

(No Model.)

2 Sheets—Sheet 1.

I. W. DOEG.

SELF LUBRICATING JOURNAL BEARING.

No. 352,680.

Patented Nov. 16, 1886.

Fig. 1.

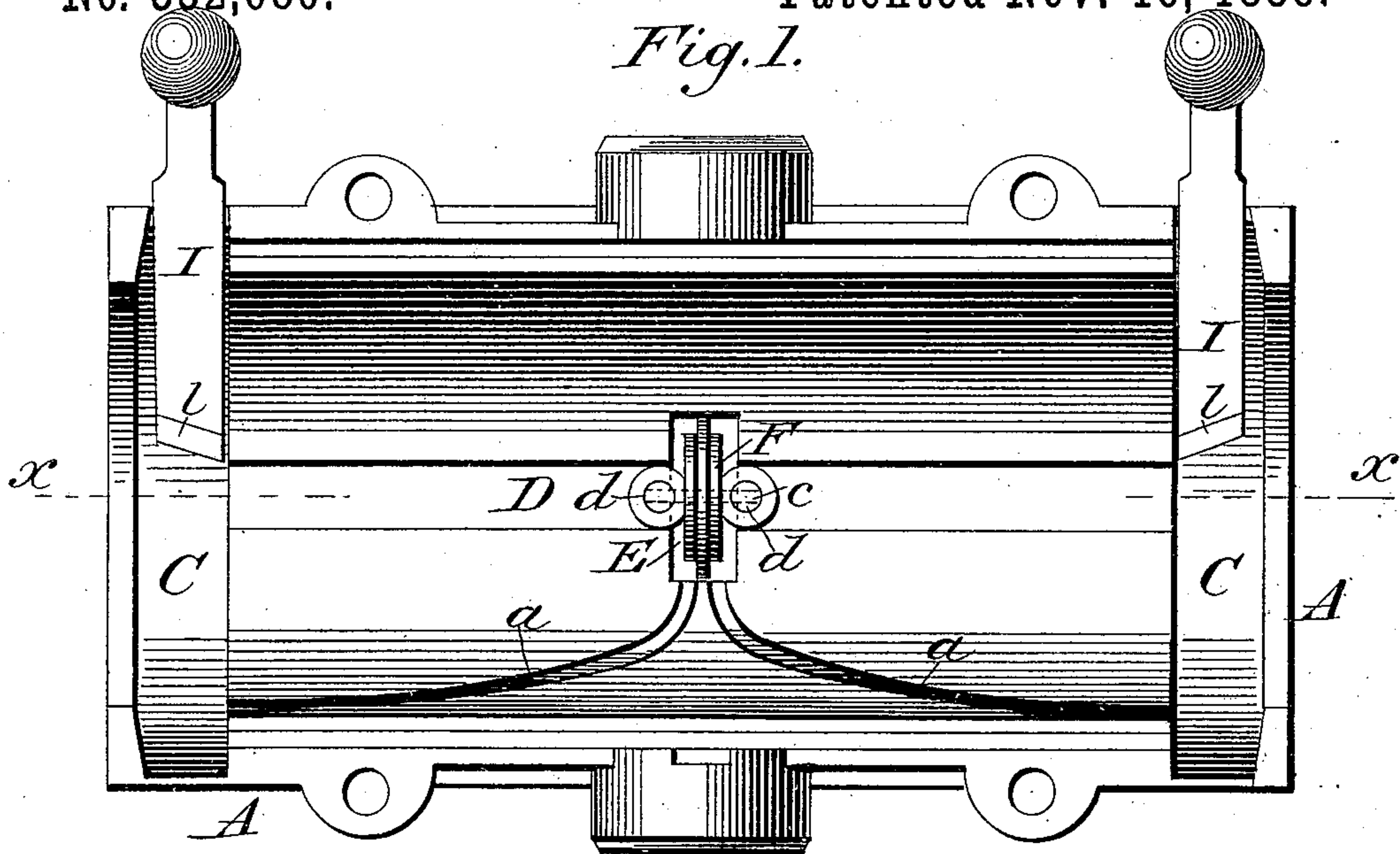
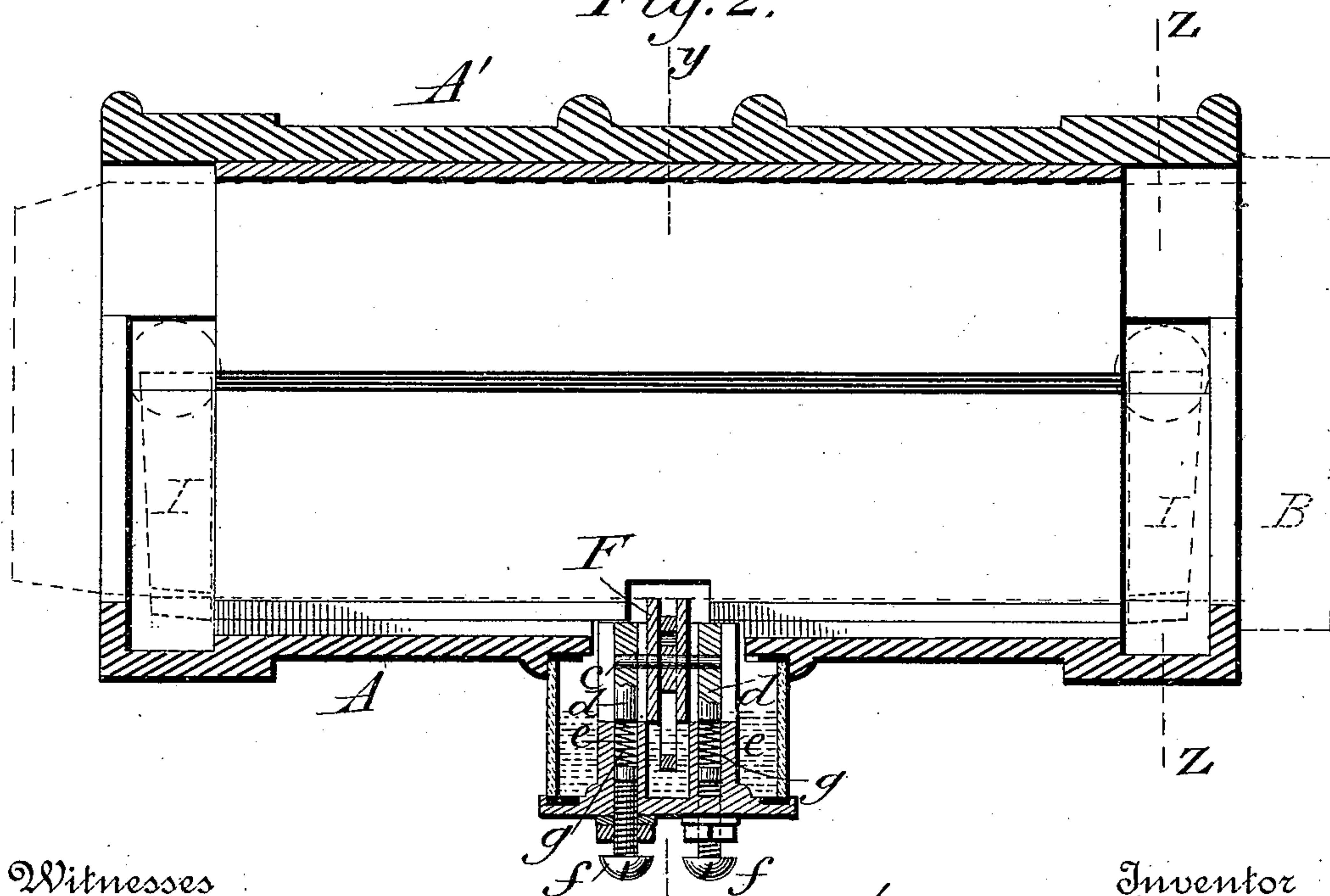


