

J. H. DAMERON.  
CHURN MOTOR.

No. 493,822.

Patented Mar. 21, 1893.

Fig. 1.

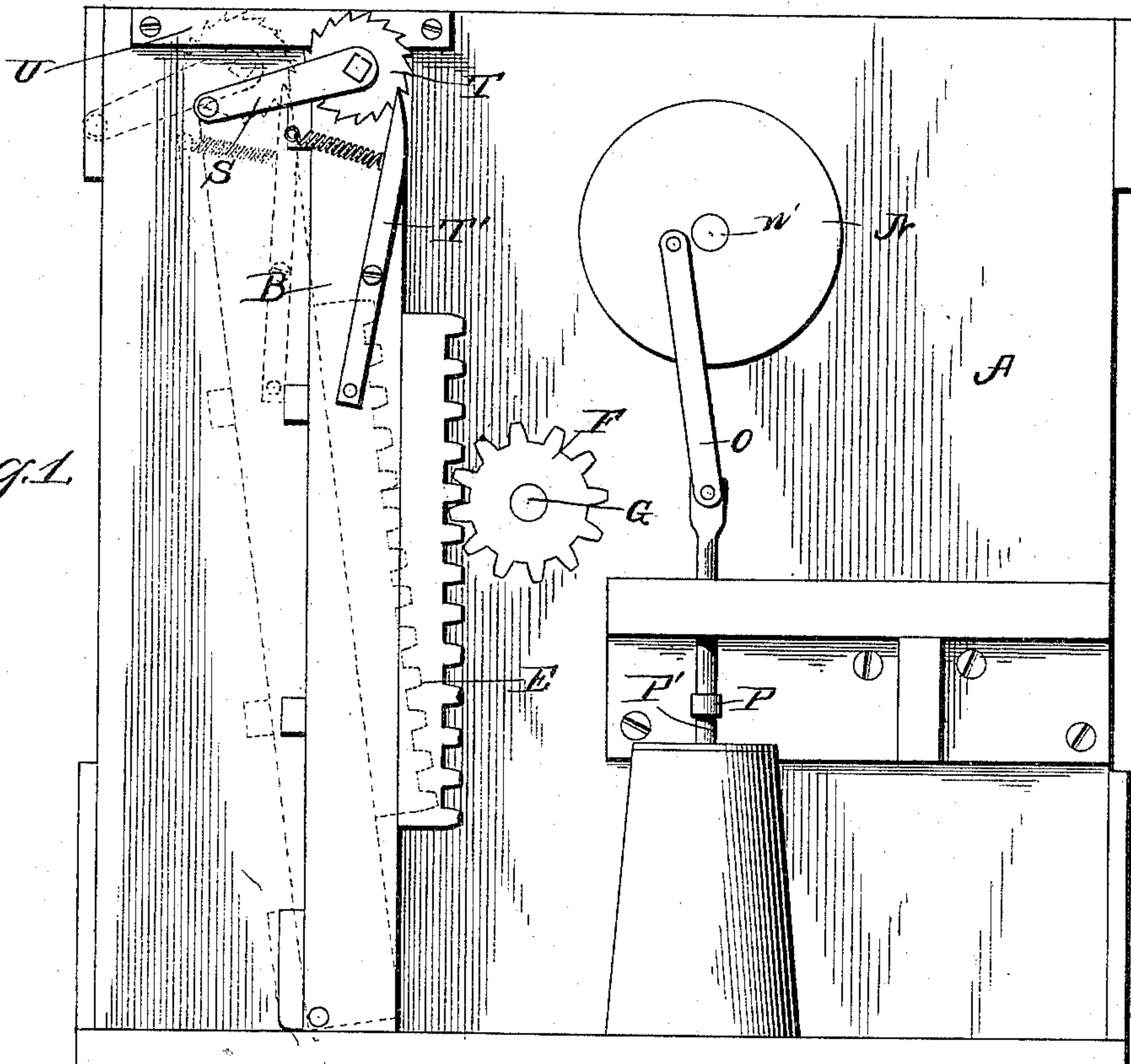
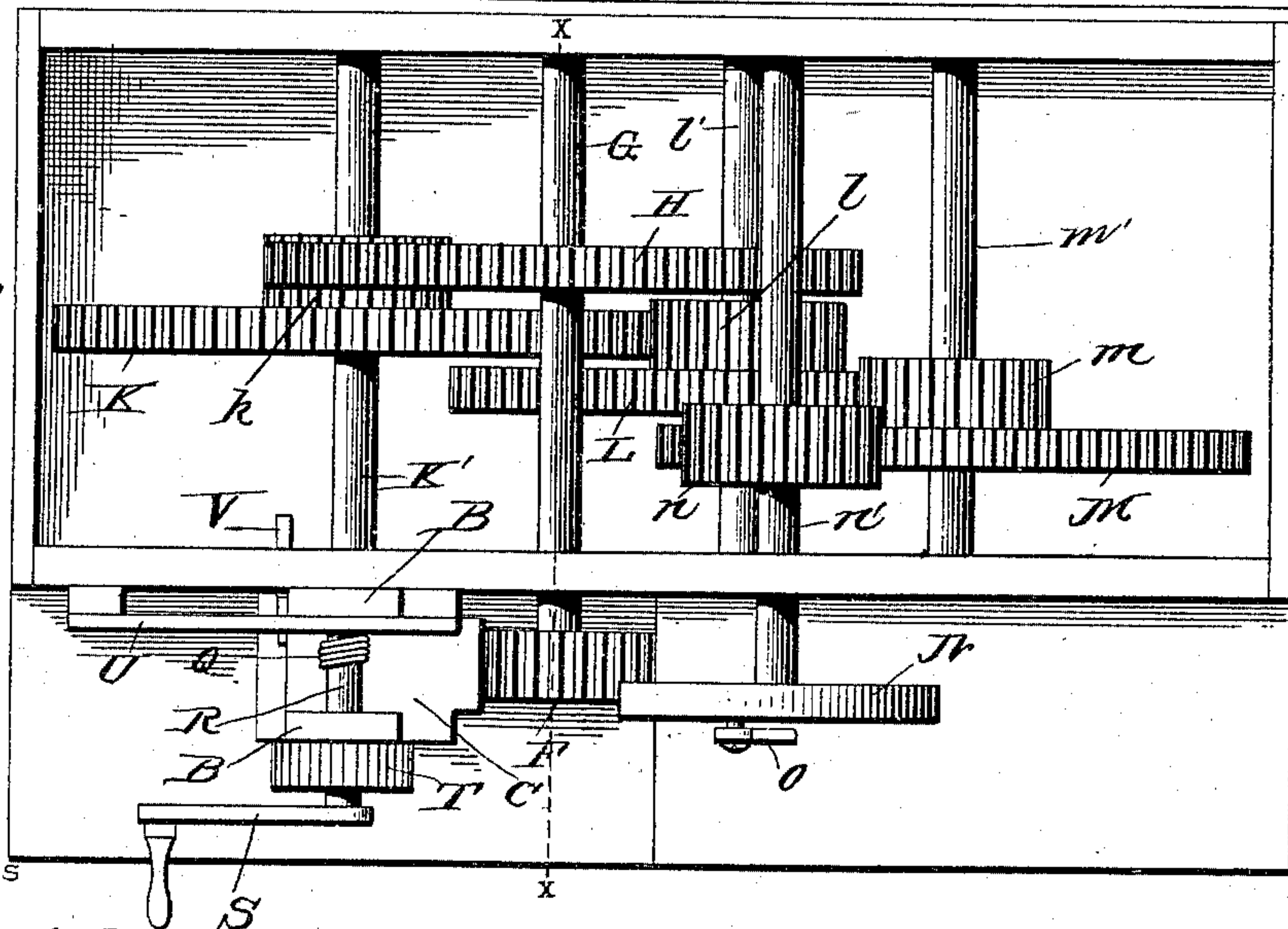


