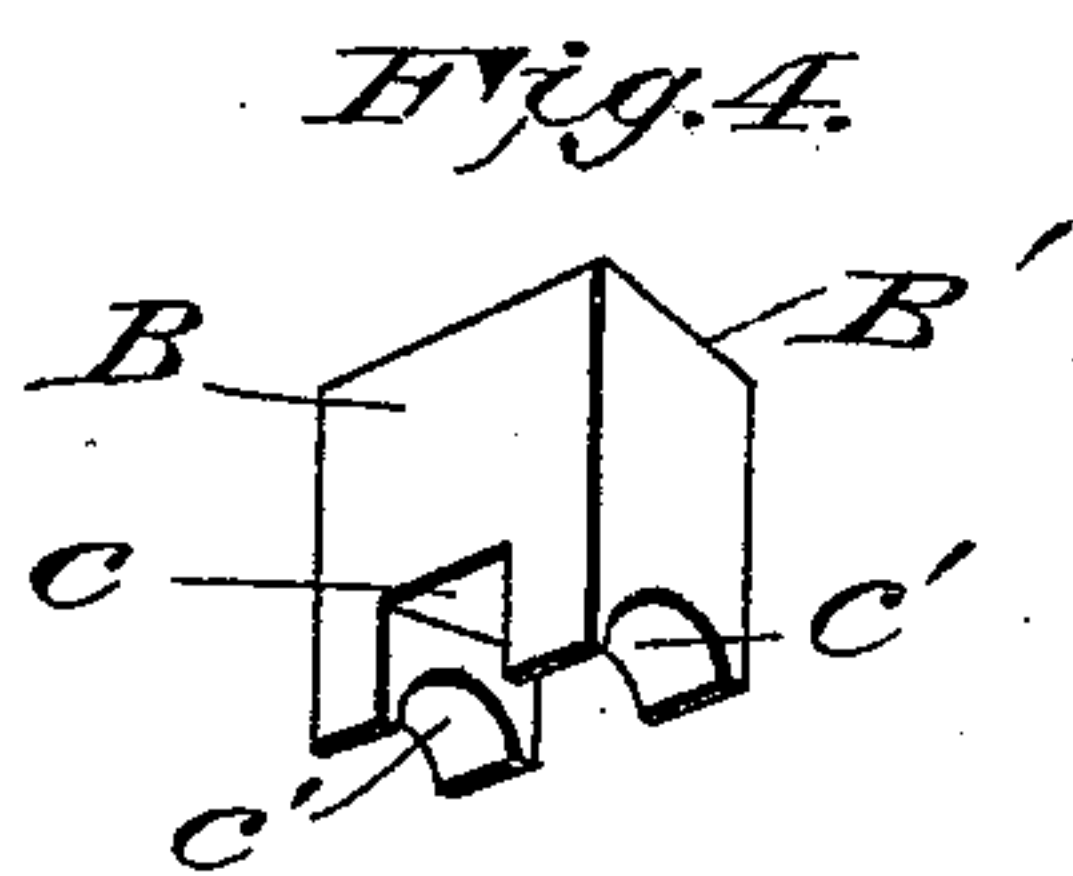
