

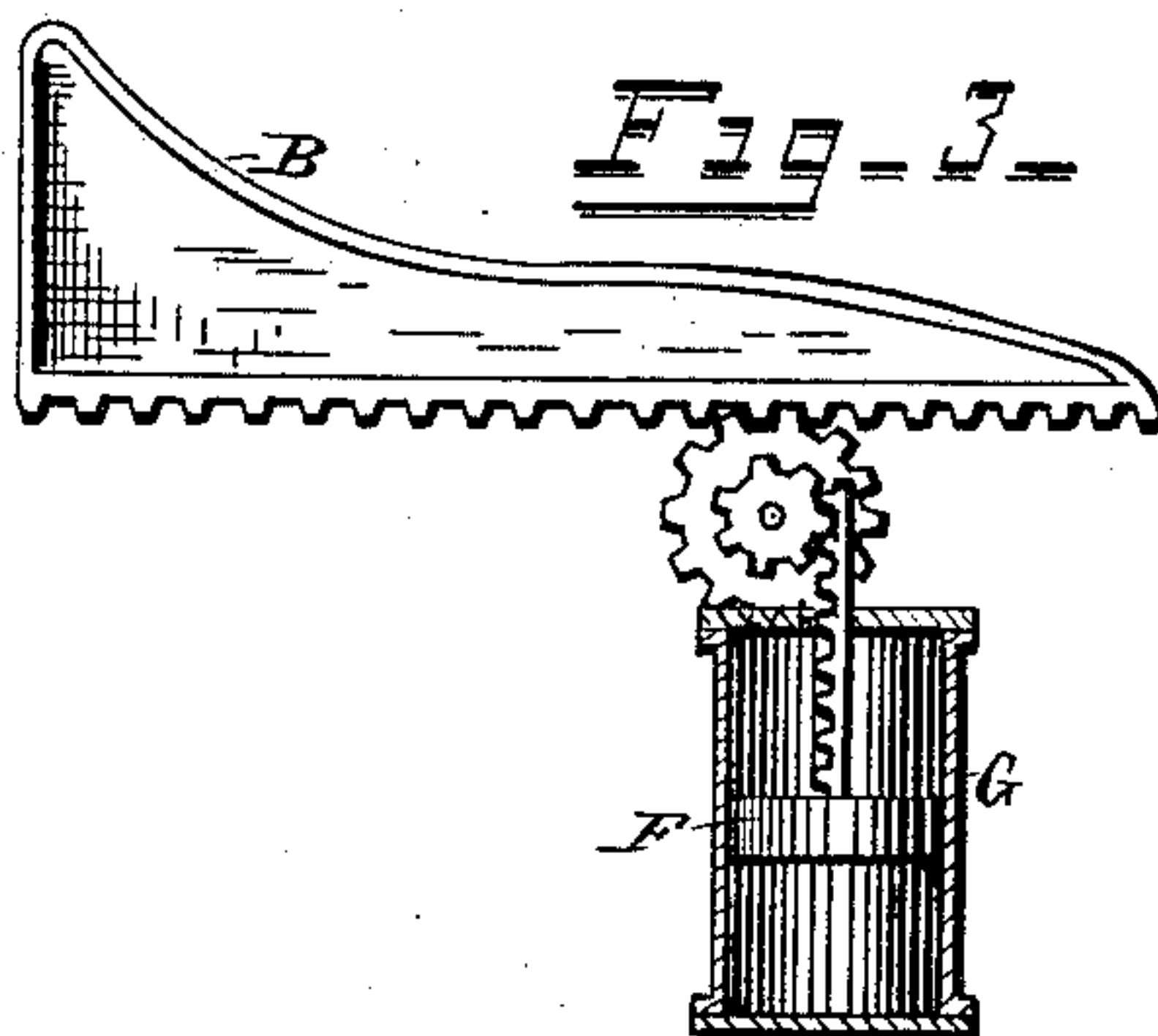
