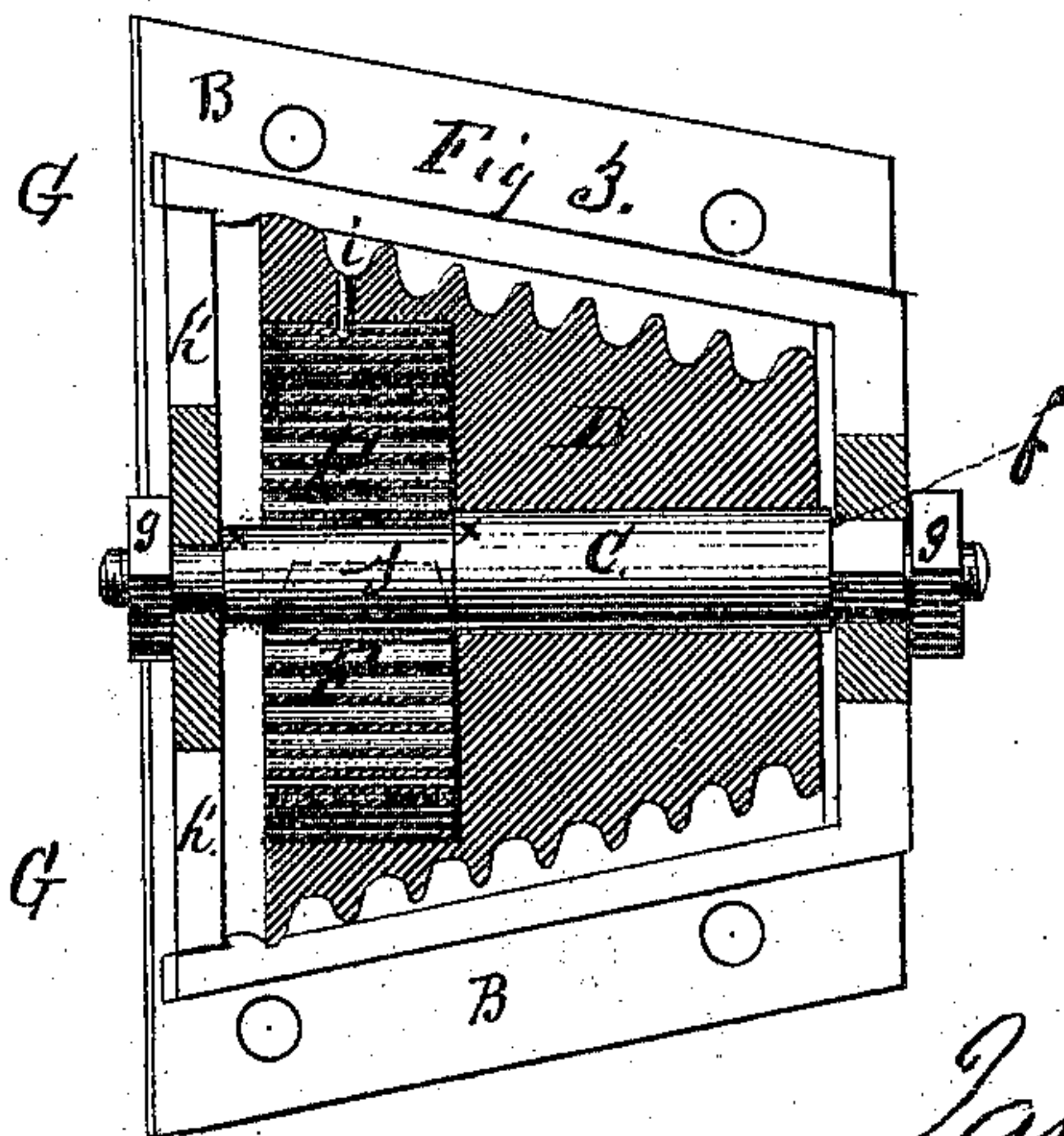
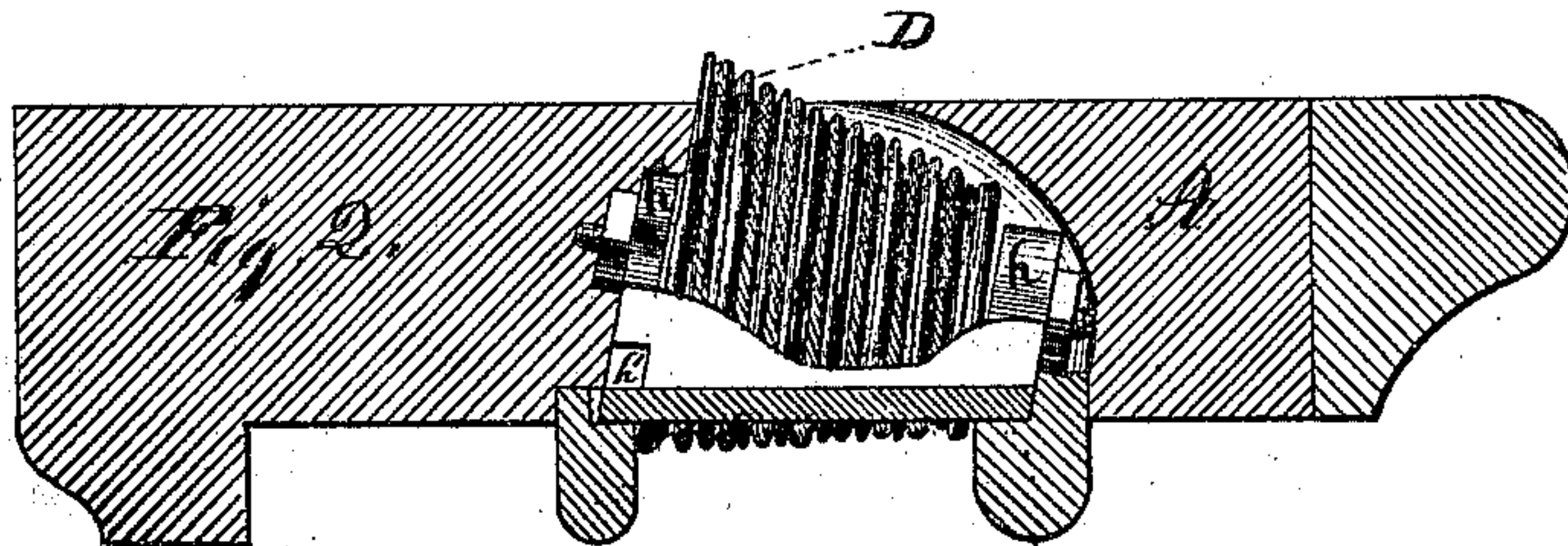
