

No. 641,482.

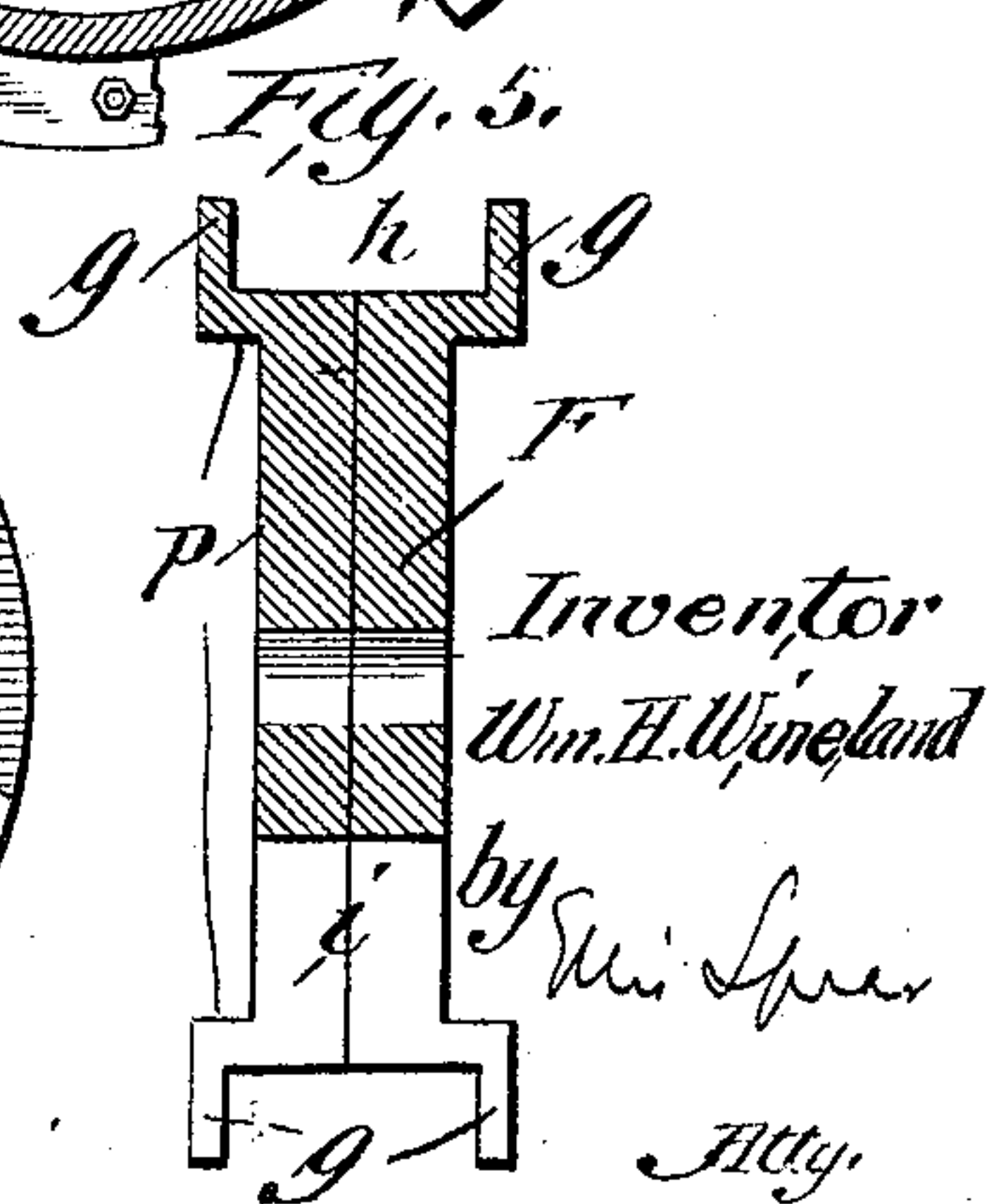
