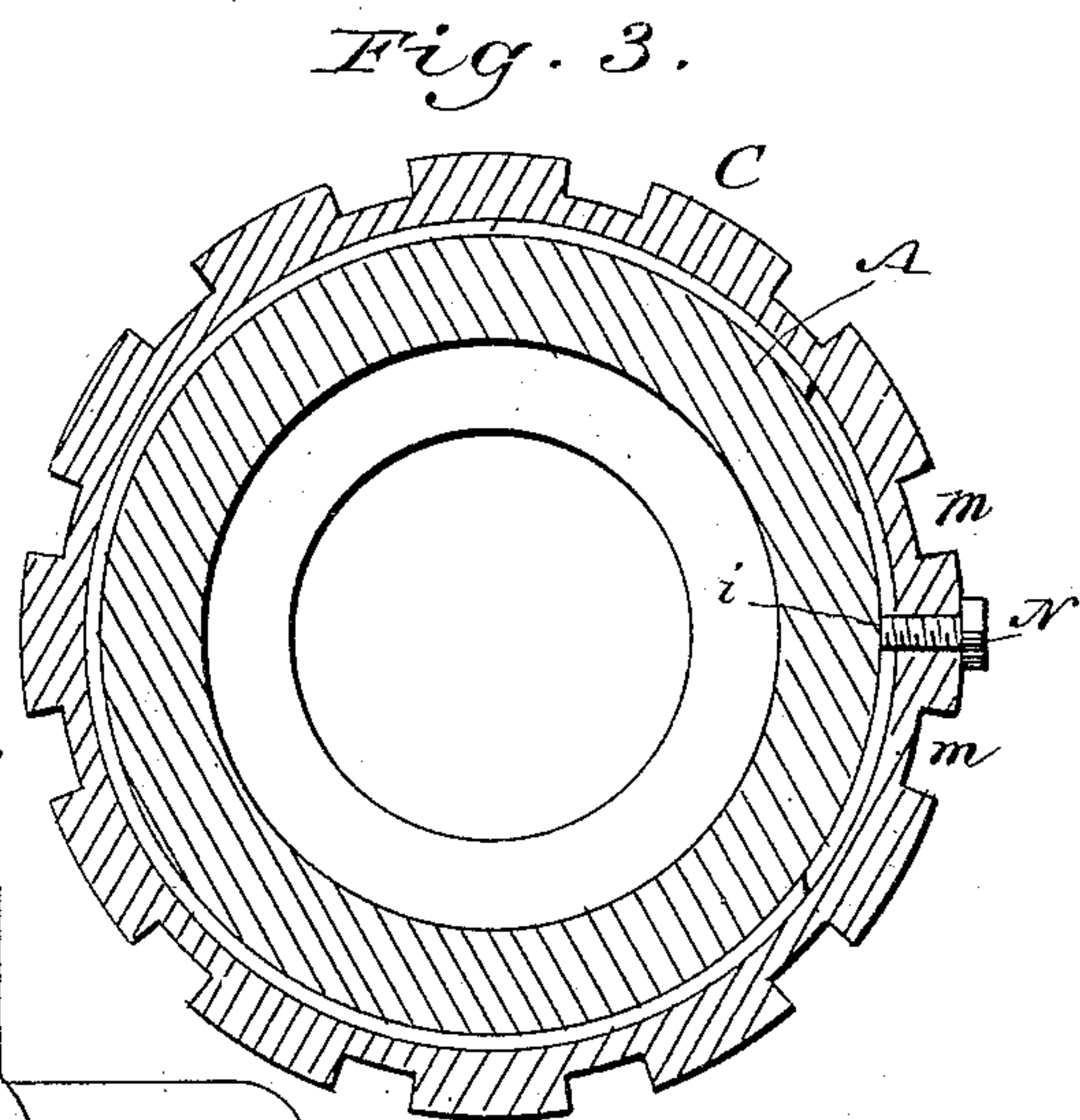
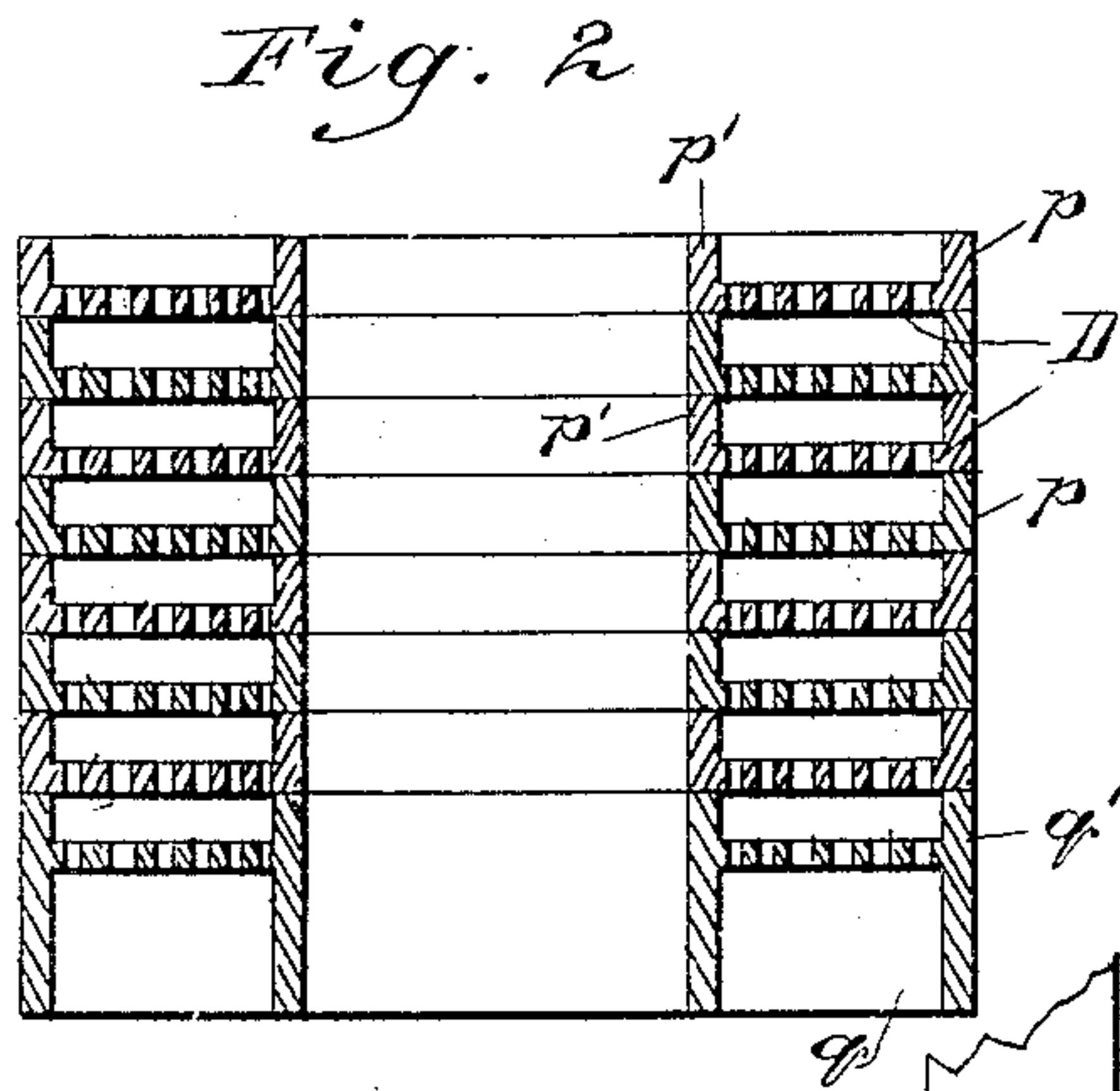
