

No. 751,268.

PATENTED FEB. 2, 1904.

C. DIETZ.
MECHANICAL MOVEMENT.
APPLICATION FILED OCT. 11, 1900.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

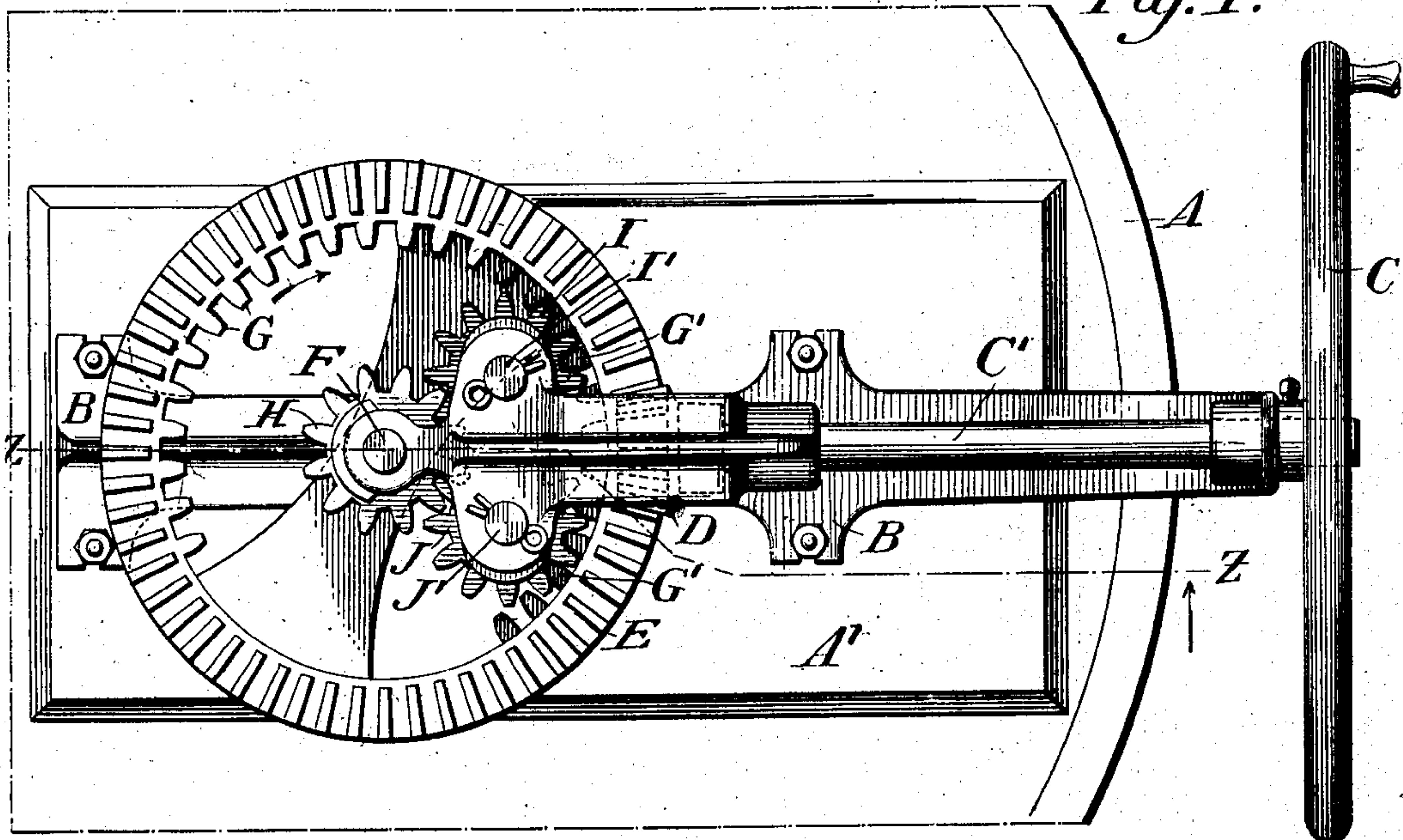
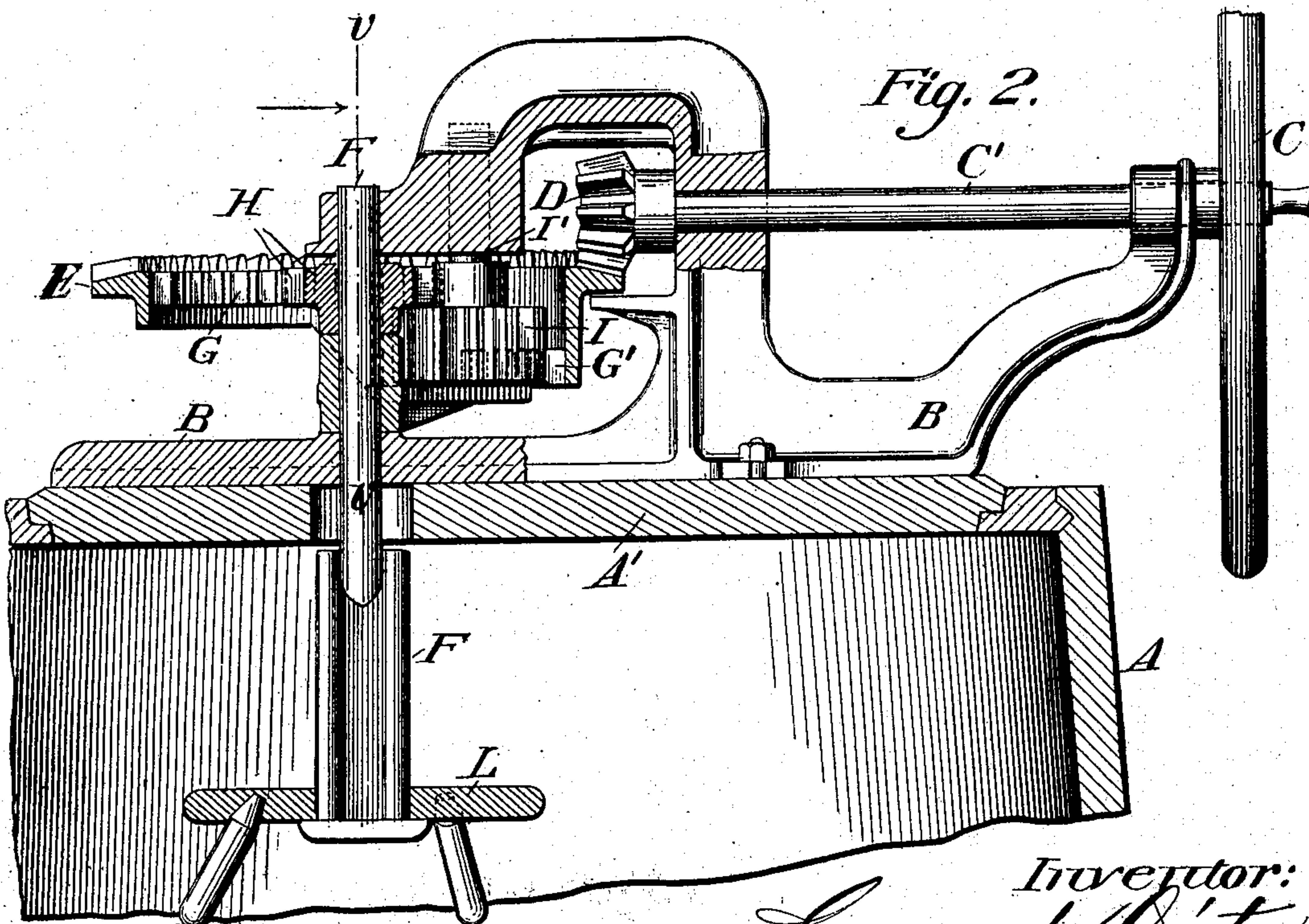


