

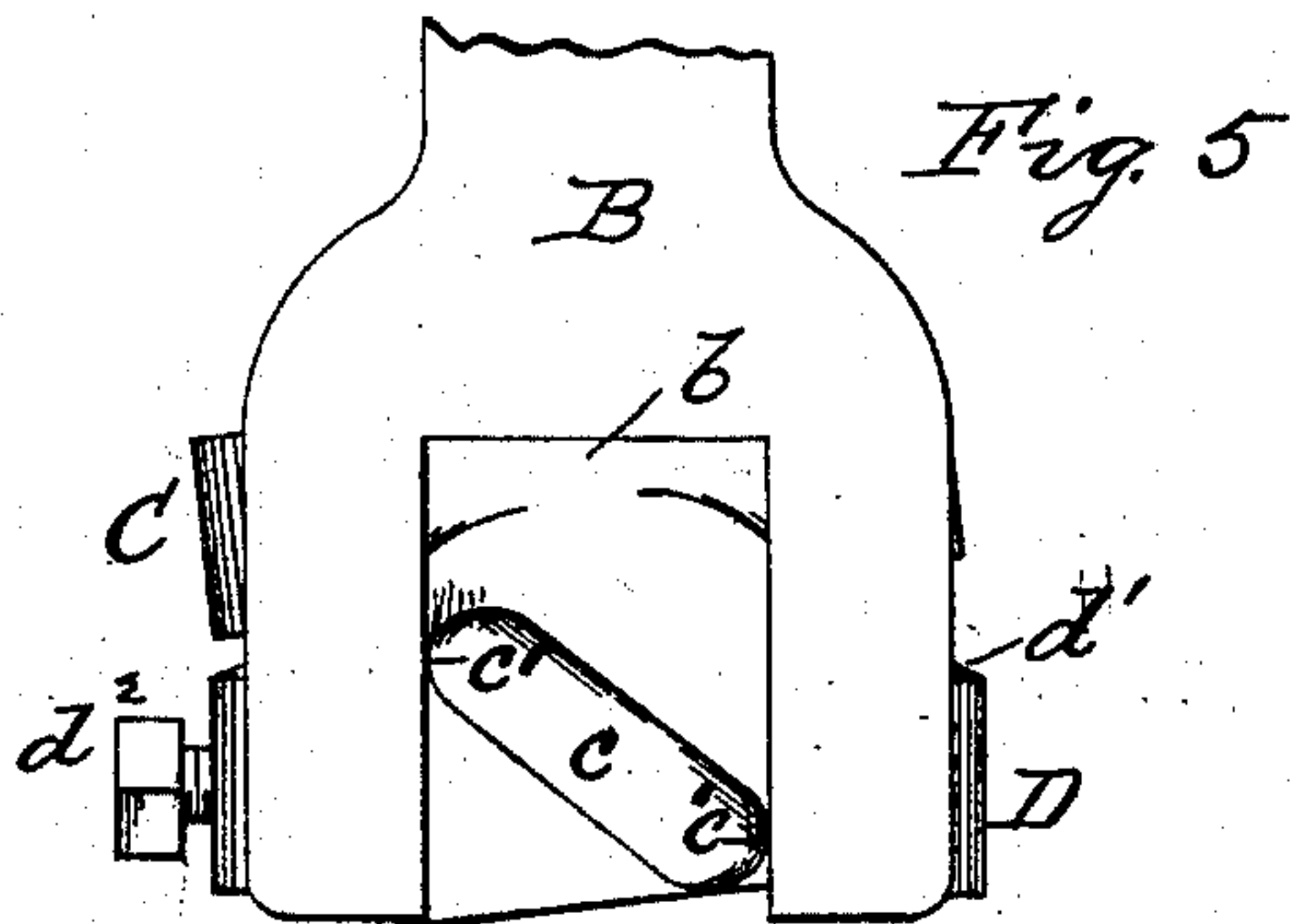