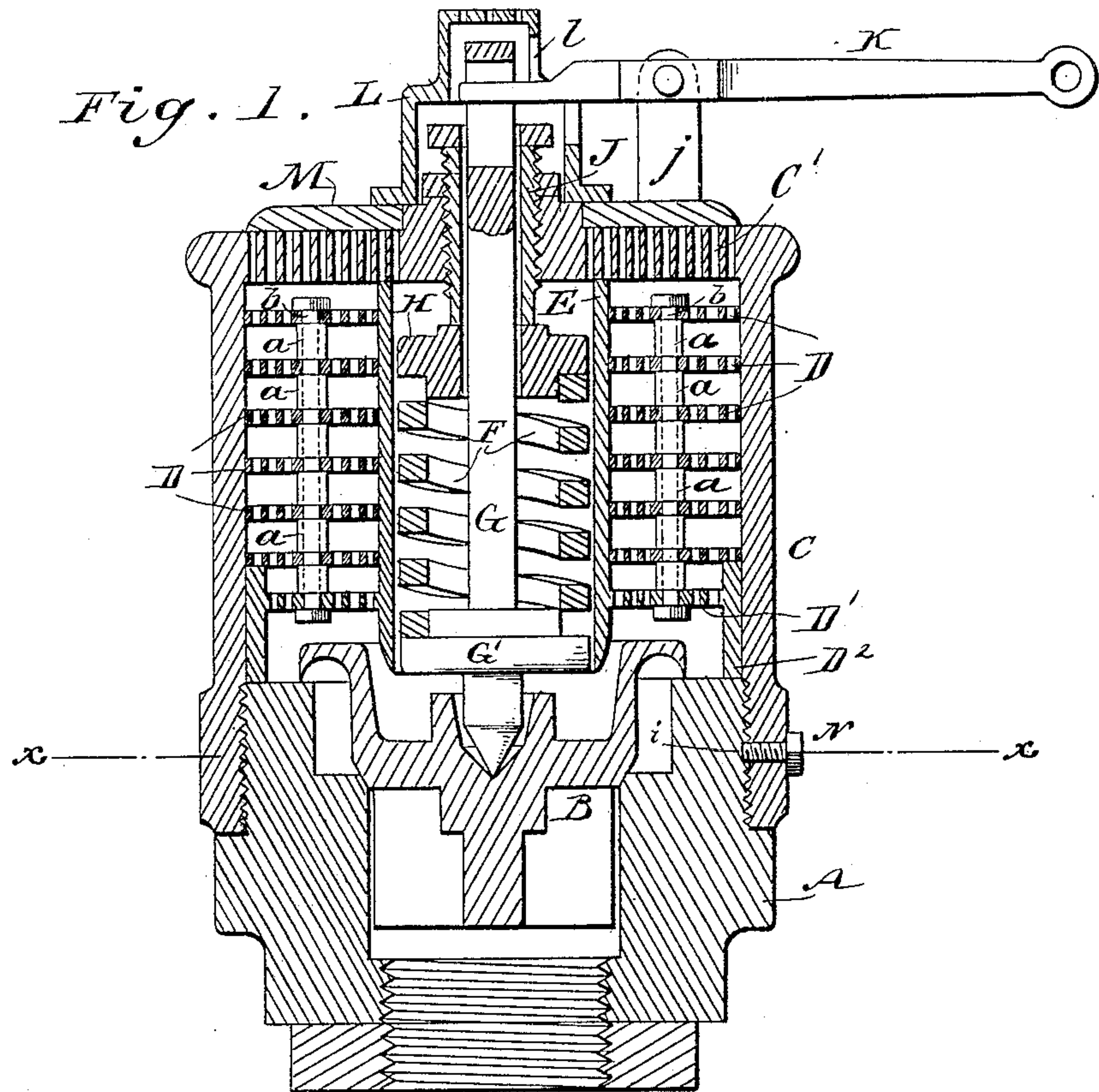


