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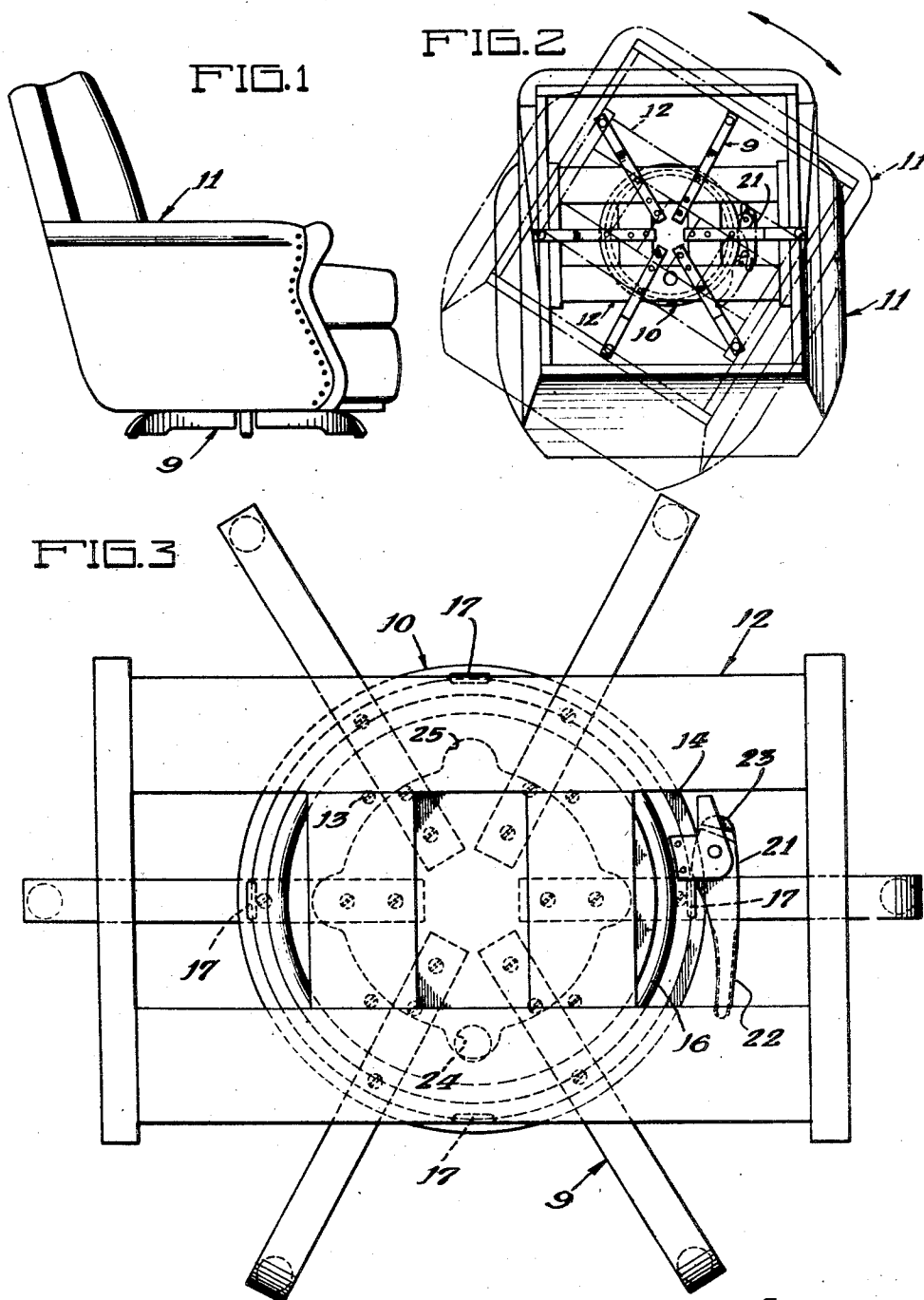
M. FOX

