M. P. & J. B. ZIMMERMAN.

THRUST BEARING.

APPLICATION FILED NOV. 8, 1915. RENEWED OCT. 23, 1917.

1,249,707. Patented Dec. 11, 1917.

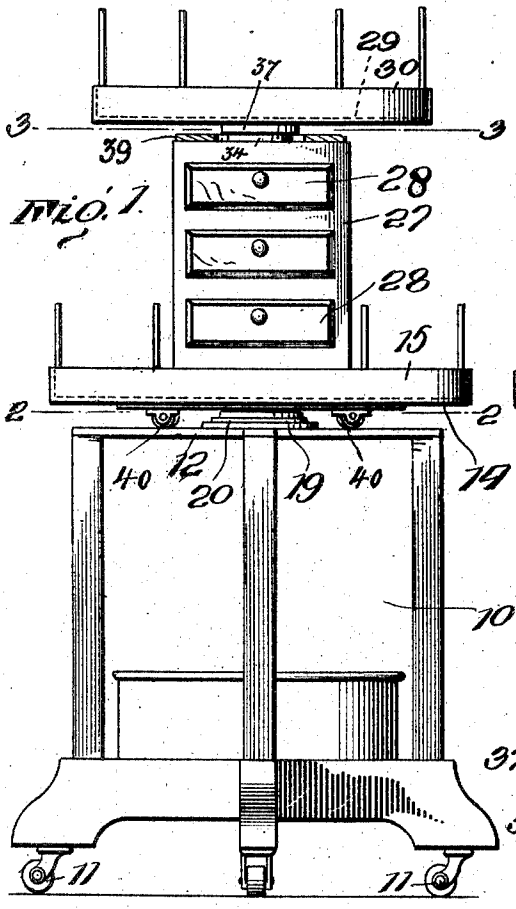


Fig. 1.

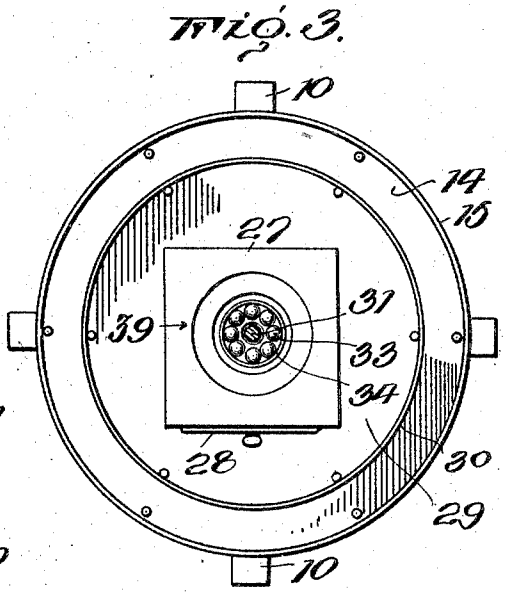


Fig. 3.

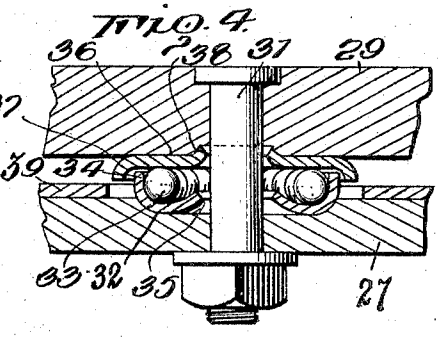


Fig. 4.

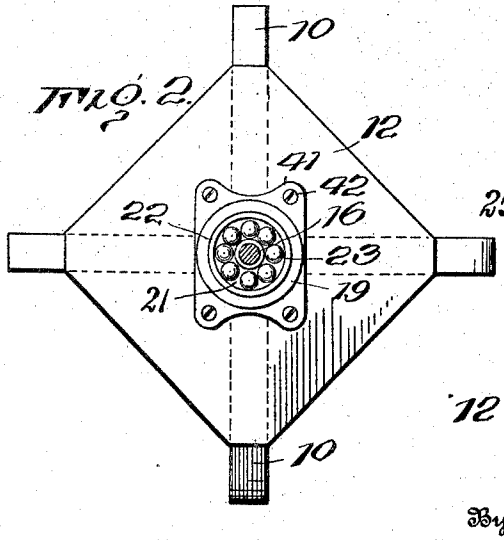


Fig. 2.

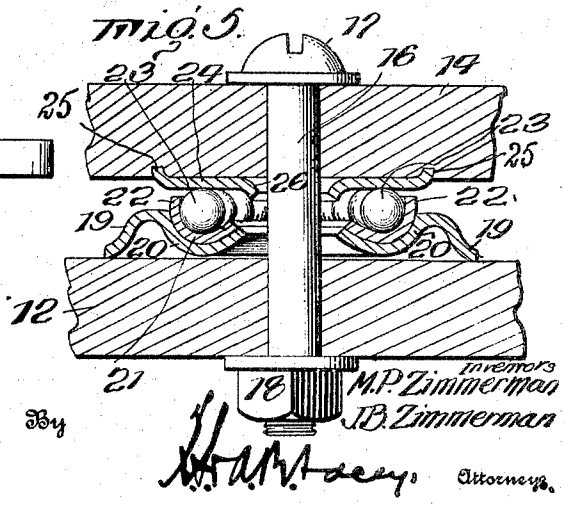


Fig. 5.