(No Model.)

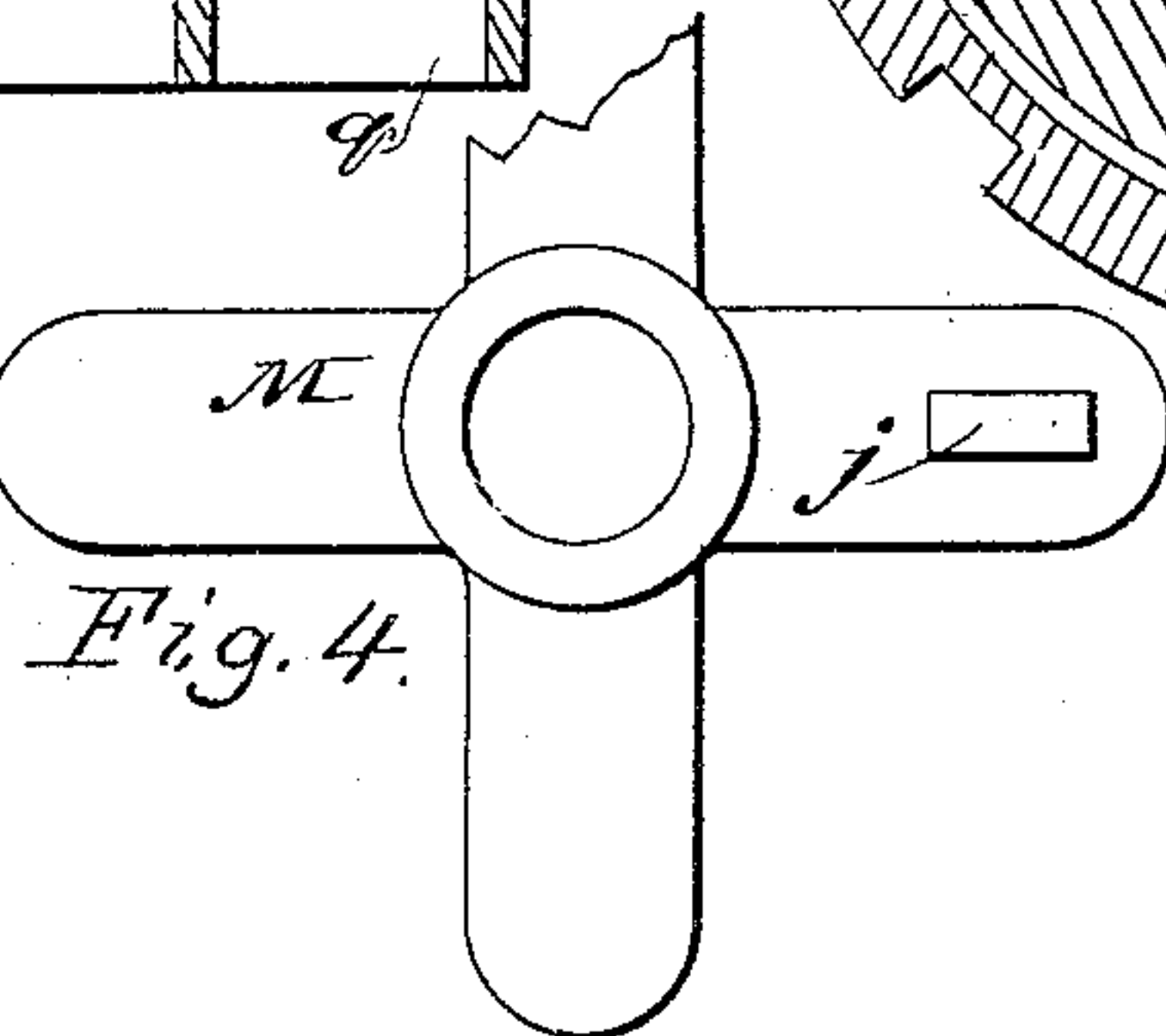
T. E. HILL.
STEAM MUFFLER.