Fig. 2.



Witnesses

Inventor

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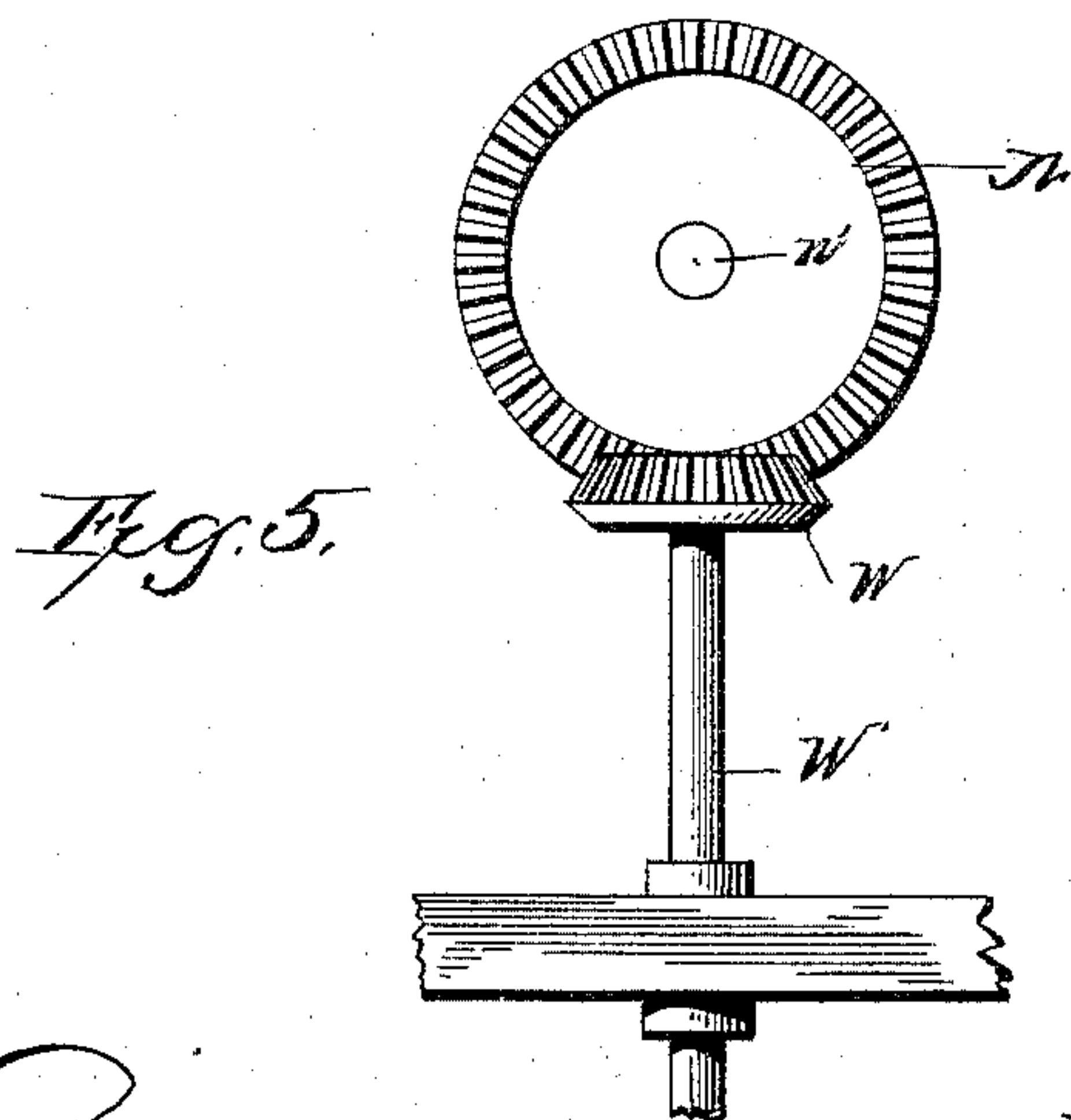
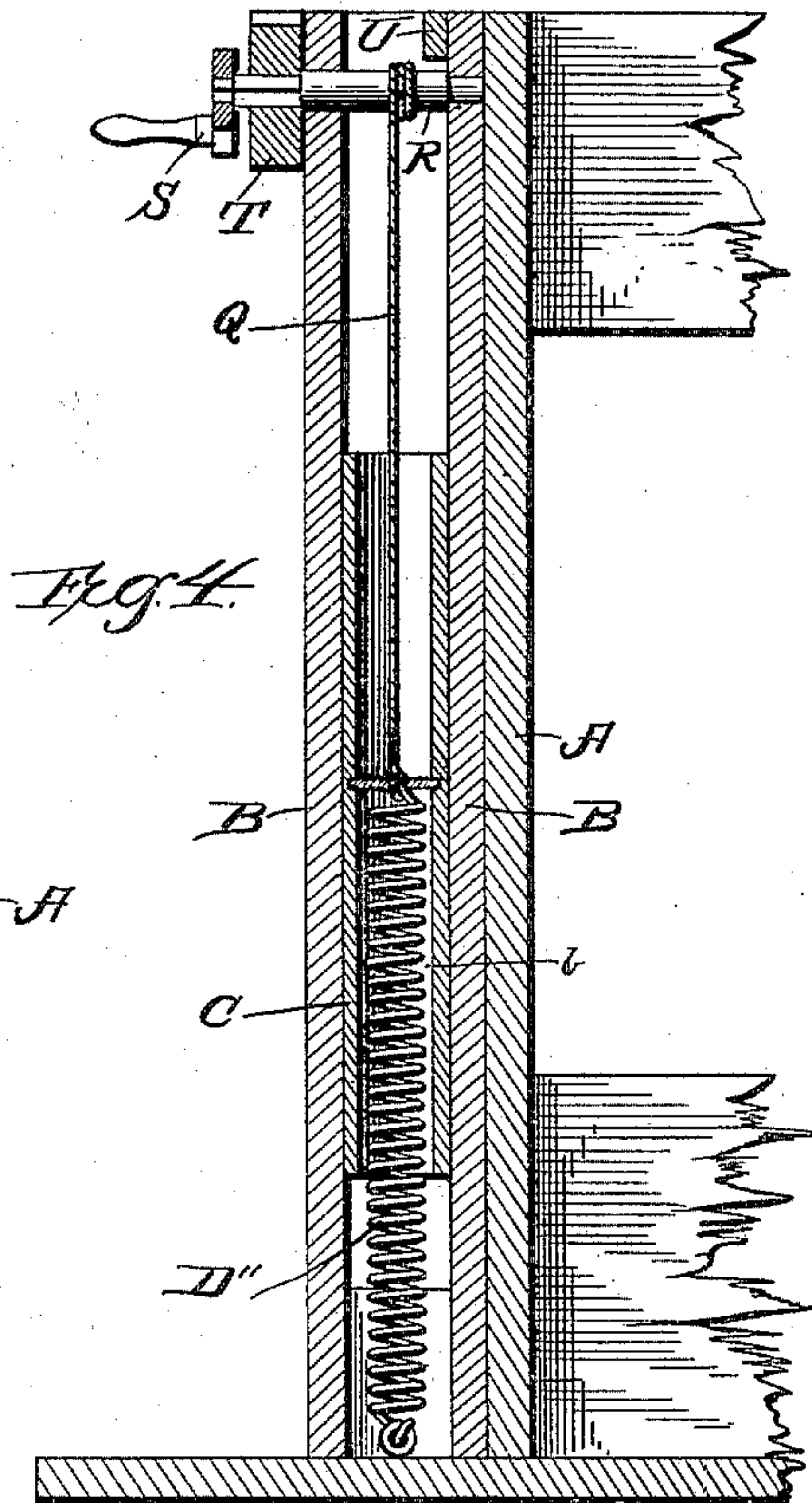
