

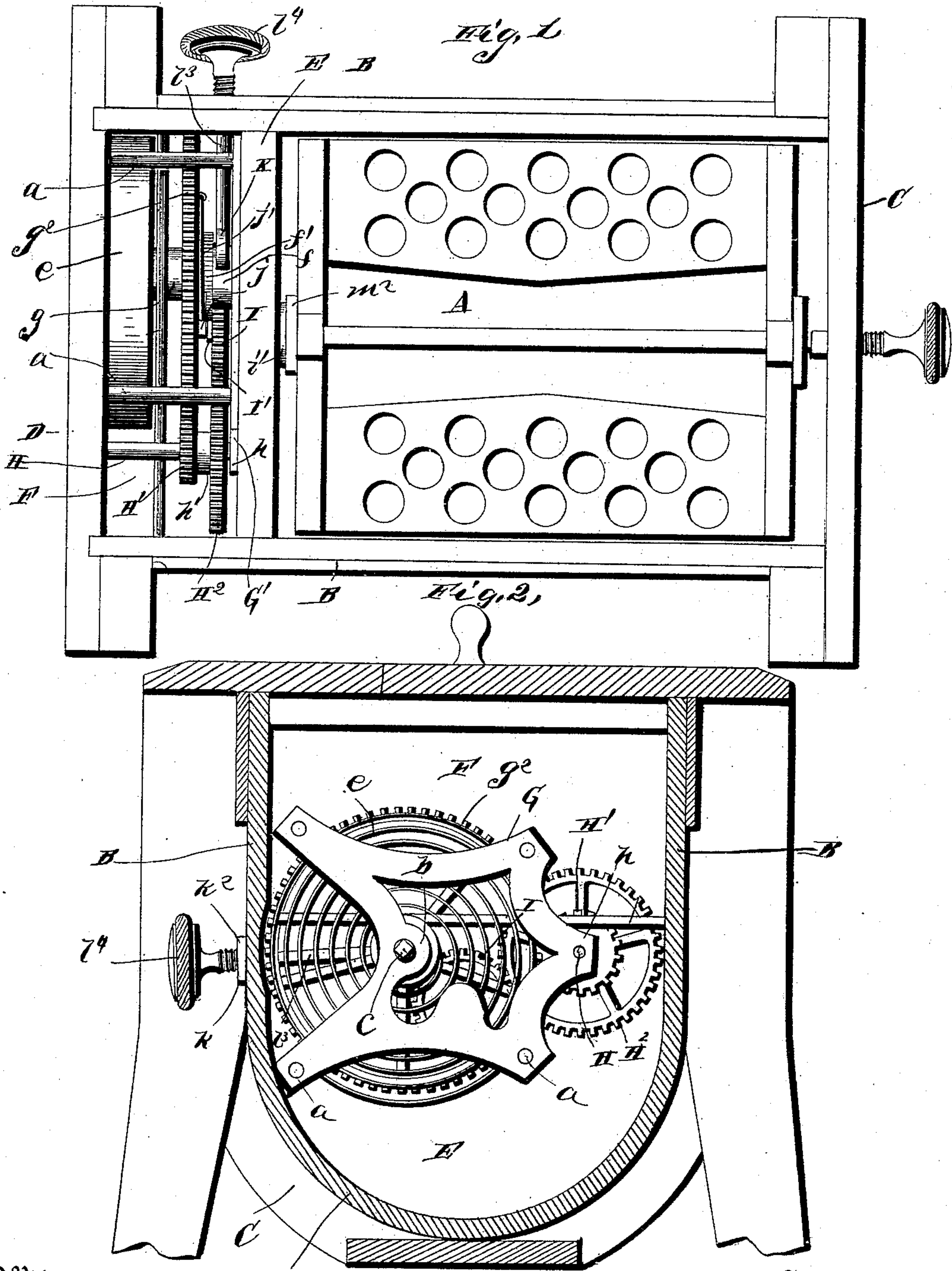
(No Model.)

2 Sheets—Sheet 1.

C. W. CARPENTER.  
SPRING MOTOR.

No. 418,163.