Fig. 2.



Witnesses

H. H. Schott.
Fred E. Tasker.

Inventor

Isaac W. Doeg,
By his Attorney *John C. Parker,*

(No Model.)

2 Sheets—Sheet 2.

I. W. DOEG.

SELF LUBRICATING JOURNAL BEARING.

No. 352,680.

Patented Nov. 16, 1886.

Fig. 3.

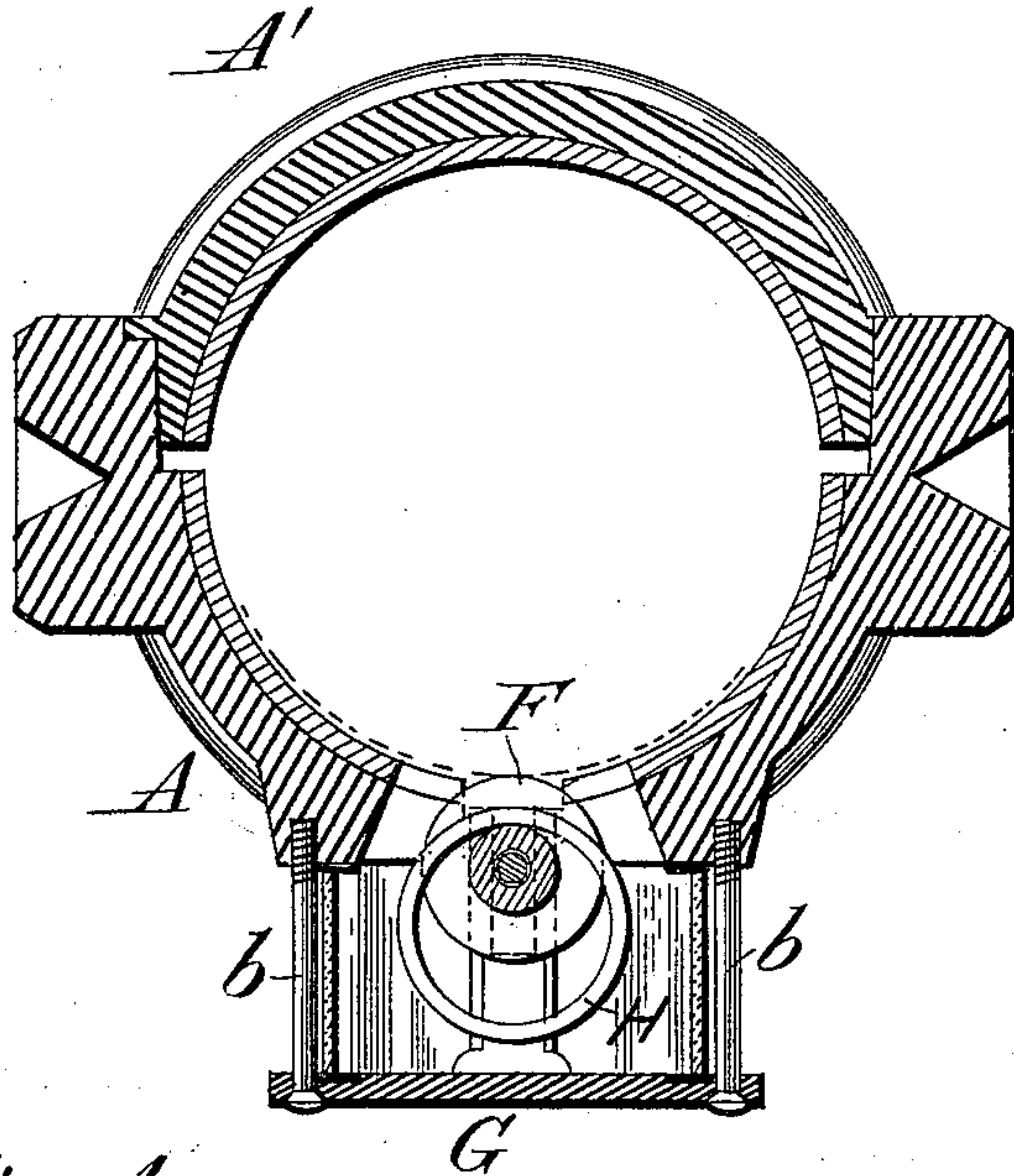
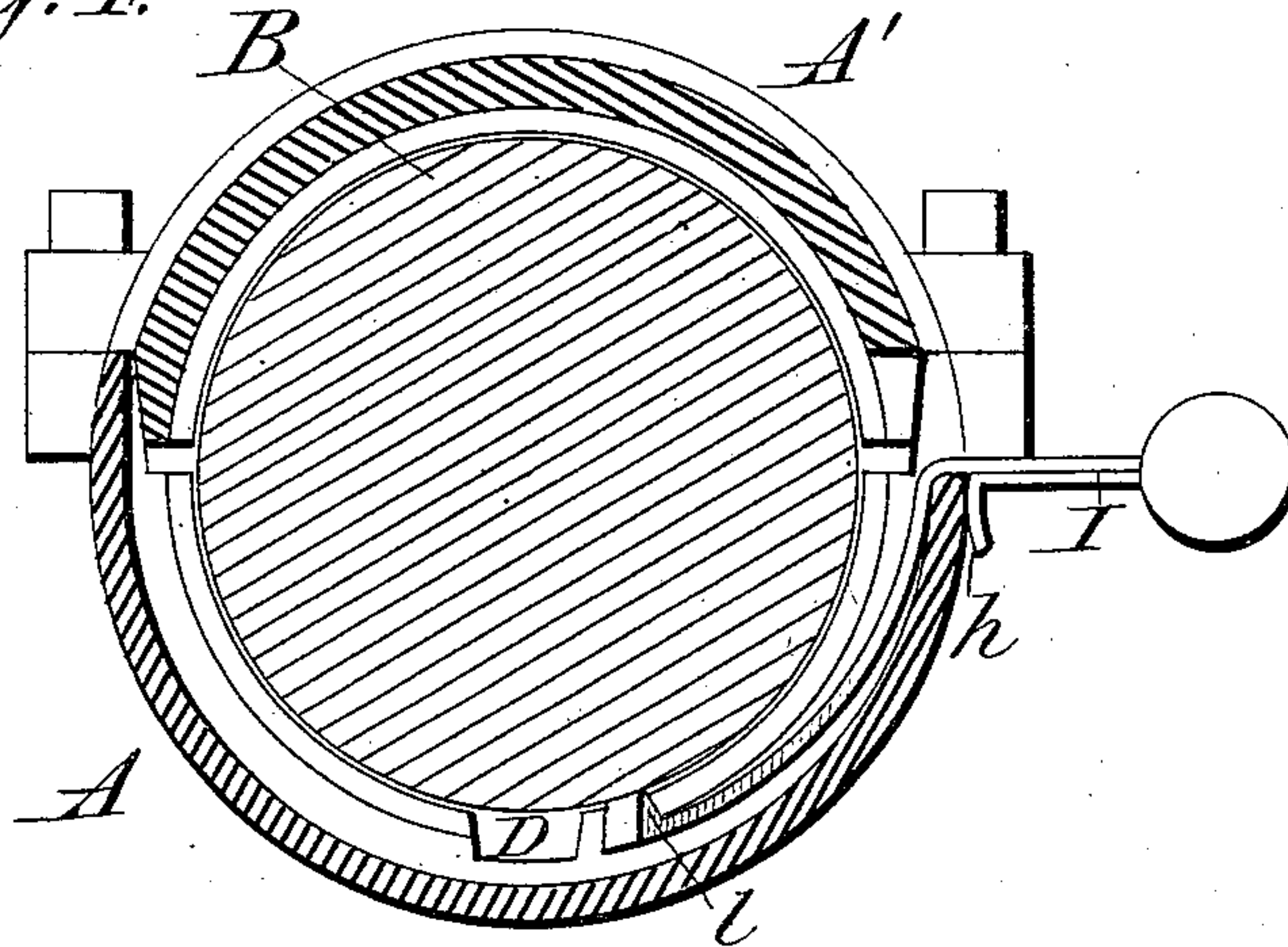


