

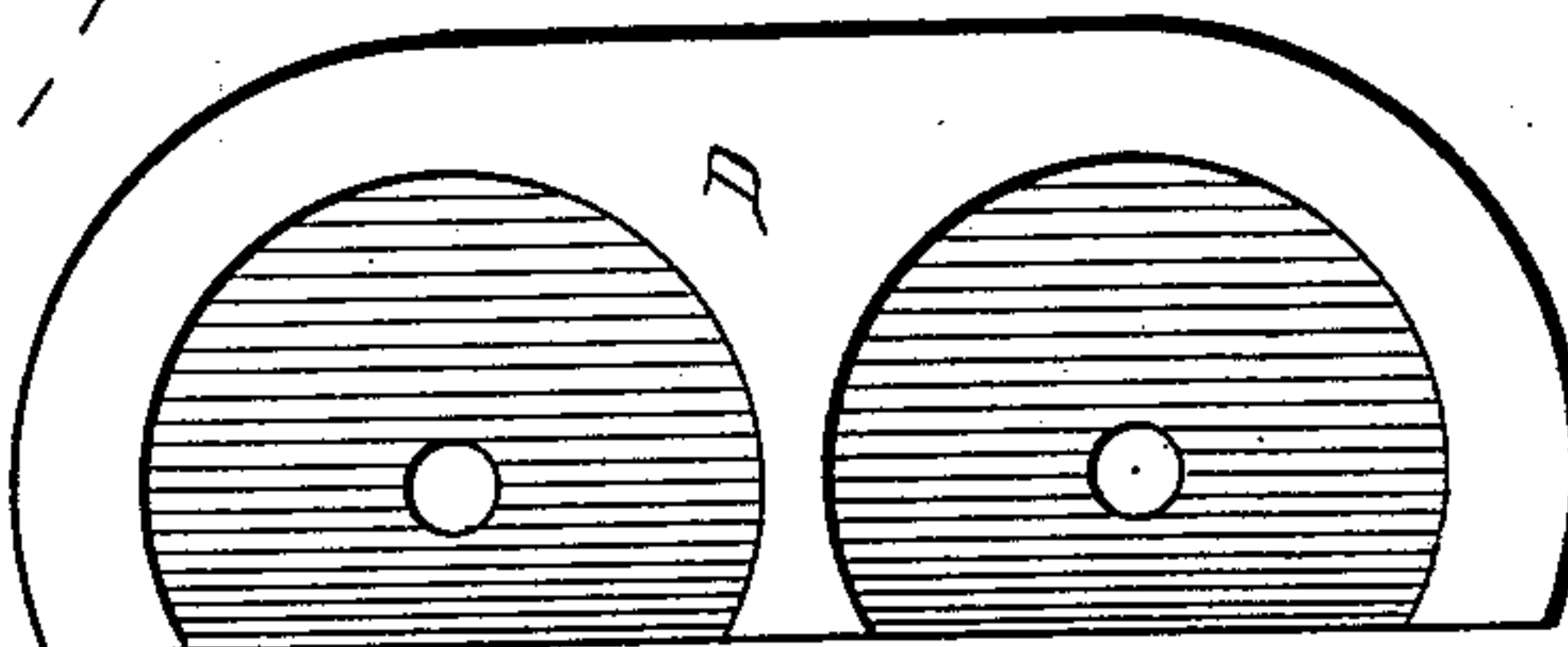
