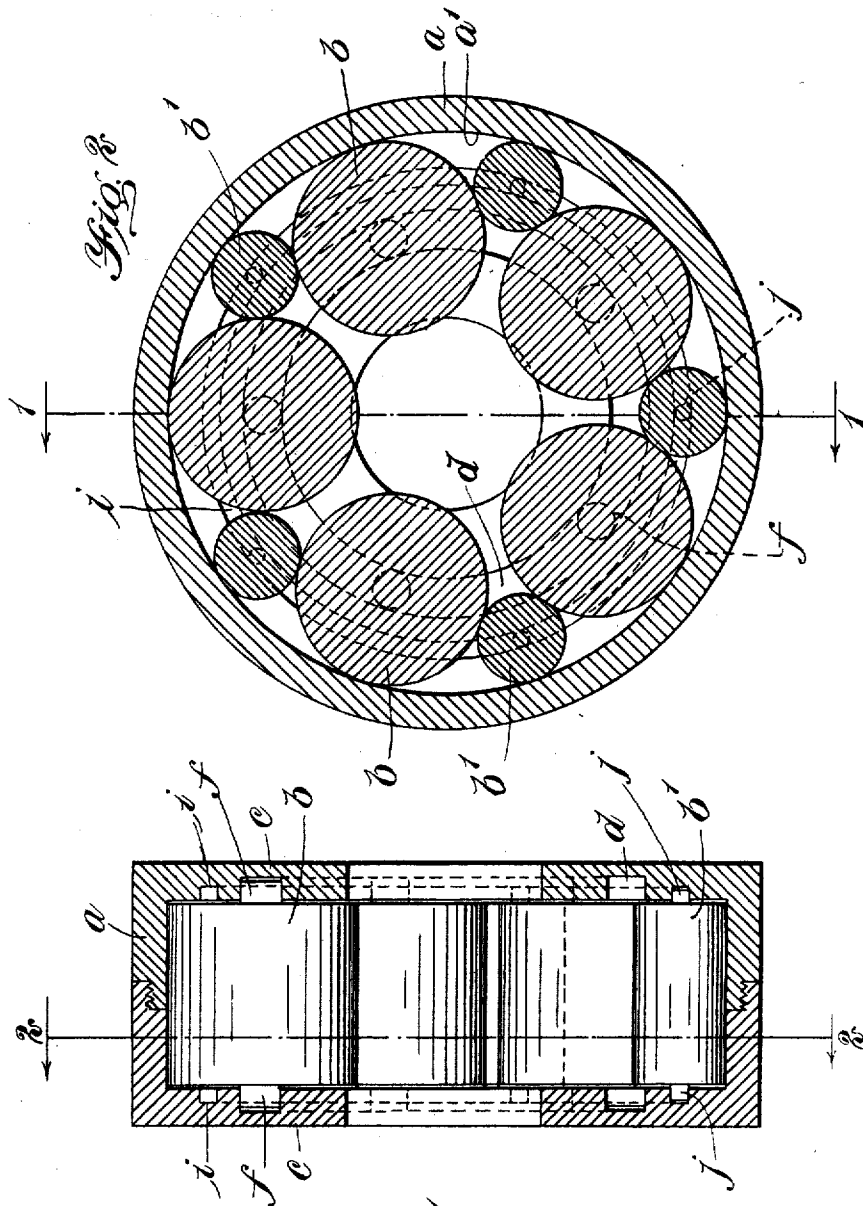


No. 829,223.

PATENTED AUG. 21, 1906.

C. E. McINTIRE.
ROLLER BUSHING.
APPLICATION FILED OCT. 28, 1905.



Witnesses:

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Fig. 1

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UNITED STATES PATENT OFFICE.

CLARENCE E. McINTIRE, OF BELFAST, MAINE.

ROLLER-BUSHING.

No. 829,223.

Specification of Letters Patent.

Patented Aug. 21, 1906

Application filed October 28, 1905. Serial No. 284,838.

