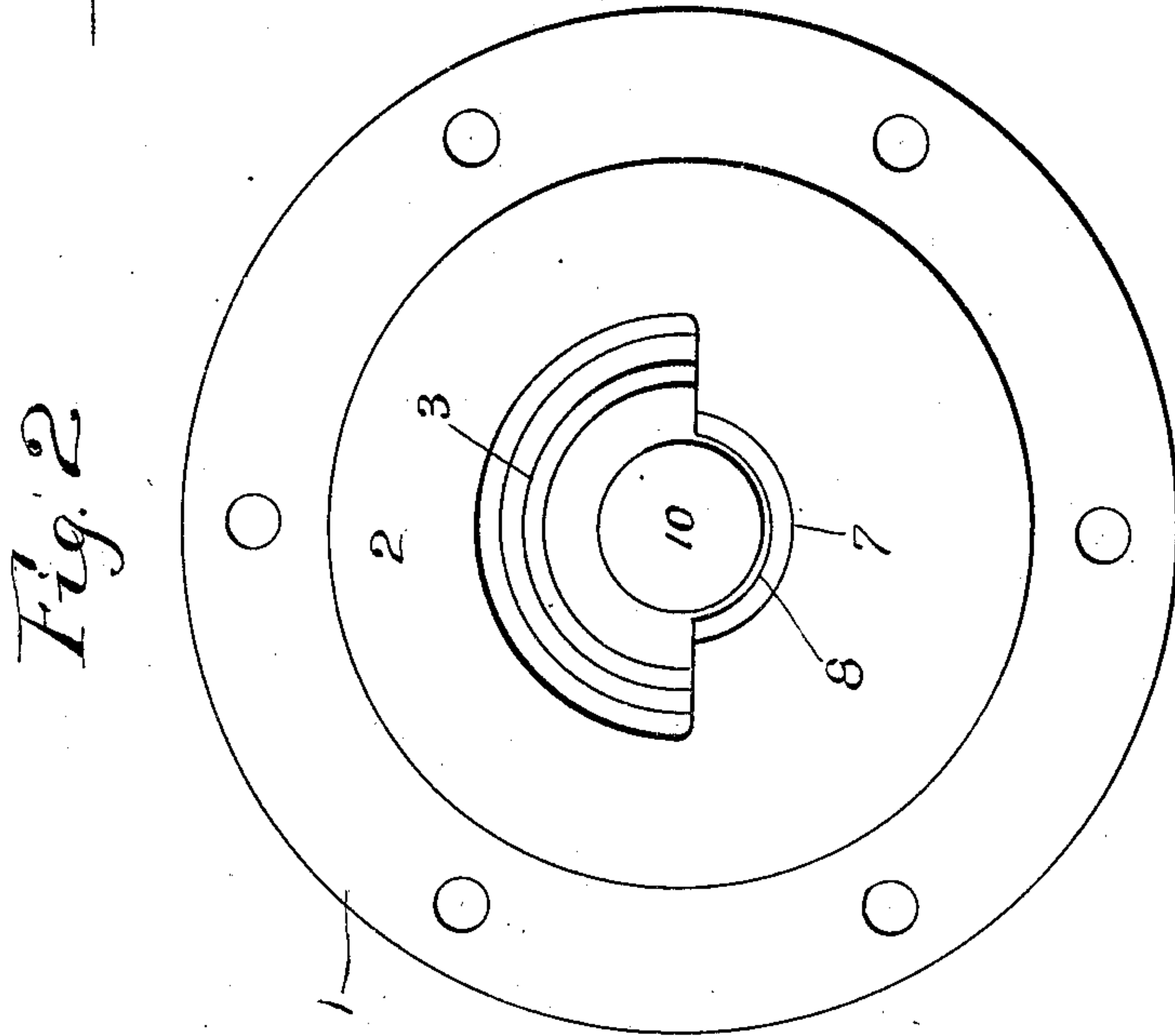