Patented Dec. 31, 1889.



Witnesses

*C. L. Taylor,*  
*E. J. Sykes*

Inventor

*Clarence W. Carpenter,*

By his Attorneys

*C. A. Snow & Co.*

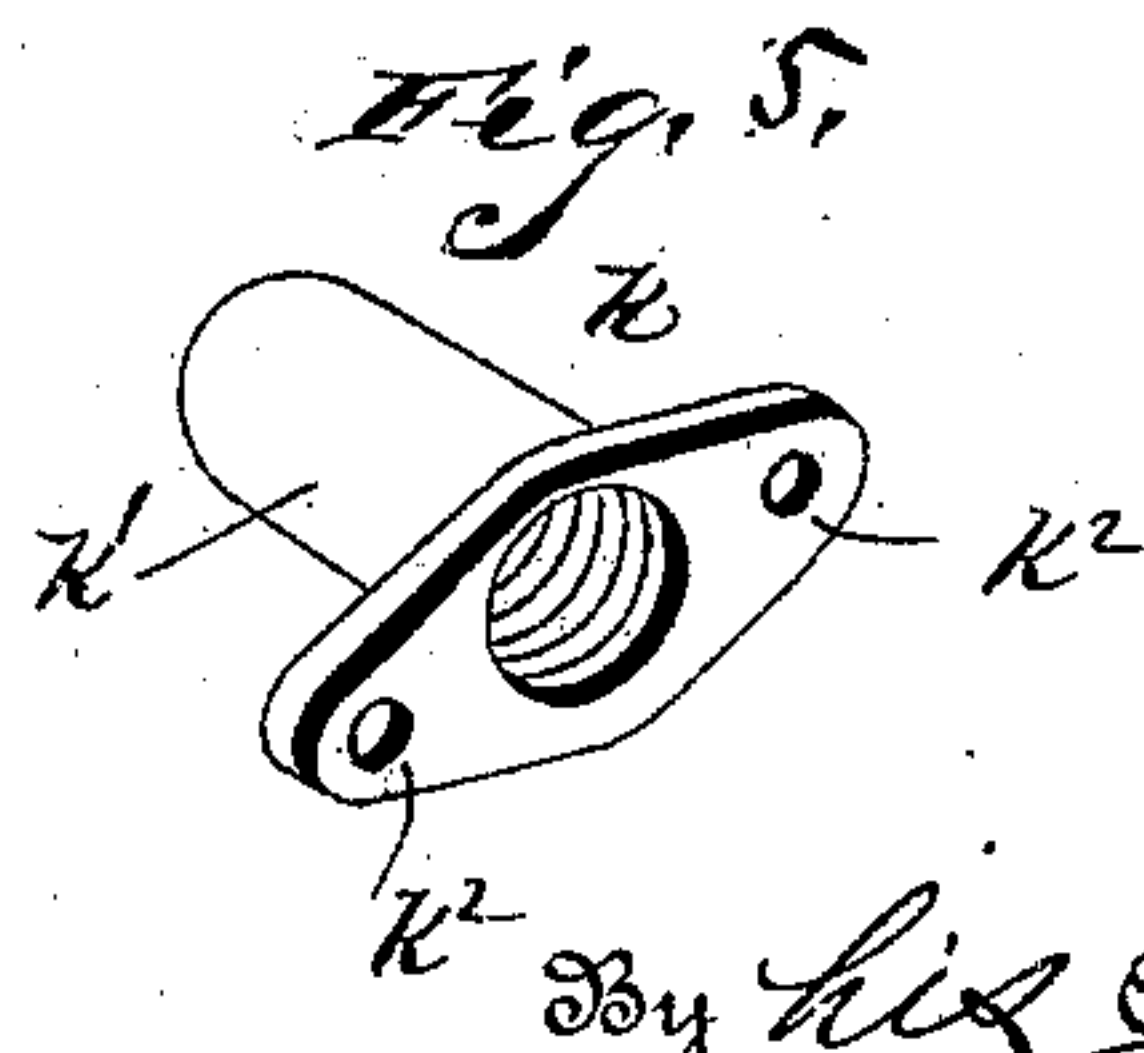
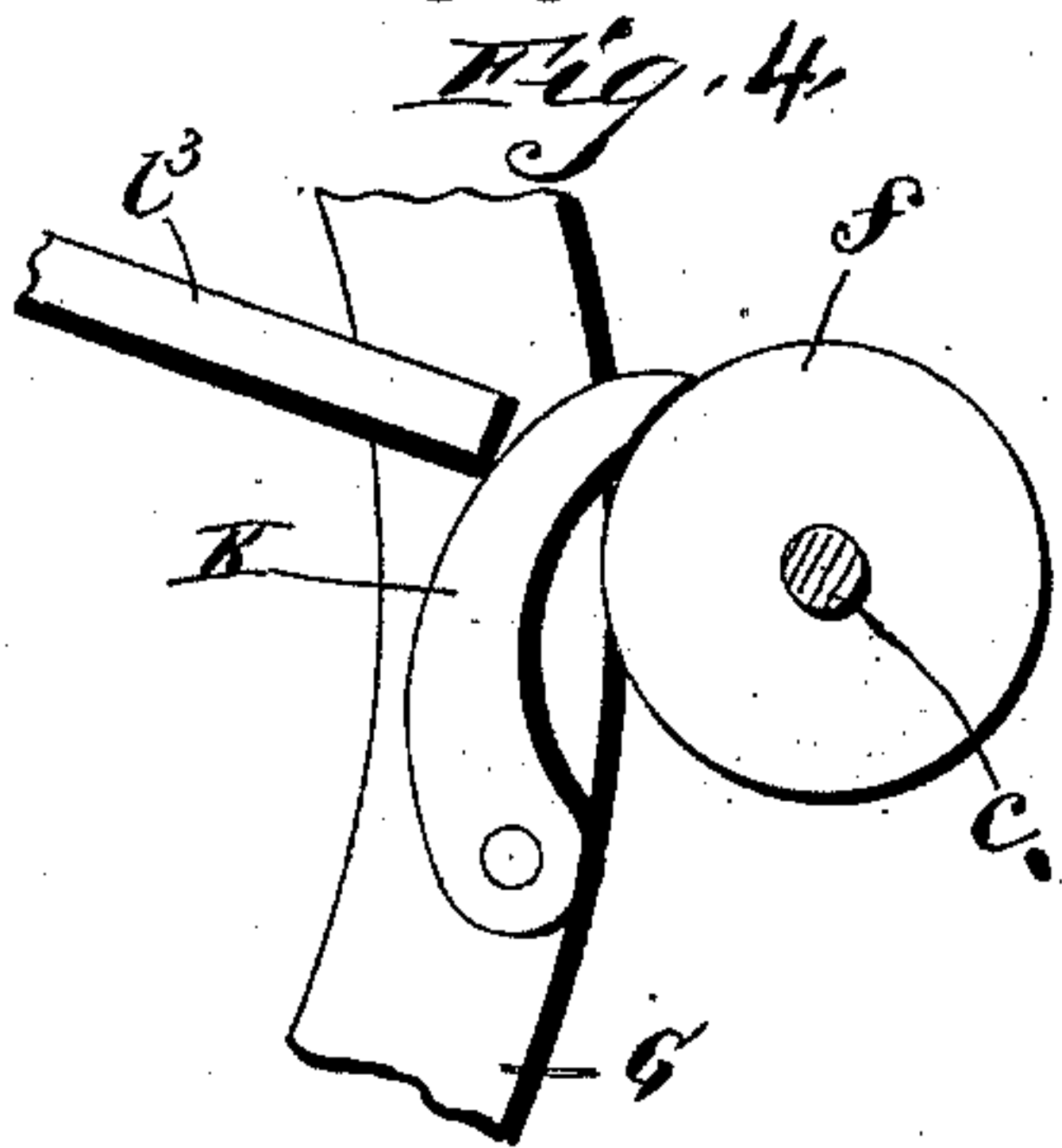