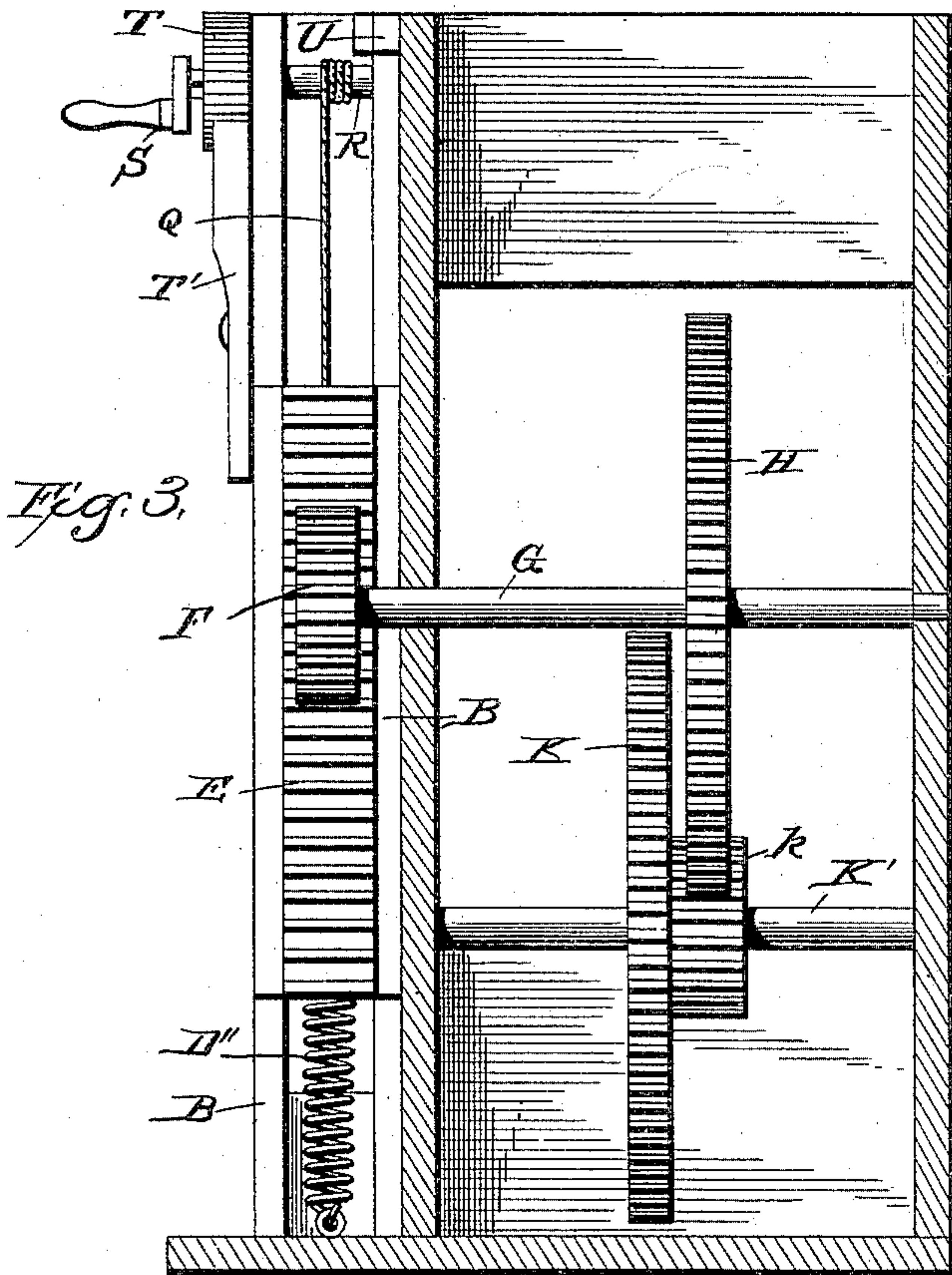
(No Model.)