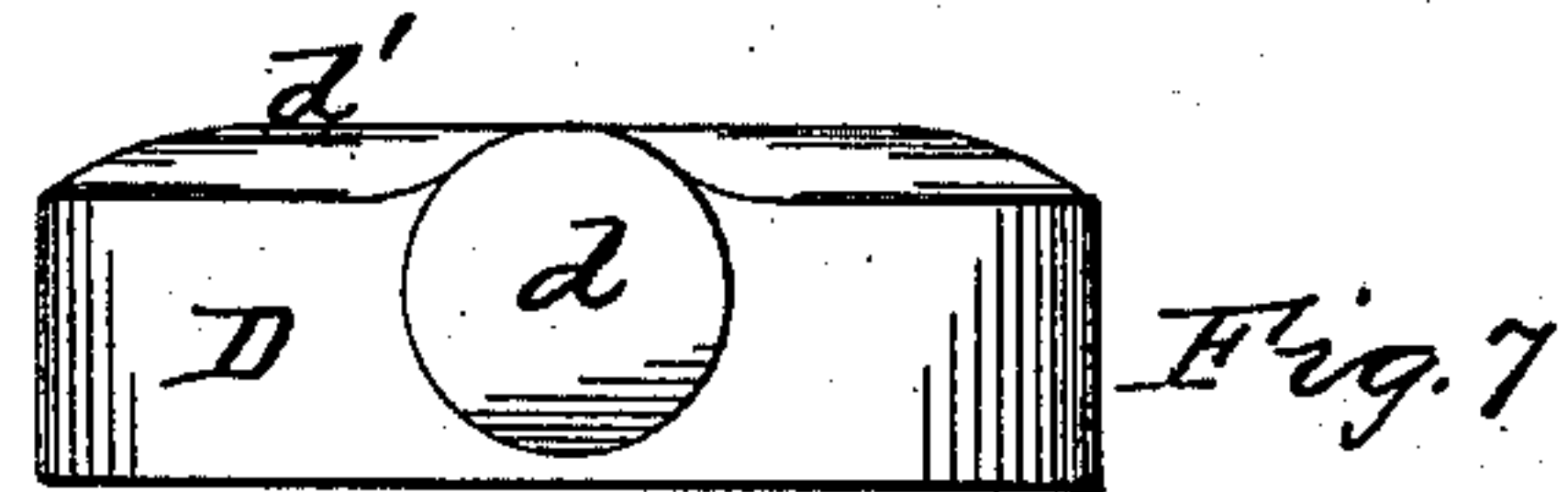
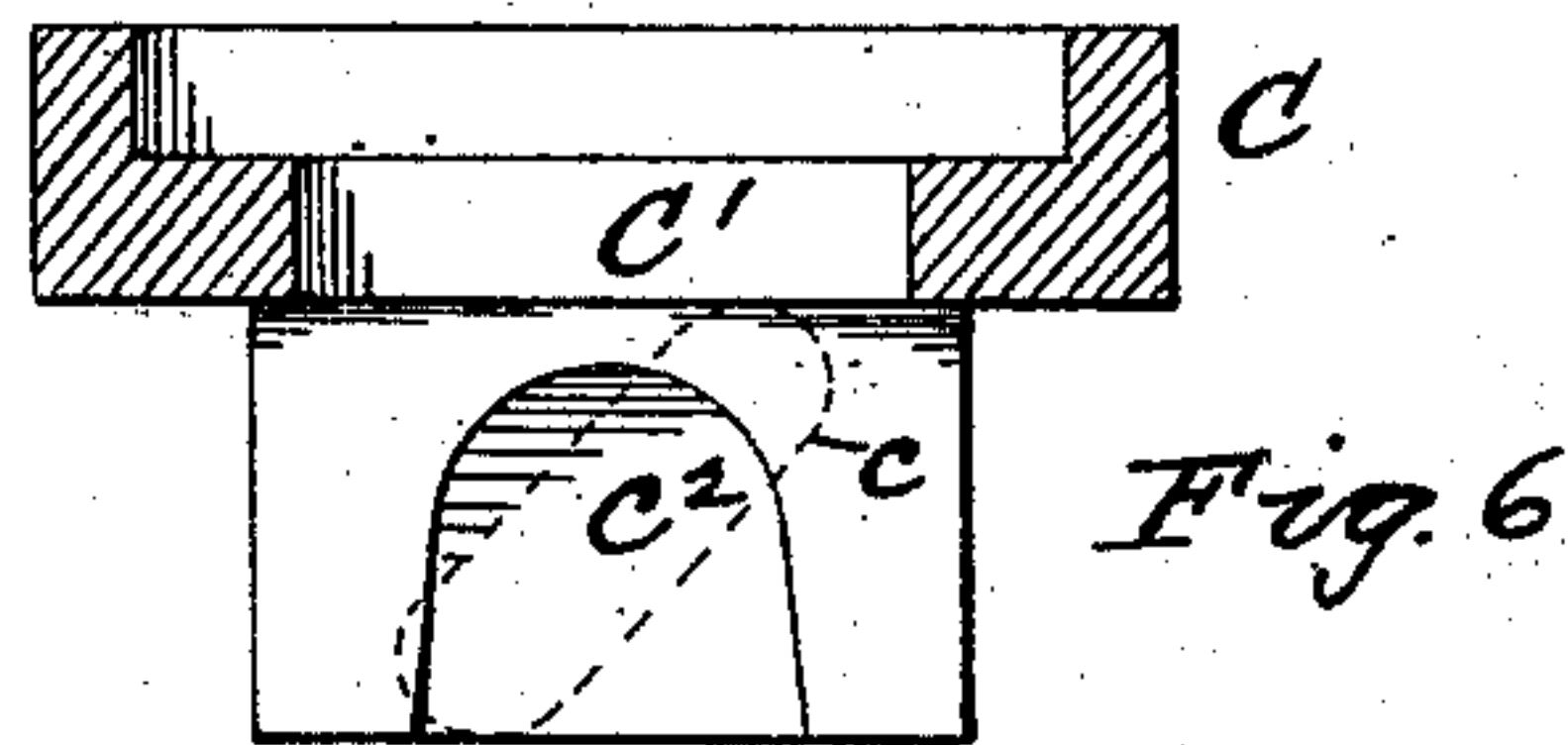
