

H. W. PELL.

Stove-Grate.

No. 133,477.

Patented Nov. 26, 1872.

FIG. 1.

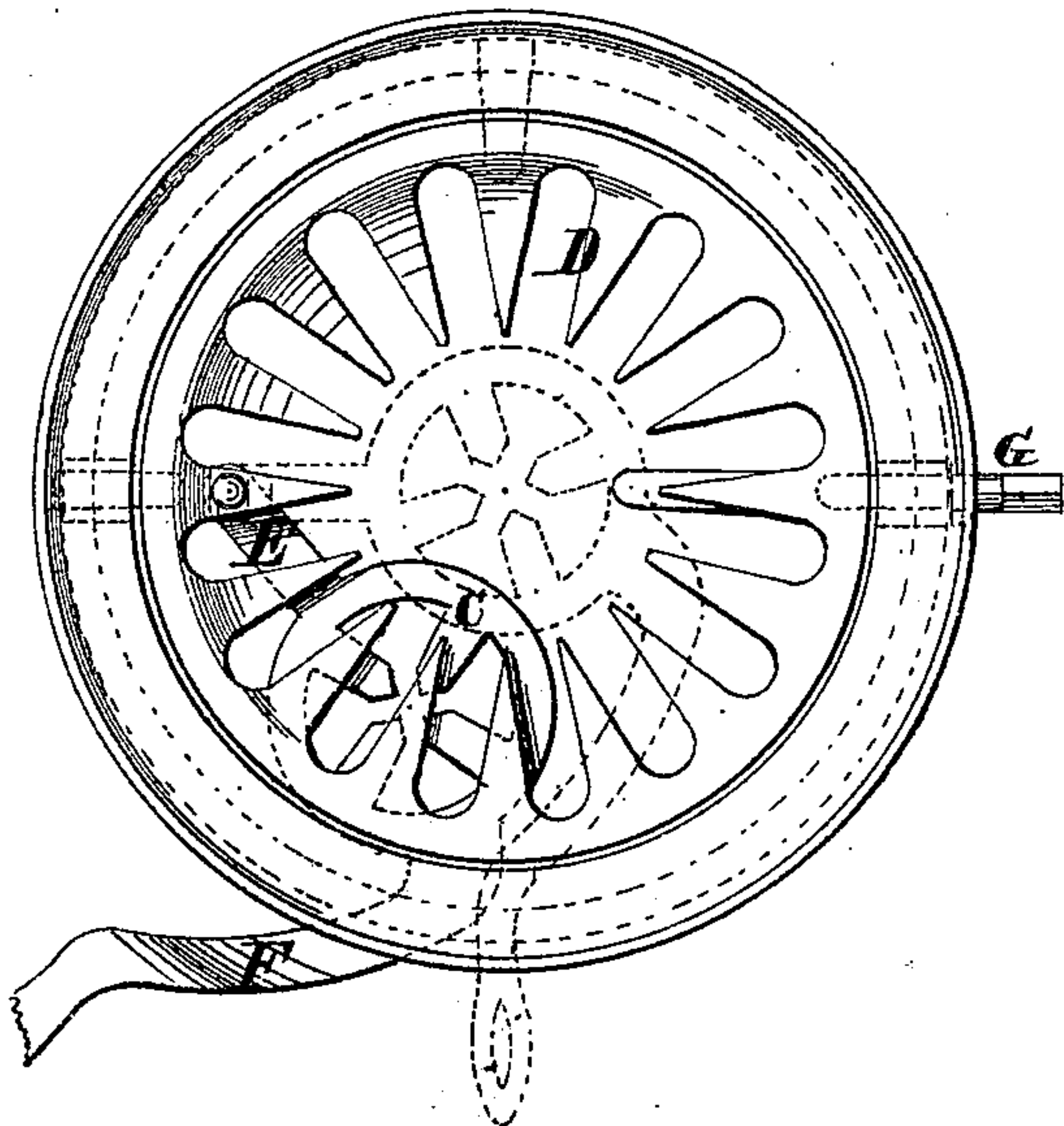


FIG. 2.