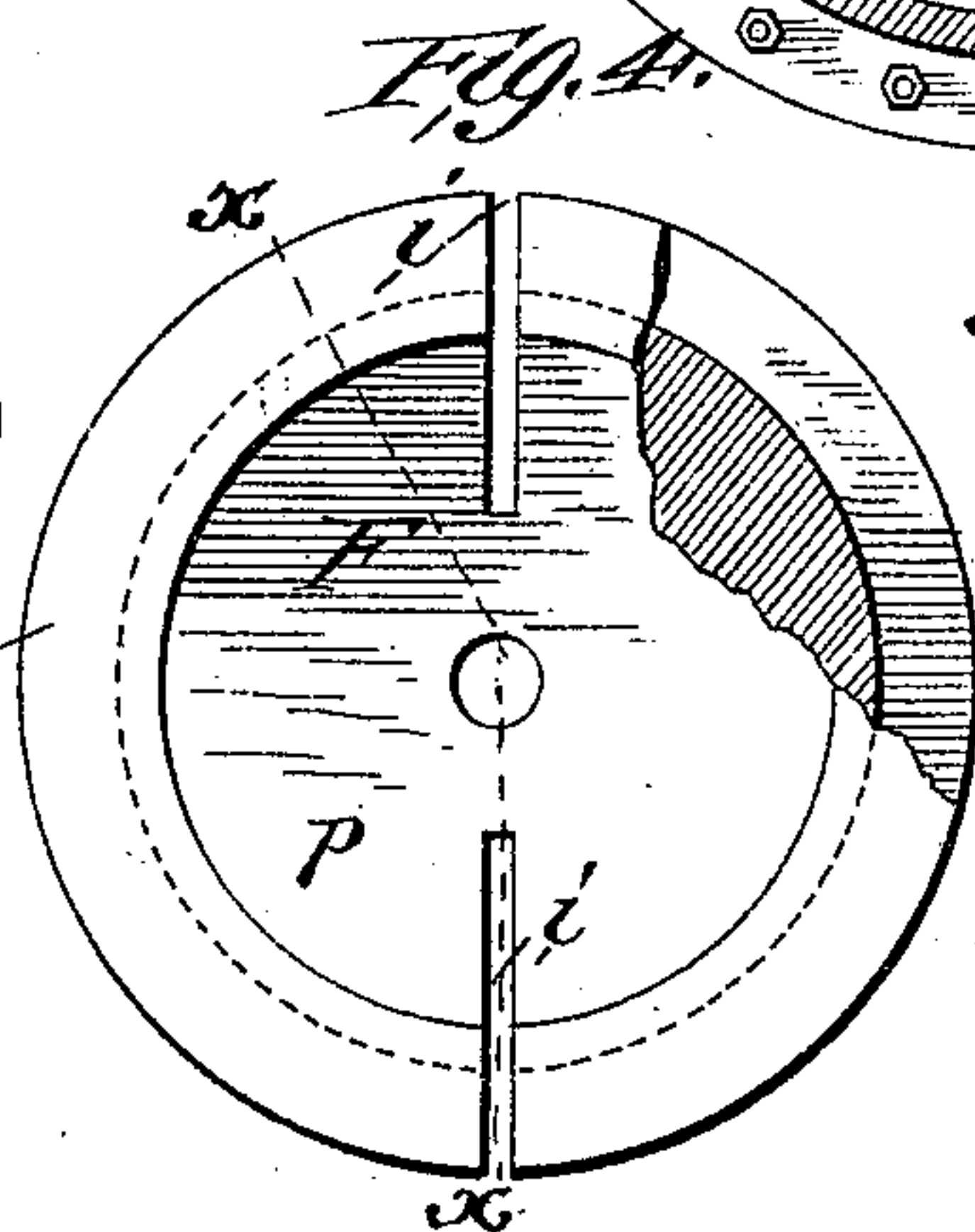
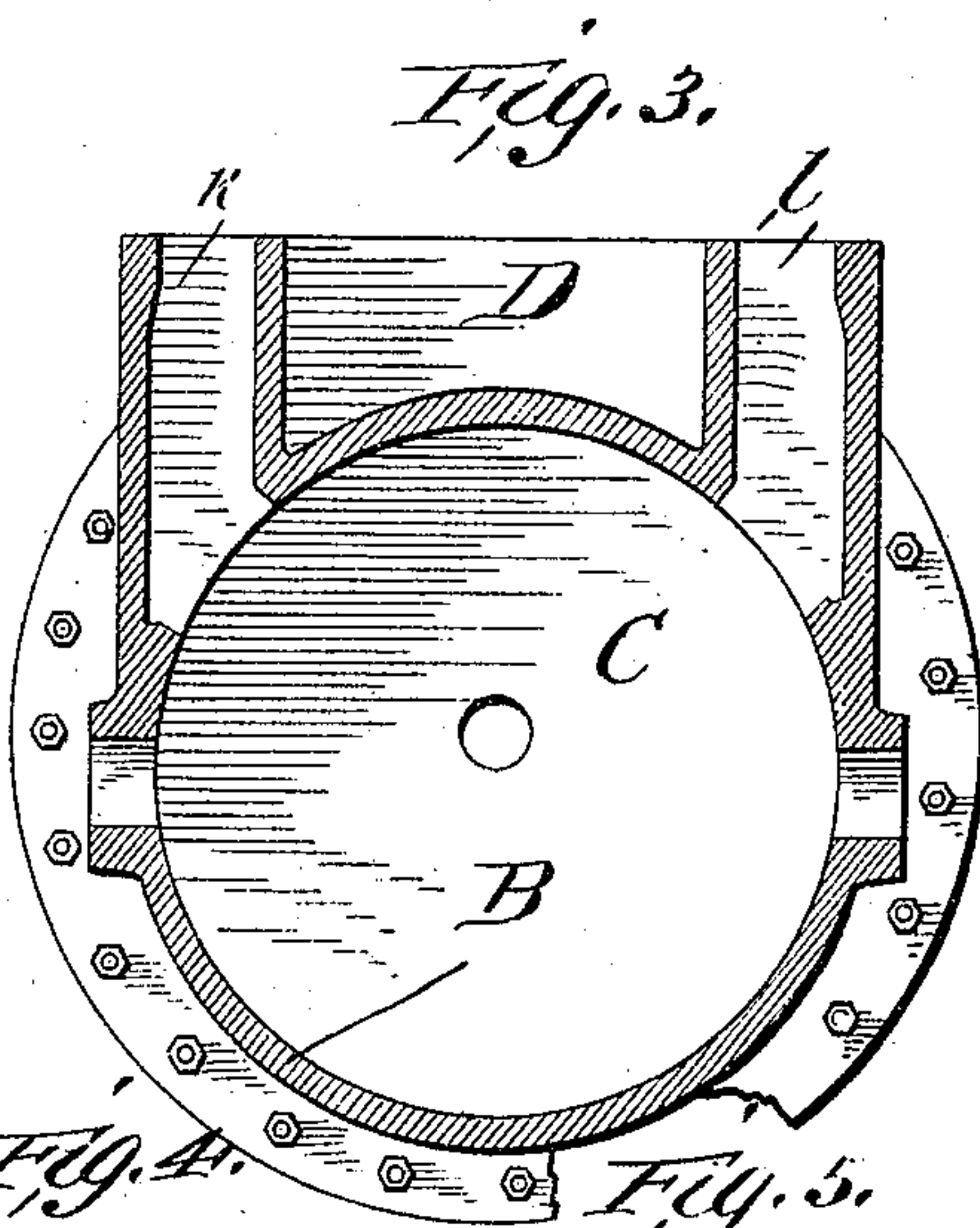