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

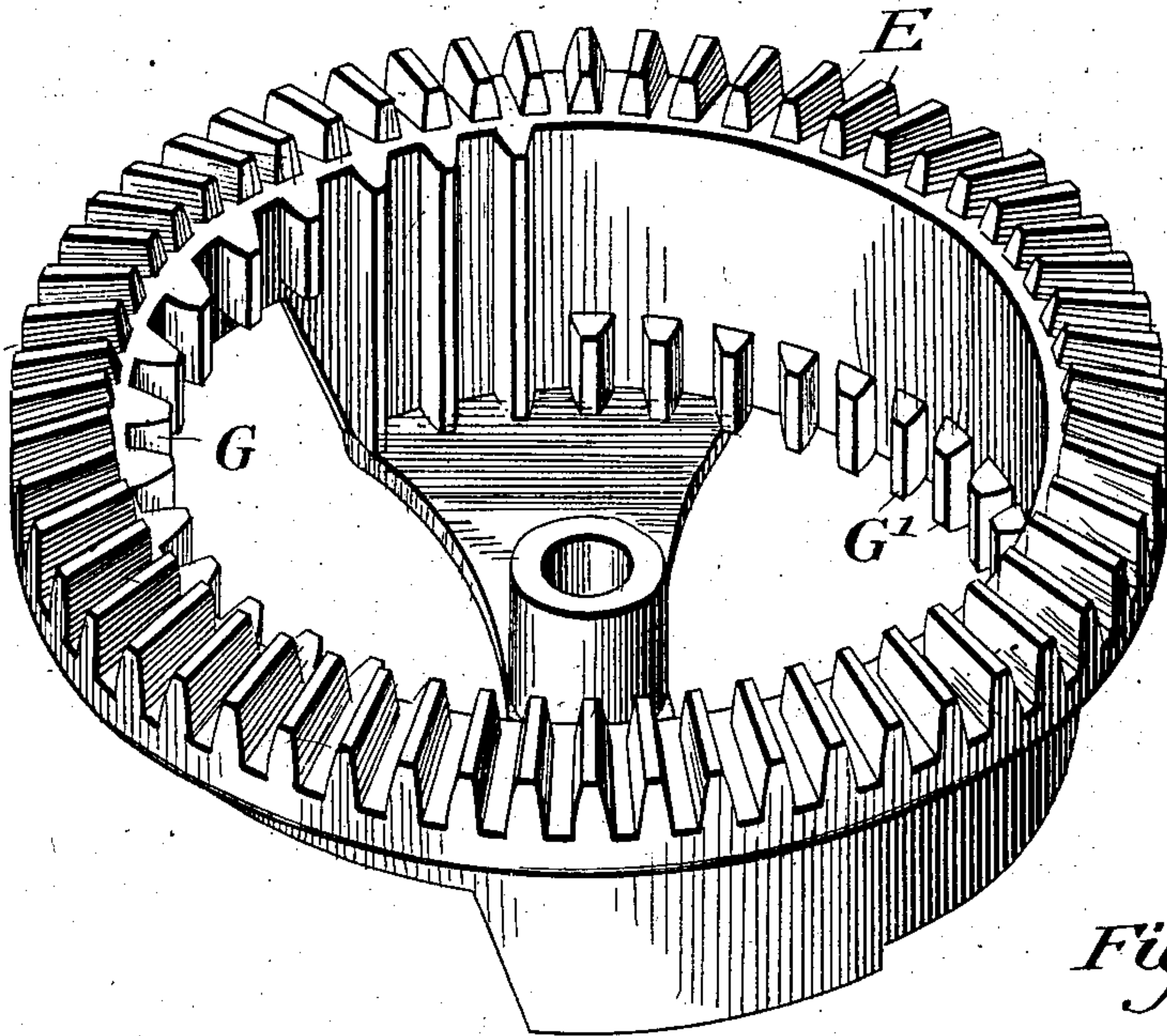