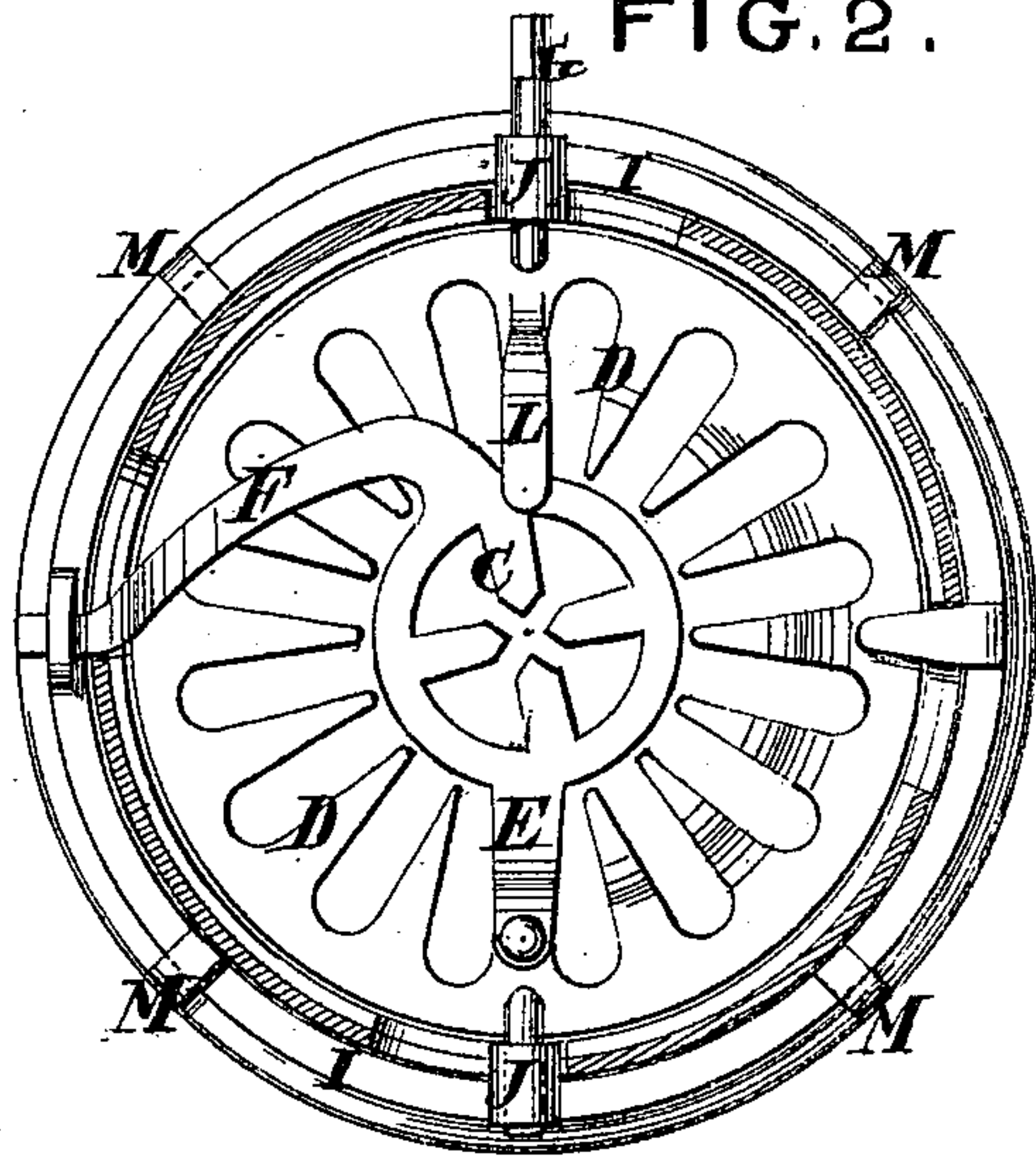


FIG. 3.