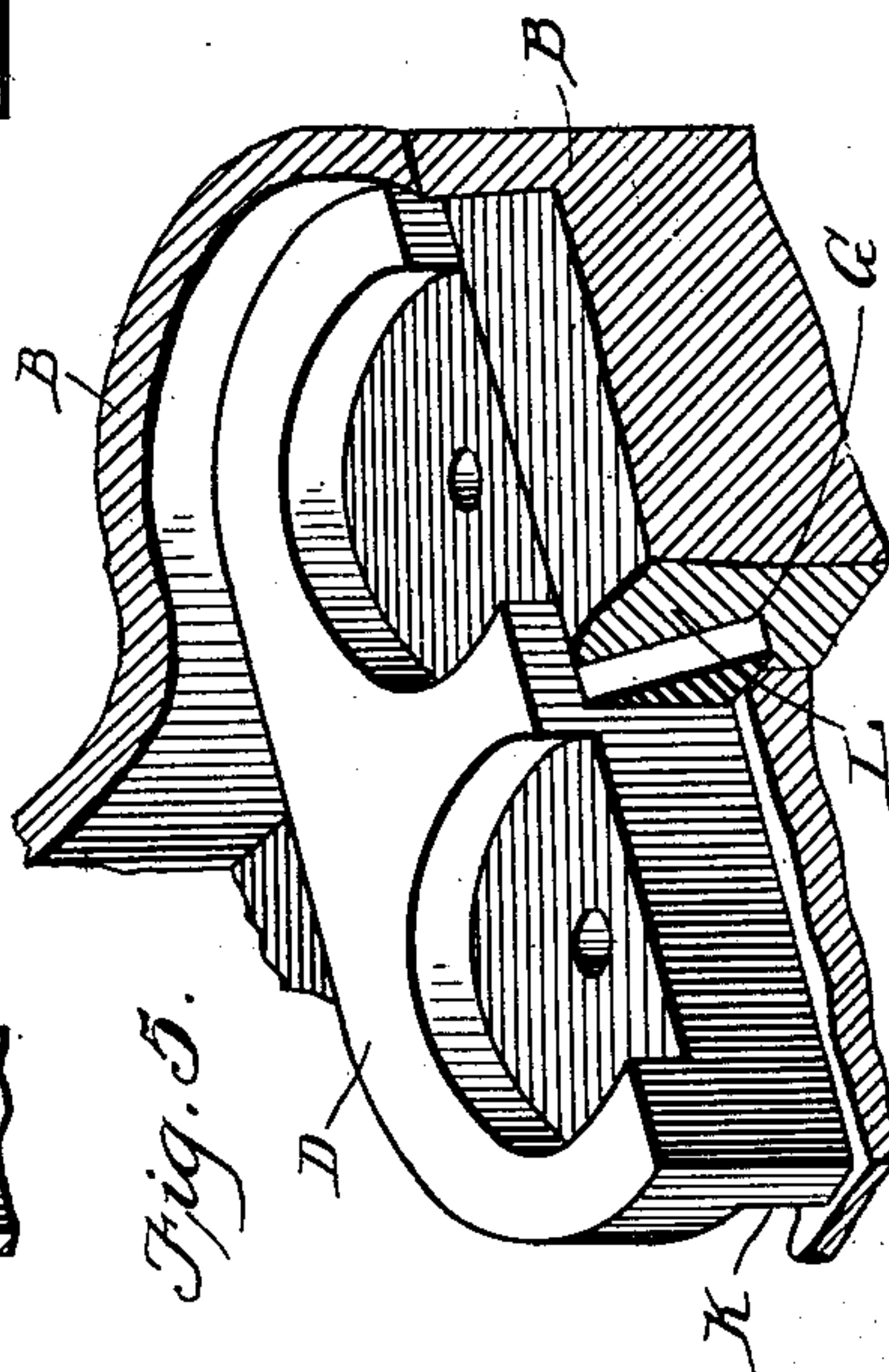