Fig. 4.



Witnesses

H. H. Schott
Fred E. Tasker

Inventor

Isaac W. Doeg
By his Attorney *John C. Parker*

UNITED STATES PATENT OFFICE.

ISSACHAR W. DOEG, OF NEW MARKET, NEW HAMPSHIRE, ASSIGNOR OF
ONE-HALF TO AMBROSE J. NICHOLS, OF SAME PLACE.

SELF-LUBRICATING JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 352,680, dated November 16, 1886.

Application filed June 9, 1886. Serial No. 204,597. (No model.)

To all whom it may concern:

Be it known that I, ISSACHAR W. DOEG, a citizen of the United States, residing at New Market, in the county of Rockingham and State of New Hampshire, have invented certain new and useful Improvements in Self-Lubricating Journal-Bearings; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to self-lubricating journal-bearings; and it consists of a sight-feed lubricator-chamber containing a roll held adjustably against the under side of the journal.

The invention also consists in providing the bearing with annular or semi-annular grooves at each end thereof, and with longitudinal connecting recesses or channels, the said annular grooves being adapted to receive the lubricating-liquid from the surface of the journal and convey it back through the longitudinal channels to the sight-feed chamber. The removal of the oil from the surface of the journal and its deposit within the annular recesses is effected and facilitated by means of removable wiper bars or scrapers located within the said recesses and having their innermost ends bearing against and scraping upon the surface of the journal; and the invention further comprises certain peculiarities in the construction, arrangement, and combination of the various parts, as will be hereinafter more fully described.

In the annexed drawings, illustrating my invention, Figure 1 is a top plan of the lower semi-interior of a journal-box provided with my improved sight-feed lubricator, the conveying-channels for the oil, and the wiper-bars. Fig. 2 is a vertical longitudinal section of an entire box, on the line *x x* of Fig. 1. Fig. 3 is a transverse section on the line *y y* of Fig. 2. Fig. 4 is a similar section on line *z z* of Fig. 2.

Like letters of reference designate corresponding parts in all the figures.

