

(No Model.)

2 Sheets—Sheet 1.

D. O. PEASE.

HEAD FOR CONTINUOUS DRAWING AND TWISTING.

No. 337,015.

Patented Mar. 2, 1886.

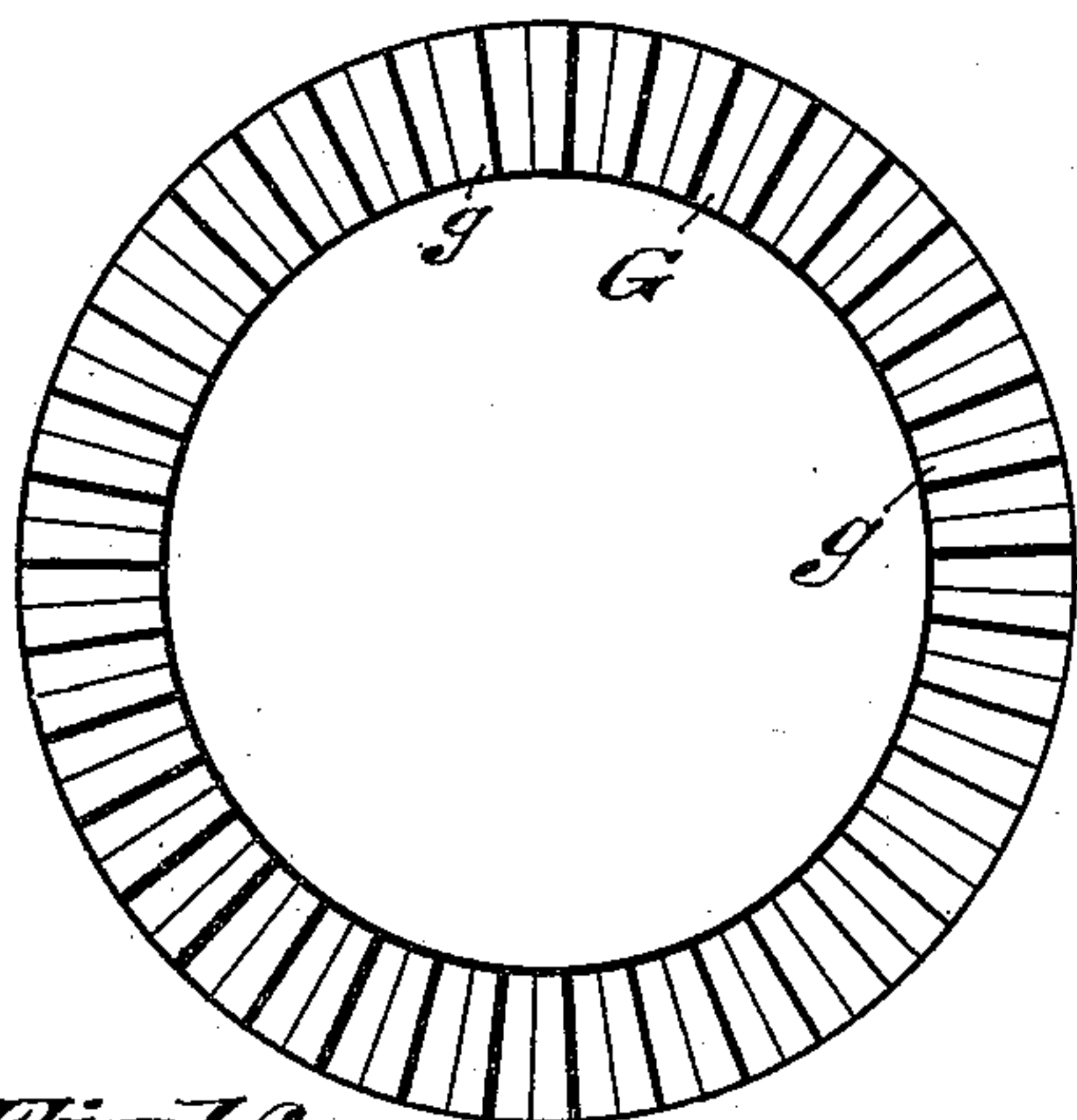