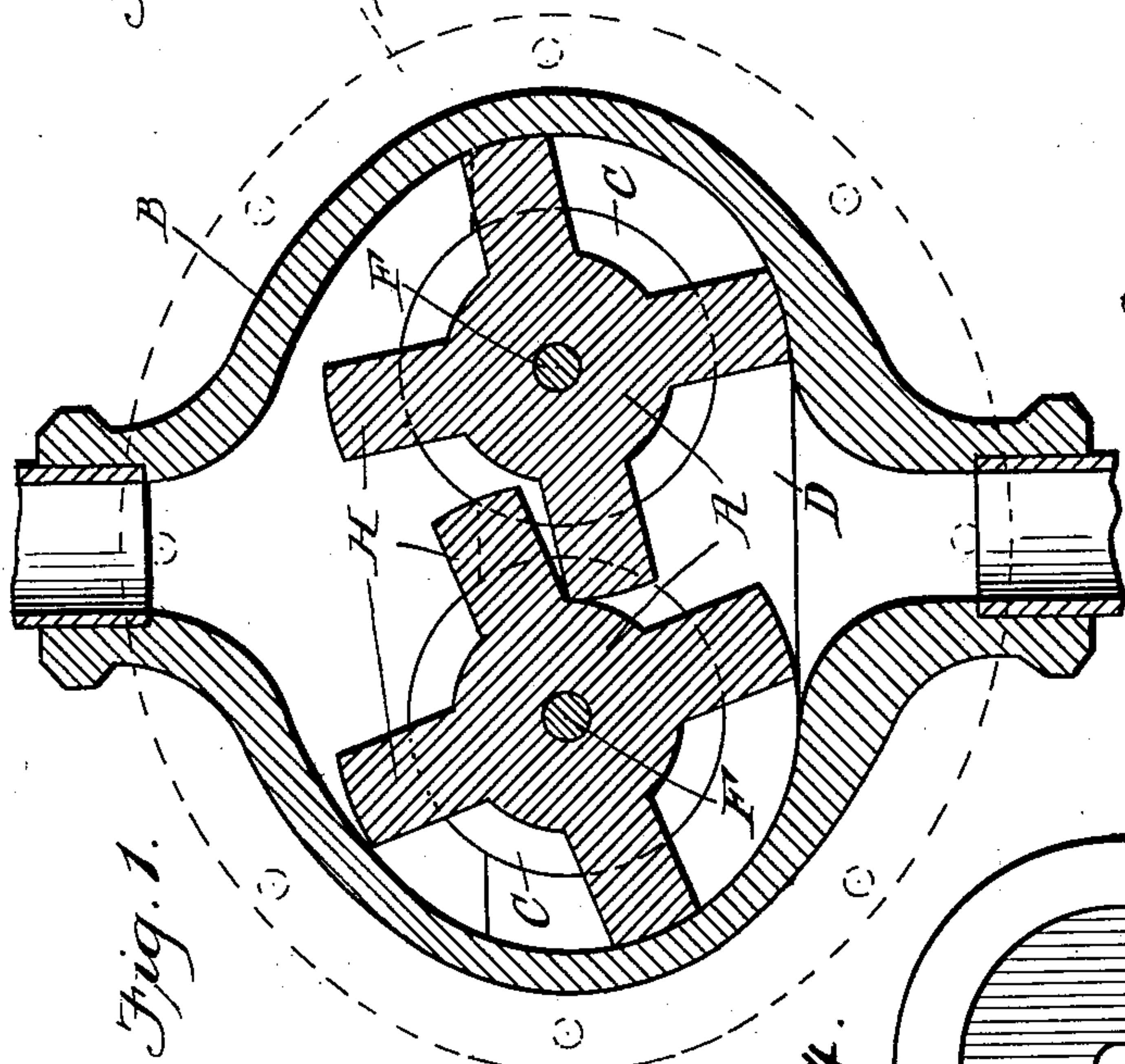