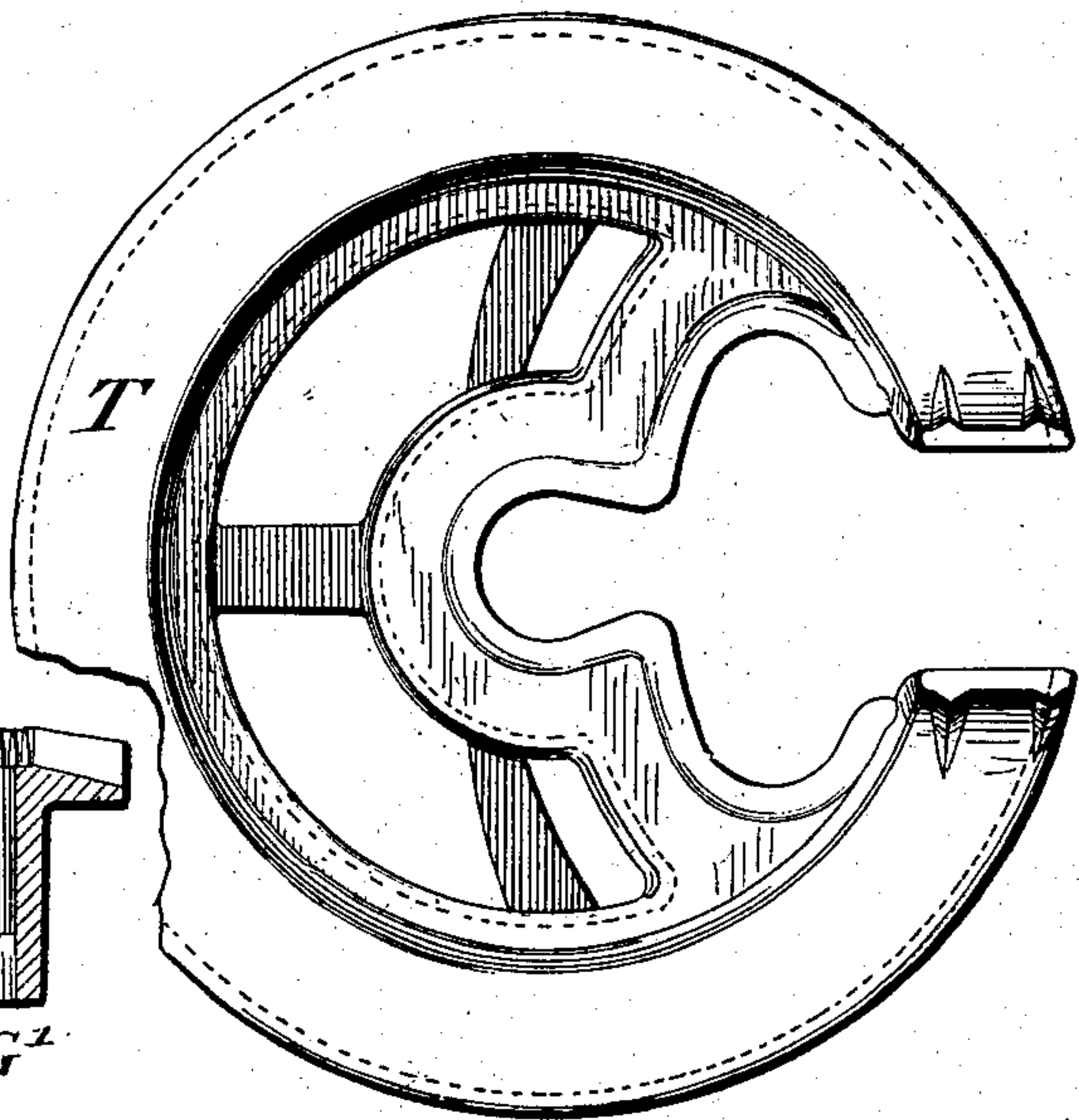
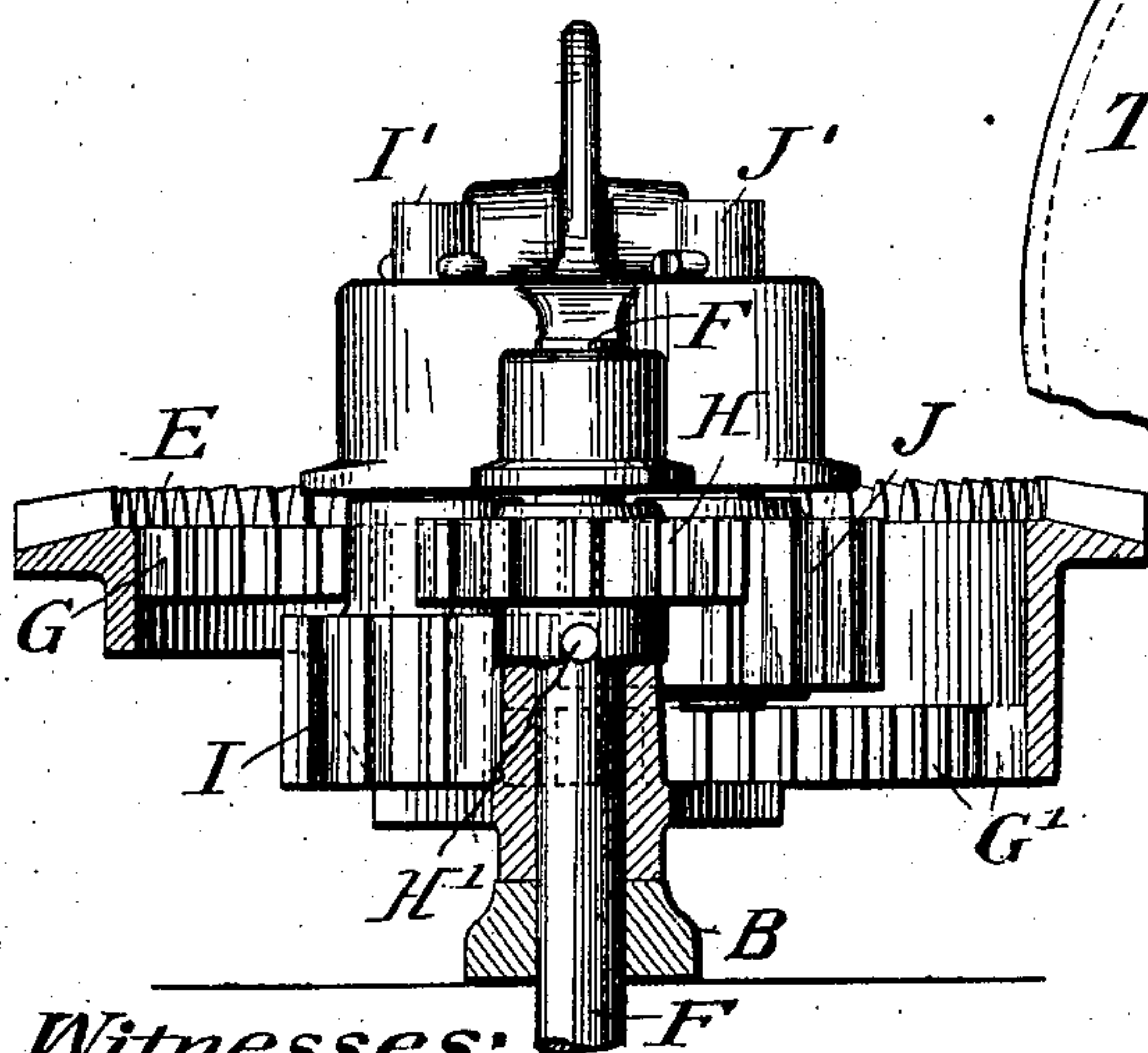


