

(No Model.)

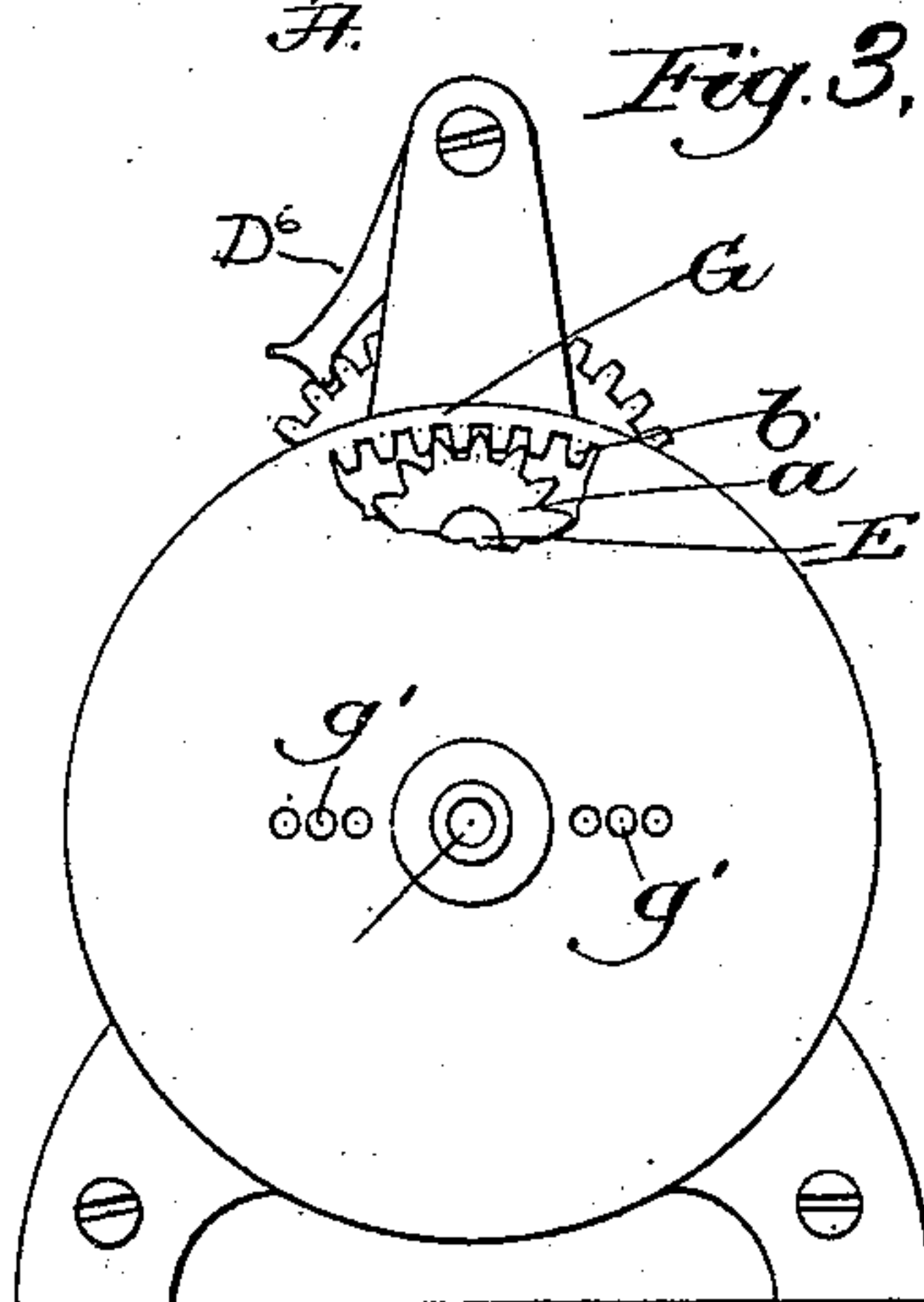
