(No Model.)

T. R. FERRALL.

ROLLER BEARING.

No. 574,988. Patented Jan. 12, 1897.

Fig. 1.

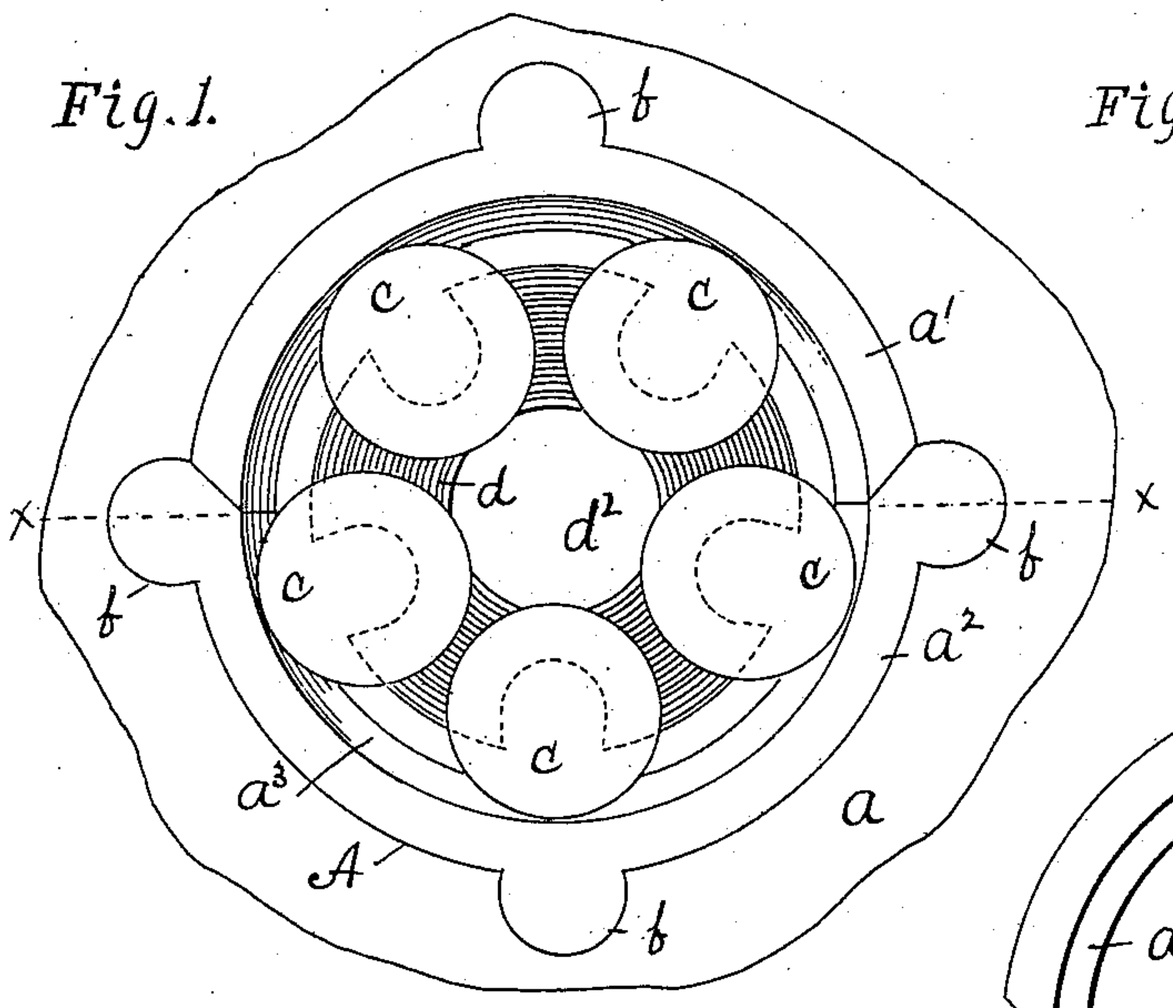
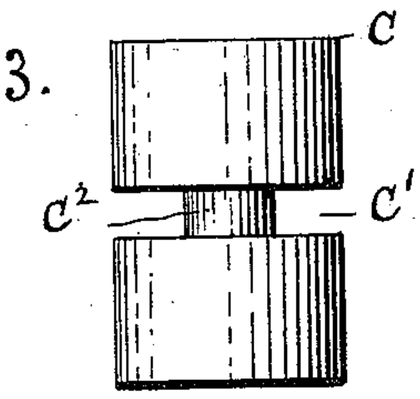


Fig. 3.



