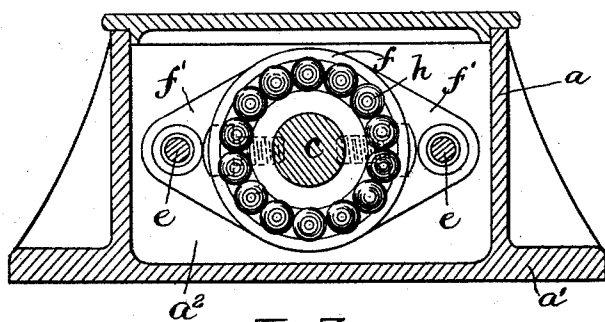
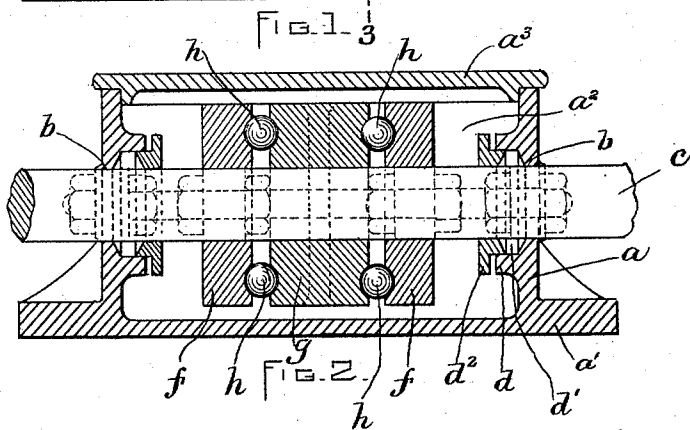
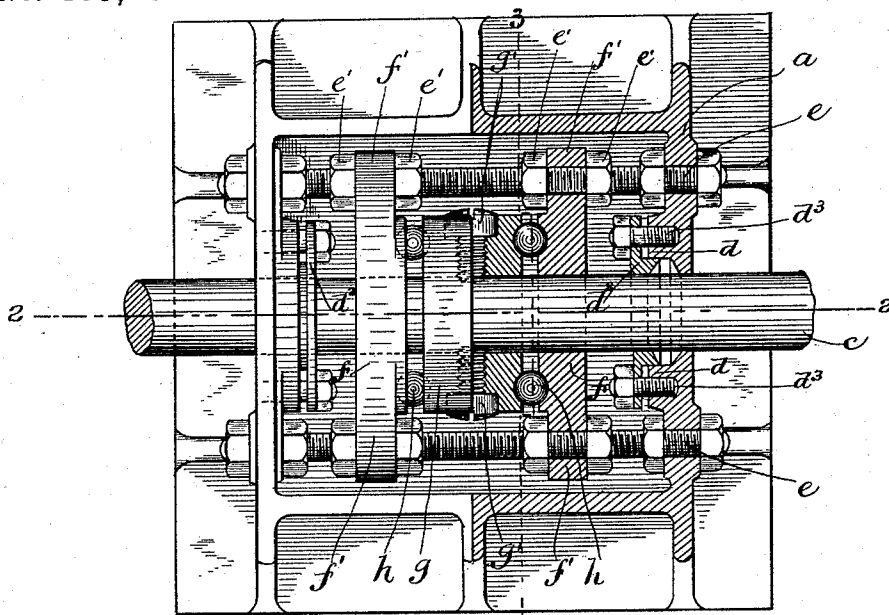


(No Model.)

C. D. MOSHER.
THRUST BEARING FOR SHAFTING.

No. 485,207.

Patented Nov. 1, 1892.



WITNESSES:

a. D. Hanson.
W. S. McLeod.

INVENTOR:

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Attys

UNITED STATES PATENT OFFICE.

CHARLES D. MOSHER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
WILLIAM GARDNER, OF SAME PLACE.

THRUST-BEARING FOR SHAFTING.