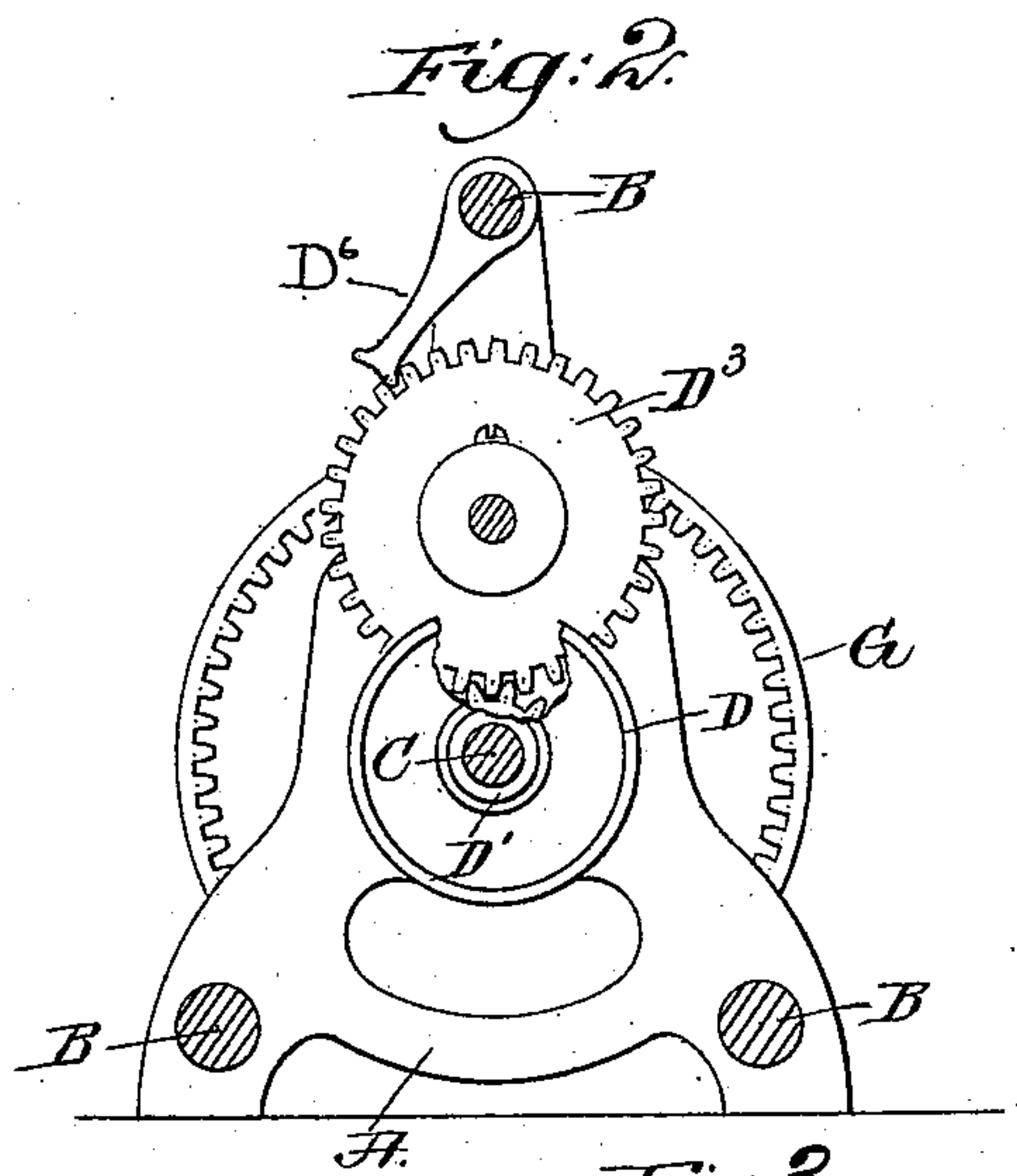
