

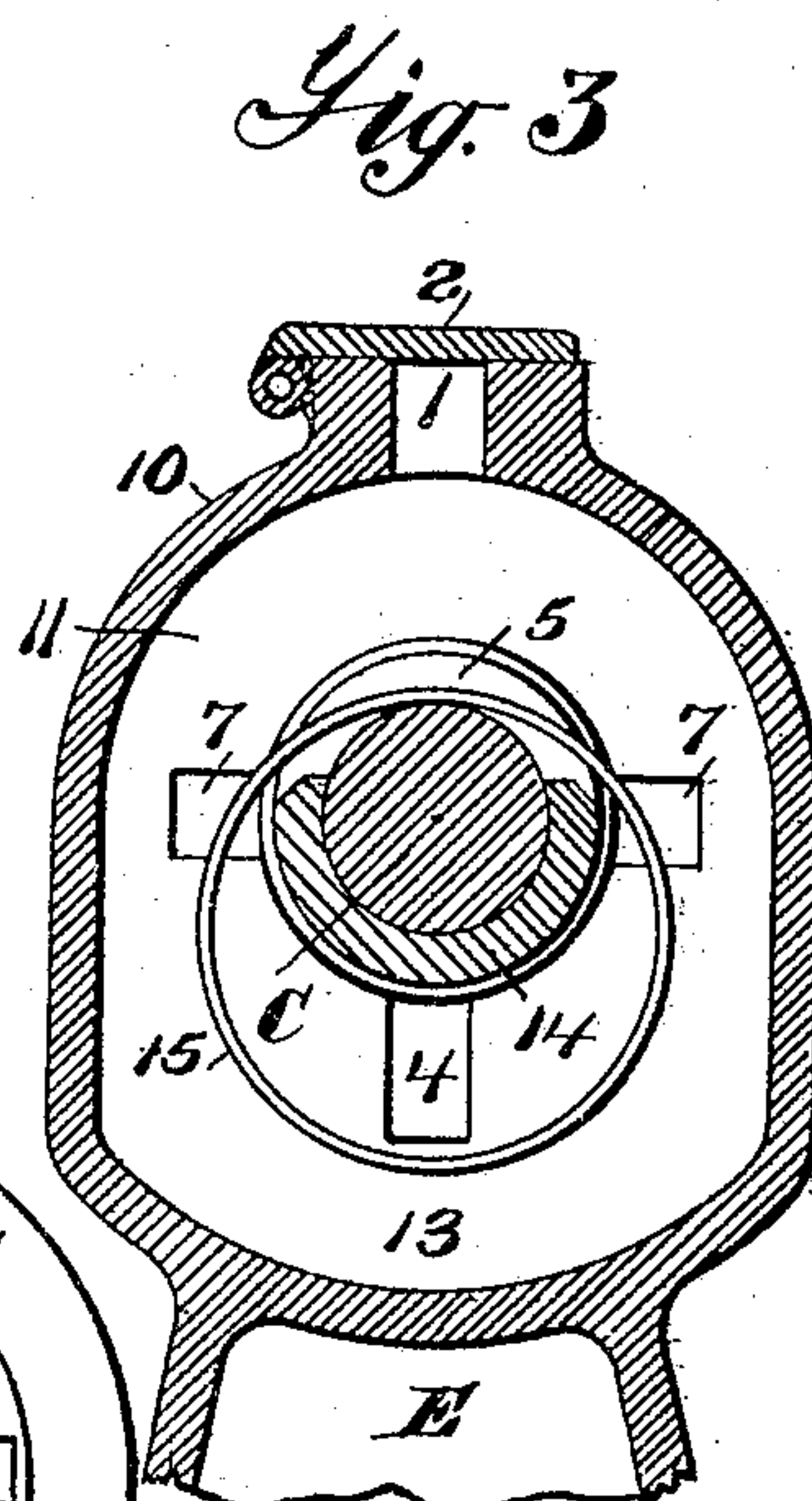