A and A' represent the lower and upper

semi-cylindrical sections, which are secured together by bolts or otherwise to constitute a journal-box, and B designates the journal or shafting, which is inclosed by this box. Near each end of the bearing the material thereof is hollowed or grooved out to form an annular or semi-annular channel, C, of greater or less depth, as desired, (see Fig. 1,) and the annular channels C are made to communicate with each other and with the middle of the bearing by means of a longitudinal channel, D, and also by various other channels or conduits of different length, form, curvature, and extent, examples of which are shown at *a a*, Fig. 1. The central or objective point toward which the trend of these channels is directed is the lower middle portion of the journal-bearing, below which the sight-feed is located, said channels being for the purpose of reconveying to the lubricating-receptacle the oil or other liquid which has become diffused over the surface of the journal.

The lower middle portion of the bearing is provided with a suitably-shaped opening, E, through which a roller, F, extends within the bearing sufficiently far to allow it to rest in frictional contact with the journal B and transverse to the same. Immediately below this opening and surrounding the roller is the sight-feed glass or observation-chamber G, which is secured to the exterior of the bearing in any suitable manner, as by the screw-bolts *b*. This chamber holds the lubricating-liquid. The roller F is carried by a short spindle, *c*, whose extremities are journaled in short rods *d*, located within tubular posts *e*, slotted for the passage of the spindle *c*, said posts *e* extending through the oil-receptacle and secured to the top and bottom of the same. The bottom ends of the tubular posts contain screw-bolts *f*, which extend through the bottom of the sight-feed chamber and are operative from without, and between the ends of the rods *d* and the screws *f* are placed springs *g*, by means of which the roller F is made to rest adjustably against the journal-surface. The screws *f* serve to adjust the tension of the springs, and consequently the pressure of the roll upon the shaft. Said roll revolves within the lubricating-liquid, and

carries the same up out of its vessel and diffuses it over the journal. The roller F is preferably provided with a peripheral groove, upon which hangs a loose ring, H, of greater diameter than the roller, and by means of the ring the oil is transferred to the roller and thence to the journal.

After the lubricating-liquid has been carried, by means of the roller F, from its receptacle to the surface of the shaft, the continued rotation of the shaft will cause the liquid to be diffused or spread lengthwise over the whole of such surface, until in both directions it comes to the points where the wipers or scraper-bars are situated. I represent these bars. They are preferably of the form shown in Fig. 4, being curved throughout a portion of their length so as to rest within the semi-annular grooves, and the outer portions, which pass through apertures in the sides of the bearing, being weighted. They therefore act as levers, which are fulcrumed in the apertures through which they pass, their under side being in general provided with a transverse groove or nick, *h*, to keep them in place upon their fulcrum—*i. e.*, upon the wall of the journal-bearing. The external weighted ends of the wipers will keep the internal ends in close contact with the shaft, and thus the oil thereon will be scraped off and allowed to drip into the annular grooves and be reconveyed to the oil-receptacle by any of the various grooves that may be provided. The inner ends of the wiper-bars are preferably provided with transversely-inclined flanges *l*, whose top edges are sharpened to scrape the journal. When the bars are constructed in this manner and made to bear against the under surface of the shaft, the tendency of this mode of contact will be to scrape off the oil, and at the same time direct its course toward the receptacle rather than in the opposite direction.

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

1. The combination of a journal-bearing having a lower opening, annular end recesses, and intercommunicating channels, the sight-feed glass with its adjustably-mounted lubricating-roller, and the fulcrumed scrapers or wipers, substantially in the manner specified and shown.

2. In a sight-feed lubricator, the combination of the journal-bearing, the observation-chamber G secured thereto, and the removable and adjustable roller F, revolving in contact with the shaft, said roller being carried by a spindle, *c*, whose extremities are journaled in rods *d*, located within slotted tubular posts *e*, which are secured within the chamber G, and are provided with screw-bolts *f* and springs *g*, all arranged substantially as described.

3. The combination of the recessed and channeled journal-bearing, the sight-feed oil-receptacle, the distributing-roller, and the wipers fulcrumed on the apertured wall of the bearing, substantially as set forth and shown.

4. The combination of the sight-feed glass, containing the lubricating-liquid, the adjustably-mounted roller for conveying said liquid to the shaft, and the scrapers having inclined flanges that wipe the journal, together with channels for gathering up and reconveying the liquid to the feed-glass, substantially as shown and described.

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

ISSACHAR W. DOEG.

Witnesses:

AMBROSE J. NICHOLS,
GEORGE E. JOY.