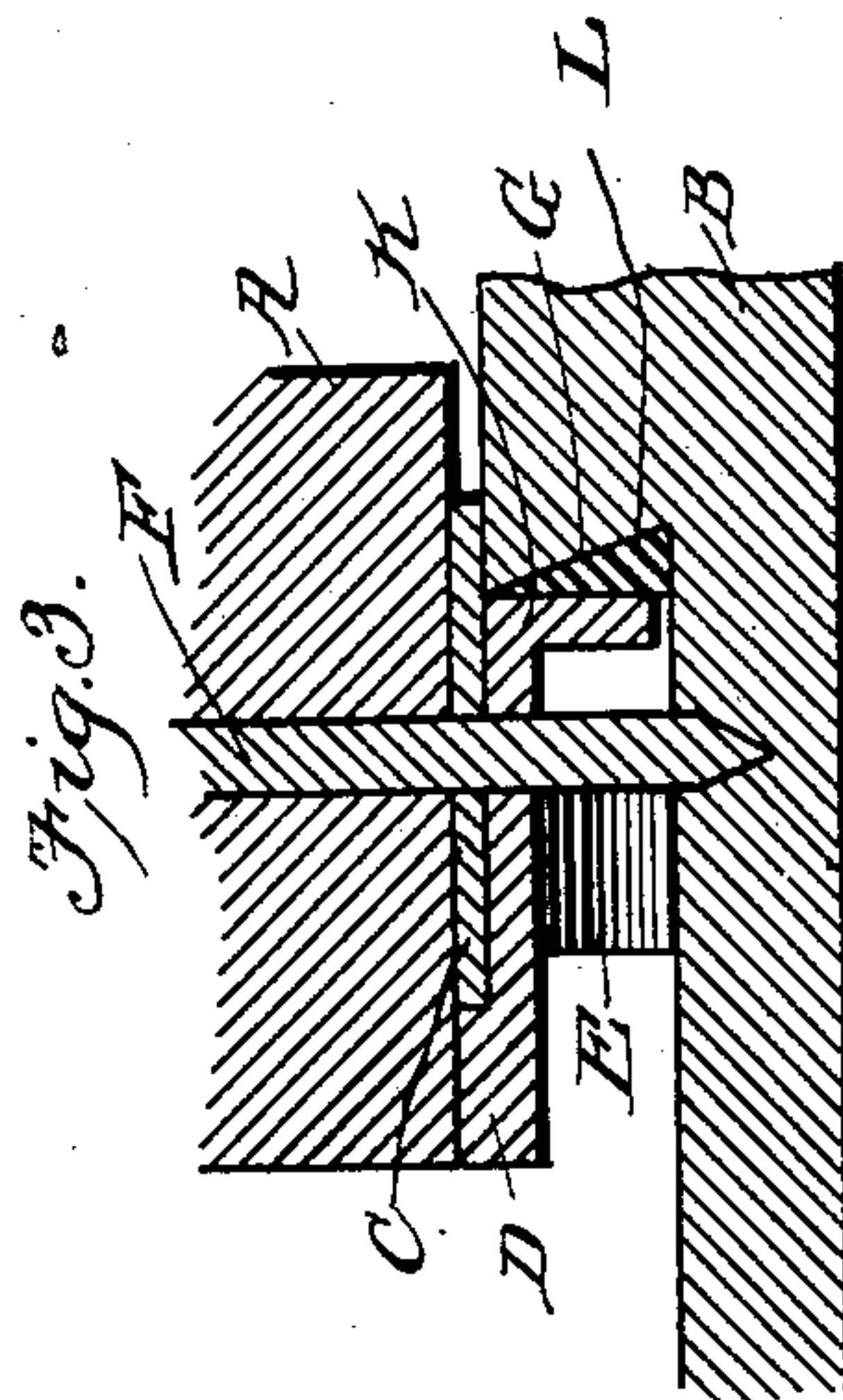