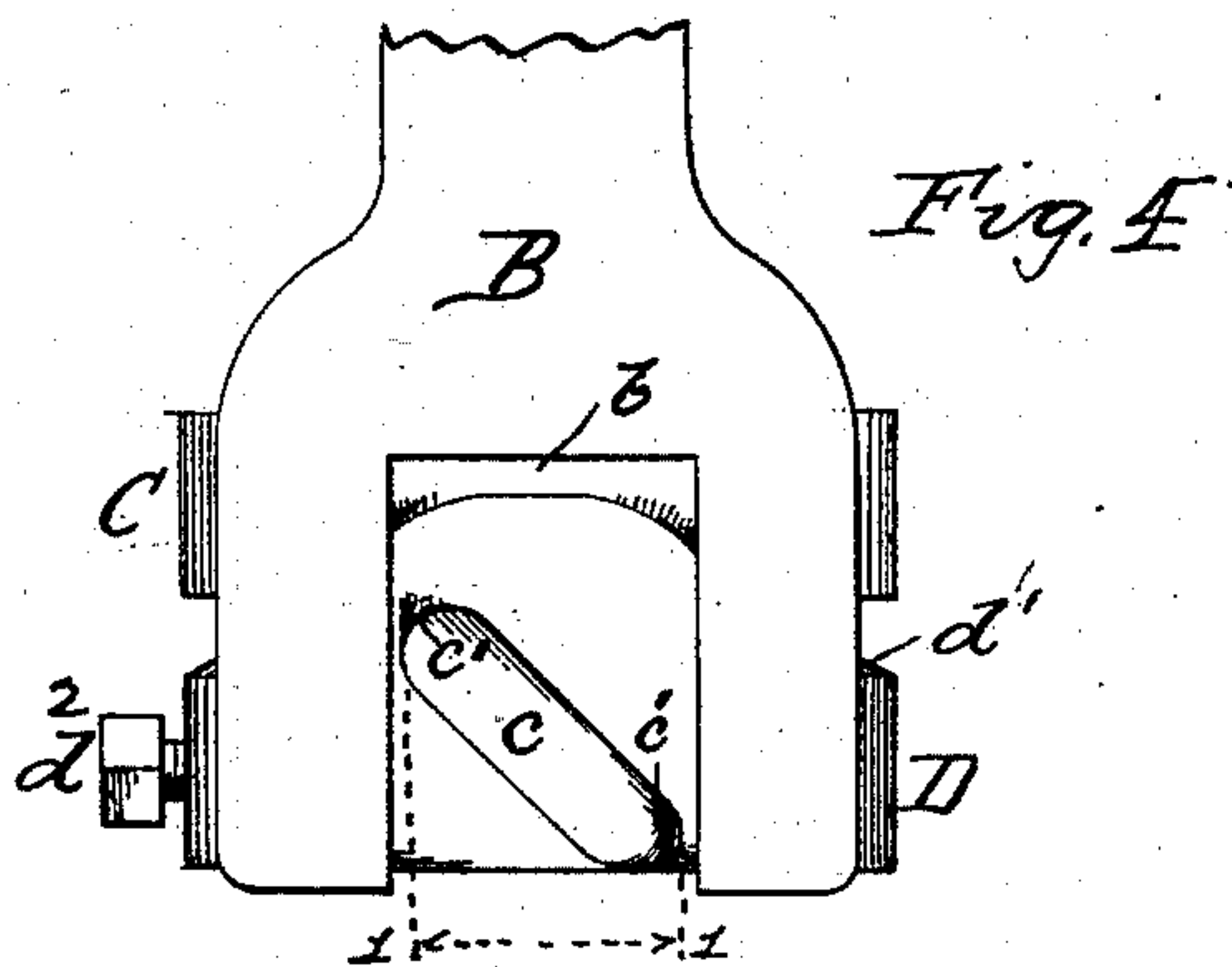