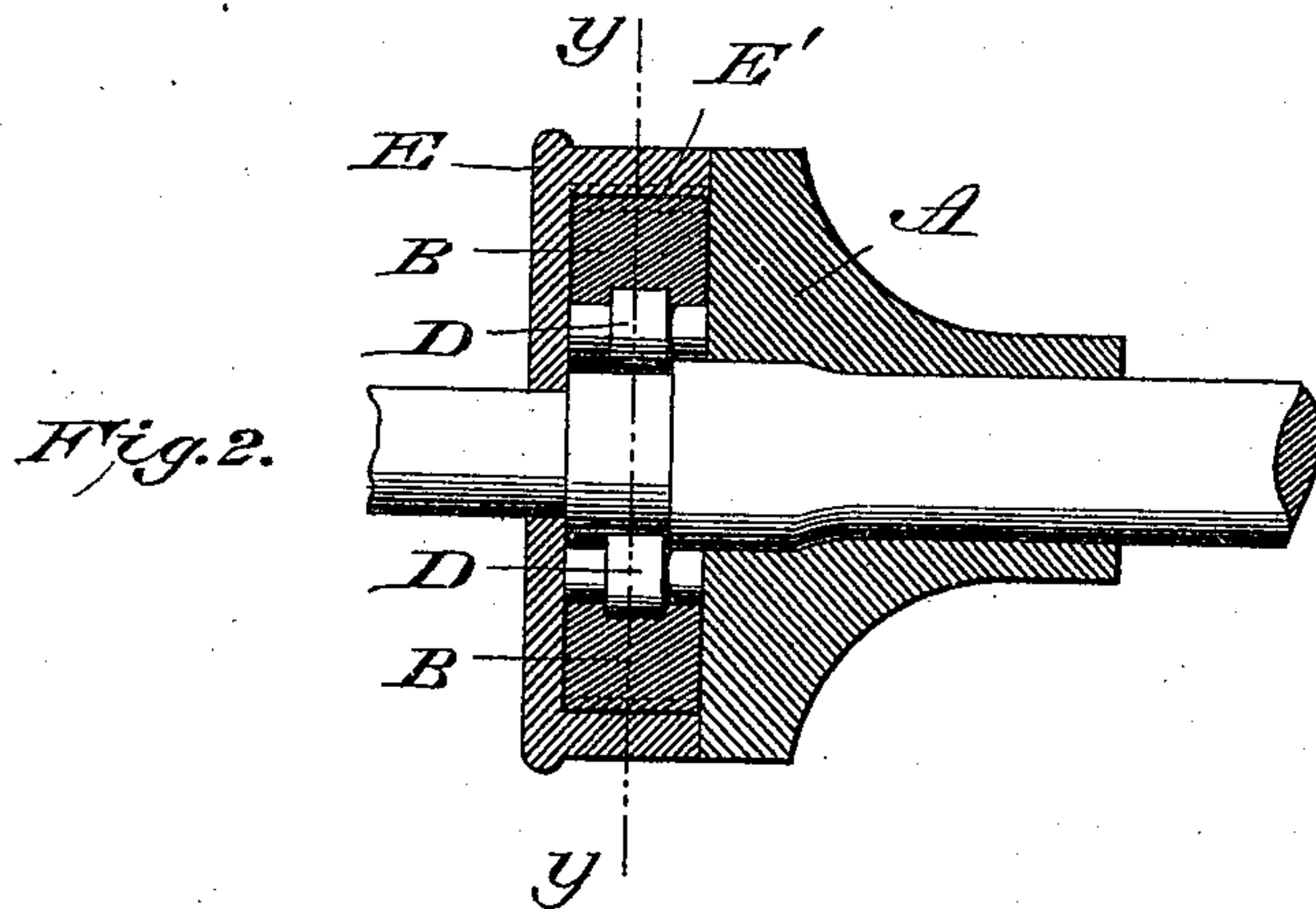