2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

JOHN HENRY DAMERON, OF RUFFIN, NORTH CAROLINA.

## CHURN-MOTOR.

SPECIFICATION forming part of Letters Patent No. 493,822, dated March 21, 1893.

Application filed September 13, 1892. Serial No. 445,777. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HENRY DAMERON, a citizen of the United States, residing at Ruffin, in the county of Rockingham and State of North Carolina, have invented a new and useful Churn-Motor, of which the following is a specification.

My invention relates to improvements in churn motors, and consists in a certain novel construction, combination and arrangement of parts, which will be fully described hereinafter in connection with the drawings and specifically pointed out in the appended claims.

In the drawings: Figure 1 is a side view of a motor embodying my improvements. Fig. 2 is a plan view of the same. Fig. 3 is a vertical sectional view on line—*x—x* of Fig. 2. Fig. 4 is a vertical transverse sectional view through the spring-actuated slide. Fig. 5 is a view of the pitman-operating wheel, arranged for rotary churns.

A designates the frame, and B a vertical guide—or way, in which is arranged a vertical slide, C, having a central vertical bore *b* in which is arranged a coiled spring, *D''*. This is a contractile spring, designed to draw the slide vertically downward.

The spring-actuated slide carries a rack, E, which engages a pinion, F, carried by the main-shaft, G. The main-shaft carries a gear, H, which meshes with a pinion, *k*, carried by the counter-shaft, K', and a gear, K, upon the shaft, K', meshes with a pinion, *l*, carried by the shaft, *l'*. The shaft *l'* is provided with a gear, L, which meshes with a pinion, *m*, carried by the shaft, *m'*, and the shaft *m'* is connected by means of gear, M, to the pinion, *n*, which is carried by the shaft, *n'*. The shaft *n'* is further provided with a wheel, N, to which the jointed pitman, O, is eccentrically connected. This pitman is provided with a coupling, P, by which it is connected to the upper end of a churn-dasher, P', as indicated.

To the upper end of the slide is attached the winding cord, Q, connected at its upper end to a horizontal drum, R, and adapted to be reeled thereon by means of the key or crank, S. The drum-shaft also carries a ratchet-wheel, T, engaged by a spring actuated retaining pawl, T'.

The vertical guide, in which is arranged the spring-actuated slide, is fulcrumed at its lower

end to the frame, and its inner bar is held in a horizontal keeper, U, which is secured to the side of the frame, whereby the upper end of said frame may be swung laterally, as shown in dotted lines in Fig. 1, so as to throw the rack out of engagement with the pinion when it is desired to rotate the drum and elevate the slide for operation. A transverse pin, V, is employed to retain the upper end of the guide-frame in its operative position.

In operation, when it is desired to elevate the slide, the guide-frame is released at its upper end by withdrawing the pin V, and the frame is inclined as shown in dotted lines in Fig. 1, thereby disengaging the rack from the pinion F. The slide may now be elevated by turning the drum by means of the key or crank S, the spring-actuated retaining-pawl T preventing the backward movement of the drum. After the winding has been completed the guide frame is returned to its vertical position to cause the teeth of the rack to mesh with those of the pinion, and then, disengaging the pawl T' from the ratchet, the power of the spring, operating through the slide and rack, rotates the pinion F and the main shaft.

In Fig. 5 is shown a form of dasher-operating wheel designed for use in driving rotary dashers, such wheel being provided with bevel gear teeth to mesh with a pinion W upon the rotary dasher-staff W'.

Any desired number of shafts and gears may be employed in the train which I have described, either a greater or less number as may be necessary to produce the desired speed of the dasher-operating wheel.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a churn motor, the combination of a swinging guide-frame, a slide mounted in said guide-frame and provided with a rack, the main shaft provided with a pinion to mesh with said rack when the guide-frame is in its normal position, an actuating spring connected to the slide, and means for communicating motion from the main-shaft to the churn, substantially as specified.

2. In a churn motor, the combination of a pivoted guide frame, a vertically-movable, spring-actuated slide provided with a rack mounted in said guide-frame, the drum con-

5 nected to said slide, and provided with a crank, and a pawl and ratchet stop mechanism connected to the shaft of the drum, the main-shaft carrying a pinion to engage said rack, the pitman-operating wheel, and the train of gearing between the main-shaft and the shaft of said wheel, substantially as specified.

10 3. In a churn motor, the combination, with the frame, of a vertical guide-frame fulcrumed at its lower end, a guiding-keeper for the free end of the guide-frame, the retaining pin to hold said guide-frame in its normal position, the spring-actuated slide mounted in the guide-frame, a ratchet and pawl controlled

drum connected to said slide, the main-shaft 15 carrying a pinion to mesh with said rack when the guide-frame is in its normal position, the pitman operating wheel, and the train of gearing between the main-shaft and said wheel, substantially as specified. 20

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN HENRY DAMERON.

Witnesses:

B. F. WHITE,  
W. F. BOGART.