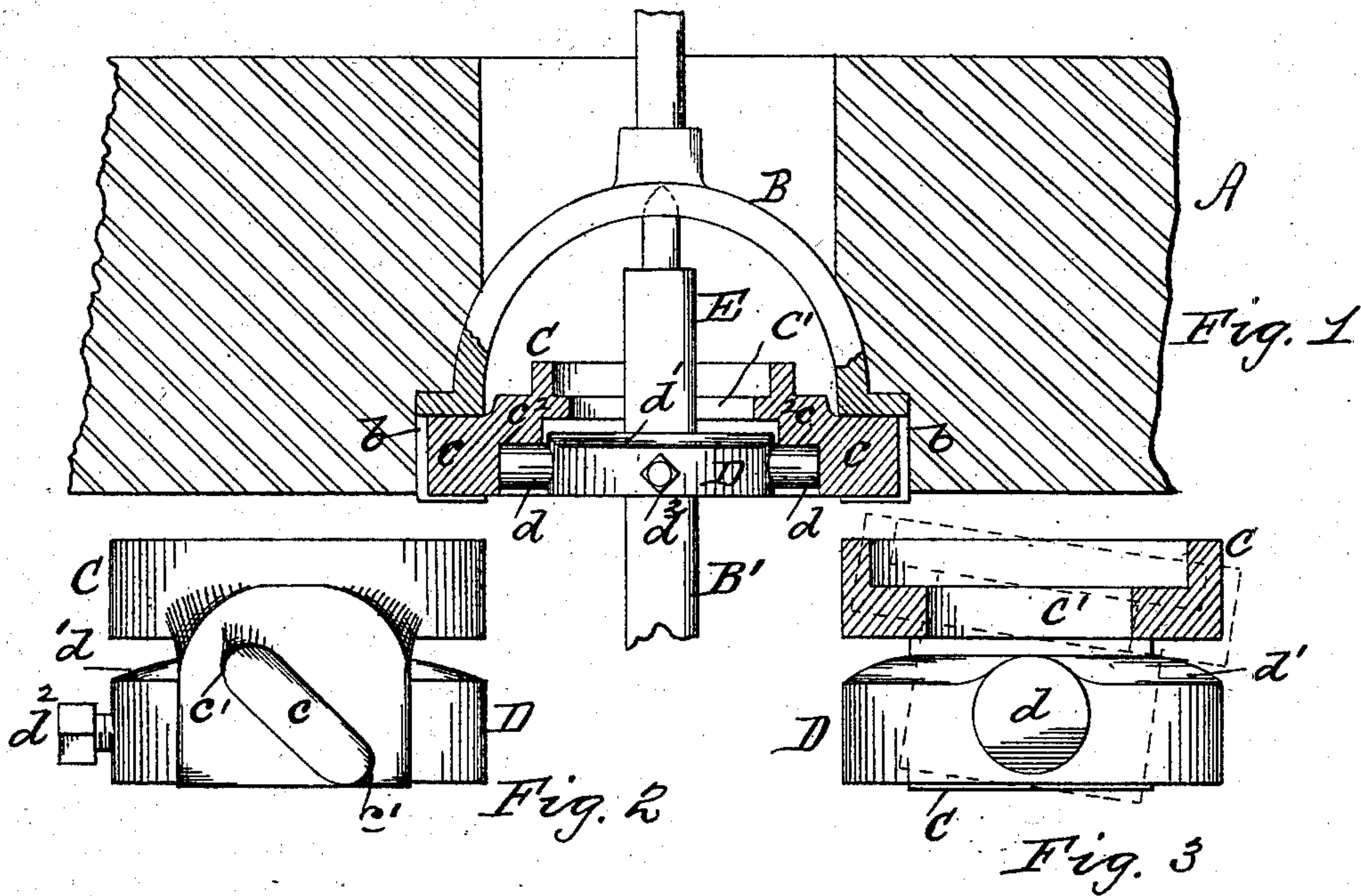
(No Model.)