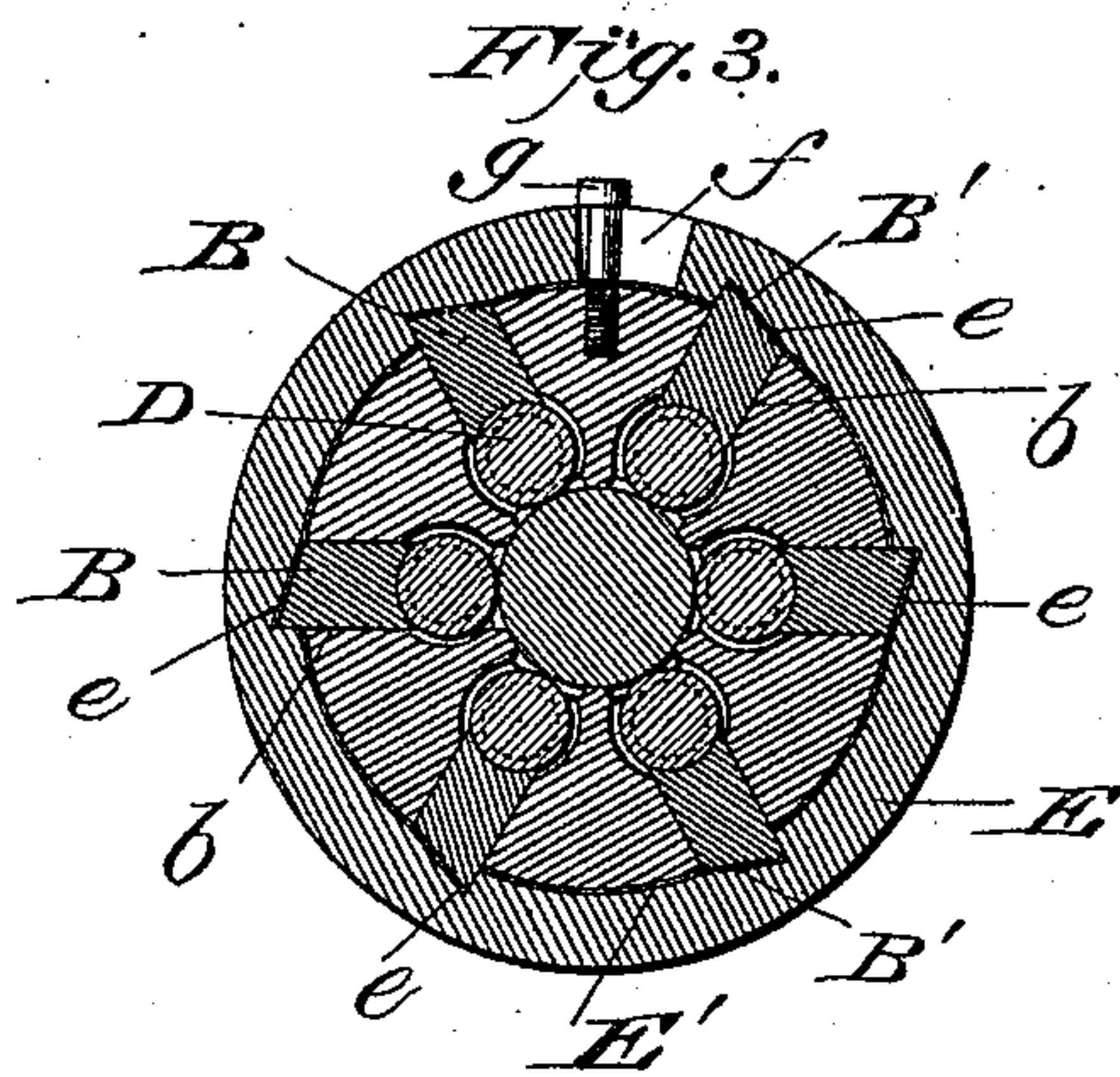
