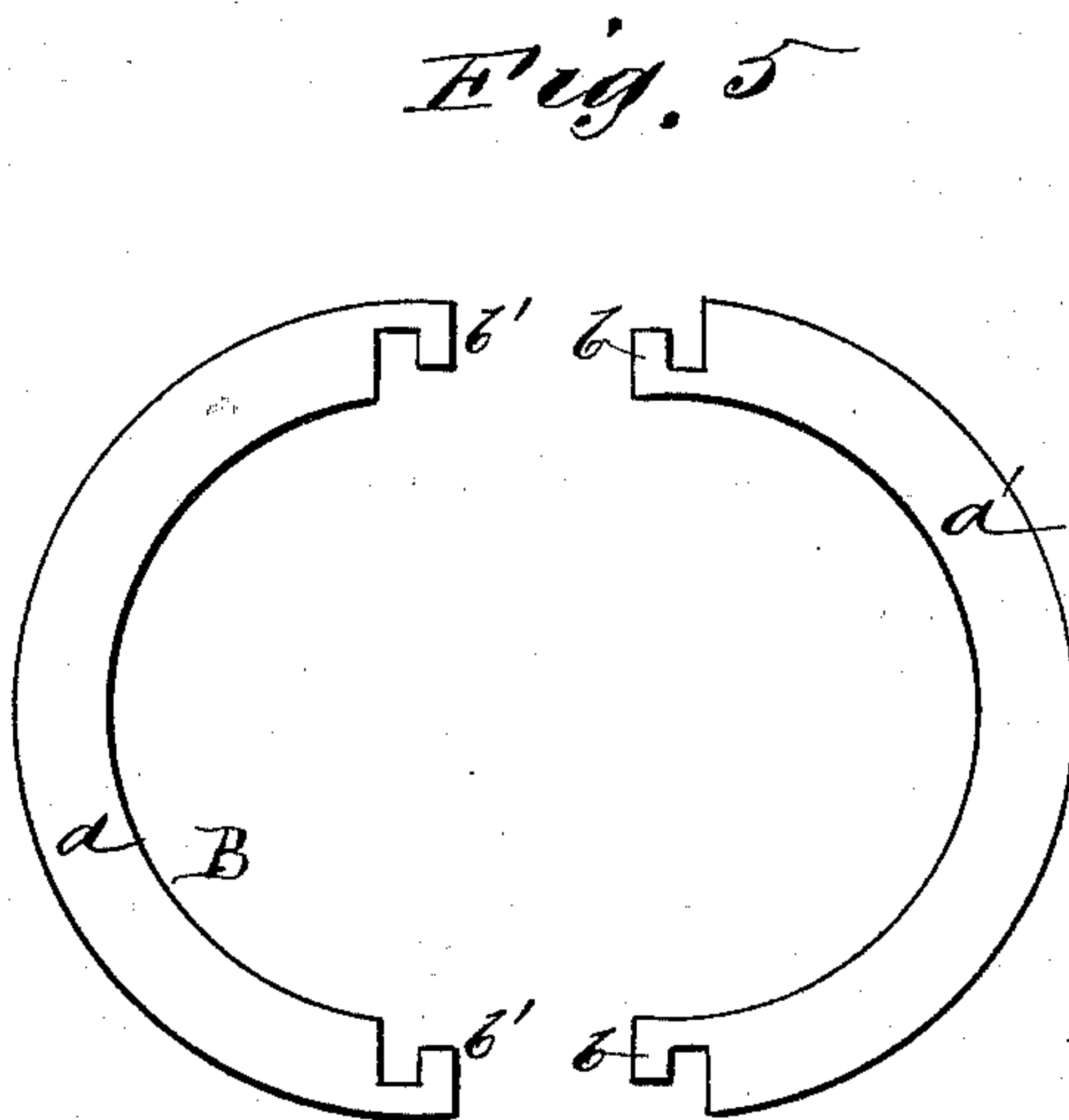
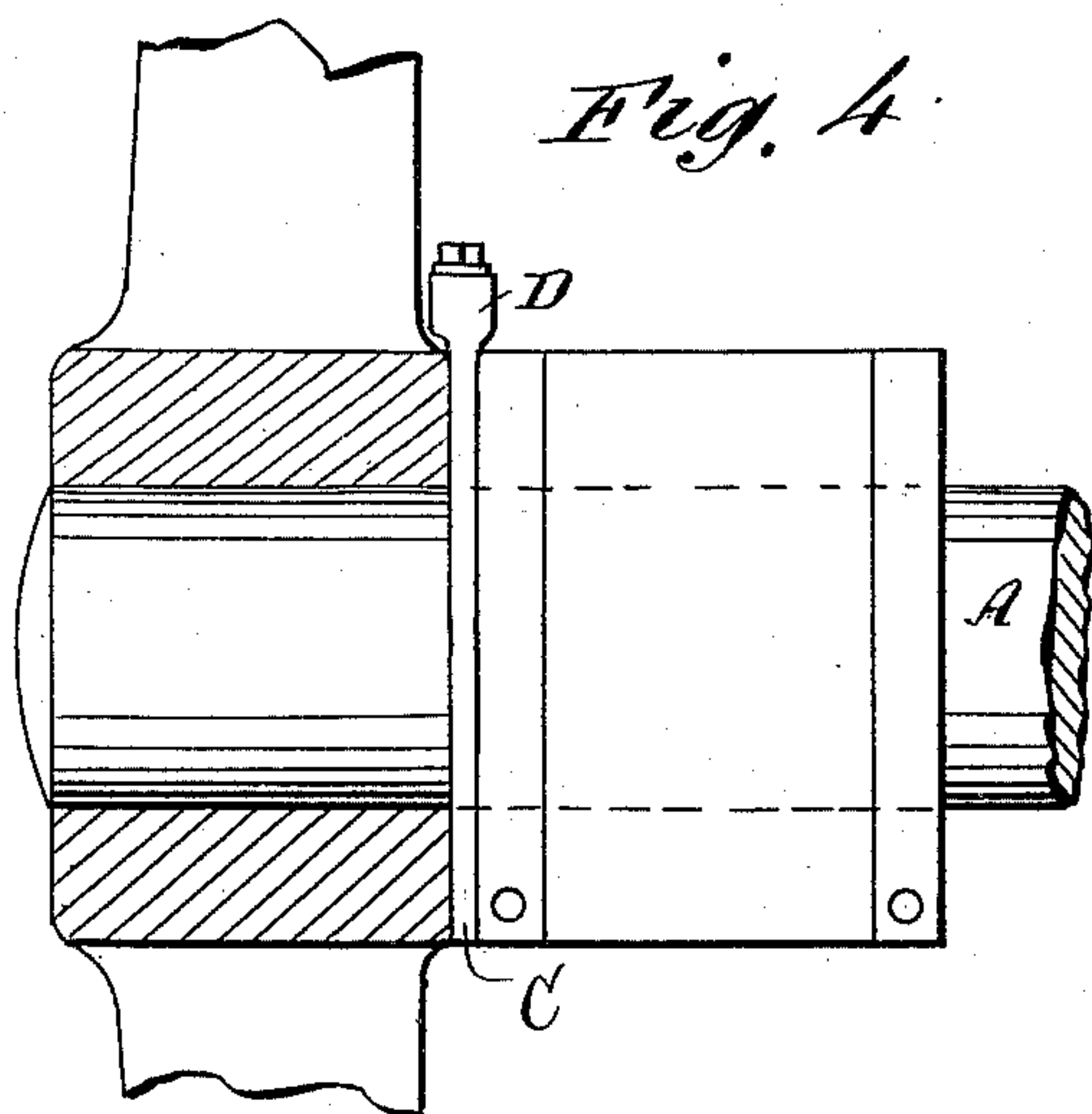
