Feb. 3, 1925. 1,524,766

J. VAN DEN BOOGAARD

CHAIR

Filed July 15, 1921

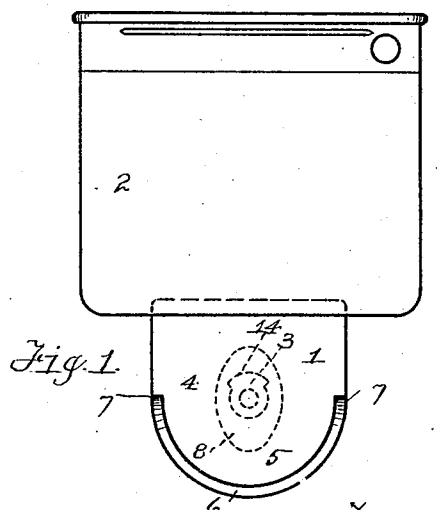


Fig. 1.

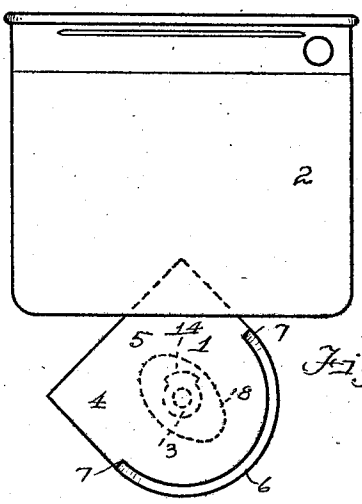


Fig. 2.

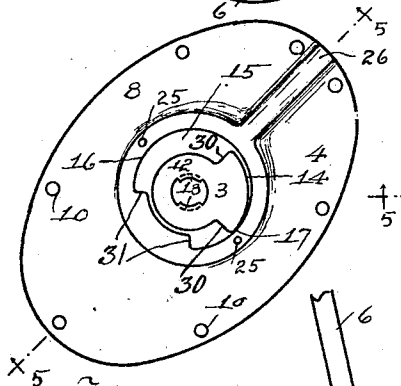


Fig. 3.

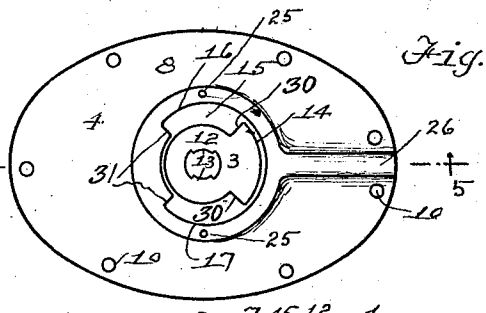


Fig. 4.

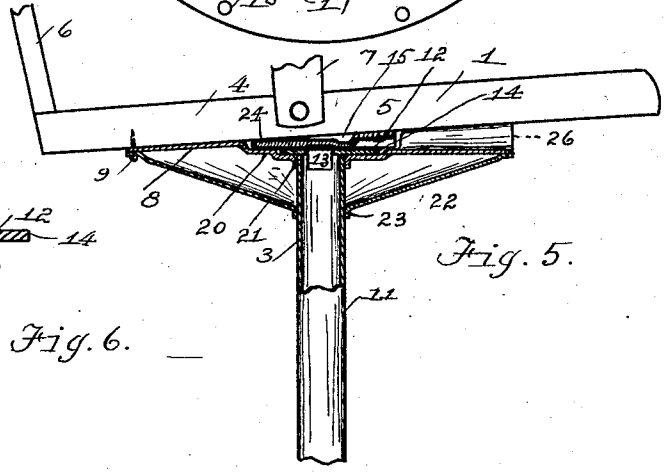


Fig. 5.

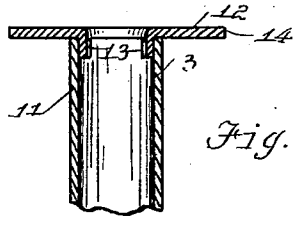


Fig. 6.

Witness:

Geo. L. Chapel

Inventor:

John Van den Boogaard

by Cyrus W. Rice

Attorney.

Patented Feb. 3, 1925. 1,524,766

UNITED STATES PATENT OFFICE.