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THRUST-BEARING.

1,249,707. Specification of Letters Patent. **Patented Dec. 11, 1917.**

Application filed November 8, 1915, Serial No. 60,316. Renewed October 23, 1917. Serial No. 198,182.

To all whom it may concern:

Be it known that we, MARGARET P. ZIMMERMAN and JAMES B. ZIMMERMAN, citizens of the United States, residing at Pittsburgh, E. E., in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Thrust-Bearings, of which the following is a specification.

This invention relates to improvements in sewing tables, more particularly to the manner of forming the joints between the moving parts, and has for one of its objects to improve the construction and increase the efficiency and utility of the device.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described, and then specifically pointed out in the claims; and in the drawings illustrative of the preferred embodiment of the invention—

Figure 1 is a side elevation partly in section of the improved device;

Fig. 2 is a plan view of the base with the pivot pin of the lower tray in section on the line 2—2 of Fig. 1;

Fig. 3 is a plan view with the pivot pin of the upper tray in section on the line 3—3 of Fig. 1;

Fig. 4 is an enlarged sectional detail of the joint between the cabinet portion of the device and the upper tray;

Fig. 5 is an enlarged sectional detail of the joint between the base and the lower tray.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved device comprises a base structure represented as a whole at 10 and preferably mounted upon casters 11 and including a flat top 12. The base may be of any suitable construction but for the purpose of illustration is shown including a plurality of vertical standards to which the top 12 is attached and arranged in square form and the top 12 likewise preferably square to correspond to the outline of the standards. Disposed above the top 12 of the base is a lower tray including a flat bottom 14 and vertical sides or rim 15. The tray is mounted for rotation upon the top 12 by a pivot pin 16 having a head 17 above the bottom 14 of the lower tray and a clamp nut 18 bearing against the lower face of the top 12. The bottom 14 of the lower tray is spaced a considerable distance above the upper face of the top 12 of the base, and disposed upon the top 12 and surrounding the pin 16 is an annular support 19 having an annular seat 20. Bearing upon the seat 20 is an annular ball support including a ball receiving seat 21 and an outer upwardly directed rim 22. The lower face of the seat 21 conforms to and closely engages the seat 20 of the member 19 while the inner portions of the seats 20—21 are of greater radius than the balls represented at 23, so that the balls bear only against the outer portion of the seat and the vertical side 22. Bearing upon the lower face of the bottom 14 of the lower tray is a bearing plate 24 having one edge 25 upturned and embedded in the lower face of the tray, while the other rim 26 is curved downwardly, as shown in Fig. 5.

By this means an effectual ball-bearing is produced between the members 12—14, which is simple in construction, durable, and which can be "struck up" in suitable dies and without machine work of any kind.

Rising from the bottom 14 of the lower tray is a cabinet device, indicated as a whole at 27 and having a plurality of drawers 28. Located above the cabinet device 21 is an upper tray including a flat bottom 29 and a vertical rim 30. The upper tray is mounted for rotation upon the cabinet device by a pivot pin 31 and is spaced for a considerable distance above the cabinet device. Located upon the upper face of the cabinet device 21 is an annular supporting member including a seat 32 and a plurality of bearing balls 33 and embedded for a short distance in the cabinet, as shown in Fig. 4. At its outer side the member 32 is directed vertically, as represented at 34, while the inner portion is curved in a greater radius than the radius of the balls, as represented at 35.

Bearing upon the lower face of the bottom 29 is a bearing plate 36 having one rim 37 curved downwardly and the other rim 38 curving upwardly and embedded in the lower face of the bottom 29 of the upper tray. A guard plate 39 is supported upon the cabinet and surrounds the ball-supporting member 32—34. The member 19 is provided with extensions 40 to receive holding screws 41 whereby the member 19 may be secured to the top 12 of the base.

Supporting devices, such as casters represented at 40 may be arranged between the flat top 12 of the base and the bottom 14 of the lower tray.

Having thus described the invention, what is claimed as new is:—

1. In a device of the class described, a stationary base including a top member, a support upon said top member and having an annular channel, an annular member engaging in said channel and having an upwardly opening seat to receive bearing balls, a movable member mounted for rotation relative to said base, and an annular bearing member having an upturned edge embedded in said movable member and a down-turned edge, said bearing member adapted to engage said balls.

2. In a device of the class described, a stationary body, a support upon said stationary body and having an annular channel, an annular member engaging in said channel and having an upwardly opening seat to receive bearing balls, a movable member mounted for rotation relative to said base, and an annular bearing member having an upturned edge embedded in said movable member and a down-turned edge, said bearing member adapted to engage said balls.

3. In a device of the class described, a stationary body, a support upon said stationary body and having an annular channel to receive bearing balls, a movable member mounted for rotation relative to said stationary body, and an annular bearing member having an upturned edge embedded in said movable member and a down-turned edge, said bearing member adapted to engage said balls.

In testimony whereof we affix our signatures.

MRS. MARGARET PRISCILLA ZIMMERMAN. [L. S.]

JAMES B. ZIMMERMAN. [L. S.]

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."