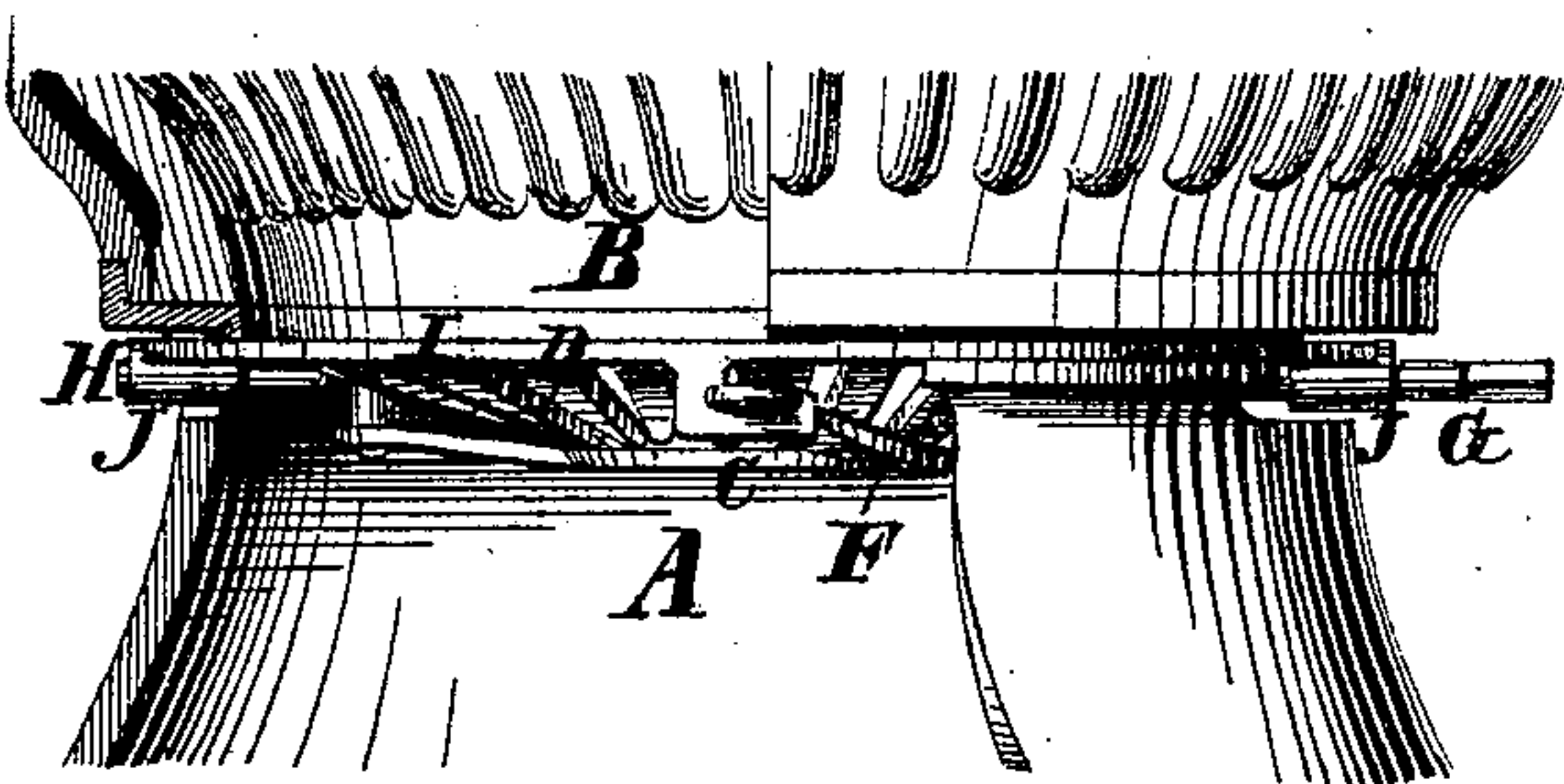