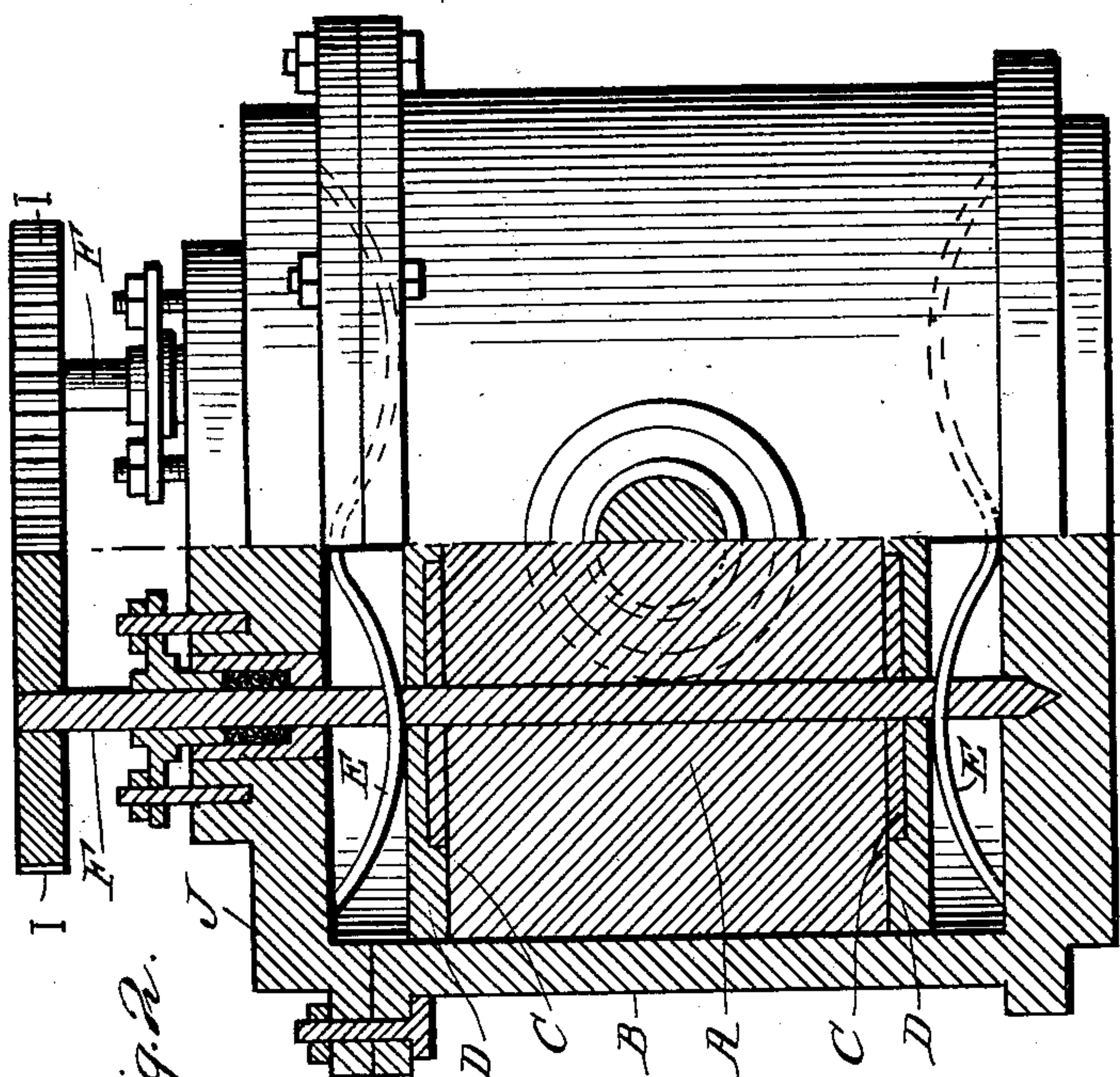
No. 672,874.

