

C. W. EISENMANN.
 ADJUSTABLE FEED OIL RING.
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1,065,865.

Patented June 24, 1913.

Fig. 1.

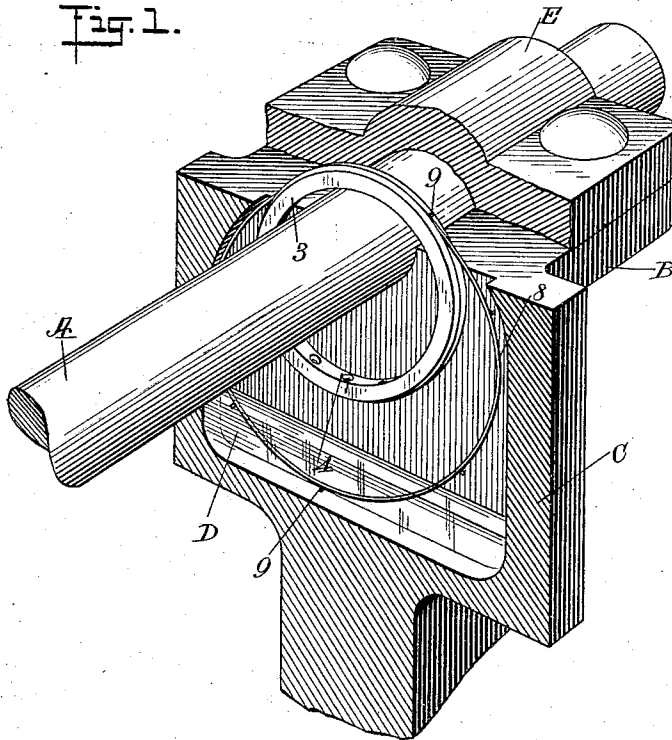
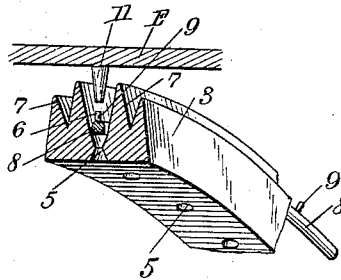


Fig. 2.



WITNESSES

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ADJUSTABLE-FEED OIL-RING.

1,065,865.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL WILLIAM EISENMANN, a subject of the German Emperor, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Adjustable-Feed Oil-Ring, of which the following is a full, clear, and exact description.

My invention relates to a new and improved form of adjustable ring-feeding mechanism for conveying oil to a shaft bearing, and an object of my invention is to regulate the amount of oil fed to the shaft. Where this is not the case an excessive amount is fed to the bearing with the result that a large amount of this excess finds its way into the windings of electrical machinery doing much damage to the insulation. In the case of machinery in traction or portable service, in order to provide for this waste of oil, it is necessary to fill the well to such a high level that the least agitation causes it to splash out through any openings present and in extreme cases may make its way directly to the shaft, thus adding to the already over-supplied bearing. Another objection to the common ring feed is that because of the large amount of reserve oil necessary, the ring is necessarily submerged to a considerable depth and when in motion it so agitates the oil that any solid matter in the bottom is dislodged and carried to the bearing, with the oil, causing excessive wear. With my improved ring because of the relatively smaller amount of reserve oil necessary, the ring is not submerged sufficiently to agitate the oil in the lower part of the well. There are other systems of oiling where the quantity fed is in no way excessive, but in some cases undoubtedly insufficient, and in no case is the movement of oil through the bearings fast enough to change the oil as soon as it becomes worn out or "dead" or to carry away the cuttings from the parts of the bearing.

An object of my invention is to eliminate the above-noted objections, and, further, to provide a device by means of which the flow of oil is automatically stopped when the parts become congested, due to a rapid feed of oil.

I attain the above outlined object by positioning a grooved ring upon the rotating shaft and providing in a groove of the ring, a second ring of larger diameter than the

first ring, this second ring dipping into the oil in the oil reservoir. Projecting outwardly from the second ring are pins adapted to contact with fingers depending from the bearings and projecting into the groove in the first mentioned ring.

With the above and other objects in view, as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures, and in which—

Figure 1 is a perspective view showing a shaft and casing, parts broken away to show my improved oil-feeding device; and Fig. 2 is a sectional view partly in perspective of the grooved ring.

In the drawings there is disclosed a rotating shaft A mounted in bearings B, which bearings, in this instance, comprise a lower part C recessed to afford an oil receptacle D disposed above which is a yoke E, forming the top part of the bearing. Loosely resting upon the shaft A and extending into the oil reservoir D, is a grooved ring 3 having a smooth inner bearing face 4, and centrally extending through said ring is a series of apertures 5, which, it will be seen, are conical in section to prevent the closing of the apertures by the adhesion of solid matter to the sides. As best shown in Fig. 2, there is extending about the outer periphery of the ring, a V-shaped groove 6, hereinafter referred to as "the oil-retaining groove," which groove is in direct communication with the apertures 5. On opposite sides of the oil-retaining groove 6, the ring is recessed to form V-shaped grooves 7 of less depth than the depth of the groove 6. These grooves 7 are for the purpose of accommodating an overflow of oil from the groove 6, to prevent the oil overflowing on the shaft A. The external diameter of the ring 3 is of such size as to have its lower edge positioned above the normal height of the oil in the reservoir D, and the sides form an oblique angle with the base, so as to prevent the adhesion of the ring to any part of the bearing with which it may come in contact.

Disposed in the groove 6 is a ring 8 of materially larger diameter than the diameter of the ring 3, and so disposed that the lower end of this ring 8 will be submerged in the oil in the receptacle D. As the shaft A is rotated, it will be seen that both the rings 3 and 8 will rotate in the direction of movement of the shaft A. The ring 8 passing through the path of the oil will convey some of this oil by adhesion up into the groove 6. The oil will then percolate through the apertures 5 on to the shaft A, thereby lubricating the same.

Projecting outwardly from the ring 8 is a series of spaced apart pins 9, and depending from the under side of the yoke E is a finger 11 projecting into the top of the groove 6 in the ring 3. The ring 8 rides on the oil in the upper part of the ring 3, but should an abnormal amount of oil be carried into the groove, the pins 9 on the ring 8 will come in contact with the finger 11 on the yoke, thereby stopping the rotation of the ring 8, retarding the supply of oil until the supply in the groove 6 has fallen a distance sufficient to permit the disengagement of the pins 9 from the finger 11.

Many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof. It is intended that all matters contained herein in the above description or shown in the accompanying drawings, shall be interpreted as illustrative and not in a limiting sense. It is also to be understood

that the language used in the following claims is merely intended to cover all the generic and specific features of the invention herein described, and is intended to cover the scope of the invention, which, as a matter of language, might be said to fall therebetween, and that materials, sizes and relativities of parts are non-essential, except as called for in the claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a ring oil feed, a shaft, a ring loosely mounted on said shaft, said ring having apertures extending therethrough, and means for conveying oil to said ring, whereby said oil may be fed through said apertures to lubricate the shaft, said ring having auxiliary grooves therein to accommodate an overflow of oil.

2. In a ring oil feed, a shaft, a ring loosely mounted on said shaft, a second oil-conveying ring carried by said first-mentioned ring, said second ring having pins projecting therefrom, and means coacting with said pins stopping the rotation of said ring to retard the feeding of oil to said shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL WILLIAM EISENMANN.

Witnesses:

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