2 Sheets—Sheet 1.

P. STEINMETZ.  
MILLSTONE DRIVER.

No. 271,942.

Patented Feb. 6, 1883.



Witnesses:  
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(No Model.)

2 Sheets—Sheet 2.

P. STEINMETZ.  
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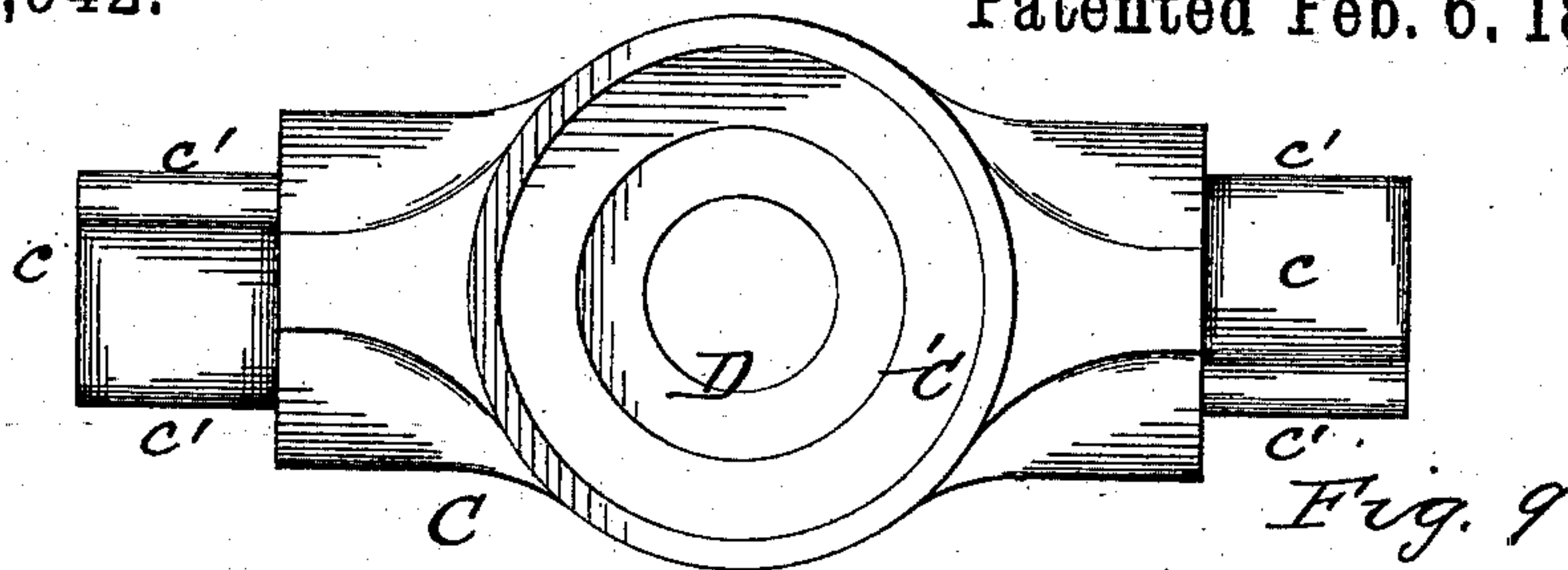