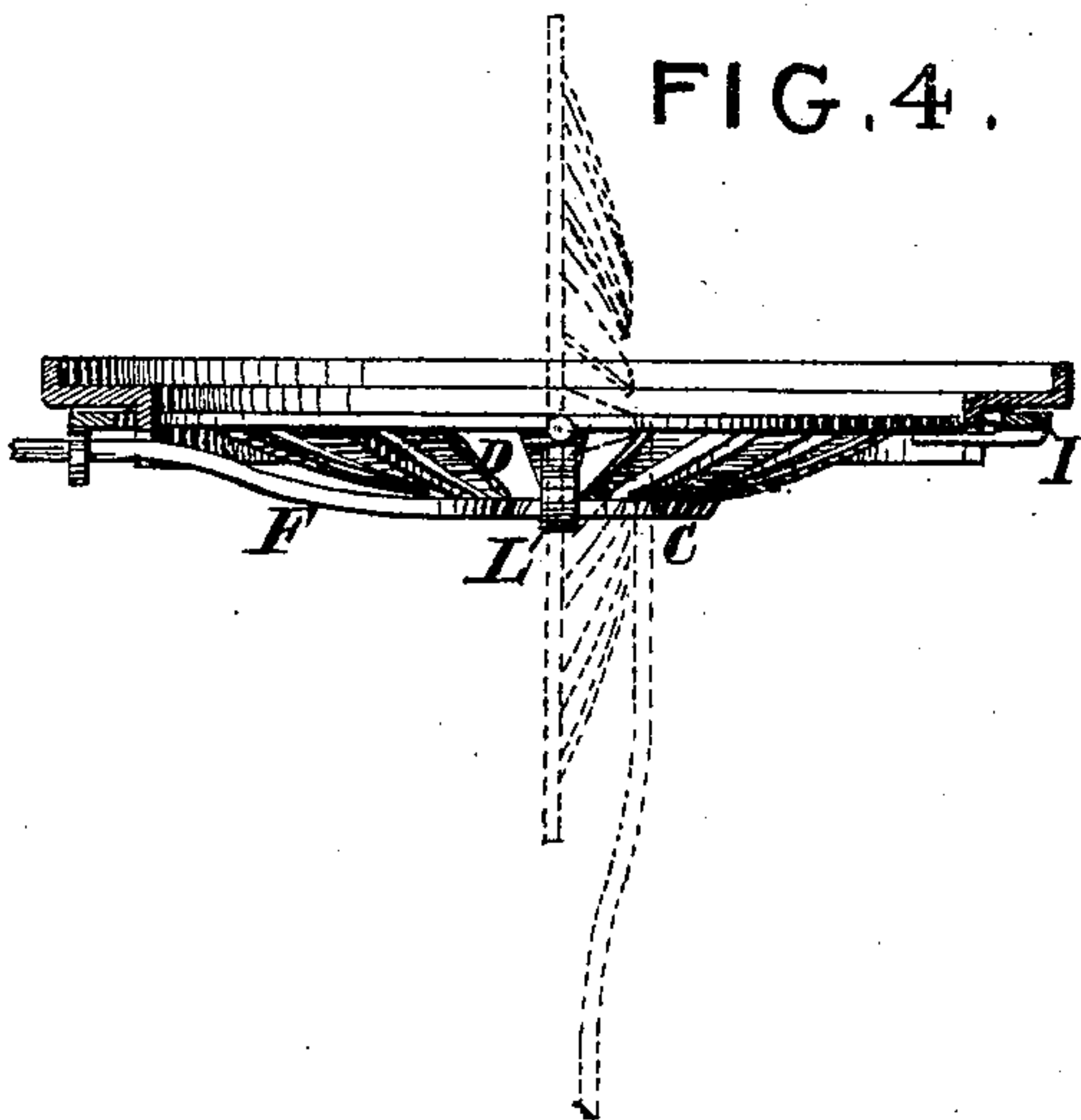


