

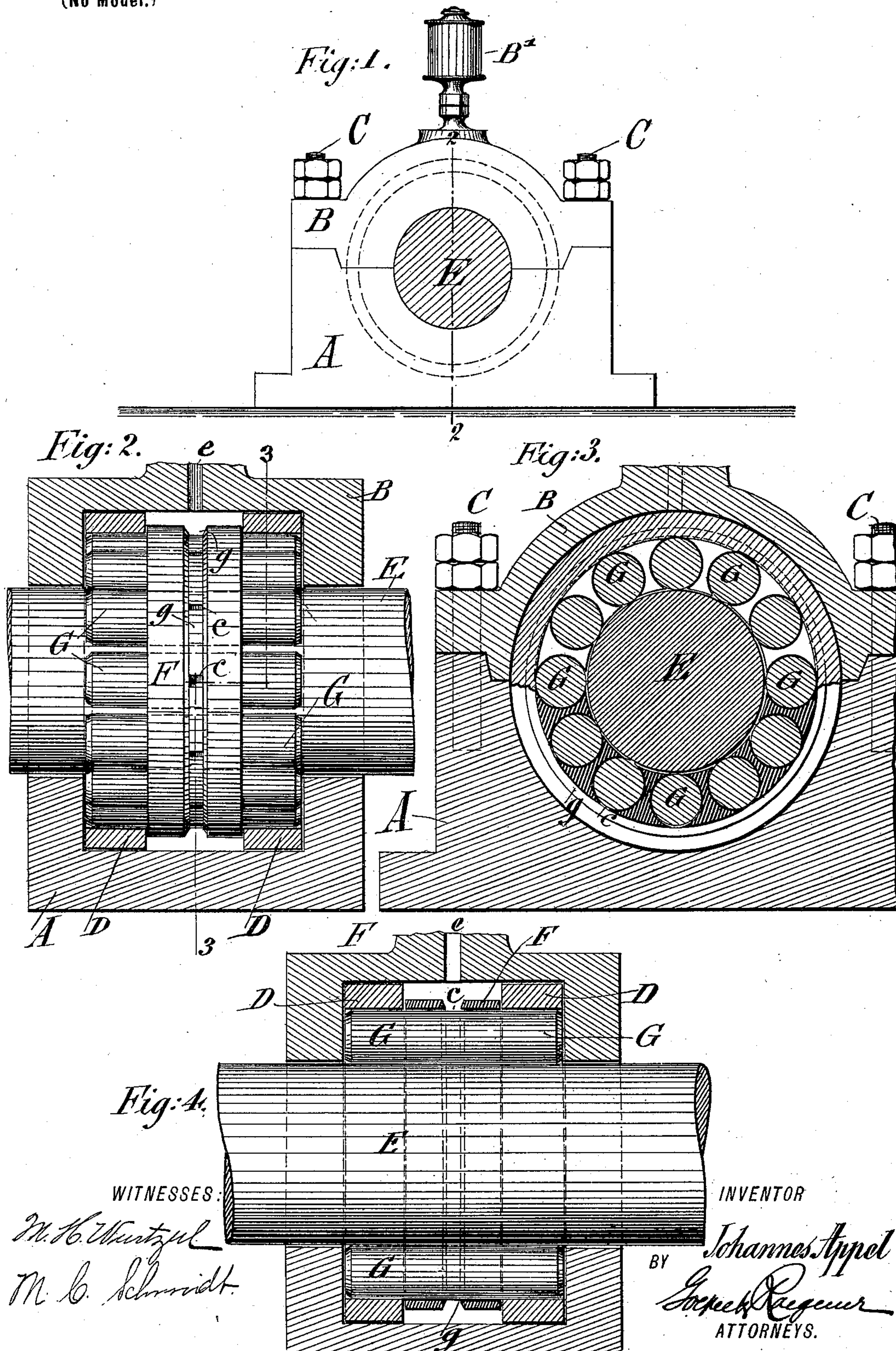
No. 617,550.

Patented Jan. 10, 1899.

J. APPEL.
JOURNAL BEARING.

(Application filed Sept. 8, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

JOHANNES APPEL, OF NEW YORK, N. Y.

JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 617,550, dated January 10, 1899.

Application filed September 8, 1898. Serial No. 690,454. (No model.)

To all whom it may concern:

Be it known that I, JOHANNES APPEL, a citizen of Germany, residing in the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Journal-Bearings, of which the following is a specification.

This invention relates to certain improvements in the journal-bearings for which Letters Patent of the United States were granted to me, No. 453,826, dated June 9, 1891, said improvements being designed with a view of reducing the friction between the journal of the shaft and the bearing of the pillow-block, in which the shaft is supported.

The invention consists of a journal-bearing which comprises a pillow-block and cap, bearing-rings located in the same, a supporting-ring guided by said bearing-rings and provided with transverse openings, and antifriction-rollers extending through said openings, said antifriction-rollers rolling progressively on and between the journal of the shaft and said bearing-rings; and the invention consists, further, in means for the lubrication of each roller in said pillow-block and cap, as will be more fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of a pillow-block provided with my improved journal-bearing. Fig. 2 is a vertical longitudinal section through the pillow-block and bearing. Fig. 3 is a vertical transverse section on line 3 3, Fig. 2; and Fig. 4 is a vertical longitudinal section, as in Fig. 2, but showing the ring of the shaft in section.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a pillow-block which is supported in any suitable manner.

B is a cap which is screwed by means of the screws C to the pillow-block A.

At the interior of the pillow-block are arranged two bearing-rings D D, upon which bear a number of antifriction-rollers G, which are supported in transverse openings of a supporting-ring F, that extends around the journal E of the shaft, said ring being located between and guided by the bearing-rings D D.

My improved journal-bearing is lubricated from an oil-cup B', arranged at the top of the pillow-cap B, said oil-cup communicating with the interior of the pillow-block by an aperture e. The openings in the ring F for the antifriction-rollers G are so arranged that the antifriction-rollers project somewhat beyond the inside of the supporting-ring F, so as to form contact with and roll progressively on and between the journal E of the shaft, as shown in Fig. 3, and the bearing-rings D D. The antifriction-rollers are retained in position in the supporting-ring F by the side walls of the pillow-block and cap. The supporting-ring F for the antifriction-rollers G is further provided with a central groove g in its outer circumference, which groove communicates by radial openings c with the transverse openings for each of the antifriction-rollers, so that the lubricating material supplied from the oil-cup B' can pass through the opening e into the groove g and through the openings c to the circumference of each of the antifriction-rollers and from the same to the journal and the interior surface of the bearing-rings, whereby a uniform lubrication of the rotating parts is kept up. During the rotation of the journal E of the shaft the supporting-ring F is carried along as the antifriction-rollers rotate in contact with the journal and the bearing-rings.

The advantages of my improved journal-bearing as compared to the journal-bearing heretofore patented by me are that in my present construction one set of antifriction-rollers only at each end of the shaft is required, and they are supported in place by the central supporting-ring, so that the parts of the journal-bearing can be assembled with great facility and access be had readily at any time to any of the parts.

Second. The uniform distribution of the lubricating material takes place through all the bearing-surfaces from the center of the pillow-block.

Third. By reason of its simple and strong construction my improved journal-bearing is adapted for all kinds of shafts, and especially where there is considerable friction, as the friction is greatly diminished by the arrangement of antifriction-rollers and by the effective lubrication of the same.

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

1. The combination of a pillow-block and cap, bearing-rings located in the same, a supporting-ring guided by said bearing-rings and provided with transverse openings, and anti-friction-rollers extending through said openings, said anti-friction-rollers rolling progressively on and between said bearing-rings and the journal of the shaft, substantially as set forth.

2. The combination of a pillow-block and cap, bearing-rings located in the same, a supporting-ring located between said bearing-rings and provided with transverse openings, and anti-friction-rollers extending through

said openings, said anti-friction-rollers rolling progressively on and between said bearing-rings and the journal of the shaft, and said supporting-ring being provided with an exterior groove and radial openings in said ring opening into the groove opposite each roller, so as to distribute the lubricating material to the anti-friction-rollers and journal, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHANNES APPEL.

Witnesses:

PAUL GOEPEL,
M. HENRY WURTZEL.