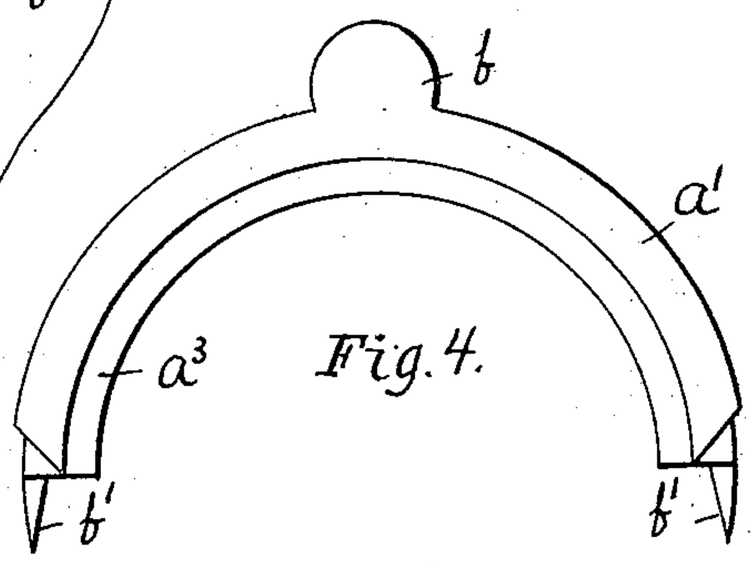


Fig. 4.

Fig. 2.

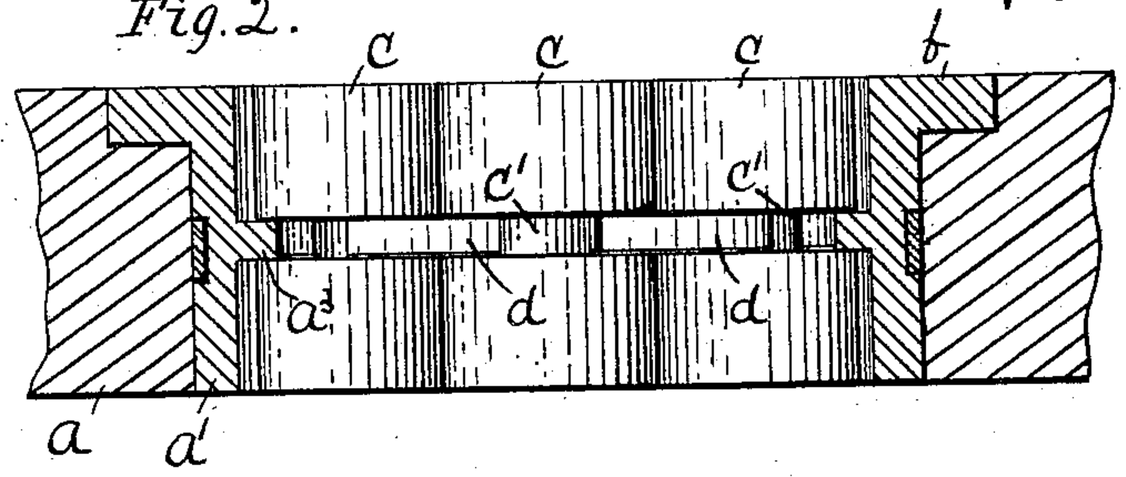


Fig. 6.

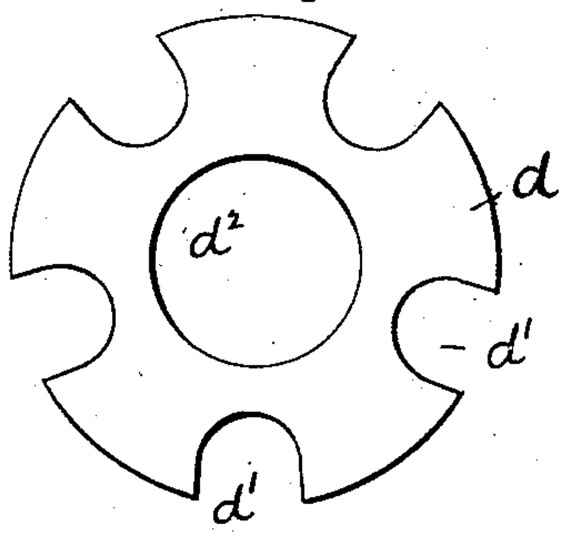
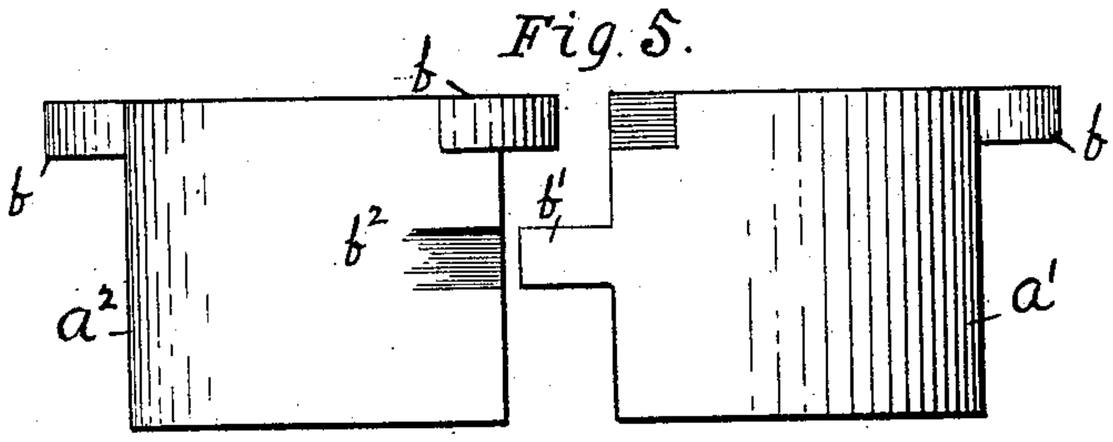