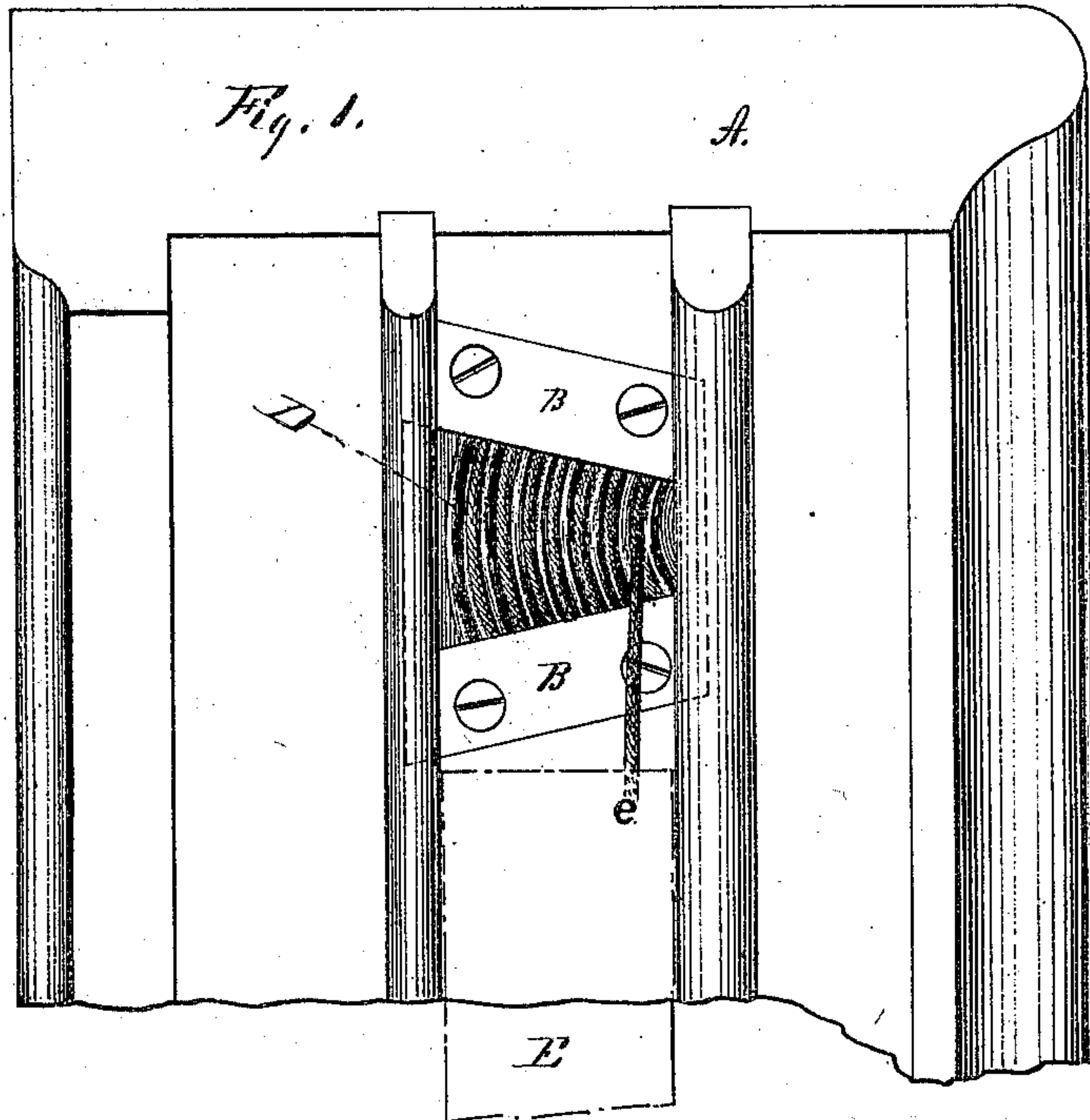