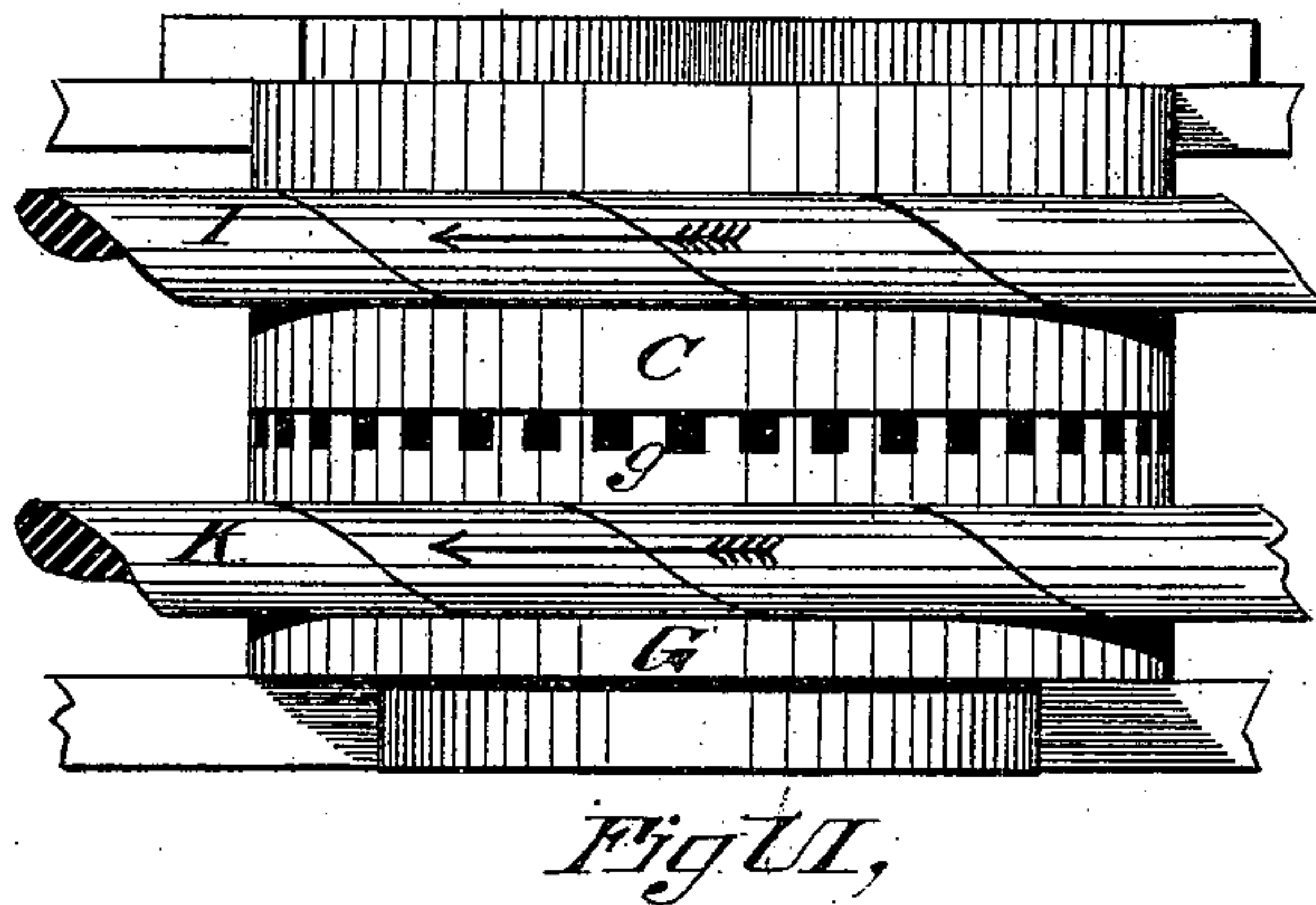
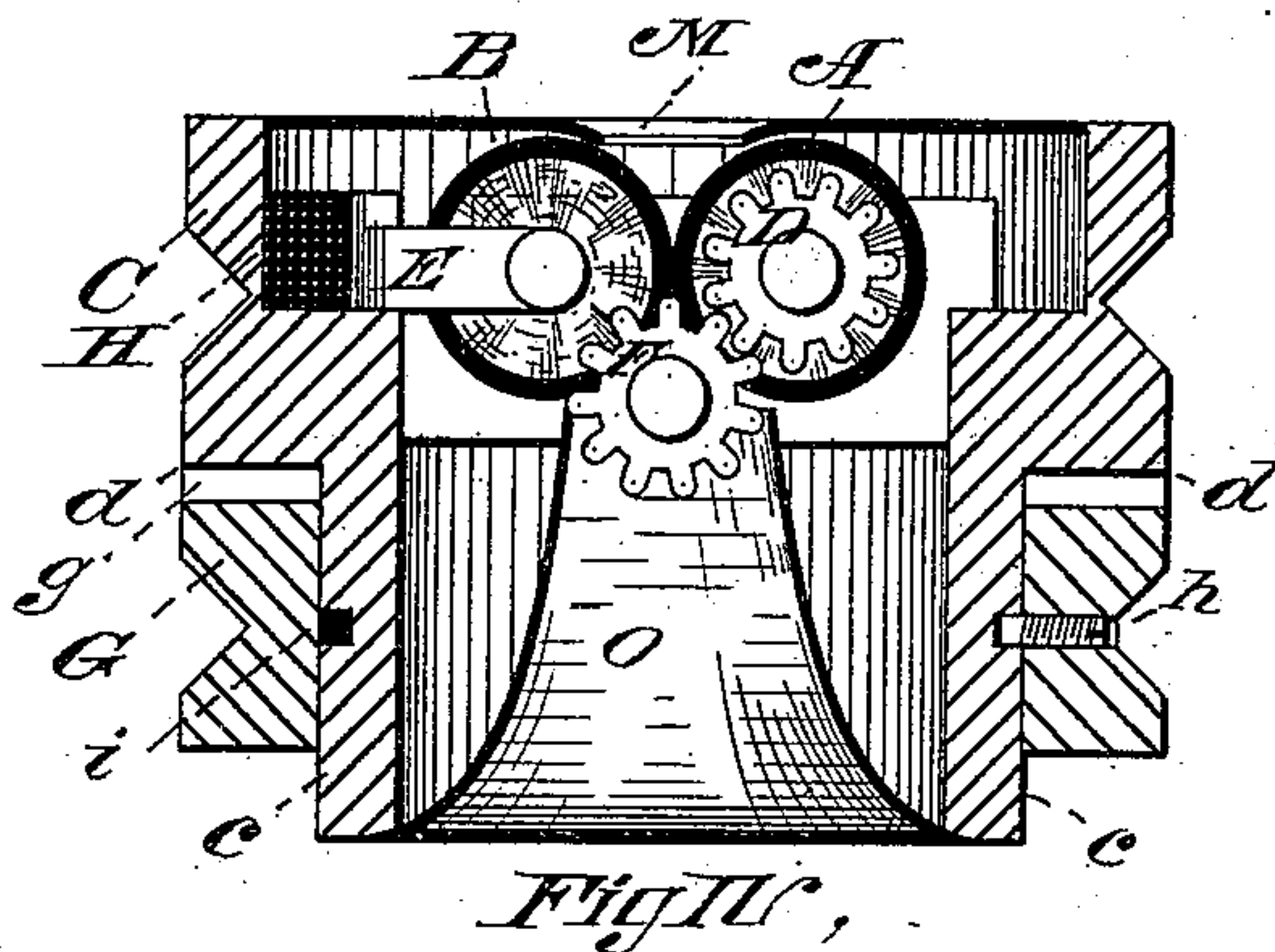