FIG. 4.



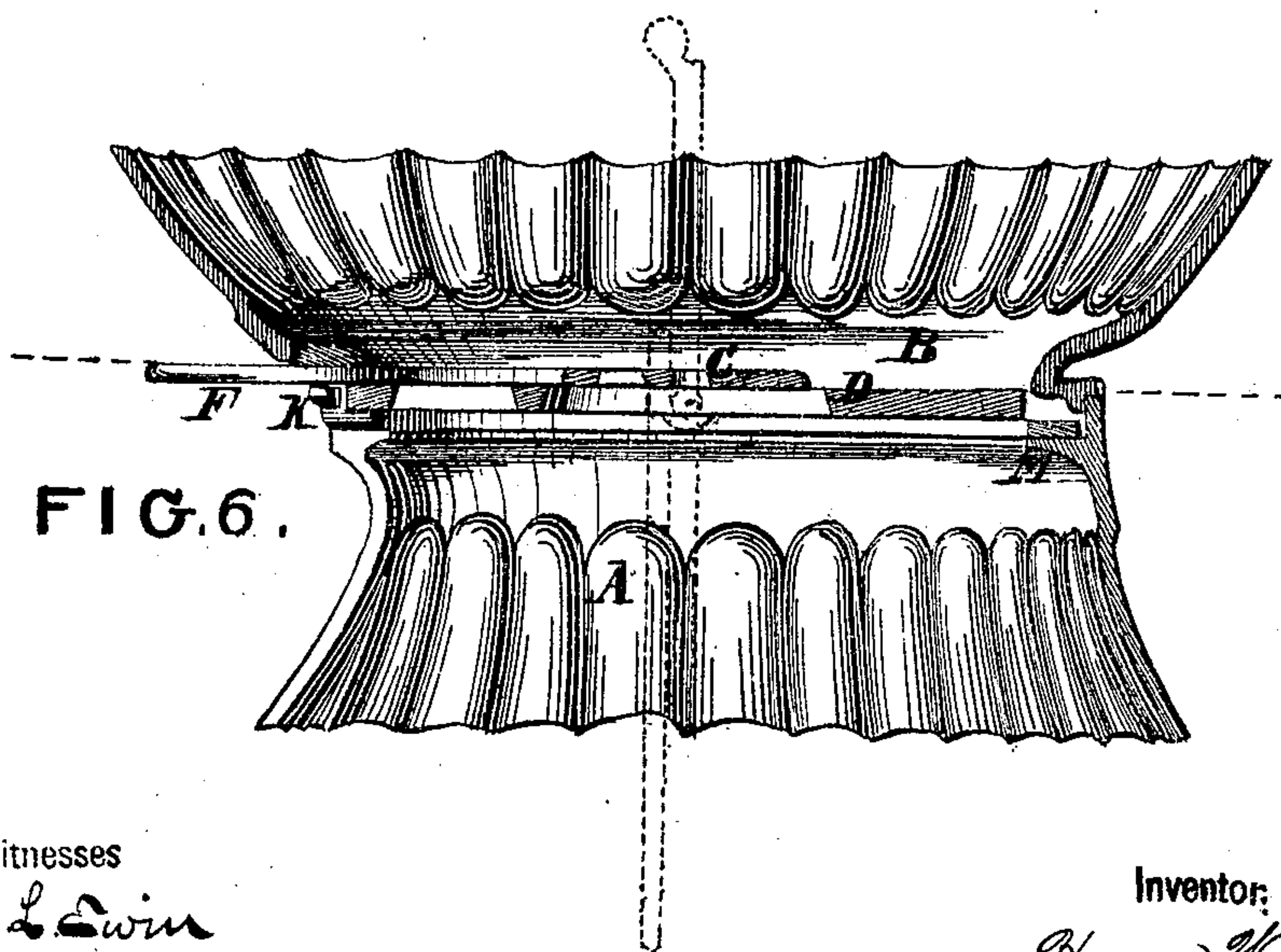
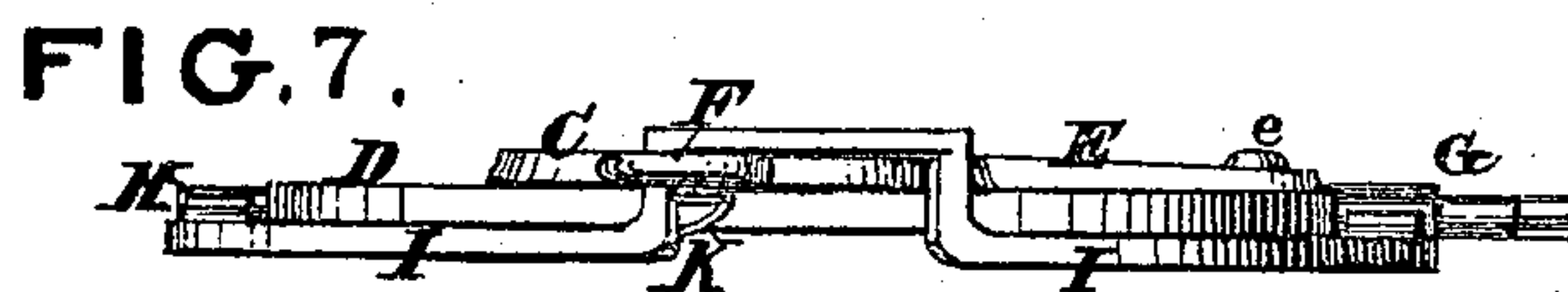