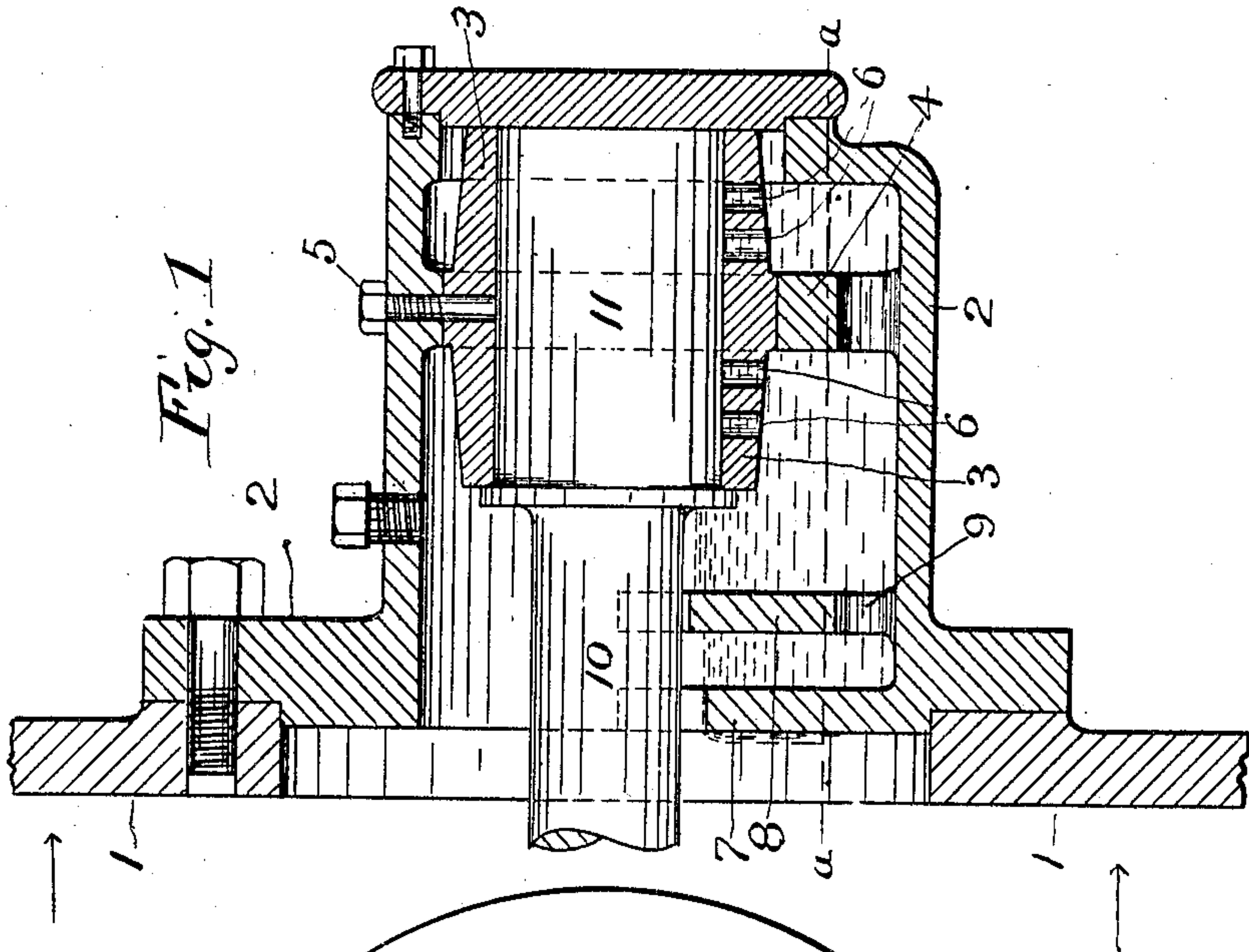