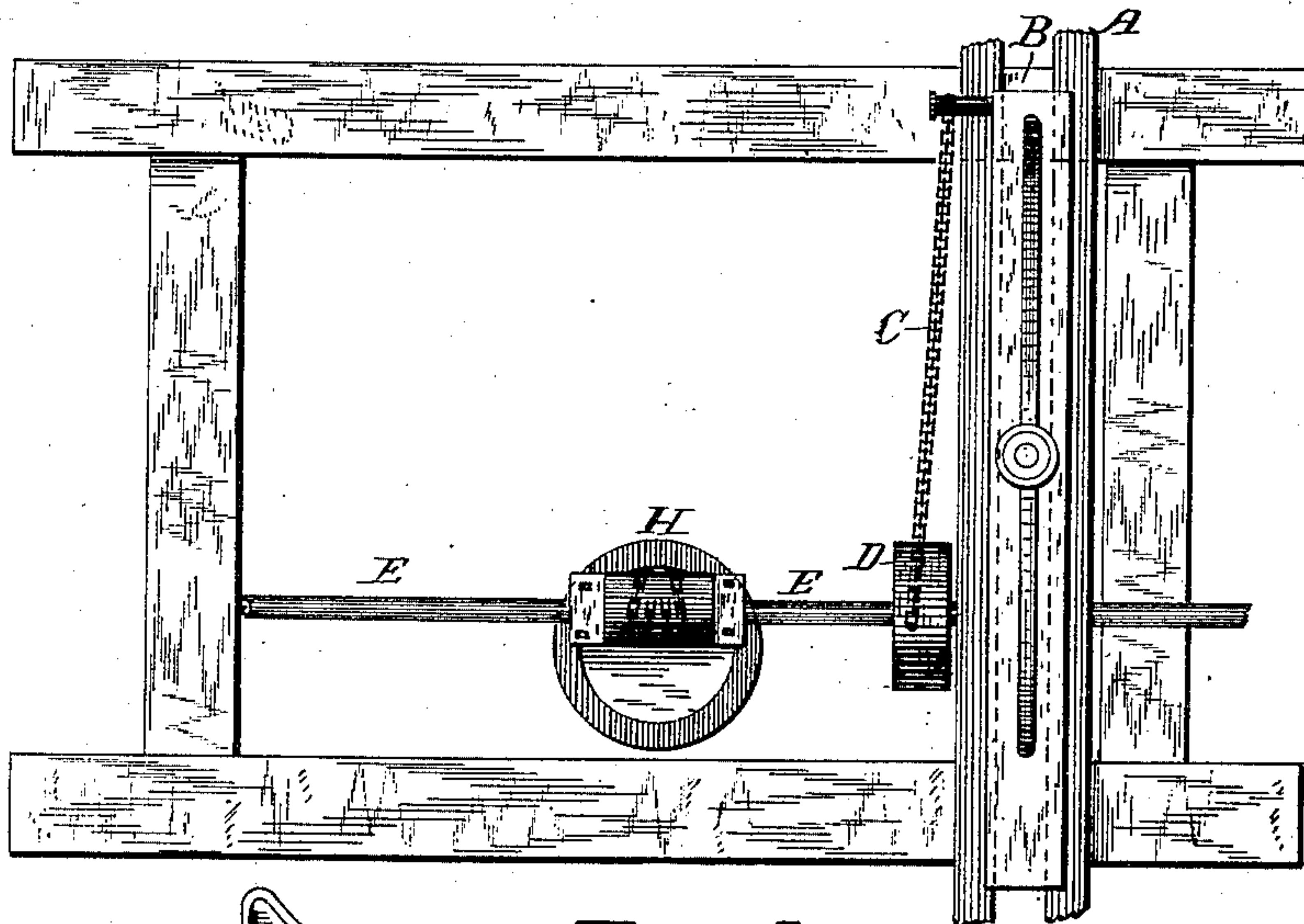