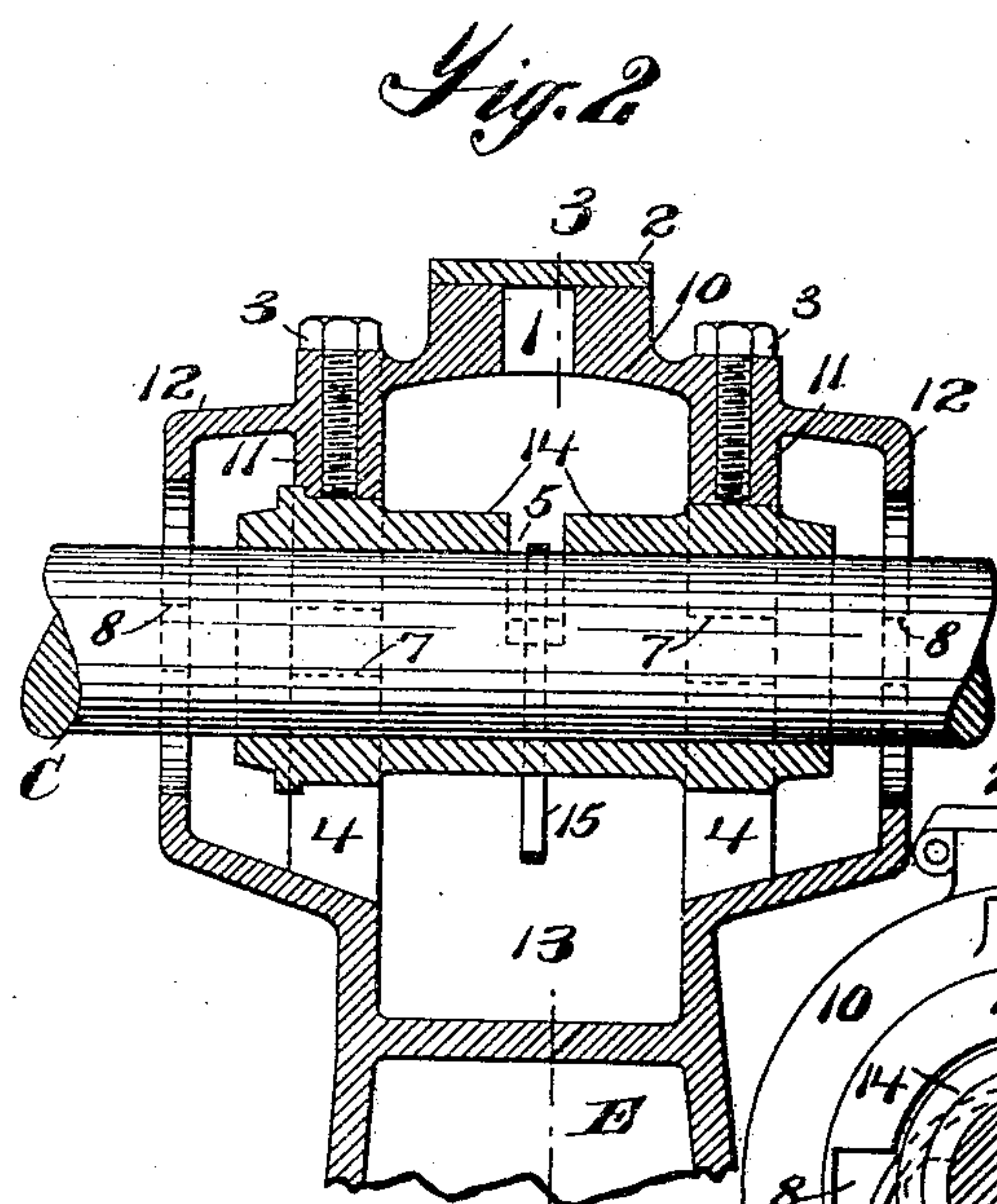
