

W. T. NEWTON.
ANTIFRICTION BEARING.
APPLICATION FILED JUNE 22, 1910.

978,392.

Patented Dec. 13, 1910.

Fig 1.

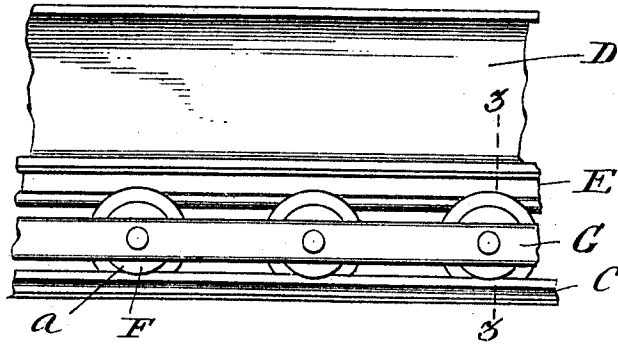
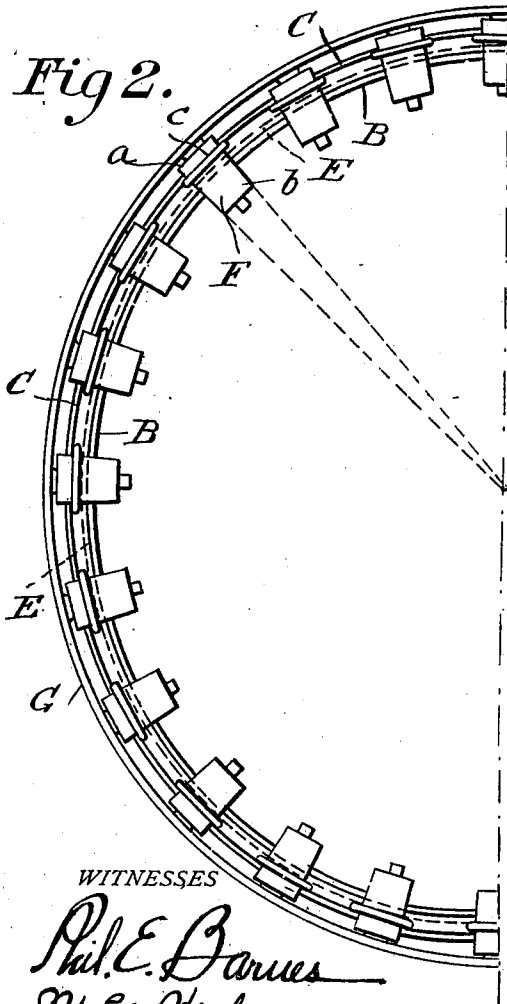


Fig 2.



WITNESSES

Phil. E. Barnes
W. C. Healy

Fig 3.

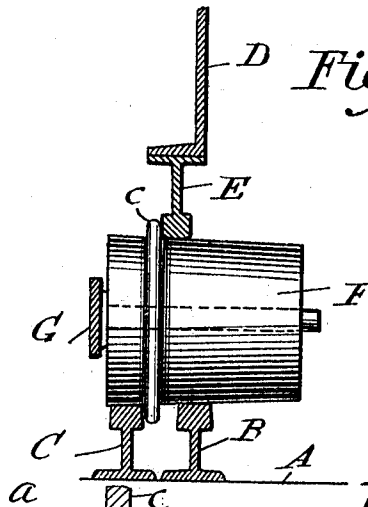
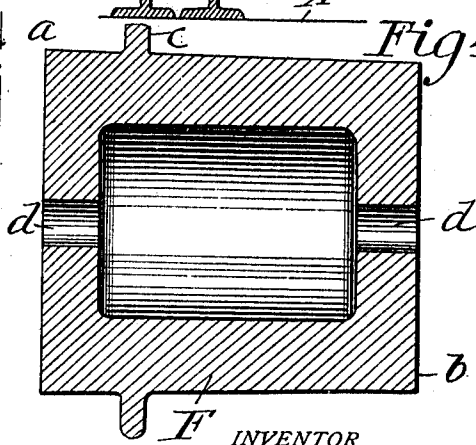


Fig 4.