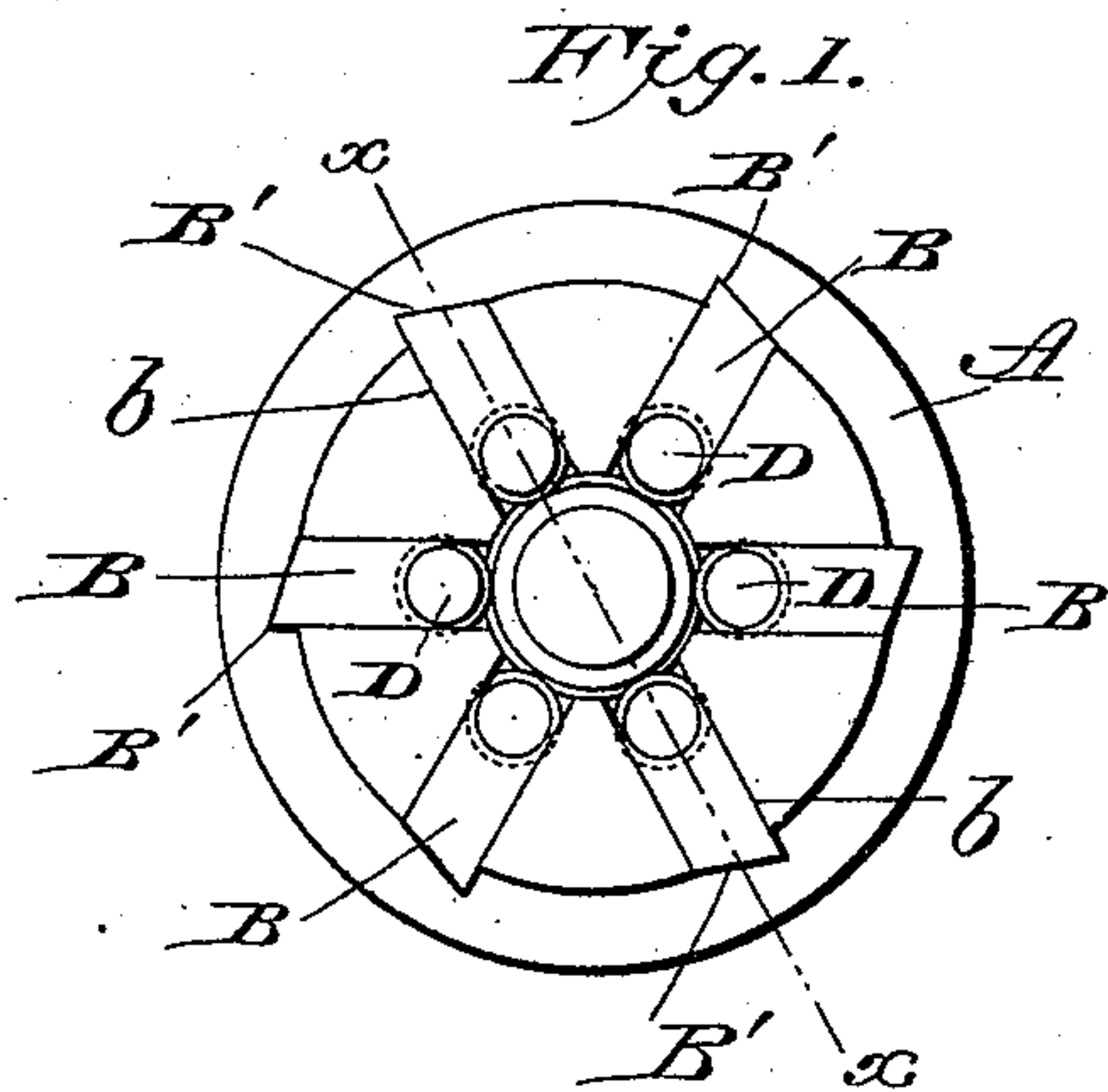