2,671,631

REVOLVING CHAIR BASE

Filed April 27, 1950

2 Sheets-Sheet 1



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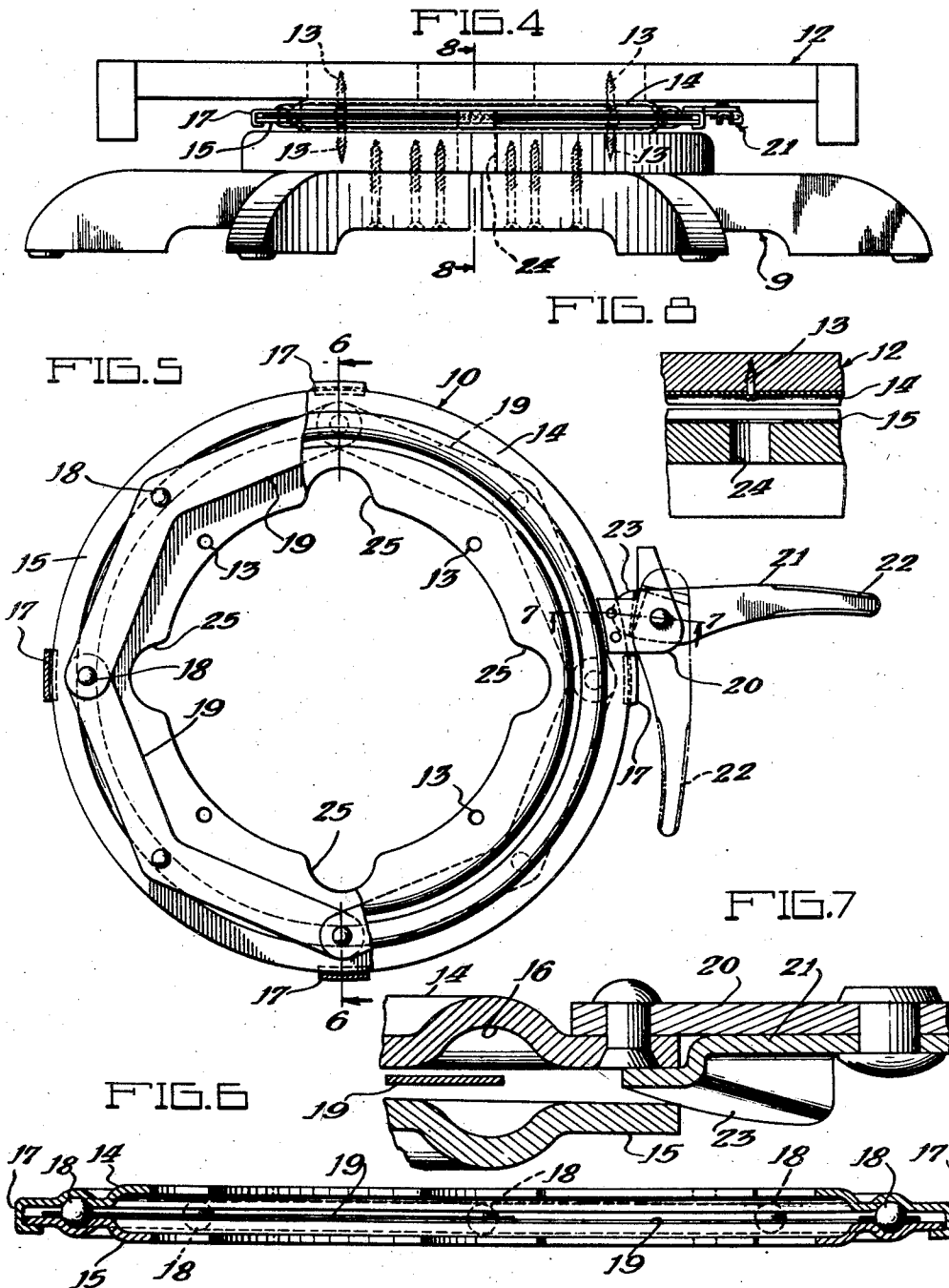
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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REVOLVING CHAIR BASE

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7 Claims. (Cl. 248-349)

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This invention relates to a chair iron, and more particularly to an improved device for swivelly supporting a chair on a base.

The primary object of this invention is to provide a chair iron of economical manufacture, provided with a pair of opposed plates having simple and effective keepers for holding the plates together on spaced ball bearings in an annular race, and also provided with a holding device for securing the chair in any position relative to its base.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which—

Figure 1 is a side elevational view of an upholstered chair, embodying the invention; Fig. 2 is a bottom plan of the chair of Fig. 1, a partially turned position indicated by broken lines; Fig. 3, a plan view of the chair bottom, chair iron and base with the chair removed; Fig. 4, a side elevational view of the assembly of Fig. 3; Fig. 5, a fragmentary top plan view of the chair iron; Fig. 6, a sectional view taken as indicated at line 6-6 in Fig. 5; Fig. 7, an enlarged fragmentary sectional view taken as indicated at line 7-7 in Fig. 5; and Fig. 8 an enlarged fragmentary vertical sectional view taken as indicated at line 8-8 in Fig. 4.