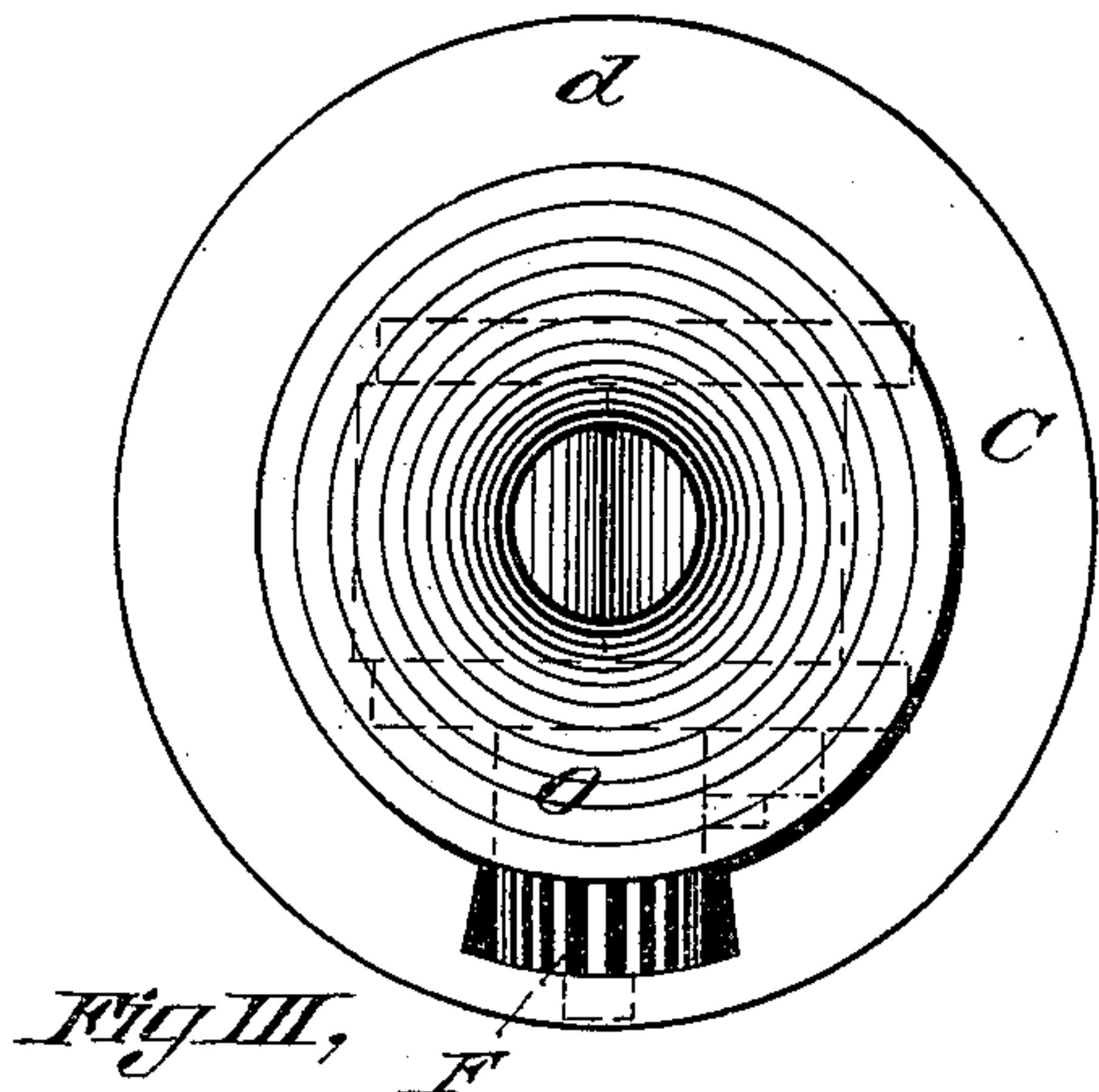
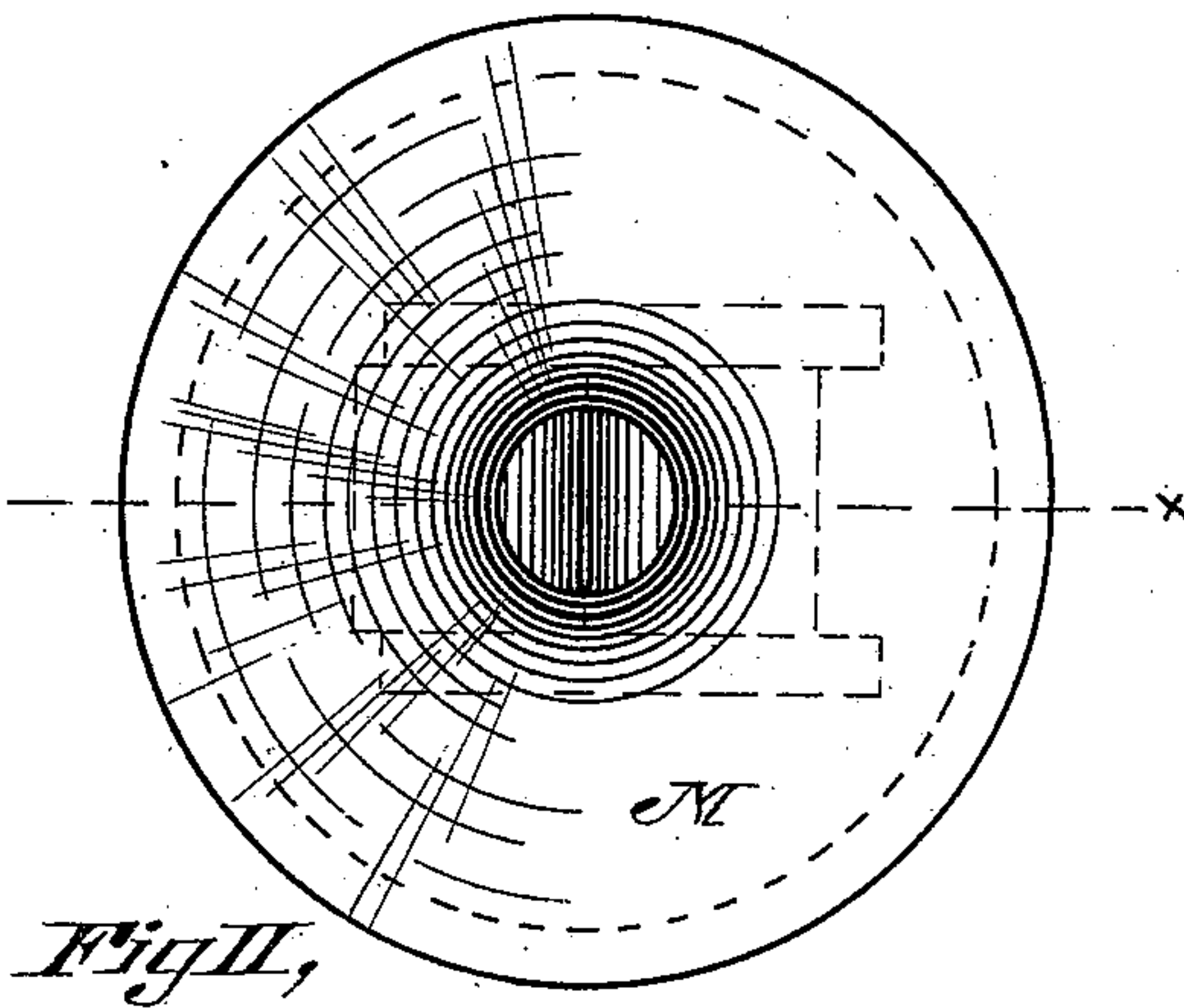