No. 384,364.

Patented June 12, 1888.



WITNESSES:
John H. Deemer
Edgewick



INVENTOR:
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BY *Munn & Co*
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UNITED STATES PATENT OFFICE.

THOMAS E. HILL, OF RAHWAY, NEW JERSEY.

STEAM-MUFFLER.

SPECIFICATION forming part of Letters Patent No. 384,364, dated June 12, 1888.

Application filed November 23, 1887. Serial No. 255,966. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. HILL, of Rahway, in the county of Union and State of New Jersey, have invented a new and Improved Steam-Muffler, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of my improved steam-muffler. Fig. 2 is a sectional detailed view showing a modification of the perforated muffler-plates. Fig. 3 is a sectional plan view taken on the line *xx* of Fig. 1, and Fig. 4 is a plan view of the top plate, M.

The invention will first be described in connection with the drawings and then pointed out in the claim.

A represents the hollow base of cast metal provided with the valve B, the same as in my patent, No. 359,389, dated March 15, 1887. To the base A is screwed the outer shell or casing, C. D represents the upper, and D' the lower, annular and perforated muffler-plates. The plate D' is formed integral with the central tube, E, and outer flange, D², which latter fits in the shell C and rests upon the upper end of the base A and holds the tube E in place. The plates D are spaced one above the other by the short interposed tubes *a*, placed upon the bolts *b*, passed through the whole series of plates, as shown in Fig. 1. Within the tube E is placed the spring F, which rests upon the flange G' of the rod G, which rests upon the center of the valve B. On the top of the spring F is placed the annular washer H, which may be depressed by the hollow and externally screw-threaded sleeve J for adjusting the pressure of the spring upon the valve B.

The sleeve J works in a central screw-threaded opening in the top C' of the casing C. The rod G passes up through the sleeve J and has the lever K connected to it, which lever is fulcrumed in the stud *j* and may be weighted at its outer end to prescribe the pressure of steam at which the valve B will be lifted and permit the steam to blow off. The upper end of sleeve J and rod G are covered by the cup L, which rests upon the star-shaped plate M, which rests upon the top C' of the casing C. The top C' is perforated, as shown in Fig. 1. The cap L is slotted at *l* to receive the lever K. The lower edge of the casing C is formed with notches *m* for the application of a wrench for screwing it tightly upon the base A, and the casing is provided with a set-screw for holding the casing fixed to the base, and a flat seat, *i*, is formed in the base A for the inner end of the screw N.

Instead of using the short tubes *a* for spacing the muffler-plates D, I may form them with flanges *p p'*, as shown in Fig. 2, and I may form the bottom plate with the top and bottom flanges, *q q'*, as shown in said figure.

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

The base A, fitted with the valve B and provided with the casing C, in combination with the inner casing, E, spring F, rod G, perforated plates D, surrounding the casing E and held by rods *b* and spaced by the short intermediate tubes, *a*, placed upon the rods *b* between the said perforated plates D, substantially as described.

THOMAS E. HILL.

Witnesses:

H. A. WEST,
C. SEDGWICK.