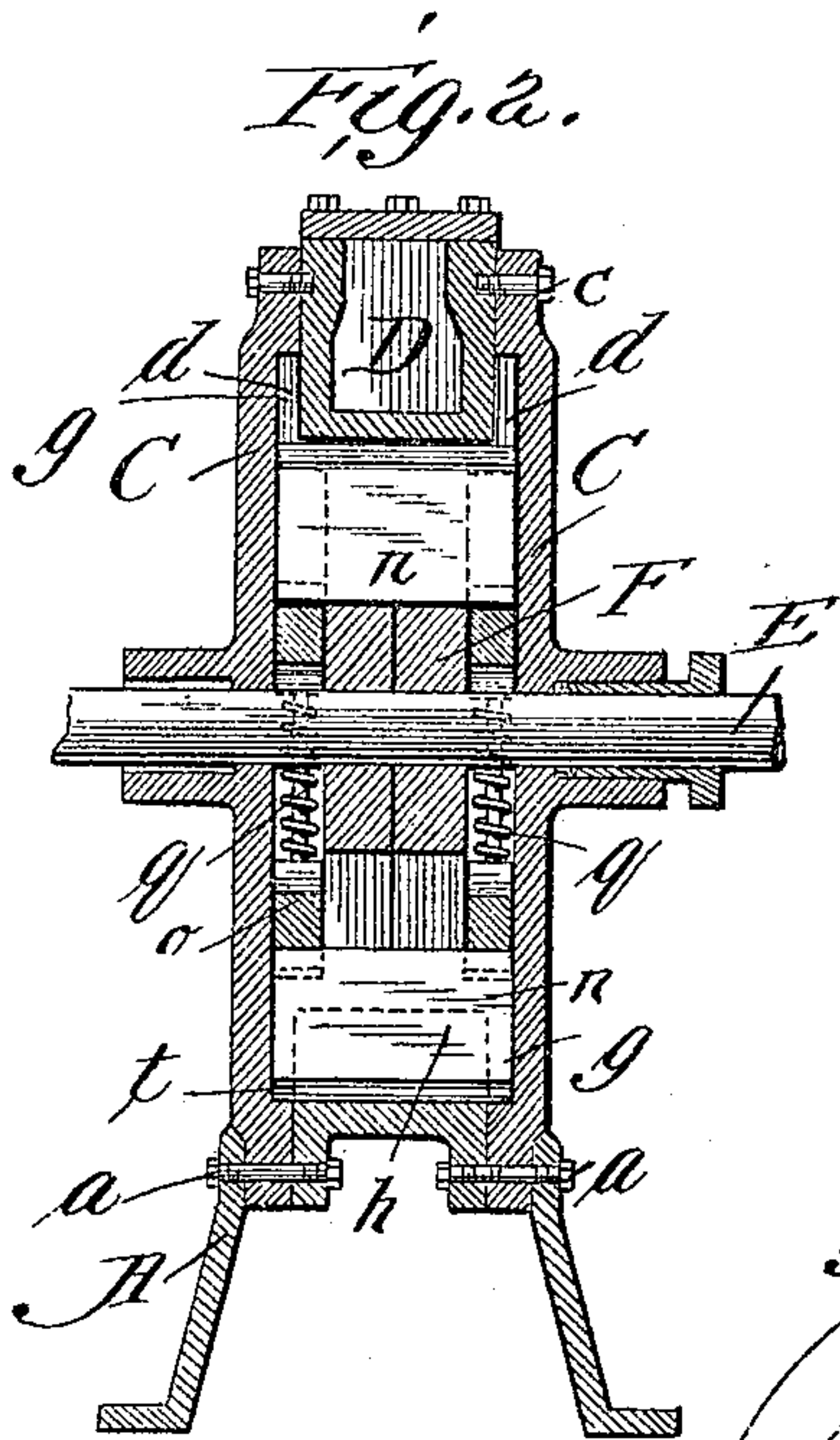