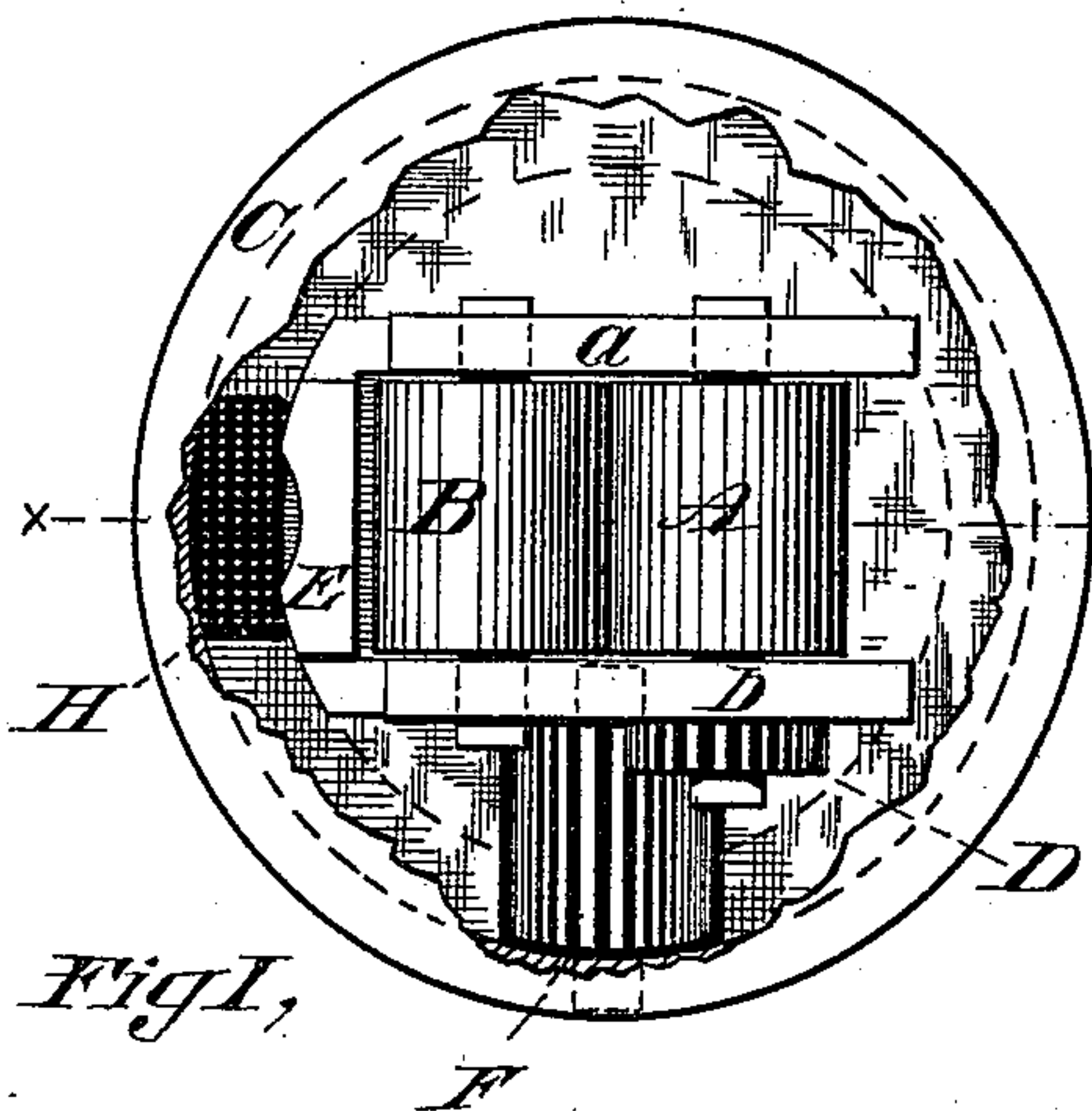