Patented Apr. 23, 1901.

E. M. BALL.
ROTARY MOTOR.

(Application filed Nov. 28, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD M. BALL, OF SOMERSWORTH, NEW HAMPSHIRE, ASSIGNOR OF
ONE-HALF TO CHARLES L. BOWKER, OF BRUNSWICK, MAINE.

ROTARY MOTOR.

SPECIFICATION forming part of Letters Patent No. 672,874, dated April 23, 1901

Application filed November 28, 1899. Serial No. 738,608. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. BALL, a citizen of the United States, residing at Somersworth, in the county of Strafford and State of New Hampshire, have invented certain new and useful Improvements in Rotary Motors; and I do hereby declare the following to be a full, clear, and accurate description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in the construction of motors; and it consists in the peculiar construction of the various parts and in the novel combination or arrangement, all of which will be fully described hereinafter and pointed out in the claims.

The object of my invention is to provide a simple and efficient form of motor to be run by water, compressed air, steam, or other forces suitable to operate the motor. I attain this object by the mechanism illustrated in the accompanying drawings.

Figure 1 is a horizontal sectional view, one end of the casing being shown in dotted lines. Fig. 2 is a half-elevation and half-section through the center of the motor. Fig. 3 is a sectional view of one end of a piston bearing on the plate which supports it, with the position of the plate and packing which prevents leakage. Fig. 4 is a top plan view of the plate, and Fig. 5 is a broken perspective view showing the plate in position.

A shows the pistons or plungers, which are cylindrical in shape, with projecting arms. In each piston the sides of each arm are at an angle of ninety degrees, (90°,) or, in other words, a right angle to the next succeeding arm; but each arm is separated by an arc of a circle, as shown by the drawings accompanying the specification. The ends H of said projecting arms are on a curve which causes them to touch the curved portions between said arms at all times when the pistons are revolving.

B shows the shell or outer covering of the motor, the upper end of which is flanged, as shown at B', for the attachment of the cap or upper end J in the usual manner, and the intermediate portion is provided with the usual inlet and outlet.

The piston or plunger A rests on a disk or

washer C, to which said piston is securely fastened. The disk C in turn rests on a plate D, which fits closely up and against said disk, and the plate D is held in a position against the disk C by the spring E. The object of the disk or washer C and the plate D is to form a packing for the ends of the piston, and these, in connection with the gasket G, reduce any chances of leakage to the smallest possible amount. A part K of the plate D is turned from a horizontal to a vertical position, which bears against the wedge-shaped gasket G, which in turn bears against a shelf L, which is a part of the bottom of the shell or covering B of the motor. The shelf is formed by raising the portion of the bottom extending from one of the openings in the casing nearly down to the major axis of the motor above the remaining portion. Both ends of the pistons, top and bottom, are similarly arranged.

The piston-rods F are carried up and through the top of the shell B, the ends connected by gearing I to any other machinery this motor may be run in connection with, or power may be taken from an engine connected to the gearing referred to and the motor used as a pump or to force air.

The piston-rods are protected against leakage around the opening made for them in the shell or covering of the motor by means of suitable stuffing-boxes.

Similar letters refer to similar parts throughout the several views.

I am aware that prior to my invention rotary pumps have been made and patents granted therefor. I do not therefore claim such invention broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a motor, the combination, with a casing, provided with a fluid-inlet and an outlet, of two rotary intermeshing pistons therein, a spring-actuated recessed plate at each end of the pistons, and a washer in each recess between each end of each of the pistons and the plates, substantially as described.

2. In a motor, the combination, with a casing provided with a fluid-inlet and an outlet, of two rotary intermeshing pistons therein, a recessed plate at each end of the pistons, a washer within each recess between each end of each of the pistons and the plates, and a

bow-spring between each of the plates and the end of the casing, substantially as described.

3. In a motor, the combination, with a casing provided with a shelf at each end and
5 with a fluid-inlet and an outlet, of two rotary intermeshing pistons therein, a spring-actuated plate at each end of the pistons, one side of which is recessed to register with the central portions of the pistons and the opposite
10 side is provided at one edge with a flange, a gasket between the flange and the shelf, and a washer within each recess of each plate in

engagement with the end of the piston, substantially as described.

4. The plates D, disks or washers C, springs 15 E, gaskets or packings G, pistons A, and gears I, substantially as shown and described.

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

EDWARD M. BALL.

Witnesses:

WM. S. MATHEWS,
WILLIAM S. TIBBETS.