Feb. 28, 1933. C. JABLOW ET AL 1,899,691

FLOATING BEARING

Filed Dec. 19, 1930

Fig. 1.

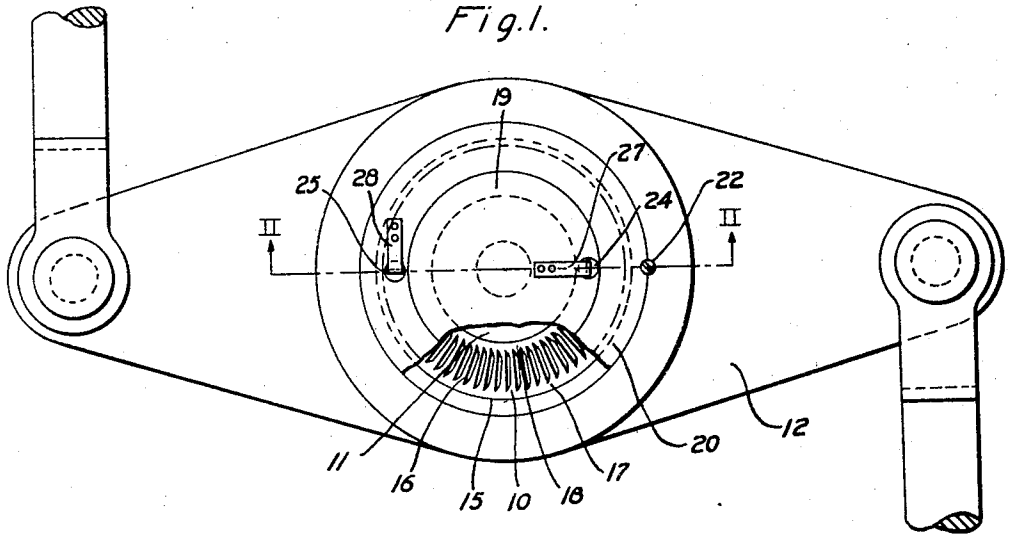
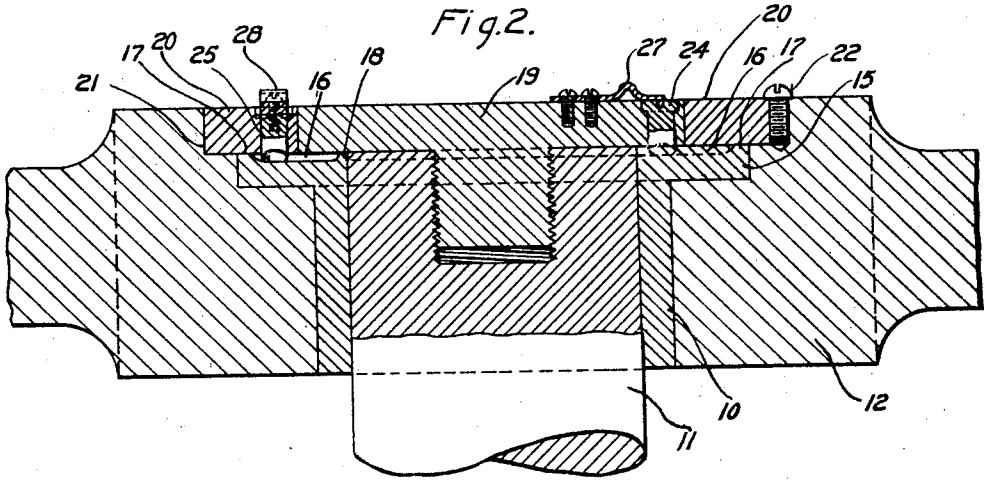


Fig. 2.



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UNITED STATES PATENT OFFICE

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FLOATING BEARING

Application filed December 19, 1930. Serial No. 503,370.

Our invention relates to bearings and more particularly, to floating bearings that are utilized in combination with members that have oscillatory movements relative to each other when in operation.

The object of our invention, generally stated, is the provision of a floating bearing that shall be simple and efficient in operation and be readily and economically manufactured and installed.

A more specific object of our invention is to provide for rotating a floating bearing to cause the wear to be evenly distributed over the total bearing surface.

A further object of our invention is to provide for rotating a floating bearing that is utilized in combination with a stationary and an oscillatory member for insuring that the wear shall be uniformly distributed over the total bearing surface.

Another object of our invention is to provide for rotating a floating bearing that is utilized in combination with relatively movable members for insuring that the wear shall be uniformly distributed over the total bearing surface, as the members are being operated.

Other objects of the invention will, in part be obvious and, in part, appear hereinafter.

This invention, accordingly, is disclosed in the embodiment thereof shown in the accompanying drawing and comprises the features of construction, the combination of elements and the arrangement of parts which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the objects of the invention, reference should be had to the following detailed description, taken in connection with the accompanying drawing, in which

Figure 1 is a view, in elevation, of a floating bearing embodying the features of our invention, parts being broken away to show the arrangement of the elements of the structure.

Fig. 2 is a view, in vertical section, of a floating bearing, embodying the features of our invention, taken along the line II—II of Fig. 1.