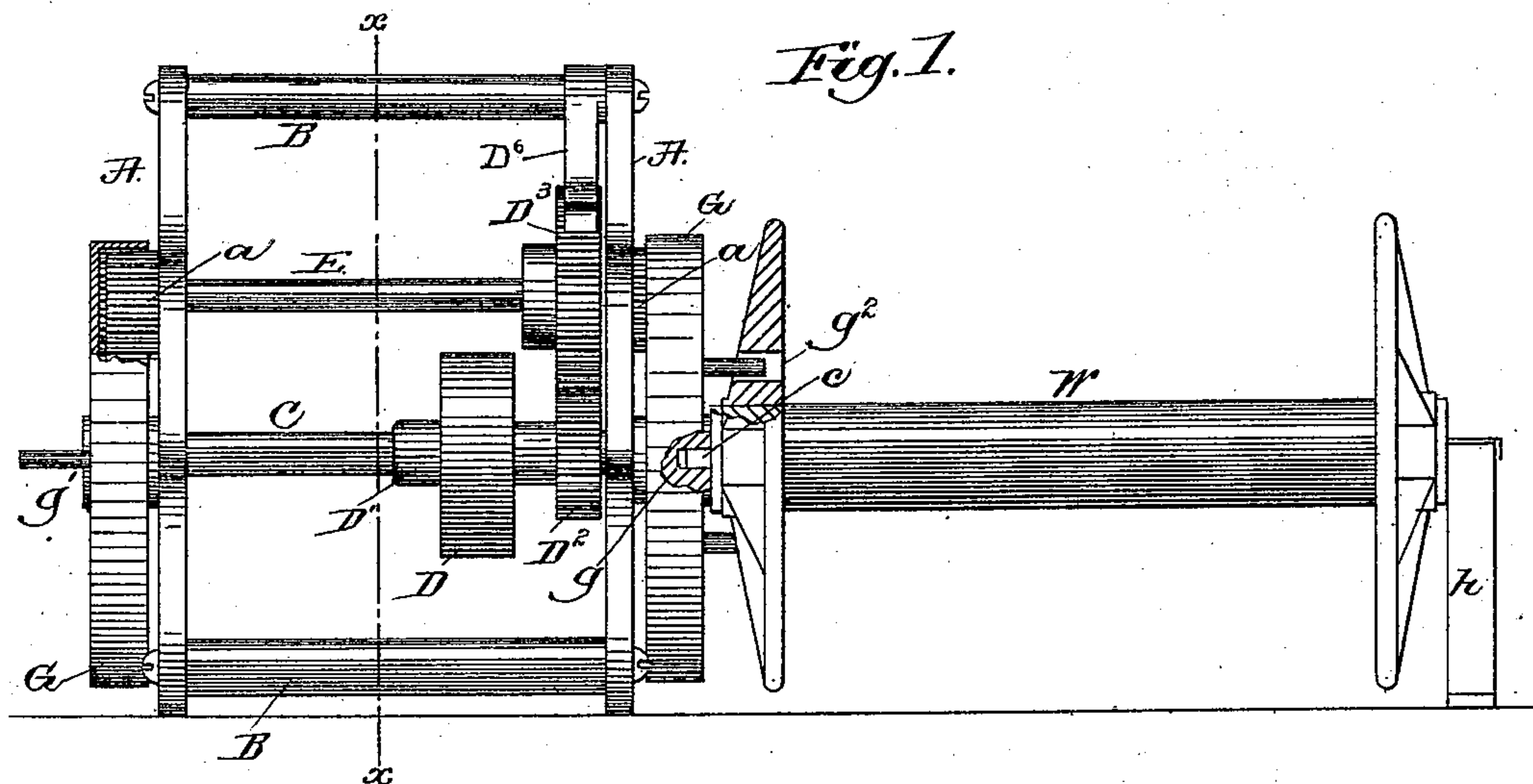
J. M. STONE, Dec'd.