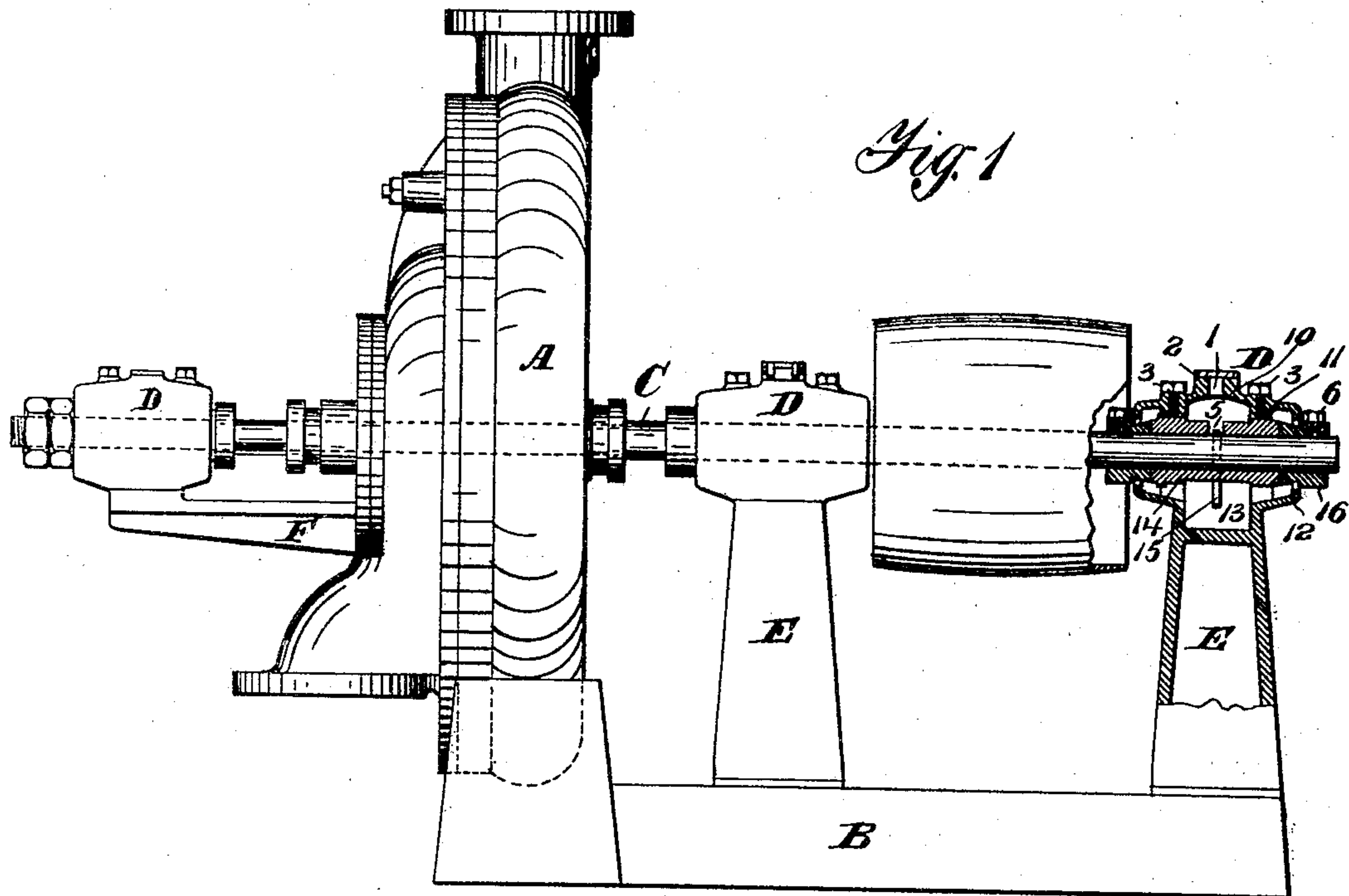
No. 765,936.