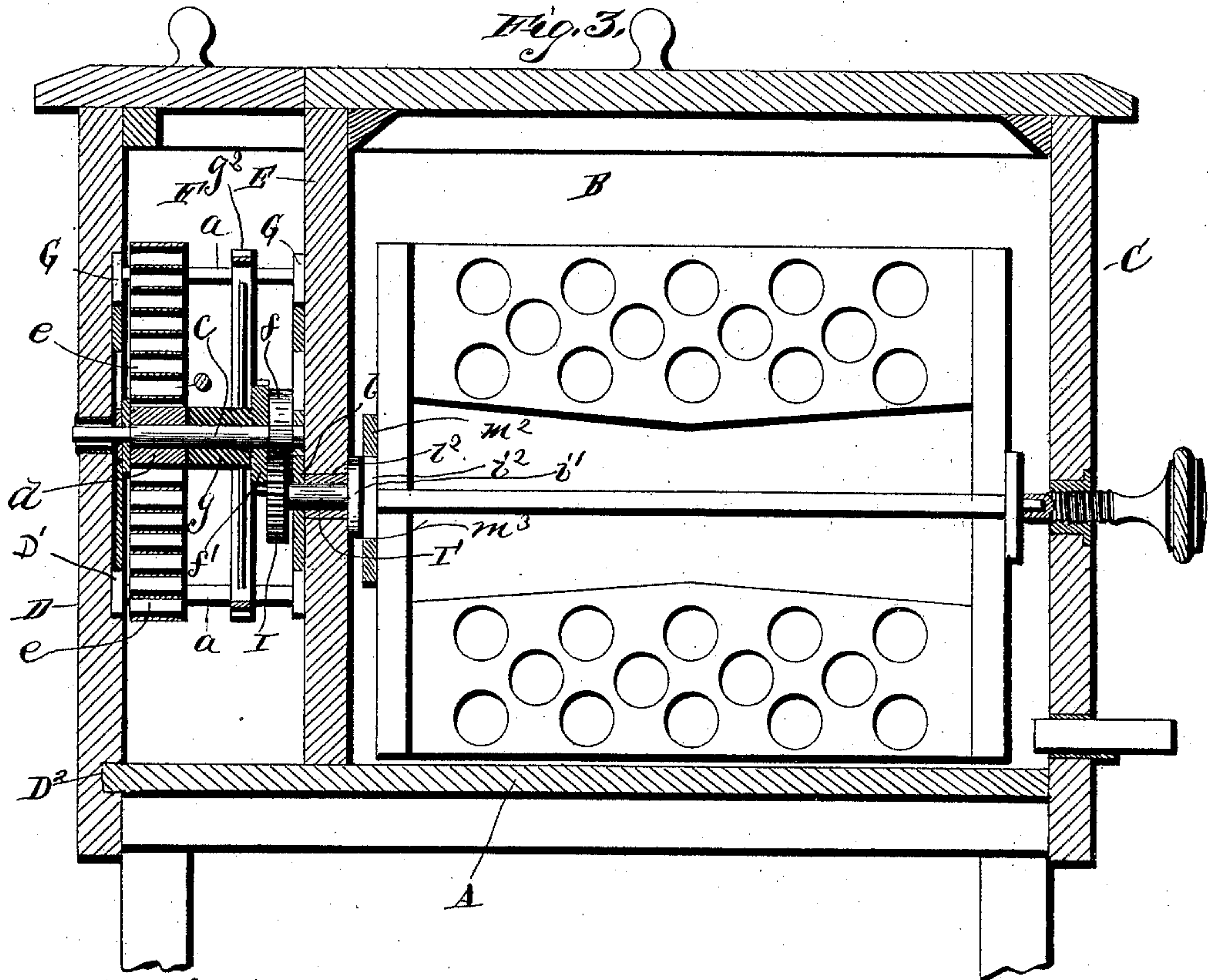
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# UNITED STATES PATENT OFFICE.

