

**No. 696,777.**

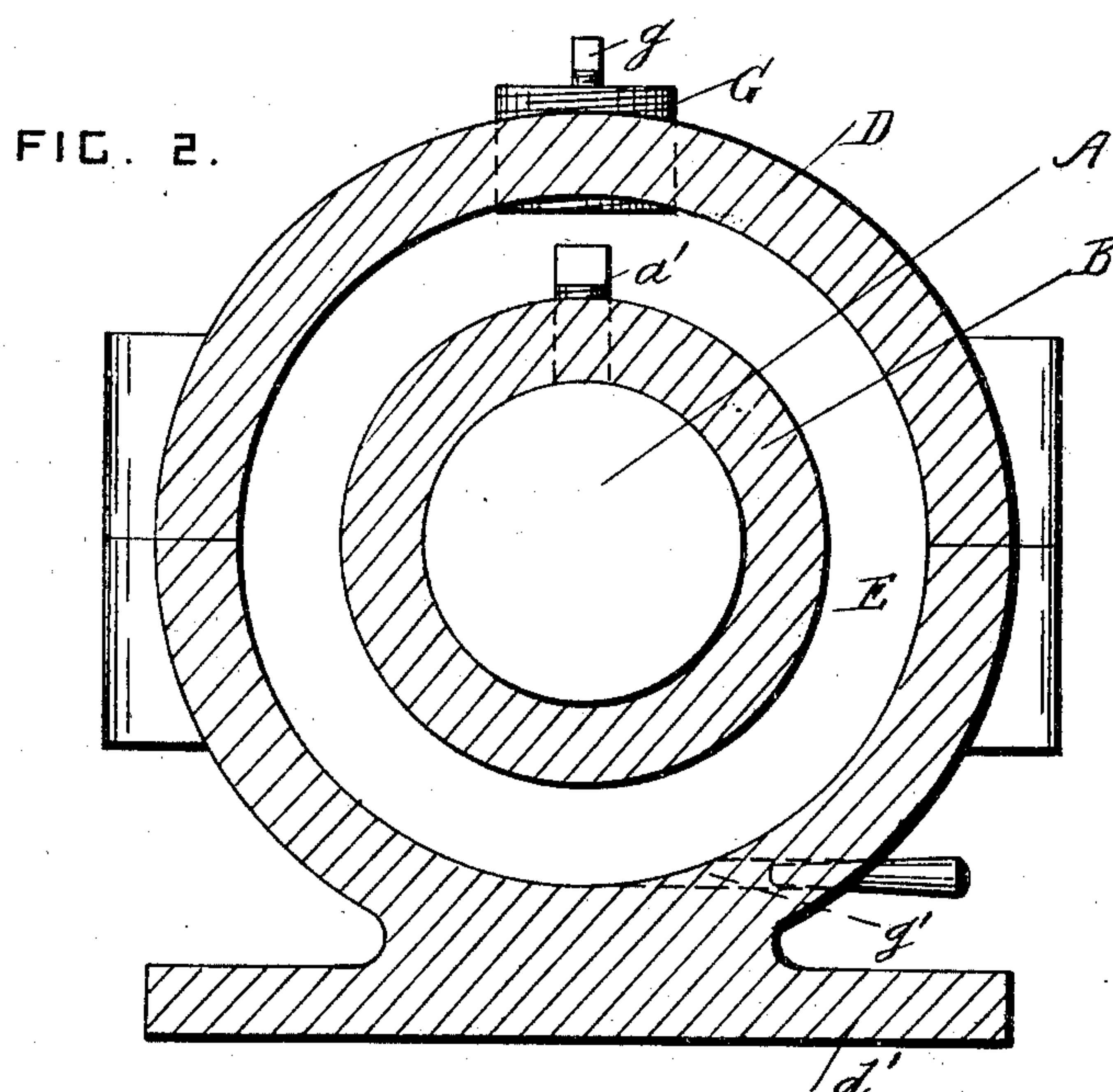
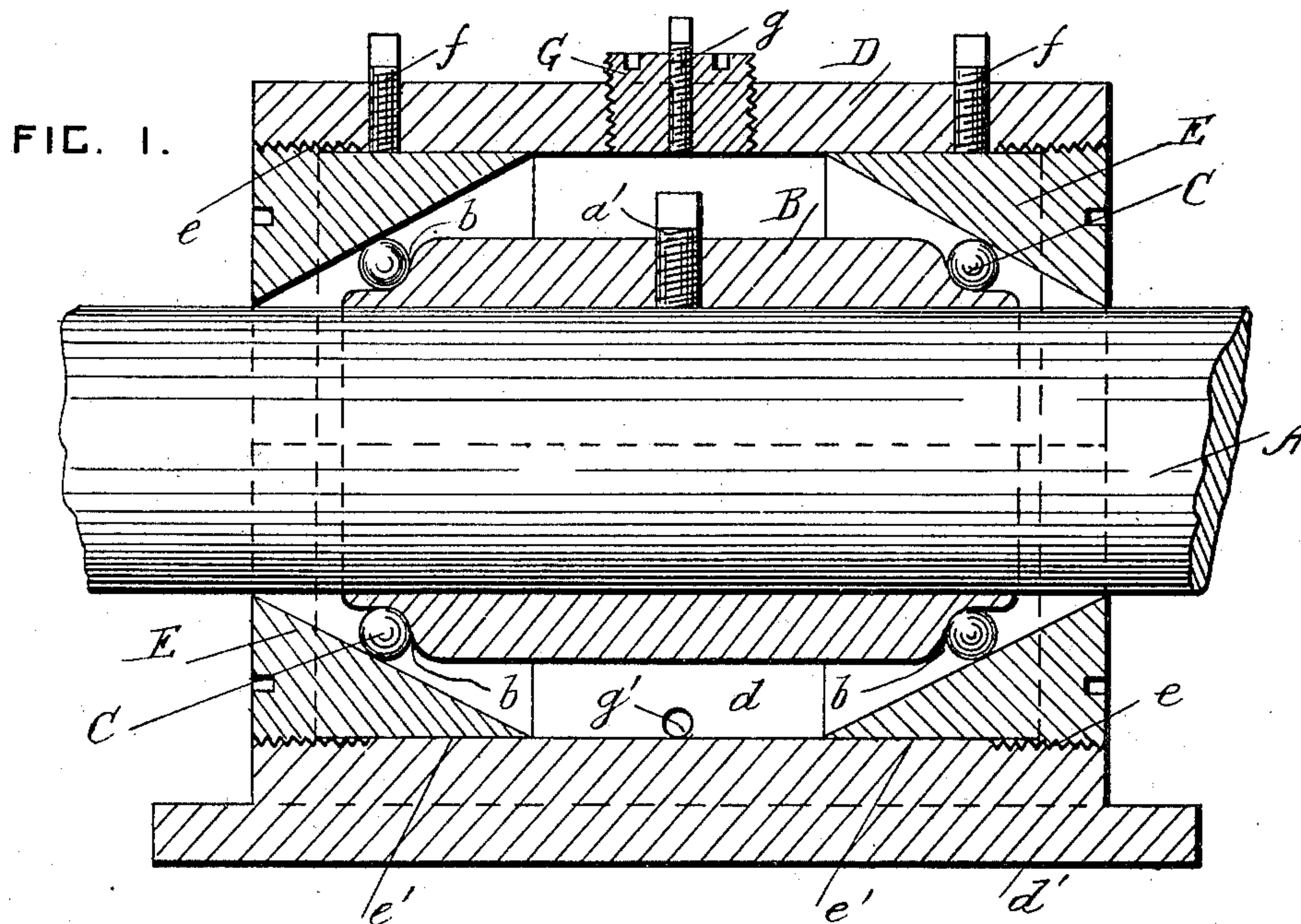
Patented Apr. 1, 1902.