JOHN VAN DEN BOOGAARD, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO AMERICAN SEATING COMPANY, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF NEW JERSEY.

CHAIR.

Application filed July 15, 1921. Serial No. 484,917.

To all whom it may concern:

Be it known that I, JOHN VAN DEN BOOGAARD, a subject of the Queen of the Netherlands, and 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; and, more particularly, to provide such a mounting whereby the swivelling movement of the chair when approaching the limit of such movement may be increasingly retarded or cushioned.

This and any other objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the 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 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 such parts in an interrelatively different angular position;

Figure 5 is a side view of a portion of a chair, showing its mounting parts in axial section taken on a vertical plane corresponding to line 5—5 of Figures 3 and 4; and

Figure 6 is a longitudinal central sectional view of a portion of the base element or standard whereby the chair seat is supported.

When a swivelling chair and a desk intended for use by the same person occupy positions convenient for such use, particularly where such positions are fixed relatively to each other (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 them both. If the usual stops are provided to prevent this result, the sudden arresting of the turning movement of the chair thereby causes noise and sometimes a breaking of the parts or a dislocation of the same. The present invention obviates these difficulties by providing means whereby the turning movement of the chair when approaching the limit of such movement is increasingly retarded or cushioned.

In the embodiment of the invention chosen for illustration by the drawings and for detailed description in the body of this specification, 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 on a vertical axis. This seat element 4 comprises the usual wooden seat 5 with the back 6 and arms 7. A metallic plate 8 fastened, as by screws 9 passing through orifices 10 therein, to the under side of the wooden seat 5. The base element 3 comprises an upright post or standard 11, preferably tubular as shown, to whose upper end is fastened a horizontally disposed plate 12, as by the plate's downturned ears 13 joined to the inner surface of the post as by welding. This plate 12 has a circularly-arcuate edge 14 which in the construction shown is disposed toward the desk 2; and the seat element's plate 8 has a depression 15 having circularly-arcuate inner side surfaces 16, 17, the base element's plate 12 being located in said depression. The arcuate edge 14 of the base element's plate 12 and the arcuate inner surfaces 16, 17 of the seat element's plate 8 form surfaces which approach each other toward the back of the seat; this end is effected by the axis of the arcuate edge 14 of the base element's plate 12 being located nearer the back of the chair than the axis of the arcuate surfaces 16, 17 of the seat element's plate 8. These parts are so interrelatively proportioned and located that, as the seat element is turned either way toward the limit of its swivelling movement, the arcuate edge or surface 14 of the base element increasingly presses on the surface 16 or 17 (as the case may be) of the seat element, and thus retards and cushions such turning movement; when however the seat element is turned far enough toward the position seen in Figures 1 and 4, these surfaces 14 and 16, 17 separate and the seat element turns freely. The seat and base elements are held together by a flange 20 of the plate 8 extending under and turnably bearing on the under side of the plate 12; as shown,

this flange rotatably bears at 21 on the post 11. To provide a more axially-stable rotary bearing for the seat element, it is provided with a downwardly extending dished member 22 having a rotary bearing at 23 on the post 11. A plate 24 which may be secured, as by bolts passing through orifices 25, to the plate 8, turnably bears on the upper surface of the base element's plate 12. An oiling channel leading to the depression 15 is shown at 26. The plates shown may be economically fashioned by dieing them from metal sheets.

The projections or lugs 30, 31 are adapted to mutually engage in the swinging movement of the seat to positively limit such movement after the same has been increasingly retarded.

The invention being intended to be pointed out in the claim, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinbefore described.

I claim:

In a chair; a base element having a horizontally disposed plate fixed thereto adjacent its upper end provided with an arcuate edge; a seat element mounted turnably on the base element on a vertical axis and having a flange bearing on said plate's under side and an arcuate inner surface eccentrically disposed relatively to the axis of said plate's arcuate edge, said edge and said surface being adapted to increasingly press together in certain turned positions of the seat and to separate from each other in other turned positions of the seat, the seat element having a downwardly extending member surrounding said plate and said flange and having a rotary bearing on the base element below said plate, and said flange.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 9th day of July, 1921.

JOHN VAN DEN BOOGAARD.