Fig 6

Witnesses,
J. R. Richmond,
Robert O. Morris

Inventor,
D. O. Pease,
By R. F. Hyde
Att'y.

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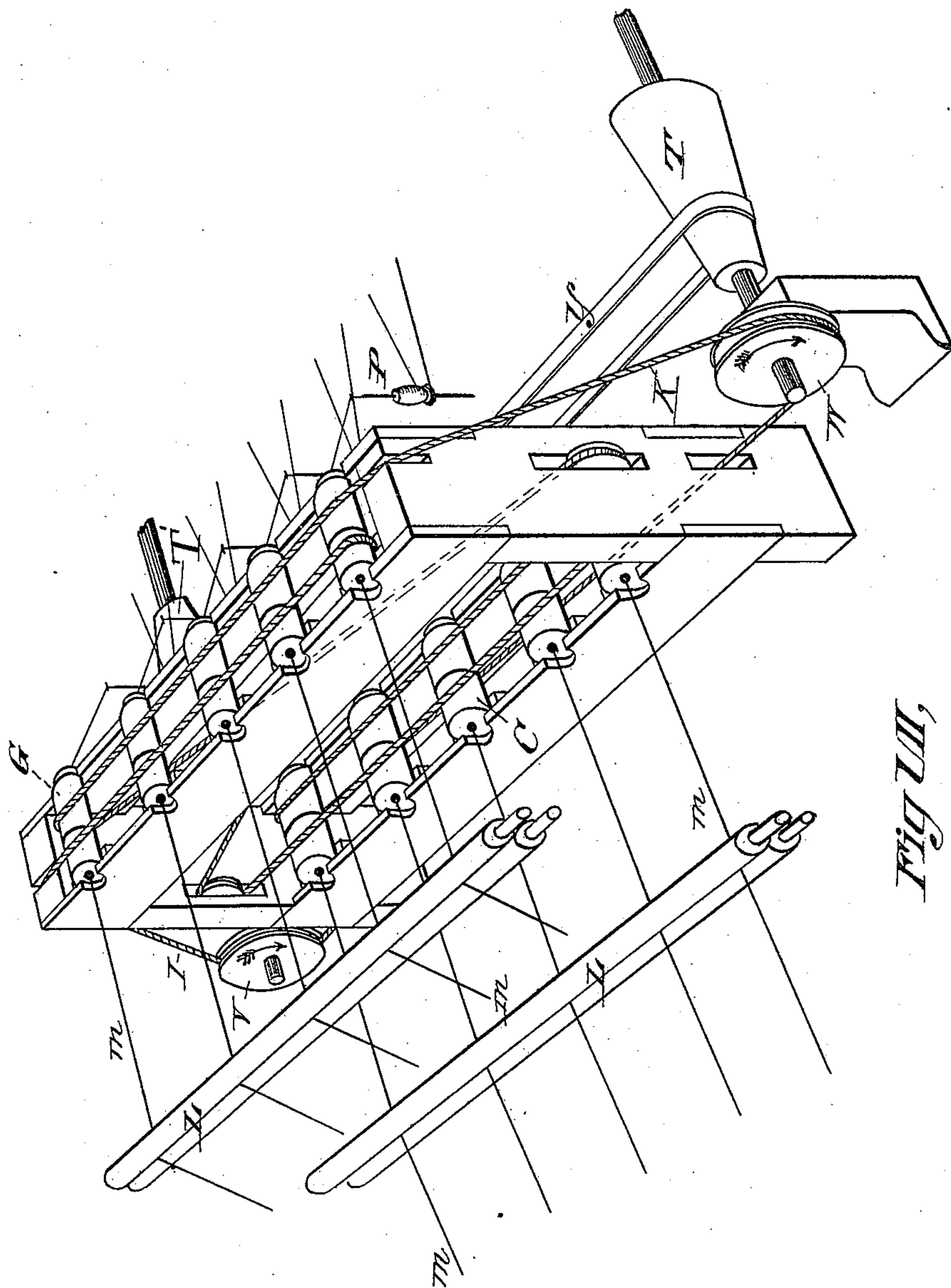


Fig. III.

Witnesses,
J. R. Richmond,
Robert O. Morris

Inventor,
D. O. Pease,
by R. F. Hyde,
att'y.

UNITED STATES PATENT OFFICE.

DURELL O. PEASE, OF HAMPDEN, MASSACHUSETTS.

HEAD FOR CONTINUOUS DRAWING AND TWISTING.

SPECIFICATION forming part of Letters Patent No. 337,015, dated March 2, 1886.

Application filed May 14, 1885. Serial No. 165,431. (No model.)

To all whom it may concern:

Be it known that I, DURELL O. PEASE, a citizen of the United States, residing at Hampden, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Heads for Continuous Drawing and Twisting, of which the following is a specification.

My invention relates to a head for continuously drawing and twisting a sliver of wool or cotton; and the invention consists in the combination and construction, as hereinafter described, and more particularly pointed out in the claims.

My invention is fully illustrated in the accompanying drawings, in which Figure I is a front end view of my device with a part broken away. Fig. II is the same complete. Fig. III is an end view the reverse of Fig. I. Fig. IV is a section upon the dotted line *xx* of Figs. I and II. Fig. V is a detail view in plan. Fig. VI is a top view of the complete device in operative position, with sufficient of the supports and driving-belts to show the relation of parts; and Fig. VII is a perspective view of a frame containing a number of my improved heads in position for use.

A B are two rubber-faced rolls journaled in walls *a b* in a case, C. The roll A has permanent bearings, and is provided with a gear, D, secured to its axis or arbor outside of the wall *b*. The roll B is held in close contact with the one A by means of a follower, E, forked to bear against opposite journals of said roll, and provided with a spring, H, interposed between its back and the inner wall of case C. The journals of roll B are received in elongated slots in the walls *a b*, and the action of spring H is to always, through follower E, keep the surfaces of the rolls in contact.