J. C. Anderson,

Sash Balance.

No. 97,263.

Patented Nov. 30. 1869.



Witnesses:

B. F. James
G. Matheys.

Inventor:

James C. Anderson

UNITED STATES PATENT OFFICE.

JAMES C. ANDERSON, OF WEBSTER, PENNSYLVANIA.

IMPROVED SASH-BALANCE.

Specification forming part of Letters Patent No. 97,263, dated November 30, 1869.

To all whom it may concern:

Be it known that I, JAMES C. ANDERSON, of the town of Webster, county of Westmoreland and State of Pennsylvania, have invented a new and useful Improvement in a Spring Sash-Balance; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view of my sash-balance as applied to the upper part of the window-frame, Fig. 2 showing the rear and opposite side to the view in Fig. 1, and Fig. 3 a sectional vertical view through the center of the sash-balance.

The nature of my invention consists in securing within a cup, formed within the larger end of a conical cylindrical wheel, a coil-spring, by means of an adjustable plate, that will nearly envelop or cover said spring, and easily detached by the removal of the nut upon the shaft.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I first construct a cylinder of a uniform shape, surrounded by spiral grooves, as shown clearly in Fig. 3. The cylinder is marked D. In the bottom of said cylinder is formed a cup, as shown at G, Fig. 3, of sufficient depth and capacity to hold within it the coiled spring F, the width of the spring corresponding to the depth of the cup. This cylinder is held within a frame, B B, made of metal, and said frame has formed upon two of its sides lugs or ears h h, as shown in Fig. 2, to receive the shaft or pinion C, which is held in position in said frame by means of the nuts g g, placed upon the small projecting ends of said shaft, through the lugs or ears h h.

The spring F is made of steel suitable for the purposes of a spring, and coiled about the shaft. The inner end of the spring is fastened to the shaft or pinion at j, the pinion being at that end reduced in size, as shown at x x, Fig. 3. The outer end of said spring is attached within the cup and to the cylinder,

as seen at i. By this mode of attachment great power is given to the spring, its operation rendered certain, and not liable to get out of repair.

That portion of the frame B upon which the ears or lugs are formed practically envelops and covers the spring F, so that dust cannot easily come in contact with it. The cylinder is made, or may be made, of cast metal, and revolves upon the shaft C. The cord e is then attached to the upper and wider part of the cylinder, wound around the grooves upon it, and attached to the window-sash represented at E, in the usual manner.

The power of the spring is graduated to the weight of the sash, and can easily be adjusted by reducing or increasing the number of coils.

This sash-balance can be applied to any window already constructed. It is placed at the upper part of the window-frame, as seen at B B, Fig. 1, and about flush with that portion of the same in which the sash moves.

f, Fig. 3, is a square shoulder formed on the shaft C, fitting into a square socket or hole in the end of the cylinder, which mode of connection causes the cylinder itself to rotate when it is required to raise the window.

A plate, h', located at the base or larger part of the cone-shaped cylinder, is made adjustable, and nearly covers the spring placed within the cup formed upon the cone. On this plate one of the ears is formed for the shaft C to revolve in. The object of this adjustability is to have ready access to the spring when desired, as by taking off the nut g the same is easily removed.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the conical-formed cylinder D, having within its largest end the cup G, to retain and hold the spring F, with adjustable plate h', and the shaft C, in the manner and for the purpose herein set forth.

JAMES C. ANDERSON.

Witnesses:

B. F. JAMES,
WM. FLINN.