Fig. 5.



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Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS R. FERRALL, OF SOMERVILLE, MASSACHUSETTS.

ROLLER-BEARING.

SPECIFICATION forming part of Letters Patent No. 574,988, dated January 12, 1897.

Application filed April 18, 1896. Serial No. 588,076. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. FERRALL, a citizen of the United States, and a resident of Somerville, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Roller-Bearings, of which the following is a specification.

My invention relates to that class of roller-bearings which are commonly used in the sheaves of blocks, and its object is to provide a roller-bearing of durable and simple construction, capable of easy adjustment to its position, and which can be taken apart for repairing without defacing the bearing in any way.

The accompanying drawings illustrate my invention, in which—

Figure 1 is a plan view of a portion of a sheave and showing my improved roller-bearing properly adjusted therein. Fig. 2 is a sectional view of Fig. 1 through the dotted line $x\,x$. Fig. 3 is a side view of one of the series of rollers which compose the bearing. Fig. 4 is a plan view of one half of the box or case which incloses the rollers. Fig. 5 is a side view of the two halves of the box drawn slightly apart and showing the adaptation to interlock. Fig. 6 is a plan view of the interior guide-bearing which holds the rollers from contact with each other.

Similar letters refer to similar parts in the several views.

The letter a indicates the central portion of a sheave, and A is my improved roller-bearing, the box or case of which is divided laterally into the two halves a' and a^2 and provided with the interiorly-projecting rib a^3 and the exteriorly-projecting lugs b. The ends of the part a' are provided with the tongues b', adapted to enter the grooves b^2 in the part a^2, and thus interlock when the two parts a' and a^2 are in position, as shown in Fig. 1, constituting practically a solid open-ended case or shell, on the interior surface of which the rollers bear.

$c\ c$ are the rollers, which when held in proper position with respect to each other constitute the bearing. These rollers have their ends flush with the ends of the shell which incloses them, and are each provided with an annular groove midway of its ends, adapted to receive the rib a^3.

d is a flat disk of metal of equal thickness with the rib a^3, having an opening in its center somewhat larger than the shaft on which the rollers are to bear and having its outer edge provided with recesses d', adapted to receive the smaller diameter c^2 of the rollers. This disk acts as a guide for the rollers, and the recesses d' serve to hold the rollers from contact with each other, and the rib a^3 serves to hold the rollers and disk in proper position within the box or case.

To adjust my improved roller-bearing in a sheave, an aperture of suitable size to receive the box of the bearing is made in the center thereof, together with suitable recesses to receive the lugs b on the periphery of said box, and the bearing is then driven or forced into said aperture until its sides are flush with the sides of the sheave. The lugs b prevent the box from turning in the sheave and hold it firmly from working loose or wearing.

Should the bearing at any time need repair, it is only necessary to remove the same from the sheave, when it readily comes apart, so as to allow the substitution of other parts for those worn or damaged. The bearing might be made with the box undivided and the rib a^3 made separately therefrom in halves. In such case the disk d, rollers c, and rib a^3 would be assembled, as shown in Fig. 1, and the whole would then be forced within the box and retain its place there by the friction of the rib on the inside of the box; but I prefer the construction shown. The adjacent ends of the box are made to interlock in order to hold said ends squarely upon each other, so there shall be no obstruction to the free action of the rollers.

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

In a roller-bearing for a sheave, in combination, an open-ended case or shell, divided laterally into halves adapted to interlock; an

annular rib projecting from the interior surface of said shell midway of its ends; a series of rollers, having their ends flush with the ends of said shell, and each provided with an annular groove midway of their ends, adapted to receive said rib; and an interior guide-bearing adapted to loosely engage said grooves in the rollers and prevent the rollers from contact with each other, all as shown and described.

In testimony whereof I have hereunto set my hand this 14th day of April, 1896.

THOMAS R. FERRALL.

Witnesses:

JAMES FERGUSON,

WILLIAM DYER.