No. 871,265.

PATENTED NOV. 19, 1907.

W. J. FRANCKE.
JOURNAL BEARING.
APPLICATION FILED MAR. 28, 1907.



WITNESSES

M. J. Longden
P. P. Curtis

INVENTOR

W. J. Francke

BY

M. Smith
ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM J. FRANCKE, OF BRIDGEPORT, CONNECTICUT.

JOURNAL-BEARING.

No. 871,265.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed March 28, 1907. Serial No. 365,132.

To all whom it may concern:

Be it known that I, WILLIAM J. FRANCKE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Journal-Bearings; and I 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.

My invention relates to bearings for the shafts of steam engines, and consists in the combination of parts and arrangements of parts hereinafter fully set forth and then particularly pointed out in the claims which conclude this application.

In the accompanying drawings which form a part of this application Figure 1 is a sectional elevation illustrating my improved bearing, and Fig. 2 an inside view looking in the direction of the arrows at Fig. 1.

Similar numbers of reference denote like parts in both figures of the drawing.

My improvement is utilized in connection with engines, such as elastic fluid turbines, in which the steam can pass freely into the casing containing the shaft bearings where it condenses and drops in the form of water into the lubricating oil.

The object of the present improvement is to prevent the water from coming in contact with the journal bearings of the axle of the shaft and also to provide for the constant discharge of the water from the casing which incloses the bearings.

Referring to the accompanying drawings 1 is a broken sectional elevation illustrating the side of a steam chest or casing for a turbine wheel, and 2 is the journal casing which is bolted thereto.

3 is a journal box which rests upon a block 4 at the bottom of the casing 2 and is secured to the casing by means of bolts 5 (only one shown), the bottom of this box being provided with oil ducts 6.

7 is a wall which rises from the outside edge of the casing 2 to a height preferably slightly above the level of the lower inner surface of the box 3, and 8 is a partition wall which rises from the bottom of the casing. A narrow space separates these walls, and an opening 9 is provided through the base of the wall 8 whereby communication is had between the main portion of the journal

casing and the narrow space between these walls.

10 is the shaft whose journal 11 is inclosed within the journal box 3.

The lubricating oil is contained within the bottom of the casing 2 and is kept at a level slightly above the interior surface of the bottom of the journal box 3, so that oil will be constantly fed to the journal through the ducts 6. I prefer to initially pour water into the journal casing 2 up to about the level denoted by the line *a, a*, in Fig. 1 which is immediately above the top of the opening 9 in the wall 8, and the oil is then poured on top of the water in the large compartment of the casing 2 until it has attained the proper level. The weight of the oil on the water will cause the column of water in the narrow compartment between the two walls 7, 8, to rise up to a point nearly on a level with the oil in the other compartment, and as the steam finds its way into the casing 2 and condenses, the excess of water in this narrow compartment will be discharged through any suitable overflow outlet. One way of discharging said excess of water is to provide an overflow by making the height of the wall 7 less than the height of the wall 8 so that such excess will flow over the top of the wall 7 into the steam chest 1, as shown at Fig. 1. But, of course, the provision of an overflow is a very simple matter requiring no invention, and I do not wish to be limited in this respect.

Any excess of oil poured into the casing will flow over the top of the wall 8 upon the surface of the water in the narrow compartment and likewise be discharged in the manner aforesaid into the chest 1. It will thus be readily understood that in my improved bearings I have provided for the water and oil in such manner that the water cannot come in contact with the bearings while the excess of water may be discharged without thereby wasting any of the oil.

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

1. A casing adapted to contain lubricating oil and secured in proper position adjacent to a steam chest, the lower portion of said casing having a vertical partition wall whereby the casing is divided into narrow and large compartments, the narrow compartment at its upper portion communicating

with a suitable overflow outlet while said partition wall has an opening at the bottom whereby communication is established between the two compartments, and a shaft
5 journaled within said large compartment and with the lower portion of its journal in a plane below the top of said wall.

2. In a journal bearing, the combination
10 of a casing having inner and outer vertical walls separated by a narrow space the inner wall provided with an opening at the bottom and having a height greater than the

height of the outer wall, a journal box secured within said casing and extending below the level of said outer wall and provided 15 with oil ducts in its lower portion, and the shaft journaled within said box.

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

WILLIAM J. FRANCKE.

Witnesses:

F. W. SMITH, Jr.,

M. T. LONGDEN.