

A. HALL.

Improvement in Anti-Friction Bearings.

No. 131,162.

Patented Sep. 10, 1872.

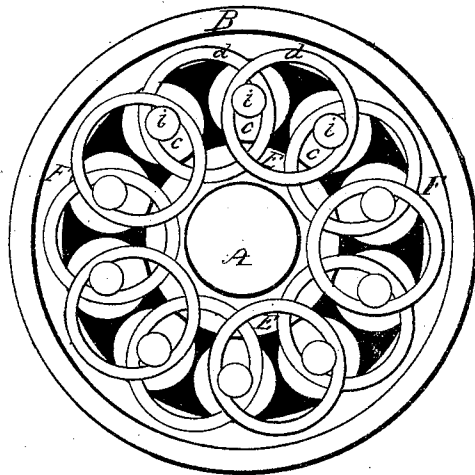


Fig. 1.

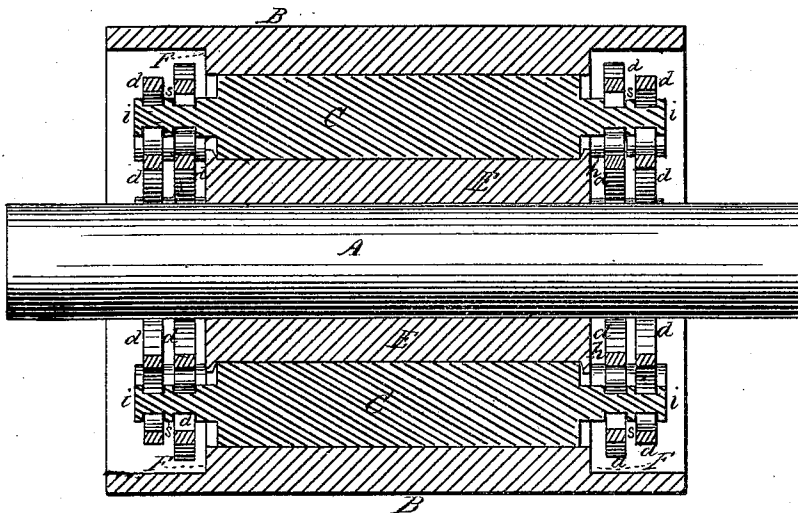


Fig. 2.

Witnesses.

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IMPROVEMENT IN ANTI-FRICTION BEARINGS.

Specification forming part of Letters Patent No. 131,162, dated September 10, 1872.

To all whom it may concern:

Be it known that I, ALMON HALL, of the city of Tiffin, county of Seneca and State of Ohio, have invented certain new Improvements in Anti-Friction Bearings for Journals, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming a part of this specification, in which—

My invention relates to certain combination of devices, the object of which is to prevent any rubbing-friction of journals against their bearings. The first part of my invention relates to the construction of a circular box for the journal, with recesses in its interior periphery, in combination with a sleeve upon the shaft in such a manner that when a series of rollers is placed between the sleeves and the box to furnish a rolling bearing, the journals of such rollers may be connected by rings one to another, and such rings have room to revolve between the recessed portion of the box and the surface of the shaft without touching either. The second part of my invention relates to the construction of such rollers, with two recesses upon each journal of such rollers to confine each ring to its own proper position, and further to the arrangement of such rings in such a manner that two of them shall hold each journal of each roller against lateral motion in opposite directions, so that the rollers may never touch each other while they roll and bear between the sleeve and the box.

In the accompanying drawing, Figure 1 is an end view of a journal-box embracing my improvements, and Fig. 2 is a longitudinal central section thereof.

A is the journal; B, the box; C, the rollers; E, the sleeve; *i i*, the journals of the rollers C; *s s*, the recesses or depressions in the journals of the rollers for the rings. The journals of the rollers may be formed at their longitudinal centers, and the sleeve and box recessed

correspondingly, in order to furnish room for the action of the rings. The journals of the rollers should be made as small as possible consistent with their having sufficient strength, in order that the rings *d d* may not have to be inconveniently large in order to embrace them. In order to provide space for the rings the inner periphery of the box is cut away, as shown, and the sleeve which sustains the bodies of the rollers is made so short that the peripheries of the rings extend in the direction of the center of the shaft beyond its ends without touching them or the shaft itself. Thus the rings merely serve to confine the rollers to an invariable equidistance from each other, and touch nothing but their journals. At F is shown how the box is cut away or recessed. The sleeve E may be either made separately and fastened upon the shaft A, or the two may be in one solid piece.

The operation is obvious. When the shaft is revolved it rolls upon the rollers while the journals of the latter roll upon the inner peripheries of the rings, and no rubbing or abrading friction takes place.

Claims.

What I claim as my invention is—

1. The combination of the box B provided with recesses F, with the shaft A provided with sleeve E, each constructed and both arranged substantially in the manner and for the purpose set forth.

2. The combination of the series of rollers C having the journals *i i* provided with the recesses or depressions *s s*, with the series of rings *d d* arranged as described, substantially in the manner and for the purpose set forth.

ALMON HALL.

Attest:

ALEX. W. HALL,
ALONZO HALL.