SPECIFICATION forming part of Letters Patent No. 485,207, dated November 1, 1892.

Application filed August 19, 1892. Serial No. 443,473. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. MOSHER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Thrust-Bearings for Shafting, of which the following is a specification.

This invention relates to thrust-bearings to give longitudinal support to shafts, and particularly to the shafts of screw-propellers; and it consists in the improved construction which I will now proceed to describe and claim.

Of the accompanying drawings, forming part of this specification, Figure 1 represents a plan view and partial horizontal section of a thrust-bearing embodying my invention. Fig. 2 represents a section on line 2 2, Fig. 1. Fig. 3 represents a section on line 3 3, Fig. 1. The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents a casing provided with a suitable base *a'* and containing an oil-chamber *a²*, adapted to contain a considerable quantity of oil, the chamber *a²* being provided with a cover *a³*, and being generally of such construction that the oil cannot escape from the chamber.

In two of the vertical sides of the casing are orifices *b b*, through which the shaft *c* passes. Said sides are provided with stuffing-boxes arranged to prevent the leakage of oil through the orifices *b* around the shaft, each stuffing-box being preferably composed of a socket *d*, formed on the inner side of the casing, and containing a packing-receiving cavity *d'* and a gland *d²*, secured to the wall of the casing by means of bolts *d³ d³*. The cavity *d'* surrounds the shaft and contains a suitable packing, which when compressed by the gland effectively prevents the escape of oil around the shaft.

e e represent screw-threaded through-bolts, which are affixed to the casing and extend through the oil-chamber at opposite sides of the shaft, said through-bolts being parallel with the shaft.

f f represent bearing-plates, which are provided with ears *f' f'*, having orifices through which the through-bolts *e e* pass. The

through-bolts are provided at opposite sides of the ears with nuts *e' e'*, which secure the plates *f f* to the through-bolts and permit the adjustment of the plates, the orifices in the ears through which the through-bolts pass being unthreaded and of sufficient size to move freely upon the screw-threads of the through-bolts. The central portions of the bearing-plates *f f* are provided with orifices through which the shaft *c* passes.

g represents a collar, which is affixed in any suitable manner, as by screws *g' g'*, to the shaft *c*, between the bearing-plates *f f*, said collar being separated from the inner surfaces of the bearing-plates by spaces of sufficient width to receive anti-friction rollers *h*, preferably of spherical form. The adjacent sides of the collar *g* and plates *f f* are provided with grooves, which are concentric with the shaft, for the reception of said anti-friction rollers or balls. I have shown but one series of balls between each plate and the collar; but it will be understood that, if desired, the collar and plates may be made of larger diameter and provided with two or more concentric series of balls between their adjacent sides.

It will be seen that the anti-friction rollers or balls are located within the oil-chamber, so that when said chamber is charged with oil the balls will be entirely submerged; or if all the balls are not submerged at one time they will be caused to pass through the oil in the lower part of the chamber by the rotation of the collar *g*, which of course rotates with the shaft. The adjustable connection of the bearing-plates *f f* to the through-bolts *e e* enables the bearing-plates to be adjusted to compensate for wear of the balls and of the ball-supporting surfaces of the plates and of the collar *g*.

I claim—

The improved end-thrust bearing for shafting, the same comprising a casing having an oil-chamber, shaft-receiving orifices in two sides of said casing, and stuffing-boxes arranged to prevent the leakage of oil through said orifices around the shaft, screw-threaded through-bolts affixed to said casing and extending through the oil-chamber parallel

with the shaft, bearing-plates adjustably secured to said through-bolts and provided with orifices through which the shaft passes, a collar affixed to the shaft between said
5 plates, and anti-friction rollers or balls interposed between the said collar and bearing-plates, said rollers being in contact with the oil contained in the chamber, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 7th day of June, A. D. 1892.

CHARLES D. MOSHER.

Witnesses:

CHAS. S. RILEY,
J. R. SEWINA.