INVENTOR

William T. Newton,
James Phelps, Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM T. NEWTON, OF NEW ORLEANS, LOUISIANA.

ANTIFRICTION-BEARING.

978,392.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed June 22, 1910. Serial No. 568,384.

To all whom it may concern:

Be it known that I, WILLIAM T. NEWTON, citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Antifriction-Bearings, of which the following is a specification.

My invention pertains to anti-friction bearings for supporting derricks and other heavy bodies that are revolved or swung about a center; and it consists in the simple, practical and advantageous bearing hereinafter described and definitely claimed.

In the drawings, accompanying and forming part of this specification: Figure 1 is a fragmentary side elevation of a bearing constructed in accordance with my invention. Fig. 2 is a plan view, diagrammatic in character, showing one-half of the circular series of anti-friction rollers, and also showing by dotted lines halves of the circular supporting rails and half of the rail that moves with the supported body. Fig. 3 is an enlarged transverse section, taken in the plane indicated by the line 3—3 of Fig. 1. Fig. 4 is an enlarged diametrical section taken through one of the rollers and showing the preferred specific construction thereof.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is a base or support which may be of any description consonant with the purpose of my invention.

B and C are inner and outer supporting rails which describe concentric circles and are suitably fixed on the base A. D is the body that is revolved or turned about the center of the said circular rails, and E is a circular rail, larger in diameter than the rail B and smaller in diameter than the rail C, carried by the said body D.

Intermediate the lower rails B C and the upper rail E, is a circular series of supporting and anti-friction rollers F. Each of these rollers F is tapered or gradually reduced in diameter from its outer end *a* to its inner end *b*, and is provided at an intermediate point of its length and preferably near its large end *a* with a circumferential flange *c*. It will also be observed by reference to Fig. 4 that each roller F is preferably hol-

low, this for the sake of cheapness and lightness, and is provided with longitudinal-central, alined bores *d*. The rollers F may be held in spaced relation by any suitable means without involving departure from the spirit of my claimed invention. I prefer, however, to so hold the rollers through the medium of a circular band G, and spindles H carried by and extending from the band G inward and toward the center of movement, Fig. 2; each of the rollers F being loosely mounted on one of the said spindles.

As will be readily understood from the foregoing, the circumferential flanges *c* of the rollers F rest within or at the inner side of the lower rail C and without or at the outer side of the upper and movable rail E. From this it follows that while the rollers will permit free movement of the rail E and body D about the center indicated in Fig. 2, said rollers will maintain a true circle and will effectually resist any tendency to crush away from or toward the indicated center of movement. This will be appreciated as an important advantage when it is borne in mind that the body D is designed to be of or to bear great weight, and hence tends to cause the rollers to jump off the rails or spread in or out especially when a derrick or the like on the body D is lifting a great weight. The tapered or conical shape of the rollers F minimizes friction and enables all the rollers to point to the indicated center of movement.

The term circular as herein employed is intended to comprehend and cover a complete circle or a part of a circle.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

The herein described anti-friction bearing comprising a base, smooth circular rails fixed concentrically on said base in the same horizontal plane and spaced apart, a body arranged above said rails and constructed to be revolved or swung about the center of the circles described by the rails, a depending circular and smooth rail, describing a circle, smaller than that described by the outer and larger than that described by the inner of the first-named rails, carried by and movable with the said body, rollers interposed be-

tween the first-named rails and the rail on
the body and tapered from their outer ends
to their inner ends and each having a smooth
periphery in contact with the rails and a
5 circumferential flange arranged between the
first-named rails and at the outer side of the
rail on the body, and means for holding said
rollers in spaced relation.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit- 10
nesses.

WILLIAM T. NEWTON.

Witnesses:

E. A. BURRIS,

M. F. CORLEY.