Fig. 9

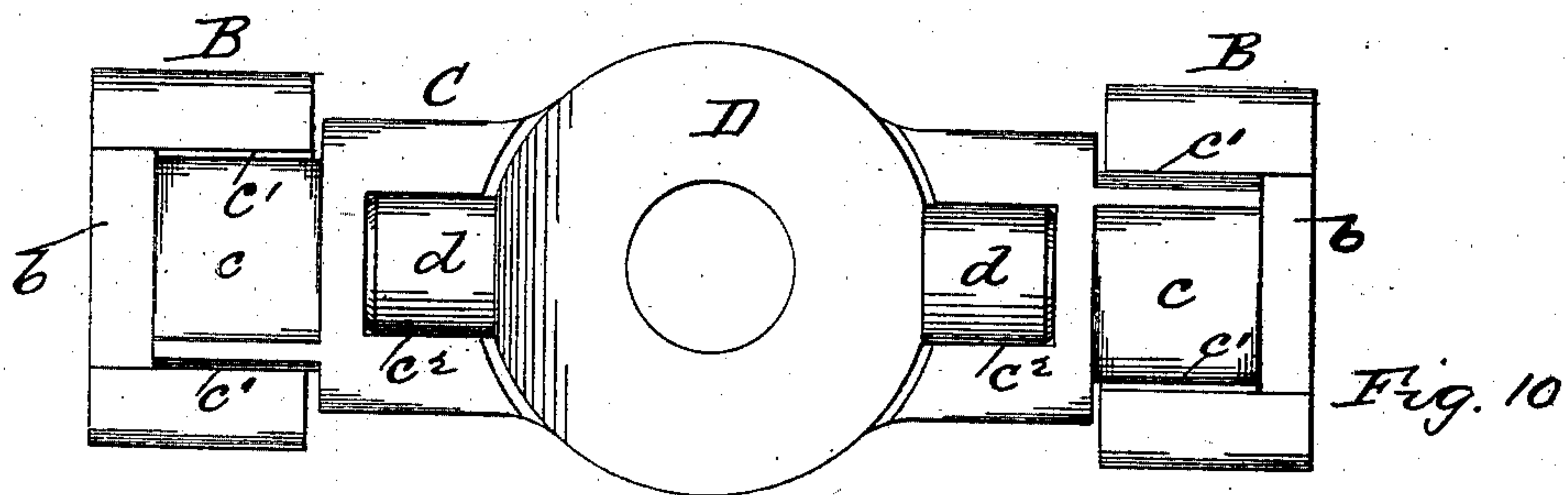


Fig. 10

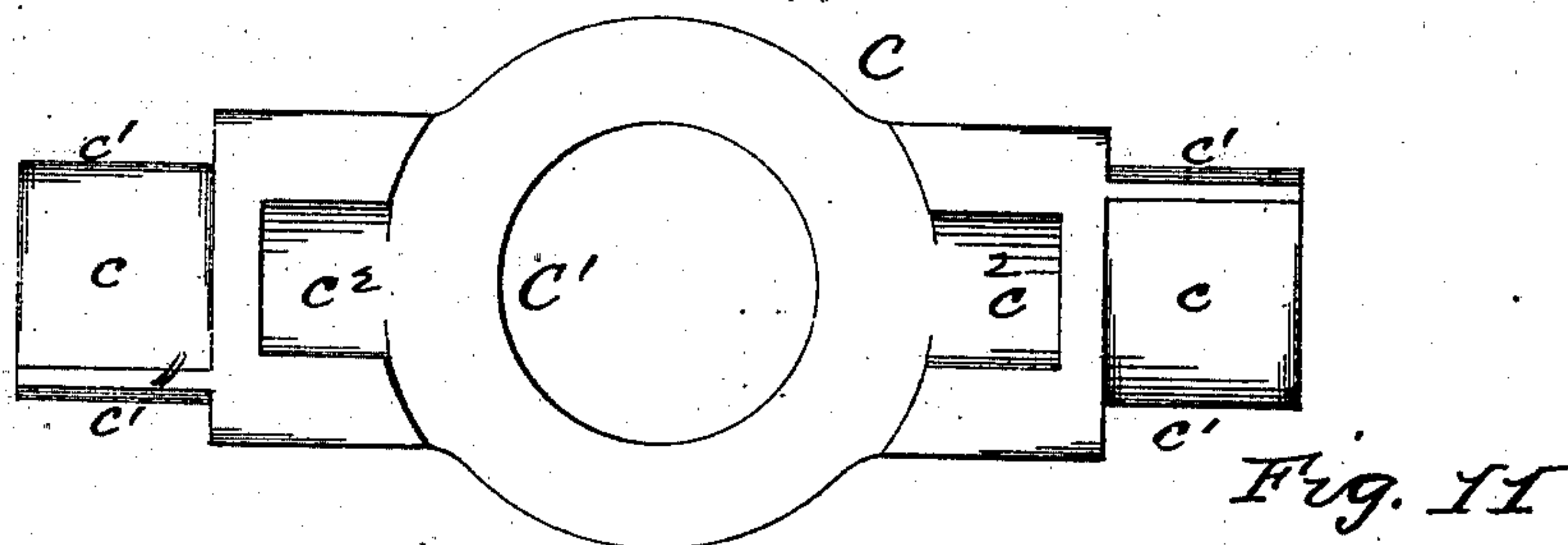


Fig. 11

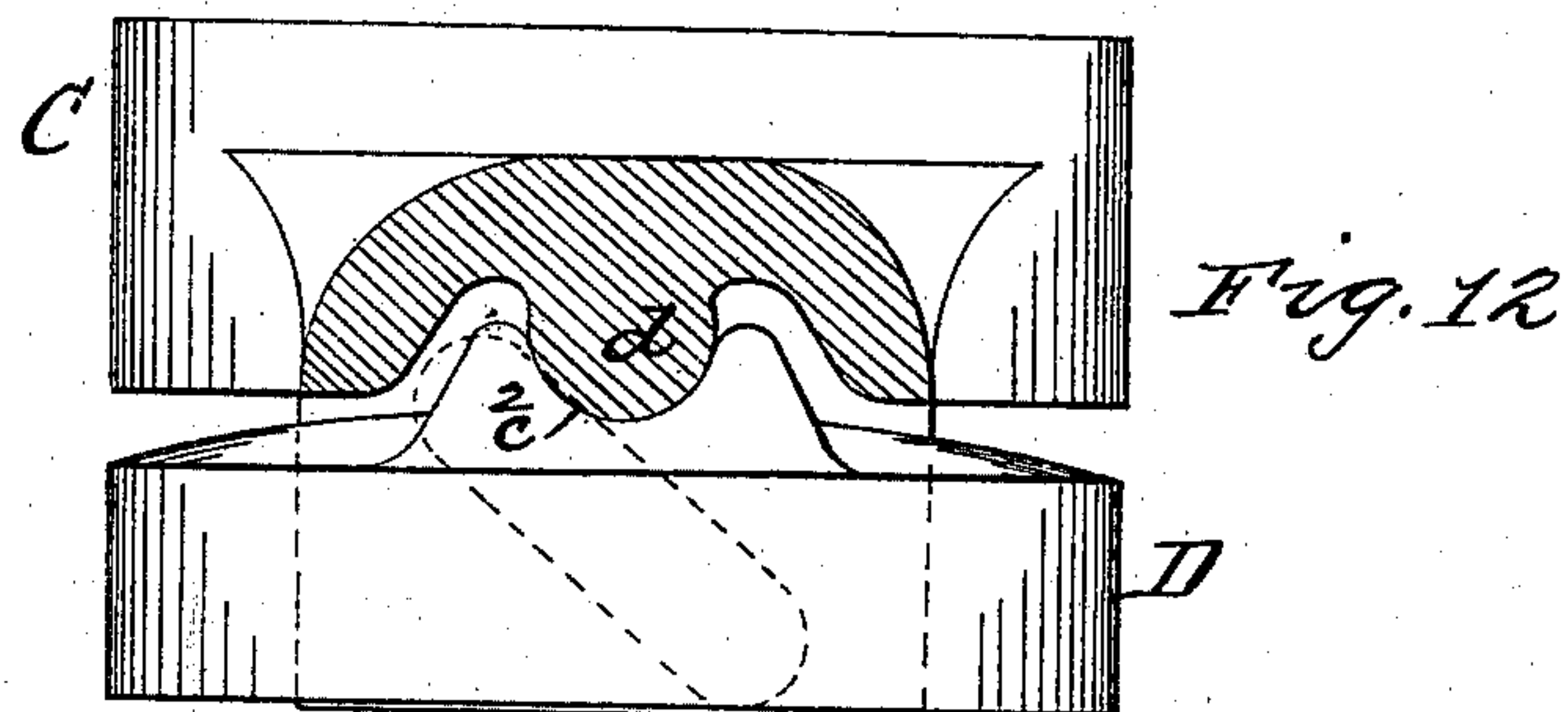


Fig. 12

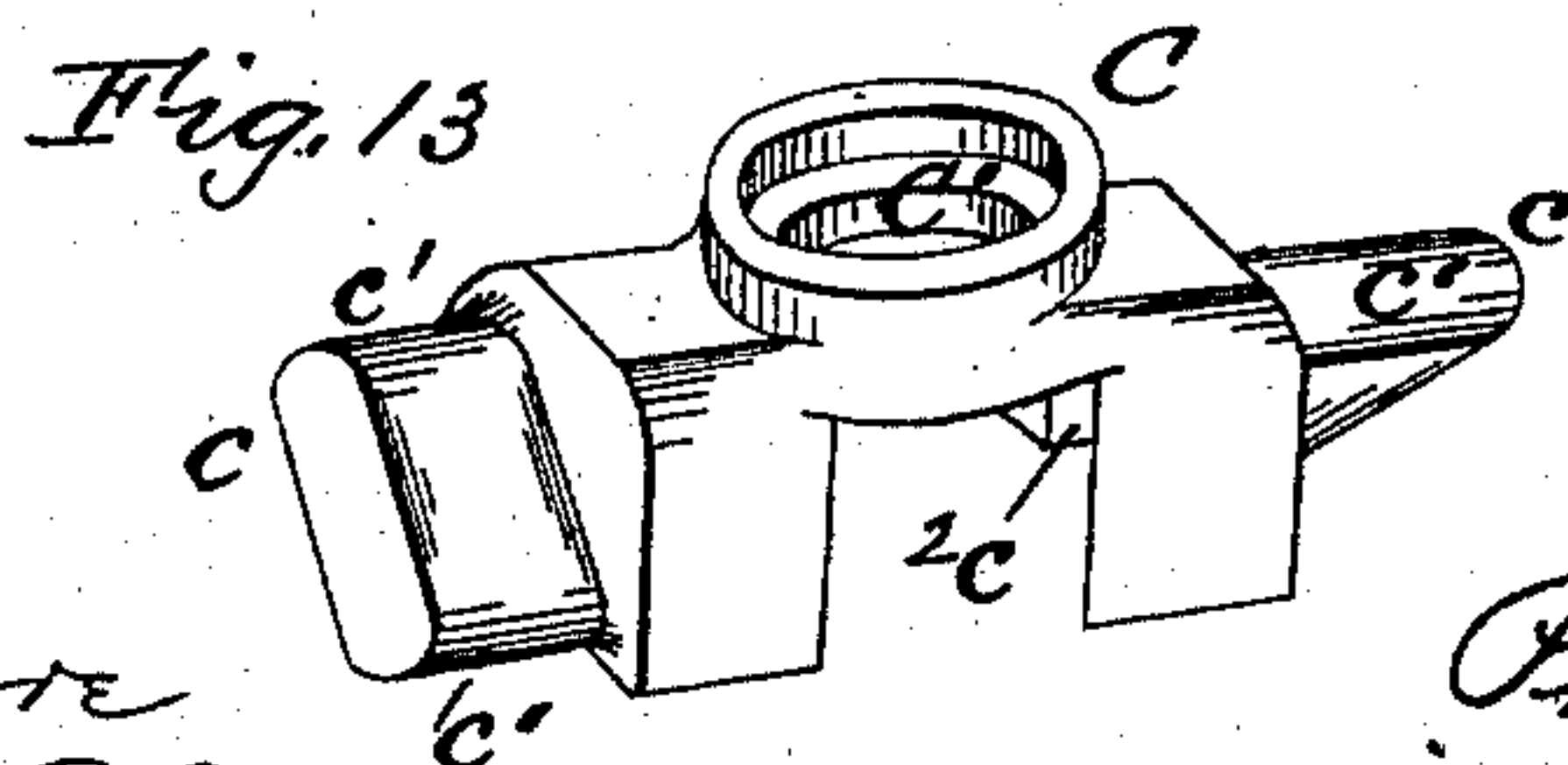


Fig. 13

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# UNITED STATES PATENT OFFICE.

PHILIPP STEINMETZ, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO JOHN GEISINGER, OF SAME PLACE.

## MILLSTONE-DRIVER.

SPECIFICATION forming part of Letters Patent No. 271,942, dated February 6, 1883.