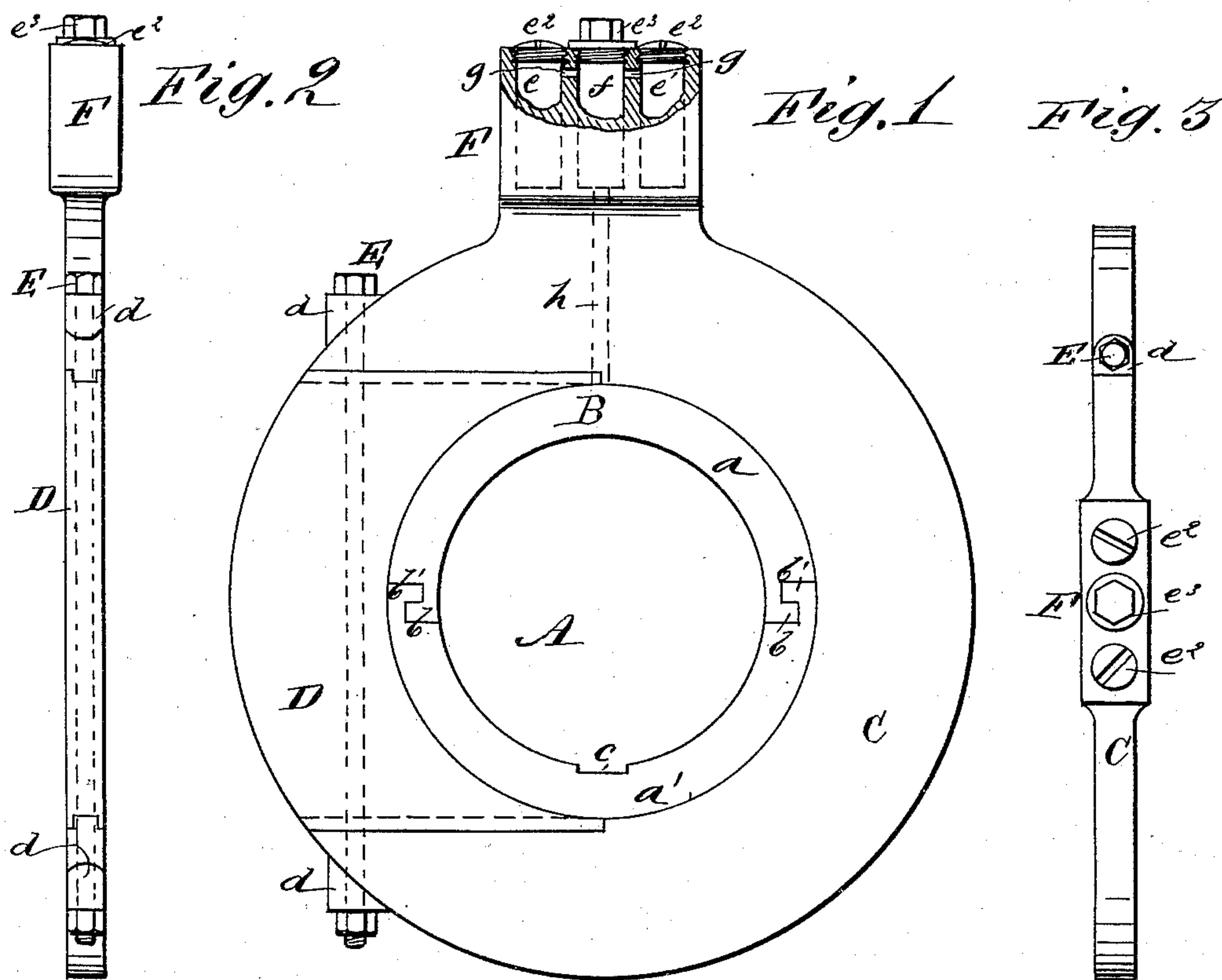