In the embodiment shown, a conventional base 9 is surmounted by a swivel assembly 10 to which a chair 11 is attached by its bottom 12 by use of screws 13.

The chair iron comprises an upper plate 14 and a coacting similar lower plate 15. Each of the plates are formed with an annular groove in its outer portion which forms a ball race 16 when the plates are assembled in opposed relation. The plates may be stamped out of sheet metal material and in general comprise an annular ring open in the center. Four keepers 17 are formed integral with one of the plates and have a free end portion loosely embracing the marginal edge portion of the other plate. In this particular embodiment, the keepers are preferably integral with the upper plate, that is, the plate to be attached to the chair bottom 12. The keepers are sufficiently loose to allow the upper plate to revolve on a plurality of ball bearings 18 positioned in the race 16, yet retain the plates in sufficiently close relationship to prevent loss of the ball bearings from the race.

The ball bearings are held in spaced relationship by four link spacer bars 19, each being a flat bar having angularly offset portions. Each link bar has an end opening and an opening

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at the angle of each bar for receiving a ball bearing. The link bars retain the balls apart and are linked together by overlapping engagement with one ball at the adjoining ends of the bars. Each bar 19 is interchangeable with any of the other bars 19, and each has a width greater than the ball race so that they ride on the lower plate 15.

A holding device is provided for securing the chair in any position relative to its base as best seen in Figs. 5 and 7. A supporting lug 20 is riveted to the upper plate 14 to support the holding member 21 pivotally mounted thereon. The member 21 has a hand-grip portion 22 and a wedge portion 23 which may be moved from the broken line position to the full line position illustrated in Fig. 5, to swing the wedge portion between the upper and lower plates to restrain them against relative movement. Preferably the holding device is mounted adjacent a keeper 17 so that the wedge portion 23 may spread the plates apart into frictional engagement with the adjacent keeper 17. As seen in Fig. 2, the device moves with the upper plate, to keep the operating handle at the same position on the chair at all times.

Generally a swivel assembly is put together in the shop before installation in a chair. To facilitate the insertion of screws 13 to fasten the upper plate to the chair bottom 12, an opening 24 is provided in the base 9 to register with cut-out portions 25 of the upper plate. Thus, the swivel assembly may be secured to a base 9 and, as illustrated in Fig. 8, the chair may be set upon the base and revolved thereon to bring successive screws 13 into registry with the opening 24 to provide for easy assembly.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, for some modifications will be obvious to those skilled in the art.

I claim:

1. A chair iron for swivelly supporting a chair on a base, comprising: a pair of opposed plates having complementary annular grooves forming a ball race; keepers on one plate having a free end portion loosely embracing the marginal portion of the opposed plate; a plurality of flat link bars between said plates having overlapping ends in said ball race provided with registering apertures; and a ball bearing in each pair of registering apertures, said ball bearings serving to link said bars together with their ends in overlapping relationship.

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2. The device of claim 1 in which each link bar has an aperture between its two end apertures to receive another ball.

3. The device of claim 1 in which each link bar has angularly offset portions extending in the direction of chords of the bearing race, with the juncture of the offset portions projecting into the race and provided with an aperture to receive a ball.

4. A chair iron for swivelly supporting a chair on a base, comprising: a pair of opposed plates having complementary annular grooves forming a ball race; a plurality of balls in said race; keepers on one plate having a free end portion loosely embracing the marginal portion of the other plate; and a holding device having a wedge portion adapted to be swung between said plates and restrain one from turning with respect to the other.

5. A device as specified in claim 4, in which the keepers and the holding device are mounted on the same plate; and said holding device is mounted adjacent a keeper for wedging the plates into frictional engagement with said keeper.

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6. A device as specified in claim 4, in which the keepers are on the plate to be attached to the chair, and the holding device is mounted on said plate adjacent one of the keepers.

7. A device as specified in claim 4, in which the holding device includes a pivotally mounted member having a hand-grip at one end, and a wedge portion at the other end, said wedge portion being movable to a position between the plates upon selective movement of said hand-grip.

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