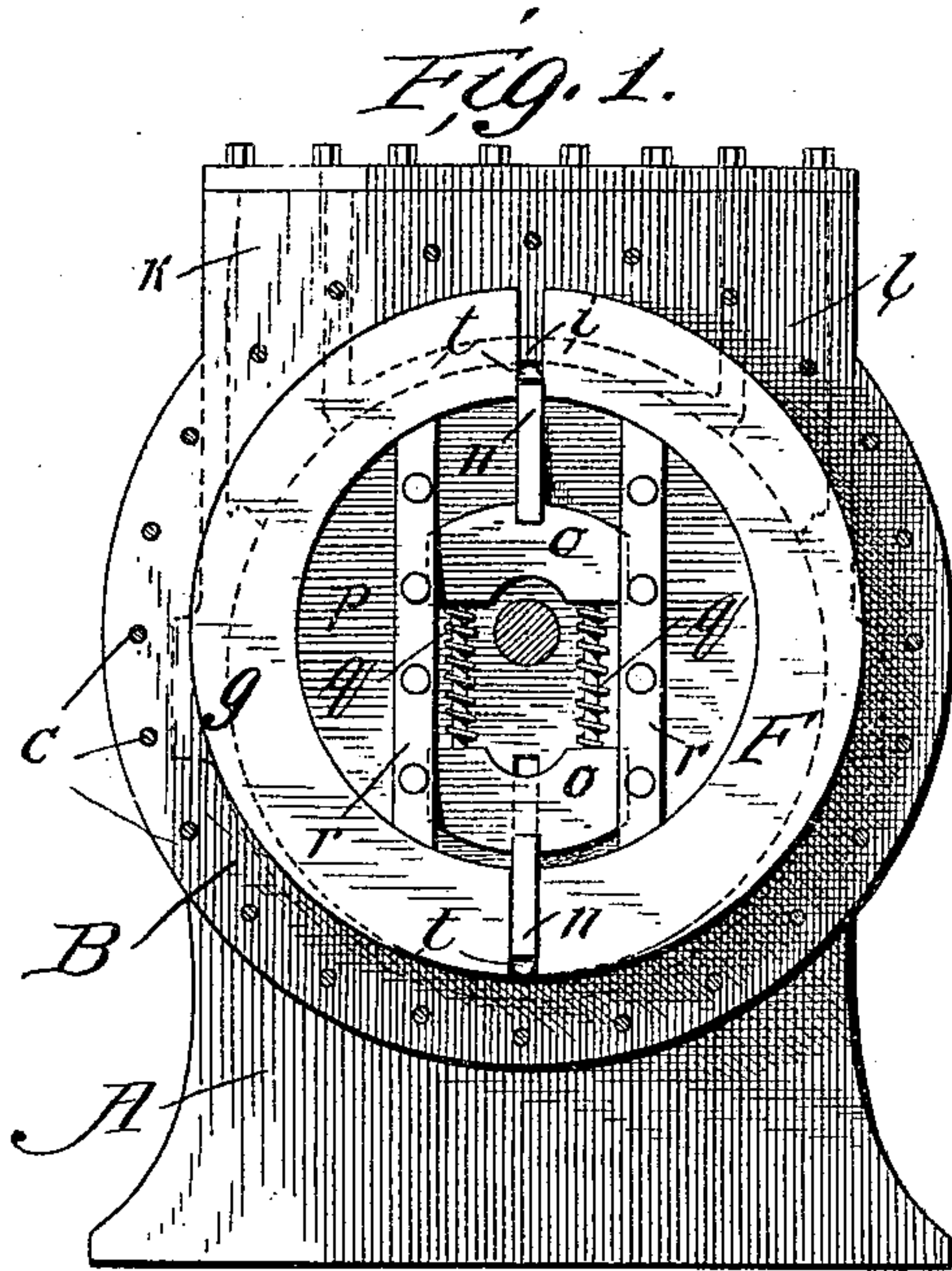
Patented Jan. 16, 1900.