The point of contact of rolls A B is, as shown, coincident with a transverse line through the center of the case C. The outside posterior portion of case C is reduced to leave a cylindrical outer wall, *c*, and shoulder *d*, and fitted to come against the shoulder and bear upon the surface *c* is a shell, G, provided upon its face, opposite shoulder *d*, with cogs *g*, as shown in Fig. V.

Beneath the gear D, and journaled between wall *b* and case C, is a gear, F, arranged to engage with gear D and to intersect the shoul-

der-surface *d*, as seen in Fig. III, to be engaged by the cogs *g* of shell G. Shell G is held in its proper position relative to case C by means of a screw, *h*, therefrom, having its end pass into an annular groove, *i*, in surface *c*, as shown in Fig. IV. The outside of sections C G are provided with grooves to receive the belts I K.

M is a web upon the face of case C, perforated centrally and depressed, as shown in Figs. II and IV, and which keeps the roving in the proper place between the rolls A B, and also serves as a guard to protect the interior of the head from dust and lint, which would otherwise soon clog up its inner mechanism. O is a trumpet-shaped surface within case C, having its apex close to the inner surface of rolls A B, and its mouth coinciding with the rear end of case C, as seen in Figs. III and IV.

The interior configuration of case C given by the surface O not only closes the case with web M to shut out particles of flying matter from the gearing and journals within said case, but preserves the end of roving from injury and permits it to be safely taken to a bobbin out of line with the axis of the head. The head when journaled as shown in Fig. VI has the case C and shell G driven by belts I K at different speeds, and it will be seen that the rolls A B, beside their rotation on the axis of the head rotated by belt I, have rotation on their axes by contact of gear F with the cogs of section G, rotated by belt K at a greater speed than the case C, so that an end of roving passing into the head would be twisted and drawn simultaneously, and so that the proportion of the twist to the draw would depend upon the relative speed of the sections C G of the head.

The main purpose of my invention has been to enable the ends of roving to pass continuously to the bobbins from the condenser, and thereby avoid the necessity of the manipulation and mechanism common with mules and jack frames.

In Fig. VII a frame containing ten heads is shown. The ends *m* are represented as coming from the condenser, (not shown,) and after passing through the guide-rolls L are drawn and twisted by the heads, and from them pass directly to the bobbins P, (indicated in the drawings.) The relative speed of the sections

of the heads is governed by cone-pulleys T T, with a belt, Y, connecting said pulleys. This belt may be shifted by hand or by any ordinary form of belt-shifter. The spindles of said pulleys T rotate pulleys V W, having, respectively, the endless belts I K, which belts rotate the sections C G of the heads, so that the positive speed of the heads and the relative speed of their sections is determined by the position of belt Y upon its cone-pulleys.

By means of a head so constructed with rubber-faced friction-rolls and with conical ends, as shown, a sliver is evenly twisted and drawn and preserved from abrasion as it enters and leaves the head, and by means of their arrangement in a frame and the arrangement of cone-pulleys and endless belts the heads are effective to deliver the roping without other intermediate mechanism from the condenser to the bobbins.

Now, having described my invention, what I claim is—

1. The improved drawing and twisting head, consisting of a case, C, adapted to rotate in bearings, two rubber-faced friction-rolls journaled in said case, a gear, D, on the axis of

one roll, a gear, F, arranged to mesh with gear D and have a part thereof project beyond the case C, funnel-shaped guards M and O, secured to the ends of casing C and projecting inward nearly to the friction-rolls and gears, and the shell G, mounted so as to rotate on case C and having a toothed surface engaging gear F, substantially as described.

2. In combination, a series of drawing-heads each consisting of one cylindrical section carrying a pair of drawing-rolls, and another section rotatively mounted thereon and having a gear adapted to drive the drawing-rolls through intermediates, a frame on which said drawing-heads are supported, two endless belts, I and K, one engaging the roll-carrying sections and the other engaging the roll-driving sections of the drawing-heads, two shafts, each bearing a cone-pulley and a belt-pulley, the belts I and K, passing over the belt-pulleys, respectively, and a belt connecting the cone-pulleys, all substantially as described.

DURELL O. PEASE.

Witnesses:

R. F. HYDE,
MORTIMER PEASE.