Application filed May 15, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIPP STEINMETZ, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Millstone-Drivers, of which the following is a specification, reference being had therein to the accompanying drawings, wherein—

Figure 1 is a longitudinal vertical section, partly in elevation, of the runner with my improved driver illustrated as applied thereto. Fig. 2 is an end view of driver and shaft-collar. Fig. 3 is a transverse vertical section of a driver with shaft-collar in elevation. Figs. 4 and 5 are end views of a part of the balance-rynd, driver, and shaft-collar, showing the driver in two positions. Fig. 6 is a detail transverse section of driver. Fig. 7 is a detail elevation of shaft-collar. Fig. 8 is a plan of same. Fig. 9 is a plan of driver. Fig. 10 is an inverted plan of driver, collar, and balance-rynd. Fig. 11 is an inverted plan of driver. Fig. 12 is an elevation, partly sectional, of a slight modification of my invention; and Fig. 13 is a perspective of the driver.

My invention has relation to millstone-drivers, and has for its object to provide a driver which can be readily secured in position, and which will automatically engage with both ends of the balance-rynd to drive the millstone in a perfectly balanced condition, thereby preventing it from raking.

My invention accordingly consists in the novel construction and arrangement of parts, as hereinafter specifically described and claimed.

Referring to the accompanying drawings, A represents a runner-stone, B the balance-rynd, and B' the spindle or shaft therefor. The rynd B has slotted ends *b b*.

C represents the driver, having central opening, C', for spindle B', and horns or points *c c*. The latter consist of lugs formed integral with the driver, but are set at an angle transversely to its length. Each lug is inclined in an opposite direction to that of the other, as shown in Figs. 4, 6, 9, and 13. On the under side of the driver are formed sockets or bearings *c<sup>2</sup> c<sup>2</sup>* for the trunnions *d d* of collar D, which is rigidly secured to shaft B' by set-screw *d<sup>2</sup>*, so that said collar forms a support or rest for the

driver C, and the latter is free to rock or oscillate upon trunnions *d d*.

The operation is as follows: When the millstone or runner B is not revolving, the driver C assumes a horizontal position, as shown in Fig. 4, and the vertical width between the edges *c' c'* of the horns *c*, as represented by dotted lines 1 1, Fig. 4, is less than the width of the slots *b* in the rynd B. Such play-space between said horns and the rynd is provided for in order that the driver may be placed in the ends of the rynd without fitting, chipping, or filing, thereby dispensing with the employment of skilled labor to set said parts in position. When shaft B' is revolved one of the edges *c'* of one of the horns *c* strikes against the adjacent side of slot *b*, in which said horn may be located, whereupon the driver C is caused to rock upon the trunnions *d d*, as shown in Fig. 5. When the driver thus moves or rocks, the horns *c c* tend to approach a horizontal plane and increase the vertical width between their edges *c' c'*, until said edges of each horn contact with the sides of the slotted ends of the rynd, so that when the driver conveys the motion of shaft B' to the rynd B the ends of the latter are subjected to equal pressure, and the stone A is thereby revolved in a perfectly balanced condition. Consequently no raking of the same can occur. If desired, the upper surface of collar D may be rounded off, as shown at *d'*, to permit of a greater degree of oscillation of the driver C.

It will be noticed from the foregoing-described construction that the horns of the driver do not need to be specially fitted in the ends of the balance-rynd, as, owing to the inclination of the horns of the driver and the rocking of the latter upon the shaft-collar, said horns are automatically caused to take up the play-space between them and the slotted ends of the balance-rynd. In Fig. 12 I have shown the trunnions *d* placed or formed upon the driver C and the sockets *c<sup>2</sup>* transferred to collar D, the result in either case being the same—viz., the rocking of driver C on collar D.

What I claim as my invention is—

1. A millstone-driver composed of a bar, C, having central opening, C', and horns *c c*, arranged transversely to the length of bar C and inclined in opposite directions, and the collar



D, designed and adapted to be rigidly secured to the mill-spindle, and to permit the bar C to oscillate thereon, substantially as shown and described.

5 2. In a driver for millstones, the bar C, having horns *c c* set at an angle transversely to the length of said bar and inclined in opposite directions, substantially as shown and described.

10 3. The combination of a millstone, a spindle therefor having a collar, D, a balance-rynd having slotted or recessed ends, the bar C, having central opening, *C'*, and oppositely-inclined horns *c c*, designed and adapted to rest upon  
15 and oscillate on the collar D, rigidly secured

to said spindle, substantially as shown and described.

4. In combination with the rynd or bail-support of a millstone, the bar or driver C, having oppositely-inclined lugs or horns *c c* and 20 sockets *c<sup>2</sup> c<sup>2</sup>*, and a mill-spindle provided with collar D, having pinions *d d*, substantially as shown and described.

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

PHILIPP STEINMETZ.

Witnesses:

S. J. VAN STAVOREN,  
CHAS. F. VAN HORN.