W. H. WINELAND.

ROTARY MOTOR.

(Application filed Mar. 15, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY WINELAND, OF WILLIAMS, PENNSYLVANIA.

ROTARY MOTOR.

SPECIFICATION forming part of Letters Patent No. 641,482, dated January 16, 1900.

Application filed March 15, 1899. Serial No. 709,228. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY WINELAND, a citizen of the United States, residing in the township of Williams, county of Northampton, Pennsylvania, have invented certain new and useful Improvements in Rotary Motors, of which the following is a specification.

My invention relates to rotary motors; and it consists of the details of construction hereinafter more particularly described and claimed.

The invention is shown in the accompanying drawings, in which—

Figure 1 is an elevation of the motor with one of the side plates or cylinder-heads removed. Fig. 2 is a vertical section taken laterally of the motor, the shaft being in elevation. Fig. 3 is a sectional view of the cylinder. Fig. 4 is an elevation, partly in section, of the wheel carrying the blades; and Fig. 5 is a section on line *xx* of Fig. 4.

In the figures the base is shown at A, and the casing or shell of the motor is supported from the base, being bolted thereto, as shown at *a*. The cylinder B is of the form shown in Fig. 3, and bolted to it are cylinder-heads C, the bolts being indicated at *c*. The cylinder B has a central depending portion D, which extends within the line of the cylinder-heads and being of less width than the space between the heads leaves recesses *d* between the depending part D and the cylinder-heads in the upper part of the casing. The shaft E extends through the cylinder-head centrally thereof; but this shaft is arranged eccentric to the inner bore of the cylinder. The shaft carries a wheel or hub F, (shown in detail in Figs. 4 and 5,) this hub being made with flanges *g*, which project upwardly and outwardly from the periphery, so as to leave a recessed periphery, as at *h*. This wheel has two radial slots diametrically opposite, as shown at *i*, and while I have shown two, more may be used if necessary. This wheel is fit-

ted to the shaft and the flanges *g* move through the recesses *d*, while the depending portion D of the cylinder enters between the flanges into the recess *h* of the wheel, closing the space between the inlet and outlet ports *k l* for the steam. The wheel F is secured to the shaft E, and in order to impart to said shaft the power of steam blades *n* are fitted to the slots *i* of said wheel, extending from side to side of the cylinder-heads, and these blades fit the periphery of the cylinder very closely, so that the pressure of steam is exerted against them and through them the wheel is turned, giving rotary movement to the shaft. In order to keep the blades pressed outwardly against the inner face of the cylinder, I utilize blocks *o*, arranged in pairs on each side of the wheel F within the recesses *p*, formed by the overhanging parts of the flanges *g*. As shown in Fig. 1, these blocks *o* are pressed outwardly by springs *q*, and the blocks are guided in their movement by guides *r*, secured to the wheel F. The blades are carried on the outer end of these blocks *o*, and they in turn have spring-pressed end pieces *t*, bearing against the wall of the cylinder.

What I claim is—

In a rotary motor, a cylinder having inlet and outlet ports and a central depending portion, a flanged wheel or hub, the flanges thereof extending upon each side of the central depending portion, said hub having recessed sides, blades carried by said wheel or hub, blocks supporting said blades at the ends thereof and guides carried by the hub, said guides directing the movement of the blocks and springs between the blocks, substantially as described.

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

WILLIAM HENRY WINELAND.

Witnesses:

H. D. OSTERSTOCK,
CHAS. B. BRUNNER.