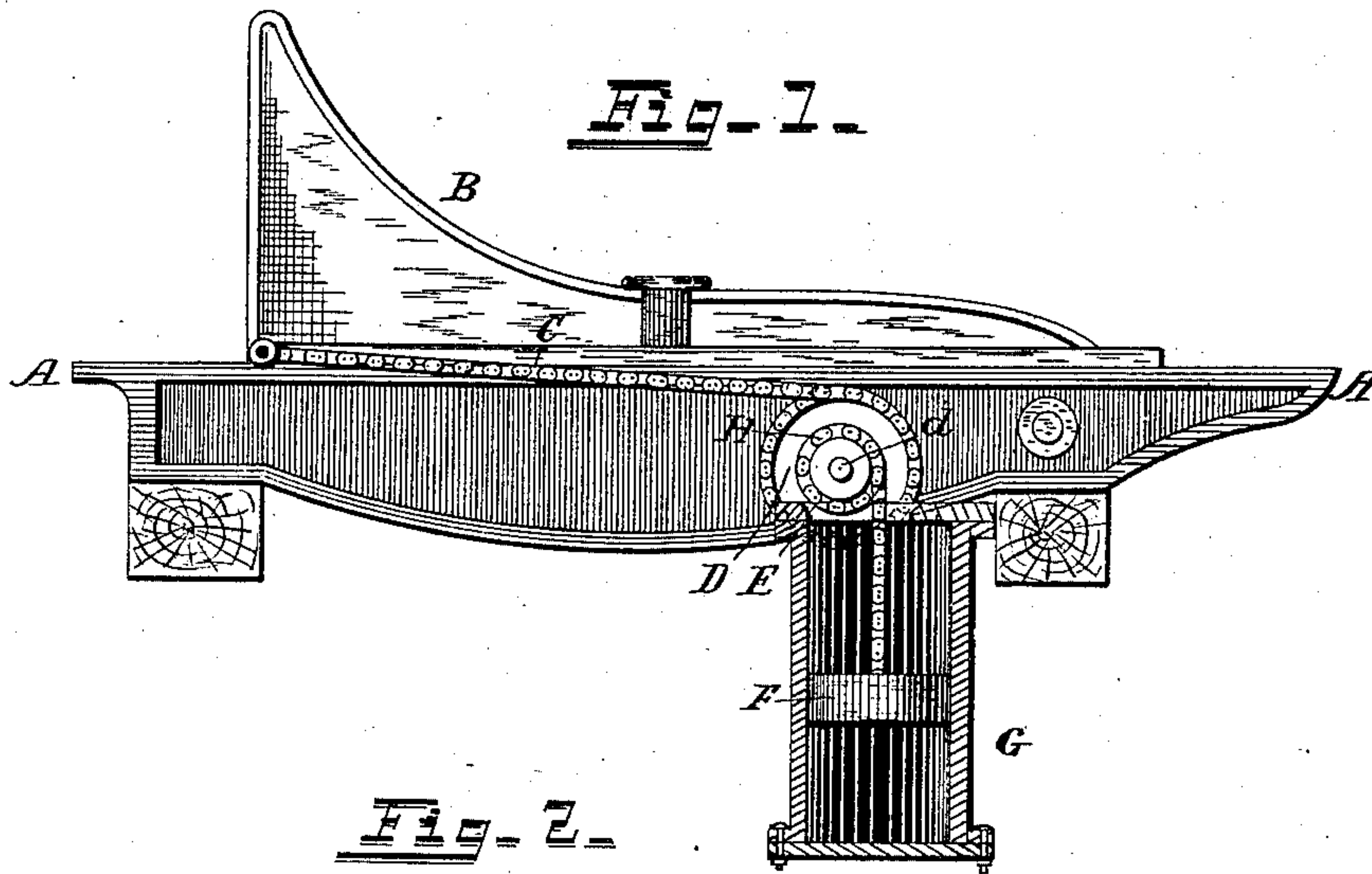
(No Model.)