(No Model.)

J. J. LADD.
ANTI-FRICTION COLLAR.

No. 417,252.

Patented Dec. 17, 1889.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

JOSEPH J. LADD, OF CALLAO, PERU.

ANTI-FRICTION COLLAR.

SPECIFICATION forming part of Letters Patent No. 417,252, dated December 17, 1889.

Application filed April 5, 1889. Serial No. 306,078. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. LADD, of Callao, Peru, South America, have invented a new and Improved Anti-Friction Collar, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my improved anti-friction collar. Fig. 2 is an edge view. Fig. 3 is a partial plan view. Fig. 4 is an edge view showing the application of the collar to an axle, and Fig. 5 is a side elevation of the halves of the inner portion of the collar.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to provide an anti-friction ring to be placed upon axles and shafts between the collars or bosses of wheels and journal-boxes, to furnish a bearing having less friction than would exist between the boss or collar and the journal-box, particularly for locomotive driving and truck axles, as well as for propeller-shafts to steamers.

My invention consists in a split ring inclosed by a collar which is divided for convenience in applying the ring to a shaft or axle, and a lubricating device formed on or attached to the collar for maintaining a constant lubrication, all as hereinafter more fully described.

To the shaft or axle A is fitted a ring B, formed of two parts $a a'$. Upon the extremities of the part a' are formed right-angled hooks b , which project outwardly, and upon the extremities of the part a are formed right-angled hooks b' , which project inwardly, the hooks b' being formed so as to receive the hooks b . In the part a' is formed a key-seat c , which fits a key fitted to the shank upon which the ring is placed. The split ring B is preferably made of steel and hardened. A collar C, preferably made of Lowmoor iron and case-hardened, is fitted to the ring B, and

is provided upon one side with a removable section D, of sufficient width to permit of placing the collar upon the ring B, or removing it therefrom. The section D is grooved, and the edges of the ring adjoining the section are each provided with a tongue which enters the grooves of the section, and the collar and the removable section are bored to receive a bolt E, the collar being provided with bosses d , forming bearings for the head and nut of the bolt.

Upon one edge of the collar C is formed a block F, in which are made chambers $e e' f$, which are closed by screw-plugs $e^2 e^3$. Below the screw-plugs there are passages g , which form communication between the chambers $e e'$ and the central chamber f . The central chamber f communicates by a passage h with the interior of the collar C. The chambers e , e' , and f are filled with oil, which is gradually supplied through the passage h to the interior of the collar C, thereby maintaining a perfect lubrication of the collar without depending upon the oil supplied to the journal-box.

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

1. In an anti-friction collar, the combination of the ring B, formed of the parts $a a'$, provided with hooks $b b'$, and the collar C, furnished with the removable section D, substantially as specified.

2. In an anti-friction collar, the combination of the ring B, formed of the parts $a a'$, provided with hooks $b b'$, the collar C, furnished with the removable section D, and the block F, provided with the chambers $e e' f$ and the passages $g h$, substantially as specified.

J. J. LADD.

Witnesses:

R. B. JONES,
ANDREW DUNN.