PATENTED JULY 26, 1904.

F. RAY.  
SHAFT BEARING.

APPLICATION FILED OCT. 1, 1903.

NO MODEL.



Attest:  
*W. H. Kennedy*  
*Fig. 4*

Inventor:  
*Frederick Ray*  
*By Philip S. Kennedy*  
*Attys*



# UNITED STATES PATENT OFFICE.

FREDERICK RAY, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO HENRY R. WORTHINGTON, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

## SHAFT-BEARING.

SPECIFICATION forming part of Letters Patent No. 765,936, dated July 26, 1904.

Application filed October 1, 1903. Serial No. 175,268. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK RAY, a citizen of the United States, residing at East Orange, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Shaft-Bearings, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is to provide an improved shaft-bearing, and especially to provide a bearing employing an oil-ring for supplying oil to the shaft which shall be simple and cheap in construction and desirable in outside appearance, while providing for the convenient insertion of the oil-ring.

The invention will now be described in connection with the accompanying drawings, showing the invention as applied in its preferred form as a bearing for centrifugal pump-shafts, and the features forming the invention will then be specifically pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a centrifugal pump provided with my shaft-bearings embodying the invention, one of the bearings being shown in section. Fig. 2 is an enlarged detail of the shaft-bearing corresponding to the section in Fig. 1. Fig. 3 is a cross-section on the line 3 of Fig. 2. Fig. 4 is an end view of Fig. 2, showing the ring-slot in the cap.

Referring to the drawings, A is a centrifugal pump of any ordinary form, shown as mounted on the base B and having the shaft C mounted in three outside bearings D, two of which are carried by standards E and the other by arm F. It will be understood, however, that the bearings may be mounted in any other suitable manner and that this construction is shown only for purpose of illustration, my improved bearing being applicable generally as a shaft-bearing.

The bearings D consist of the casing 10, provided with an opening 1 at the top, which is shown as closed by a cover 2, this casing having bushing-supports, these supports and caps being provided with circular openings for inserting the shaft and bushing and caps

12 at the ends outside the bushing-supports. The bushing-supports 11 are preferably provided with screws 3 for holding the bushing in place and at the bottom are preferably provided with vertical slots 4, permitting any oil that may drop from the shaft C within the caps 12 to return to the oil-chamber 13 in the central lower part of the casing. The bushing 14, supported in the bushing-supports 11, is notched or cut away on its upper side at the middle of the bushing, so as to provide a slot 5, which receives the oil-ring 15, the ring thus hanging upon the top surface of the shaft C with its lower portion in the oil-chamber 13 and being held in place longitudinally of the shaft by the walls of the slot 5. Shaft-collars 16 are preferably passed through the openings in the end caps 12 and set up against the bushing 14, these being secured in place by screws 6 or other suitable means.

The insertion of the oil-ring 15 is provided for by slotting the bearing-supports 11 and the caps 12 at the side of their central openings, so as to permit the ring to be passed through these slots into that portion of the casing that is between the bushing-supports 11. As shown, these slots are formed on each side of the central opening in the bushing-supports and caps, the slots 7 in the bushing-supports and slots 8 in the caps being shown in dotted lines in Fig. 2 and in full lines respectively in Figs. 3 and 4.

The parts of the bearing are assembled by first inserting the ring 15 through the slots 8 in the cap and bushing-support, then holding the ring up by a hook through opening 1 while the bushing 14 is inserted through it and while the shaft is inserted through the bushing and ring. The shaft-collars 16 then close the openings in the caps 12 and complete the construction in the form shown, or the bearing may be used without shaft-collars.

It will be understood that the invention is not limited to the specific form of bearing shown, but that the invention may be applied to bearings of other form and that modifications may be made in the detail construction of the bearing shown while retaining the invention defined by the claims.



What is claimed is—

1. In a shaft-bearing, the combination with the shaft and its bushing, and an oil-ring on the shaft, of a casing formed of a single piece  
5 containing the oil-chamber and provided with end openings for inserting the bushing and shaft, said casing being slotted at the side of the shaft-opening to permit the oil-ring to be inserted through the shaft-opening in the cas-  
10 ing, and being provided with a small opening in the wall of the casing for lifting the ring to permit the insertion of the bushing and shaft after the ring is inserted.

2. A shaft-bearing having the casing 10 pro-  
15 vided with the bushing-supports 11 integral with the casing, oil-chamber 13, end openings for inserting the bushing and shaft, and opening 1 for lifting the ring, in combination with bushing 14, said casing being provided with  
20 the slot 7 at the side of the shaft-opening in the bushing-support, for the insertion of an oil-ring.

3. A shaft-bearing having the casing 10 pro-  
vided with the bushing-supports 11 integral with the casing, oil-chamber 13, and caps 12, 25 in combination with bushing 14, said casing being provided with the slots 7, 8 in the bushing-support and cap for the insertion of an oil-ring.

4. A shaft-bearing having the casing 10 pro- 30  
vided with the bushing-supports 11 integral with the casing, oil-chamber 13, and caps 12, in combination with bushing 14 and end shaft-collars 16, said casing being provided with the slots 7, 8 in the bushing-support and cap for 35 the insertion of an oil-ring.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FREDERICK RAY.

Witnesses:

C. J. SAWYER,

W. H. KENNEDY.