To all whom it may concern:

Be it known that I, CLARENCE E. McINTIRE, of Belfast, in the county of Waldo and State of Maine, have invented certain new and useful Improvements in Roller-Bushings, of which the following is a specification.

This invention relates to roller-bushings for the sheaves of pulley-blocks, the bushings being designed especially as an improvement upon constructions of the type shown in patent to Wellman, No. 303,770, dated August 19, 1884—that is to say, the bushing comprises a circular casing adapted for insertion in a cavity formed for its reception in a sheave, the casing having a cylindrical periphery, the inner surface of which forms a bearing for two series of rolls which are confined within the casing between the ends thereof and constitute antifriction-bearings interposed between the inner periphery of the casing and the pin or journal on which the pulley rotates. The rolls comprise purchase or bearing rolls which are of sufficient diameter to bear simultaneously on the casing and on the pin or journal and back rolls of smaller diameter which bear on the casing and on the peripheries of two adjacent purchase-rolls, the function of the back rolls being to prevent contact between the purchase-rolls.

In the use of former devices of the character described the wear on the peripheries of the several rolls so increases the spaces between the adjacent purchase-rolls that the back rolls are liable to drop between the purchase-rolls and become so wedged as to prevent rotation. The present invention has for its object to prevent this difficulty; and it consists in a roller-bushing of the character above indicated having means for limiting the movement of the back rolls toward the center of the bushing and thus preventing the back rolls from becoming wedged between the purchase-rolls.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a transverse section of the roller-bushing embodying my invention. Fig. 2 represents a section on line 2 2 of Fig. 1.

The same reference characters indicate the same parts in all of the figures.

In the drawings, *a* represents a cylindrical casing of a roller-bushing, the same having an internal surface *a'* in contact with the pur-

chase-rolls *b* and the back rolls *b'*. *c c* represent the side portions of the bushing, these having annular flanges having in their inner surfaces annular grooves *d d* to receive end portions of the rolls *b*, such as trunnions *f f*, formed on the ends of the said rolls, all as shown in the above-mentioned Wellman patent. The purchase-rolls are of larger diameter than the back rolls and are adapted to bear simultaneously on the inner surface *a'* of the casing and on the pin or journal which is inserted in the orifices surrounded by the side portions or flanges *c c*. The back rolls *b'* are of smaller diameter and bear simultaneously on the inner surface *a'* of the casing and on the adjacent surfaces of the purchase-rolls, as shown in Fig. 2, the several rolls being so spaced and arranged that the back rolls prevent contact between the purchase-rolls.

It will be seen that wear on the peripheries of the rolls will ultimately increase the width of the spaces between the purchase-rolls so that long continued use will so increase this space as to permit the back rolls at the upper side of the bushing to drop between the corresponding purchase-rolls and become so wedged as to render the bushing inoperative. To prevent this, I provide means for limiting the inward movement of the back rolls toward the center of the bushing and thus rendering it impossible for the back rolls to become wedged between the purchase-rolls. The said means, as here shown, comprise annular grooves *i i*, formed in the side portions *c* of the casing, said grooves being concentric with the grooves *d d* and end portions of the back rolls, such as trunnions *j j*, formed on the ends thereof, entering the grooves *i i*.

It will be seen that the inner walls of the grooves *i i* prevent inward movement of the back rolls, thus rendering it impossible for any back roll to drop between two adjacent purchase-rolls further than is desirable.

Obviously the bushing is applicable for purposes other than in sheave-blocks.

Having thus explained the nature of my invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, what I desire to claim is—

A roller-bushing of the character described comprising a casing, purchase-rolls in contact with the inner surface of the casing, back

rolls alternating with the purchase-rolls, and means independent of the purchase-rolls for limiting the inward movement of the back rolls toward the center of the bushing, said
5 means comprising annular grooves formed in the sides of the casing, and end portions of the back rolls extending into said grooves, said casing having an axial shaft-opening and

the purchase-rolls being of a diameter to contact with a shaft in said casing-opening. 10

In testimony whereof I have affixed my signature in presence of two witnesses.

CLARENCE E. McINTIRE.

Witnesses:

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HERON RICHARDSON.