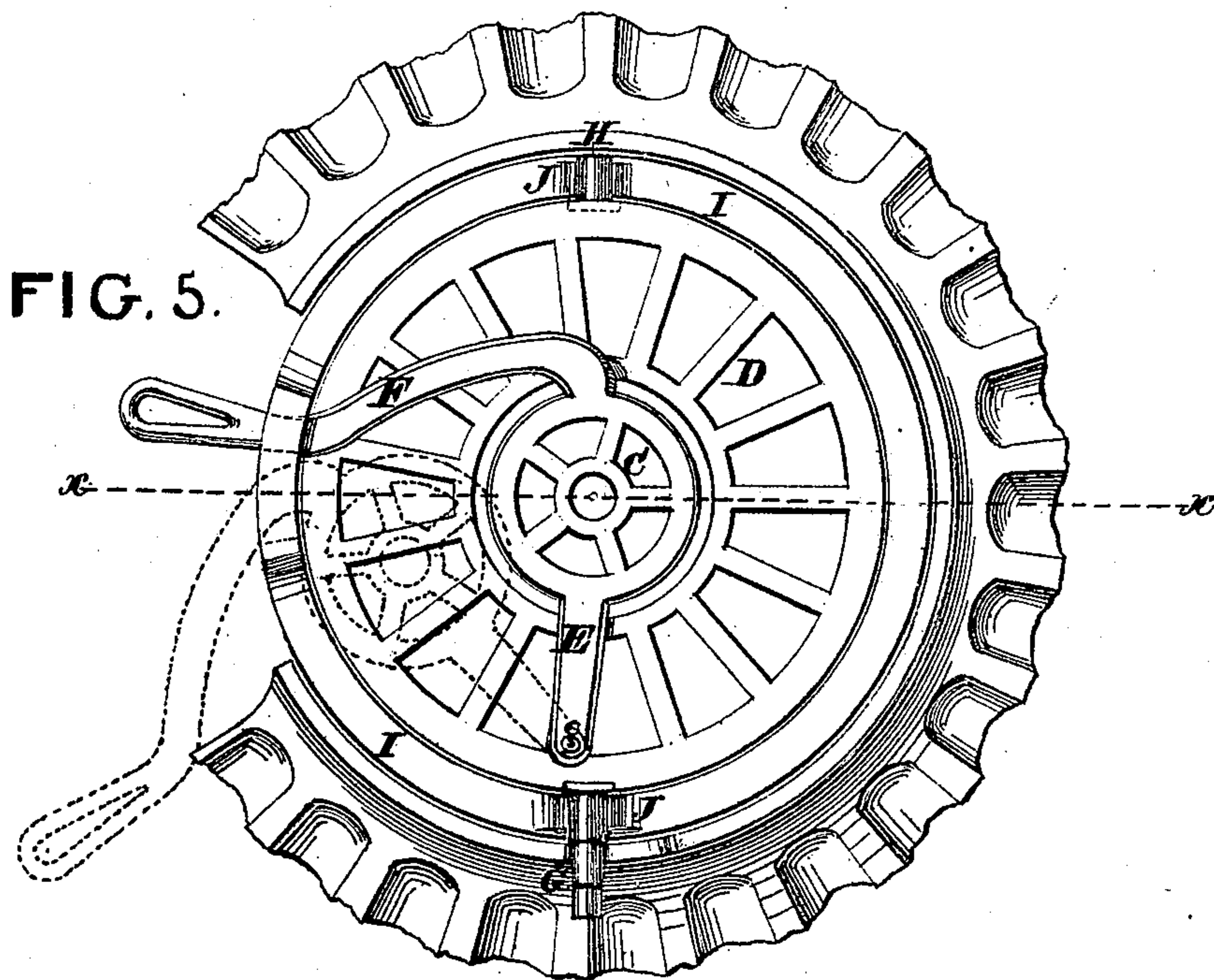
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UNITED STATES PATENT OFFICE.