G. M. PELTON.

KNEE RECEDING MECHANISM FOR SAW MILLS.

No. 303,747.

Patented Aug. 19, 1884.



WITNESSES:

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GEORGE M. PELTON, OF BELMONT, NEW YORK.

KNEE-RECEDING MECHANISM FOR SAW-MILLS.

SPECIFICATION forming part of Letters Patent No. 303,747, dated August 19, 1884.

Application filed March 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. PELTON, a citizen of the United States of America, residing at Belmont, in the county of Alle-

5 gany and State of New York, have invented certain new and useful Improvements in Knee-Receding Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to an improvement in that class of knee-receding apparatus in which the knee, after being fed forward, is, when released, automatically and rapidly run back to the starting-point; and the invention

15 consists in the combination, with a knee, of a cylinder and piston and intermediate connections, whereby the movement of the piston or cylinder will cause the receding of the knee, as hereinafter more fully described and

20 claimed.

In the accompanying drawings, Figure 1 shows a plan view of my improvement; Fig. 2, an elevation thereof, partly in section; and

25 Fig. 3 a modification thereof in outline.

A is the head-block; B, the knee sliding thereon, and provided with any suitable device for feeding it toward the saw.

C is a chain having one end connected to the front part of the knee, and the other end

30 passed around a drum, D, rigidly fastened on a shaft, E, running at right angles to the knee, and passing through the head-block A. On this shaft E is securely keyed or otherwise fastened a smaller drum, *d*, around which

35 pass the ends of two chains, H, whose other ends are connected to a piston, F, working air-tight in a cylinder, G, closed air-tight at bottom, and preferably arranged vertically, although it may be arranged horizontally, or

40 otherwise. A single chain may be used to connect the piston and drum, but I prefer two; or the chain or chains may be connected directly to the shaft.

In the construction described, the operation is as follows: As the knee is moved forward by the setting apparatus, the connections between it and the piston cause the latter to rise in the cylinder, thus creating a vacuum therein below the piston, so that

45 when the setting mechanism is released the pressure of the air above the piston forces the latter downward, and thus draws the knee backward.

It is evident that any number of knees may

be connected by chains with the shaft E, and thus all of them be moved simultaneously by the action of the piston. It is also evident that in lieu of the chains and drums shown, racks and pinions may be employed, as shown in the outline, Fig. 3.

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In some cases the operation may be reversed by closing the top of the cylinder and leaving it open at the bottom, so that the air will be compressed above the piston and the elasticity thereof will drive the piston downward, and thus operate the knee. I should consider this as an equivalent of the vacuum arrangement, but prefer the latter.

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In lieu of moving the piston, the latter may be fixed to a stationary rod and the chain H

70 connected to the cylinder, so as to move it instead of the piston. The operation, when the parts were thus arranged, would be just the same as with a moving piston and fixed cylinder, whether a vacuum or compressed air be

75 employed to move the knee.

What I claim as new is—

1. The combination, with a head-block and knee, of a cylinder and piston and intermediate mechanism, substantially as described, connecting the knee with the piston and cylinder, whereby the motion of the knee generates a power in said cylinder for receding said knee when the latter is released, as set forth.

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2. The combination of a head-block and knee with a cylinder open to the atmosphere at one end and closed air-tight at the other, and a piston working in said cylinder and connected to said knee, whereby the motion of the knee in one direction creates a vacuum under the piston for moving the knee in the reverse direction, substantially as described.

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3. The combination of the head-block A, knee B, mounted thereon, the chain C, having one end connected to the knee and the other to a drum, D, mounted on a shaft, E, the drum *d*, also mounted on said shaft, the cylinder G, and the piston F, sliding in said cylinder and connected to the drum *d* by the

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100 chains H, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE M. PELTON.

Witnesses:

J. H. BRANSON,
C. H. GORTON.