**B. D. WARD.**

**BALL BEARING.**

(Application filed Jan. 22, 1901.)

(No Model.)



**WITNESSES**

Walter Allen  
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# UNITED STATES PATENT OFFICE.

BALDWIN D. WARD, OF MILLPORT, NEW YORK.

## BALL-BEARING.

SPECIFICATION forming part of Letters Patent No. 696,777, dated April 1, 1902.

Application filed January 22, 1901. Serial No. 44,283. (No model.)

*To all whom it may concern:*

Be it known that I, BALDWIN D. WARD, a citizen of the United States, residing at Millport, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Ball-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.

This invention relates to ball-bearings; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a longitudinal section through the bearing. Fig. 2 is a cross-section through the bearing.

A is a shaft, and B is a sleeve secured on the shaft by a set-screw  $a'$ . When the set-screw is slack, the sleeve can be slid longitudinally. The end portions of the sleeve are provided with ball-races  $b$ , and C are balls which run in the said races.

D is a cylindrical casing arranged concentric with the shaft A and forming an oil-chamber  $d$  around it. The casing D is provided with a base-plate  $d'$  for securing it in position.

E represents cylinders provided with screw-threaded portions  $e$  at one end and plain cylindrical guide portions  $e'$  at the other end of smaller diameter than the portions  $e$ . The portions  $e$  engage freely with the screw-threaded portions in the ends of the casing D, and the guide portions  $e'$  slide and revolve oil-tight in the oil-chamber of the cylindrical casing, between the screw-threaded portions at its ends. The cylinders E have internal inclined surfaces for bearing against the balls C. The position of each cylinder is adjusted by revolving it, and it is then locked by a set-screw  $f$ , which engages with the casing and bears against its plain portion  $e'$ . The parts  $e'$  keep the chamber  $d$  oil-tight and permit the cylinders to be revolved to adjust

them without the exercise of great force. In a shaft-bearing the screw-threaded portions  $e$  cannot be made oil-tight unless they are made to fit so tightly in the casing as to require very great force to revolve the cylinders, and when the screw-threaded portions are freely revoluble the guide portions are necessary to keep the screw-threads oil-tight and also to preserve the perfect alinement of the bearing-surfaces which is necessary in a good shaft-bearing.

G is a screw-threaded plug inserted in the casing over the set-screw  $a'$  and affording access to it, and  $g$  is an oil-screw inserted in the plug G. Oil is inserted in the casing by removing the screw  $g$ , and  $g'$  is a hole in the lower part of the casing provided with a plug or other means for closing it. The waste oil is let out of the hole  $g'$  when the said plug is removed.

What I claim is—

In a shaft-bearing, the combination, with a cylindrical casing having internally-screw-threaded end portions, an oil-chamber at its middle part, and a base-flange upon one side; of adjustable cylinders having screw-threaded portions at one end which engage freely with the screw-threaded portions of the casing, plain cylindrical guide portions at the other end which work oil-tight in the said oil-chamber of the casing, and internal inclined bearing-surfaces; locking devices for securing the said cylinders in the casing, a shaft provided with a sleeve having ball-races at its end portions and arranged in the oil-chamber of the casing between the inclined bearing-surfaces, and balls arranged between the said inclined bearing-surfaces and ball-races, substantially as set forth.

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

BALDWIN D. WARD.

Witnesses:

A. S. VANGORDER,  
Mrs. A. S. VAN GORDER.