CLARENCE WILSON CARPENTER, OF BROWNSBOROUGH, KENTUCKY.

## SPRING-MOTOR.

SPECIFICATION forming part of Letters Patent No. 418,163, dated December 31, 1889.

Application filed February 23, 1888. Serial No. 264,883. (No model.)

*To all whom it may concern:*

Be it known that I, CLARENCE WILSON CARPENTER, a citizen of the United States, residing at Brownsborough, in the county of Oldham and State of Kentucky, have invented new and useful Improvements in Spring-Motors, of which the following is a specification.

My invention has reference to spring-motors; and it consists of the improved construction and combination of parts hereinafter claimed.

In the drawings, Figure 1 is a plan view of my improved spring-motor, showing it applied to a churn. Fig. 2 is a transverse section. Fig. 3 is a central vertical section. Fig. 4 is a detail view of the brake device.

The body of the churn consists of a circular bottom A, vertical sides B B, and ends C D. A vertical wall or partition E, adjacent to the end sections D, forms, in connection with the latter, a separate end chamber F, in which a motor is placed. This latter consists of parallel castings G G', connected together by brace-rods a, as illustrated in Figs. 1 and 3. Each casting G and G' is provided with a nearly circular ear b, which is perforated to form the bearings for the main shaft c of the motor. This shaft c carries a short sleeve d, which revolves therewith and has connected thereto one end of a convolute motor-spring e, the outer end of which is secured to one of the lower brace-rods a. Upon the shaft e, adjacent to the casting G', is mounted a collar f, provided with a ratchet-wheel f'. An independent collar g, rotated on said shaft c, is located adjacent to the wheel f' and carries integrally a large gear-wheel g<sup>2</sup>.

Outer ears h h on the castings G G' form the bearings for a shaft H, upon which is keyed a sleeve h', provided with a small gear-wheel H', meshing with the wheel g<sup>2</sup>, and a larger gear-wheel H<sup>2</sup>, meshing with a gear-wheel I upon a stub-shaft I', bearing in a central perforated ear l of the casting G'. The said shaft I' extends through the partition E, on the outer side of which it carries a disk i', provided transversely with an extended rib i<sup>2</sup>, which engages in an elongated slot m<sup>3</sup> of a plate m<sup>2</sup> of the dasher, whereby motion is transmitted to the dasher. The outer end of the shaft c projects through the metal-lined

opening in the end D, and is squared for the application of a suitable winding-key.

Pivotally secured to one of the spokes of the gear-wheel g<sup>2</sup> is a pawl j, the end of which is held by a spring j' in contact with the teeth of the ratchet-wheel f, so as to ride over the same when it revolves in a direction to wind up the motor-spring, but is engaged by one of said ratchet-teeth when the power of said spring causes said ratchet-wheel to revolve in the opposite direction, thus causing said gear-wheel to revolve with said ratchet-wheel in one direction only.

A curved shoe K is pivotally attached to one end of the inner side of the casting G', so that its curved portion can be moved to bear against the collar f. A bushing k has a cylindrical portion k', seated in the side of the body adjacent to the shoe K, and said bushing and its portion k' are provided with a threaded opening. The face of said bushing is provided with a part k<sup>2</sup>, which is longitudinally elongated and perforated at each end for its permanent attachment to the outer face of the side in a firm and rigid manner.

A bolt provided with an extended shank l<sup>3</sup> is threaded to engage the threaded opening in the bushing, and the outer end of the bolt is provided with an enlarged head l<sup>4</sup>, milled to facilitate its rotation in the bushing by hand. The inner end of said bolt, when it is revolved to travel inward, is designed to contact with the curved portion of the shoe K and force it with a variable pressure against the collar f, so as to frictionally retard the rotation of the same.

What I claim is—

A spring-motor the main shaft of which is provided with a collar, a curved shoe pivoted to rest on said collar, and a bolt to apply pressure against the shoe, said motor being adapted for use, as shown and described, in connection with a churn having a rotary dasher, substantially as described.

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

CLARENCE WILSON CARPENTER.

Witnesses:

L. T. WILHOYTE,  
JOE CLOSE.