Referring now to the drawing, 10 designates a floating bearing that may be utilized in combination with a stationary trunnion 11 and a rocker arm 12 disposed for oscillatory movement relative to the trunnion 11. The bearing 10 is provided with a flange 15, the outer surface of which is notched to form radial projections 16. It will be observed that the radial projections 16 extend only across the main portion of the outer face of the flange 15 in order to leave the outer portion 17 and the inner portion 18 of the face of the flange 15 to serve as bearing surfaces. The outer face of the flange 15 is notched in such manner that the projections are slightly below the plane of the bearing surfaces 17 and 18.

The floating bearing 10 is held in place by a cap 19 which makes contact with the bearing surface 18 on the outer face of the flange 15. The cap 19 has a threaded portion which is screwed into a threaded opening of the stationary trunnion 11. Intermediate the cap 19 and the rocker arm 12 is an annulus 20 which makes contact with the bearing surface 17 of the flange 15. The annulus 20 is attached to the rocker arm 12 in such a manner that it is prevented from slipping relative to the rocker arm 12 when the floating bearing 10 is being rotated. Preferably, a screw 22 is provided to prevent any slipping that might occur between the annulus 20 and the rocker arm 12.

It will be observed that the pawls 24 and 25 are provided to make engagement with the projections 16. The pawl 24 is disposed in an opening provided therefor in the cap 19, and the pawl 25 is disposed in an opening provided therefor in the annulus 20. The pawls 24 and 25 are resiliently pressed against the projections 16 by leaf springs 27 and 28 respectively. Likewise, the springs are adapted to prevent the pawls from rotating within their openings, so that they will always be in their proper positions to make engagement with the projections 16. The pawls 24 and 25, which engage the projections, are straight on their engaging side and beveled on the opposite side, thus providing a wedge-shaped engaging end. That is to say, the pawl 24, as viewed in Fig. 1, is straight on the lower side

and beveled on the upper side, whereas the pawl 25 is straight on the upper side and beveled on the lower side.

The radially disposed projections 16, with which the pawls engage (see Fig. 1), are straight on one side and beveled on the opposite side to provide complementary notches or grooves for the wedge-shaped engaging ends of the pawls.

In operation when the oscillatory member 12, as viewed in Fig. 1, moves in a clockwise direction, the straight side of the pawl 25, which is carried by the annulus 20 connected to the said oscillatory member, engages the straight side of a projection 16 and, accordingly, rotates the bearing 10 in a clockwise direction. At the same time, the pawl 24, since the upper side thereof is beveled, merely rides over the projection 16, with the result that it permits the floating bearing to rotate freely in a clockwise direction about the stationary member 11.

However, when the oscillatory member 12 moves in a counter-clockwise direction, the straight side of the pawl 24, which is carried by the cap 19 connected to the stationary member 11, engages the straight side of a projection 16 and secures the floating bearing 10 in a fixed position relative to the stationary member 11. At the same time, the pawl 25, since the lower side thereof is beveled, merely rides over the said projections 16. According to the foregoing, it is manifest that the cooperative action of the pawls 24 and 25 and the projections 16 provides for intermittently rotating the floating bearing, notch by notch, as the member 12 oscillates. Therefore, it is to be noted that we have disclosed means for rotating a floating bearing that is utilized in combination with a stationary and an oscillatory member for insuring that the wear will be uniformly distributed over the total bearing surface as the oscillatory member is being operated.

We would state, in conclusion, that while the illustrated example constitutes a practical embodiment of our invention, we do not limit ourselves strictly to the exact details herein illustrated, since the structure may be considerably varied without departing from the spirit of the invention, as defined in the appended claims.

We claim as our invention:

1. In combination, a floating bearing having an outwardly extending flange rotatively mounted upon the end of a stationary member, an oscillatory member rotatively mounted upon the said floating bearing, a member having an opening therein connected to the end of said stationary member, a member having an opening therein connected to said oscillatory member, radially disposed projections provided on the flange of said bearing, a plurality of pawls for making engagements with said projections, one of said pawls being disposed in the opening of the member connected to said oscillatory member for rotating said bearing relative to said stationary member when the said oscillatory member is being operated in one direction and the other pawl being disposed in the opening of the member connected to said stationary member for securing said bearing fixed relative to said stationary member when the said oscillatory member is being operated in the opposite direction.

2. In combination, a stationary member having an extended end, an oscillatory member carried by the extended end of said stationary member, a floating bearing having an outwardly extending flange interposed between said stationary and oscillatory members, a portion of the outer surface of said flange being provided with radially disposed projections, a cap connected to the end of said stationary member and contacting the inner annular portion of said flange, an annulus connected to the said oscillatory member and contacting the outer annular portion of said flange, the said annulus surrounding the said cap and being free to oscillate relative thereto, a pawl disposed to engage said projections and carried by the said annulus for rotating the said bearing relative to the said stationary member when the said oscillatory member is being operated in one direction and a second pawl disposed to engage said projections and carried by the cap for securing the said bearing fixed relatively to the said stationary member when the said oscillatory member is being operated in the opposite direction.

In testimony whereof, we have hereunto subscribed our names this 12th day of December, 1930.

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