HENRY W. PELL, OF ROME, NEW YORK.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. 133,477, dated November 26, 1872.

To all whom it may concern:

Be it known that I, HENRY W. PELL, of Rome, in the county of Oneida and State of New York, have invented an Improvement in Grates for Stoves and Furnaces, of which the following is a specification:

Nature and Objects of the Invention.

My invention consists, first, in hanging a shaking-grate, by attachments external, to the fire-pot, as hereinafter described, to avoid the warping or distortion of its supporting-ring by overheating. My invention consists, secondly, in combining with an annular grate a central part formed with a projecting arm, and pivoted to the annular main grate in such a manner that it may slide thereon, and when drawn forward will uncover the central opening of the annular grate, as hereinafter described, for the purpose of removing clinkers and other incombustible bodies without discharging the entire contents of the fire-pot. My invention consists, thirdly, in an appliance for locking the parts in position to prevent the grate from dumping while it is being shaken.

Description of the Accompanying Drawing.

Figure 1 is a plan of the grate and base of a furnace illustrating my invention. Fig. 2 is an under-side view of the same. Fig. 3 is a front elevation, partly in section, showing the grate and portions of the base and of the fire-pot. Fig. 4 is a side elevation of the grate and its accessories. Fig. 5 is a plan illustrating the invention in modified form. Fig. 6 is a vertical section on the line *x x*, Fig. 5. Fig. 7 is a front elevation of the grate shown in Figs. 5 and 6.

General Description.

The ash-pit A and fire-pot B may be of any preferred form. The main portion D of the grate is formed with trunnions or pivots G H, having their bearings at J J in a ring, I, which permits the shaking of the grate in a horizontal plane. To provide for this reciprocating movement of the supporting-ring I it is hung in lugs or suitable bearings M external to the fire-pot, so that the said ring will be beyond reach of the intense heat of the fire. The

ring is thus preserved from warping or other injurious effect, which might otherwise interfere with its operation. One of the pivots, G, may project through a horizontal slot in the wall of the stove and be formed with a square, as shown, to receive a key for shaking the grate either vertically or horizontally or turning it into vertical position, as indicated by dotted lines in Figs. 4 and 6, for dumping the entire contents of the fire-pot. To provide for the ready removal of clinkers and other incombustible bodies, the grate D is constructed with an open center, closed while in use by a movable supplemental grate, C, formed with a projecting arm, E, by the end of which it is pivoted at *e* to the main grate D. F is a curved arm projecting laterally from the opposite side of the movable grate-center C, and extending forward to form a handle, by which the said grate-center may be drawn forward or pushed back to uncover the central opening of the main grate. K represents a hook, over which the handle or arm F may be caught so as to hold the grate-center over the opening in the main grate, and also to lock the entire grate in its horizontal position. In order to admit of making the main portion of the grate in concave form and permit the free movement of the grate-center C, it is preferable to place the latter below the main grate D, as illustrated in Figs. 1, 2, 3, 4, a lug, L, affording support to its free side when in use. In the modifications shown in Figs. 5, 6, 7 the main grate D is made flat and the grate-center C adapted to slide above it. In this arrangement the ring I may be formed with an upward bend, as shown in Fig. 3, to permit the movement of the arm F; or the said ring, being formed of a rigid casting, may have an opening or gap in front; or the other parts of my invention may be used without such ring, the pivots G H resting on stationary ledges in a common manner. Dotted lines in Fig. 1 and full lines in the other figures show the grate-center in position for use. Full lines in Fig. 1 and dotted lines in Fig. 5 show it drawn forward, to permit the removal of clinkers, &c.

By this appliance any incombustible bodies may readily be removed without disturbing the upper portions of the incandescent coal.

The fire can thus be kept fresh and clear for any length of time.

Claims.

The following is claimed as new:

1. The supporting-ring I hung externally to the fire-pot, and employed to permit the horizontal shaking of the grate, substantially as described.

2. The grate-center C, pivoted by the end of an arm, E, and movable in a horizontal or

nearly horizontal plane, substantially as and for the purposes described, in combination with the main grate D.

3. The locking-hook K, in combination with the pivoted grate D, supporting-ring I, and arm F, substantially as set forth.

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