Fig. 5.

Fig. 4.



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UNITED STATES PATENT OFFICE.

CONRAD DIETZ, OF CINCINNATI, OHIO.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 751,268, dated February 2, 1904.

Application filed October 11, 1900. Serial No. 32,700. (No model.)

To all whom it may concern:

Be it known that I, CONRAD DIETZ, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification.

My invention relates to improvements in mechanical movements.

One of its objects is to provide a simple and strong mechanical movement by means of which the driving-shaft may be turned continuously in one direction while the operative mandrel is reciprocated alternately in opposite directions through a full revolution.

Another object is to provide a reliable and durable mechanical movement to be turned by hand continuously in one direction while the operative mandrel is alternately reciprocated in opposite directions, whereby I am enabled to employ a balance-wheel to give regularity to the movement.

It further consists in certain details of form and combination, all of which will be more fully set forth in the description of the accompanying drawings, in which—

Figure 1 is a top plan view of my movement with the gear-casing removed. Fig. 2 is a partial section through the same on line *z z* of Fig. 1. Fig. 3 is a perspective view of the segmental gear. Fig. 4 is a sectional detail view taken on line *v v* of Fig. 2. Fig. 5 is a plan view of the gear-casing.

I have shown my improved movement applied to a washing-machine, for which purpose it is eminently adapted.

A represents the receptacle for the clothes, having a hinged lid A', to which the frame B of the movement is secured.

C represents a hand-wheel the rim of which is preferably weighted to form a balance-wheel to give regularity to the movements of the mandrel. The hand-wheel is mounted upon a shaft C', to the opposite end of which is secured a beveled gear D, meshing with and driving a beveled gear E, which journals loosely upon the operative mandrel F.

G G' represent two internal segmental gears formed upon the inner face of the beveled gear

E, the opposite ends of the segmental gear being in different planes.