S. F. STONE and J. H. STONE, Administrators.

WARP BEAMING MACHINE.

No. 396,055.

Patented Jan. 8, 1889.



Witnesses.

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Inventor.

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July 9

UNITED STATES PATENT OFFICE.

SUSAN F. STONE AND JOSEPH H. STONE, OF NORTH ANDOVER, MASSACHUSETTS, (ADMINISTRATORS OF JOSEPH M. STONE, DECEASED,) ASSIGNORS TO THE DAVIS & FURBER MACHINE COMPANY, OF SAME PLACE.

WARP-BEAMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 396,055, dated January 8, 1889.

Application filed November 29, 1887. Serial No. 256,434. (No model.)

To all whom it may concern:

Be it known that JOSEPH M. STONE, of North Andover, county of Essex, and State of Massachusetts, did invent an Improvement in Warp-Beaming Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In the preparation of warp-yarn to be woven into fabrics the yarn is run through a machine called a "dresser," and is wound upon a reel consisting of a large open cylinder mounted preferably upon casters or rollers and made movable longitudinally with relation to the axis of the drying-rolls of the dresser, the said yarns being wound upon the reel in sections side by side. The several sections of yarn wound upon the reel are subsequently wound upon a warp-beam of a loom by a machine called a "beamer," it being adapted to rotate the warp-beam. For the best results the warps should be wound as tightly as possible on the warp-beam, and to effect this the beamer has been constructed in a novel manner, whereby great power is gained in the rotation of the beamer.

This invention consists in a beamer composed, essentially, of an internally-toothed gear having dogs or projections to engage the head of and rotate a warp-beam, a driving-shaft, its attached pinion and spur-gear, and a holding-pawl for the said spur-gear, combined with a pulley and a pinion to engage and drive said spur-gear to rotate the driving-shaft, as will be described.

Figure 1 in front elevation, partially broken out, represents a beamer embodying this invention, it engaging a warp-beam. Fig. 2 is a section of Fig. 1 in the line *x*, the belt-pulley being broken out to show the gearing beyond it; and Fig. 3 is a right-hand elevation of Fig. 1, the warp-beam and the bracket for supporting the right-hand end thereof in Fig. 1 being removed, the gear being partially broken out.

The frame-work A of the beamer, connected by suitable cross bars or ties, B, at the bottom or top, has a suitable shaft or rod, as C, sur-

rounding which is a suitable driving-pulley, D, having a sleeve-like hub, D', to one end of which is fixed a pinion, D², which in its rotation with the said pulley engages a spur-gear, D³, fast on and rotates a driving-shaft, E, it having at one or both ends a driving-pin, as *a*, the said pinion engaging the internal teeth, *b*, of the internally-toothed gear or plate G, (see Fig. 3,) said gear or plate having at its outer side or face preferably a socket, as *g*, to receive the journal *c* of the warp-beam W, of usual construction, the said gear or plate having also attached to it one or more driving pins, studs, or dogs, as *g'*, the same being adapted to enter notches or suitable recesses in or forming part of the head of the warp-beam.

The drawings show an internally-toothed gear or plate at each end of the frame-work A, the opposite ends of the shaft E having like pinions, by which to drive the said internally-toothed gears, and consequently the like gears at the left-hand side of Fig. 1 are marked by like letters.

The gear G at the left of Fig. 1 is broken out at its periphery to better show the gear *a*.

The drawings show a warp-beam set up at but one end of the beamer; but it is obvious that a similar beam might be mounted at the left of Fig. 1.

By an inspection of the drawings it will be seen that the toothed gear or plate G is of much greater diameter than were the said gears or plates provided with peripheral teeth, to be engaged by the pinion *a* of the diameter shown in the drawings.

The spur-gear D³ is prevented from rotating backwardly by the pawl D⁶, having its fulcrum on the shaft B.

As herein shown, the journal at the opposite end of the warp-beam is supported in a box at the upper end of a bracket or stand, *h*.

What is claimed is—

1. In a beamer for warps, the internally-toothed gear G, having dogs or projections to engage the head of and rotate a warp-beam, the shaft E and its attached pinion *a*, spur-gear D³, and its holding-pawl D⁶, combined

with pulley D' and pinion D², to engage and drive the said gear D³, all substantially as shown and described.

5 2. In a beamer, two gears or plates, G, having each a series of internal teeth, as *b*, combined with a rotating shaft, as E, and with a pinion, as *a*, upon each end of the said shaft to rotate the said gears or plates, whereby

two warp-beams may be rotated, substantially as described.

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Witnesses:

LOUISE A. RAND,
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