(No Model.)

R. L. BERRY & J. M. OLIVER.  
ROLLER BEARING.

No. 491,867.

Patented Feb. 14, 1893.



Witnesses *L. S. Elliott.*  
*E. M. Johnson*

*Richard L. Berry.*  
— and —  
*James M. Oliver.*  
Inventors

— by *[Signature]*  
Attorney



# UNITED STATES PATENT OFFICE.

RICHARD LEWIS BERRY AND JAMES M. OLIVER, OF ORANGEBURG, SOUTH CAROLINA.

## ROLLER-BEARING.

SPECIFICATION forming part of Letters Patent No. 491,867, dated February 14, 1893.

Application filed October 20, 1892. Serial No. 449,426. (No model.)

*To all whom it may concern:*

Be it known that we, RICHARD LEWIS BERRY and JAMES M. OLIVER, citizens of the United States of America, residing at Orangeburg, in the county of Orangeburg and State of South Carolina, have invented certain new and useful Improvements in Axle-Bearings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in anti-friction bearings, the object of the same being to provide a bearing which is adapted to contain rollers with which the axle or shaft contacts so as to lessen the friction in the bearing; the invention being adapted to be applied to the bearings of bicycles, vehicles, or other classes of machinery, and it consists in a frame having an opening for the axle or shaft from which opening extend recesses to receive blocks which support the friction-rollers which bear upon the axle or shaft, the frame being adapted to be inserted in a box or casing having inclined surfaces against which the blocks supporting the anti-friction rollers bear so that they can be adjusted to and from the axle, as will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification: Figure 1 is a side elevation with the adjusting cover or cap removed. Fig. 2 is a sectional view taken on the line  $x-x$  of Fig. 1. Fig. 3 is a transverse sectional view on the line  $y-y$  of Fig. 2, and Fig. 4 is a perspective view of one of the blocks detached.

A designates a suitable frame or casing which is provided with a central aperture from which extend recesses  $b$  having parallel side walls, said recesses being adapted to receive blocks B which support the anti-friction rollers. These blocks are provided on their inner ends with recesses  $c$  and  $c'$  within which the rollers D are located, the enlarged central portion of said rollers lying in the re-

cesses  $c$ , while the reduced ends bear in the recesses  $c'$ . The outer ends of the blocks are beveled or inclined, as shown at B', and said inclined or beveled ends are adapted to bear against inclined surfaces  $e e$  formed within the cover E on the annular portion E' thereof. The cover is provided with an aperture on a line with the aperture in the frame or casing A, through which the axle or shaft passes.

The outer edge of the part of the frame or casing A in which the recesses  $b$  are formed is concentric with the aperture through which the axle or shaft passes, and the inclined surfaces on the inside of the annular portion of the cover extend from the same, so that by turning the cover the blocks B which bear against said inclined surfaces will be moved to force the rollers to or from the axle.

The annular portion of the cover E may have a slot  $f$ , through which passes a set screw  $g$  which engages with the frame or casing A to hold the parts securely in place when adjusted.

It is obvious that what is referred to as the covering plate may be a stationary part of a piece of machinery, as the front fork of an ordinary bicycle. It will also be obvious that the device illustrated and described may be applied to a hub, in which case the spindle or axle would be stationary and the spokes radiate from one of the parts of the bearing.

In operation, when it is desired to adjust the rollers to take up wear it is only necessary to turn one of the parts when the blocks will be moved and carry with them the rollers thus providing means for making desired adjustments to take up the wear of the axle or rollers.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is:

1. In an anti-friction bearing, the combination of a frame or casing having a central aperture from which extend recesses, blocks located within said recesses and provided with bearings for rollers, together with a casing having inclined surfaces which bear against the blocks, and rollers which bear upon the adjustable blocks substantially as shown, and for the purpose set forth.

2. In an anti-friction bearing, a frame or

casing A having a central aperture from which  
extend recesses, movable blocks located with-  
in said recesses, said blocks having bearings  
on their inner ends for anti-friction rollers  
5 and beveled outer ends, together with the anti-  
friction rollers and a cover having an annu-  
lar portion, on the inner side of which are  
formed inclined surfaces against which the  
inclined surfaces of the blocks bear, said  
10 cover being movable for the purpose set forth,

and means for holding the cover against move-  
ment, substantially as shown.

In testimony whereof we affix our signatures  
in presence of two witnesses.

RICHARD LEWIS BERRY.  
JAMES M. OLIVER.

Witnesses:

M. K. JEFFORDS,  
JOS. DIBBLE.