H represents a small spur-gear secured to the operative mandrel by means of a set-screw H'.

I and J represent transmitting spur-gears mounted upon stud-shafts I' J'. The gear J transmits motion from the upper portion of the segment direct to the gear H to rotate the operative mandrel in one direction, while the gear I is in a plane to take its motion from the lower portion of the segment and transmit it through gear J to gear H, thereby reversing the direction of rotation in the operative shaft, which makes about one and one-fourth revolution first in one direction and then in the opposite direction, which causes the dasher L to agitate the clothes in the tub A, or the movement may be applied to any other purpose where a similar movement is desired and may be driven by belt or other power applied to the shaft or to the segmental gear direct. The respective sections of the segmental gear are shown overlapping at one point and with a gap at another point. They are preferably so arranged in order that the reverse movement will commence immediately upon the opposite idler being freed from the preceding section of the gear. In other words, the overlapping is to continue the motion in opposite or reverse direction without any lost motion at all, the reversal of the gear occurring at the instant the space between the segments G and G' is reached and said space being utilized to permit the revolution of the idler-gear in the opposite direction to that traversed by the gear which is transmitting motion. The segments are so arranged that at the instant the upper gear disengages from the upper segment the lower gear engages with the lower segment, leaving the upper gear to revolve in the reverse direction as an idler until it engages with its upper gear, when its movement will be reversed and it will impart motion in the opposite direction, the lower gear being entirely free from engagement with the lower segment during such movement. The dasher is slipped endwise onto the mandrel F.

T represents a detachable casing to cover and protect the gears.

Having described my invention, what I claim is—

5 1. In combination with a wheel having segmental gears in different planes, an operative shaft, a driven gear on the operative shaft, and two idler-gears meshing with each other, and meshing with the respective segments in
10 different planes and one of said transmitting-gears meshing with the driven gear.

2. In a mechanical movement, a power-driven wheel having two segmental gears in different planes, a driven gear, and two trans-
15 mitting-gears meshing respectively with the segmental gears, and with each other, and one of said transmitting-gears driving the driven gear.

3. In a mechanical movement, a driving-
20 shaft provided with a hand-wheel, a beveled gear on the opposite end of said shaft meshing with a beveled gear, said beveled gear provided with two internal segmental gears in different planes, a driven gear, two transmitting-
25 gears meshing with each other, and the respective segmental gears, and one of said gears meshing with and driving the driven gear, whereby the driven gear is alternately re-
30 volved in opposite directions when power is applied to turn the driving-shaft continuously in one direction.

4. In a mechanical movement, a wheel hav-
ing two internal segmental gears in different
35 planes, a driven gear located concentric with said segmental gears, and two transmitting-gears, meshing with each other, and respec-
tively with said segmental gears, and one of said transmitting-gears driving the driven gear.

40 5. The herein-described mechanical move-
ment, consisting of the wheel, having the inner peripheral racks, a means for giving the said wheel a rotatable movement, the two pin-

ions, the one meshing with the other, and adapted to separately engage the two racks, 45
whereby a reversible rotary movement is given to one of the said pinions.

6. The combination of a driven gear, a con-
tinuously-rotated segmental gear meshing in-
50 termittingly with said driven gear to drive it in one direction and another gear intermit-
tingly engaged by said segmental gear and meshing with the first-mentioned gear to trans-
mit motion to drive said first-mentioned gear
in the reverse direction. 55

7. The combination of intermeshing gears and a segmental gear alternately engaging the said gears.

8. The combination of a wheel to be con-
tinuously revolved in either direction, a driven 60
gear, the wheel provided with two gear-seg-
ments and means to connect the segment-wheel and driven gear to intermittingly revolve said
driven gear in opposite directions.

9. The combination of a wheel to be con- 65
tinuously revolved in either direction, a driven gear, the wheel provided with two gear-seg-
ments, and gears alternately engaged by said segments and transmitting motion to the
driven gear to intermittingly revolve it in op- 70
posite directions.

10. The combination with a wheel having
a continuous toothed periphery and provided
interiorly with two toothed segments, a driv- 75
ing-shaft, a pinion secured to said driving-
shaft and engaging the toothed periphery of
the wheel to rotate the latter continuously, of
a driven shaft projecting into said wheel, and
gearing between the segments and driven
shaft and alternately propelled by said seg- 80
ments.

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Witnesses:

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