a subject of the Queen of the Netherlands, and GEORGE H. HAMILTON, a citizen of the United States, both residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Chairs, of which the following is a specification.

The present invention relates to chairs; and its object is, generally, to provide an improved swivelling support or mounting for a chair.

This and any other and more specific objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the chair structure hereinafter particularly described in the body of this specification and illustrated by the accompanying drawings, in which:—

Figure 1 is a top plan view of a chair and a desk fixed in interrelative positions;

Figure 2 is a like view of the same, but showing the chair turned to a different angle relatively to the desk;

Figure 3 is a top plan view of certain of the chair-mounting parts;

Figure 4 is a like view, but showing said parts in an interrelatively different angular position; and

Figure 5 is a side view of a portion of the chair, showing its mounting parts in axial section taken on a vertical plane corresponding to line 5—5 of Figure 4.

When a swivelling or "revolving" chair and a desk usable by the same person occupy fixed positions convenient for such use, (as in the case of school seats and desks), the turning of the chair on its swivel mounting is likely to cause its back or arm to strike the desk and thus mar both chair and desk. The present invention obviates this danger by providing improved means for mounting the chair on its base, whereby the turning movement of the chair is limited.

In the embodiment of the invention as shown in the drawings, the chair 1 (usually positioned fixedly relatively to the desk 2) comprises a base element designated generally 3 and a seat element designated generally 4, the seat element being mounted on the base element turnably about a vertical axis. This seat element 4 comprises the usual wooden seat 5 with a back 6 and arms 7.

A radially-extending horizontally-disposed metallic plate 8 is carried in fixed position (i. e. non-turnably) on the base element, and has a concave upper surface 9 and a circular groove 10. A radially-extending horizontally-disposed plate 11 is carried by the seat element, (being secured to its under side as by screws passing through orifices 12), this plate having an upwardly-extending projection or lug 13, and a concave upper surface 14 and a convex under surface 15. This plate is also provided with a circular rib 16 bearing in the groove 10. A third horizontally-disposed plate 17 has a convex under surface 18 bearing on the upper surface of the seat element's plate 11, and has also stops 19, 19 (being the ends of a groove 20) spaced apart and adapted to be engaged by the lug 13 to limit the turning movement of the seat element. Friction washers 21, 22, of fibrous material or the like, are interposed between the base element's plate 8 and the seat element's plate 11, and between the seat element's said plate and the uppermost plate 17, respectively.

This last-mentioned plate 17 is held non-turnably on the base element as by its downwardly-extending lugs or projections 23 seated in the radially-extending grooves 24 of the base element's plate 8, such grooves also serving to render this plate more rigid; and this plate 17 is held on the base element and the mounting parts are held in assembled position, by a bolt 25 whose head engages this plate 17 and, passing through a central opening in the seat element's plate 11, is held securely relatively to the base element by the nut 26 on the bolt's threaded lower end.

It will be seen that the plates 8, 11 and 17 may be formed from metal sheets die-pressed into required shape; and that, thus shaped as shown in the drawings, a strong and rigid mounting for the seat element is provided, particularly inasmuch as the plates 8 and 17 fixed on the base element, slidably bear on the seat element's plate 11 between them.

We claim:

1. In a chair: a base element carrying a radially-extending horizontally-disposed fixed plate having a concave upper surface; a seat element mounted on the base element turnably about a vertical axis and carrying

a radially-extending horizontally-disposed fixed plate having an upwardly-extending lug and a concave upper surface and a convex under surface bearing on the upper surface of the base element's plate; a horizontally-disposed plate having a convex under surface bearing on the upper surface of the seat element's plate, and spaced stops adapted to be engaged by said lug to limit the seat element's turning movement, the last-mentioned plate being held non-turnably on the base element.

2. In a chair: a base element carrying a radially-extending horizontally-disposed fixed plate having a concave upper surface; a seat element mounted on the base element turnably about a vertical axis and carrying a radially-extending horizontally-disposed fixed plate having an upwardly-extending lug and a concave upper surface and a convex under surface bearing on the upper surface of the base element's plate; a horizontally-disposed plate having a convex under surface bearing on the upper surface of the seat element's plate, and spaced stops adapted to be engaged by said lug to limit the seat element's turning movement, the last-mentioned plate being held non-turnably on the base element; friction washers between the base element's plate and the seat element's plate and the last-mentioned plate.

3. In a chair: a base element carrying a radially-extending horizontally-disposed fixed plate having a circular groove; a seat element mounted on the base element turnably about a vertical axis and carrying a radially-extending horizontally-disposed fixed plate having an upwardly-extending lug and a circular rib bearing in said groove; a horizontally-disposed plate bearing on the upper surface of the seat element's plate and having spaced stops adapted to be engaged by said lug to limit the seat element's turning movement, the last-mentioned plate being held non-turnably on the base element.

4. In a chair: a base element carrying a radially-extending horizontally-disposed fixed plate having a concave upper surface; a seat element mounted on the base element turnably about a vertical axis and carrying a radially-extending horizontally-disposed fixed plate having an upwardly-extending lug and a concave upper surface and a convex under surface bearing on the upper surface of the base element's plate; a horizontally-disposed plate having a convex under surface bearing on the upper surface of the seat element's plate, and spaced stops adapted to be engaged by said lug to limit the seat element's turning movement; means extending through the seat element's plate for anchoring the last-mentioned plate non-turnably on the base element.

In testimony whereof we have hereunto set our hands at Grand Rapids, Michigan, this 20th day of February, 1925.

JOHN VAN DEN BOOGAARD.
GEORGE H. HAMILTON.