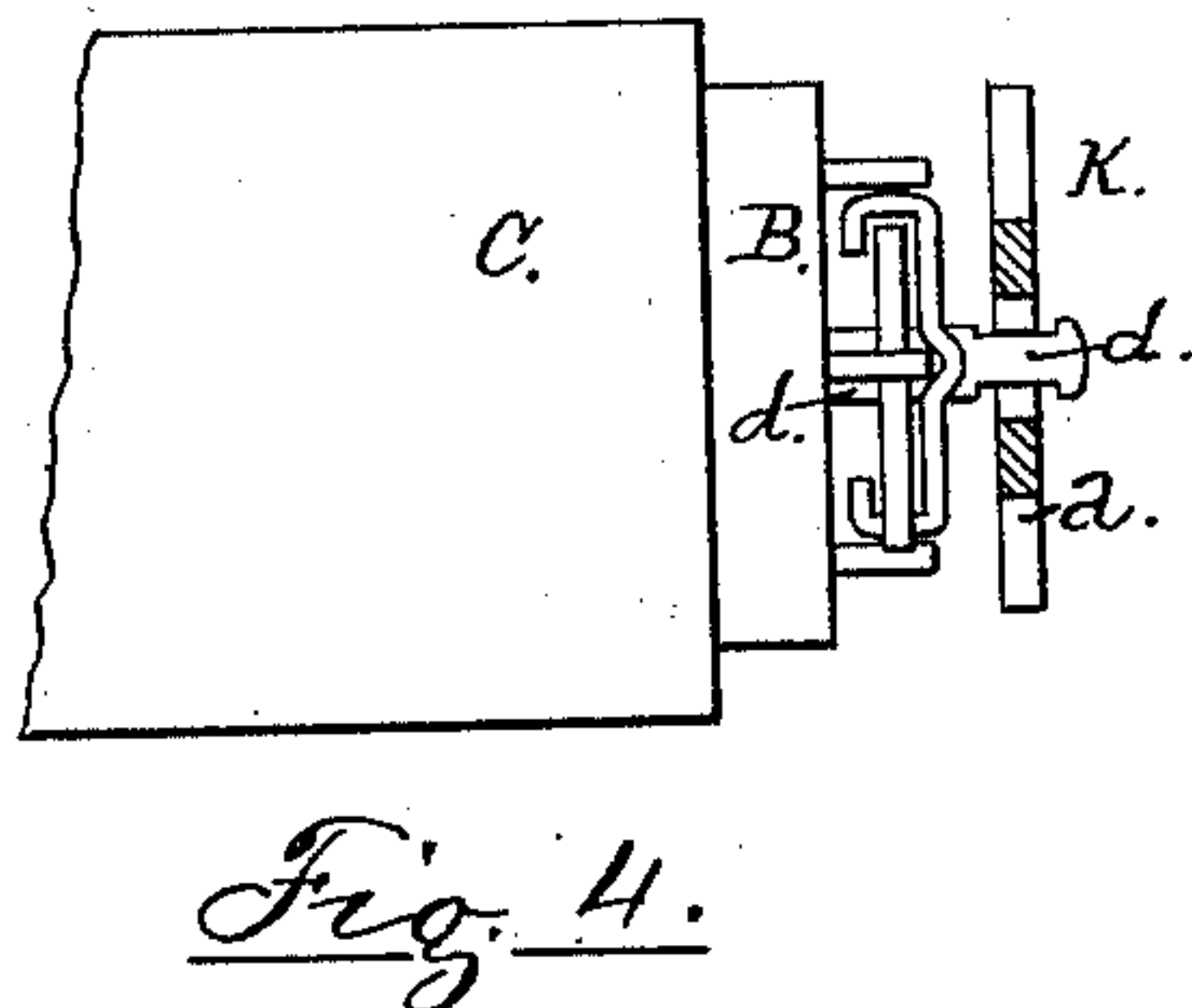
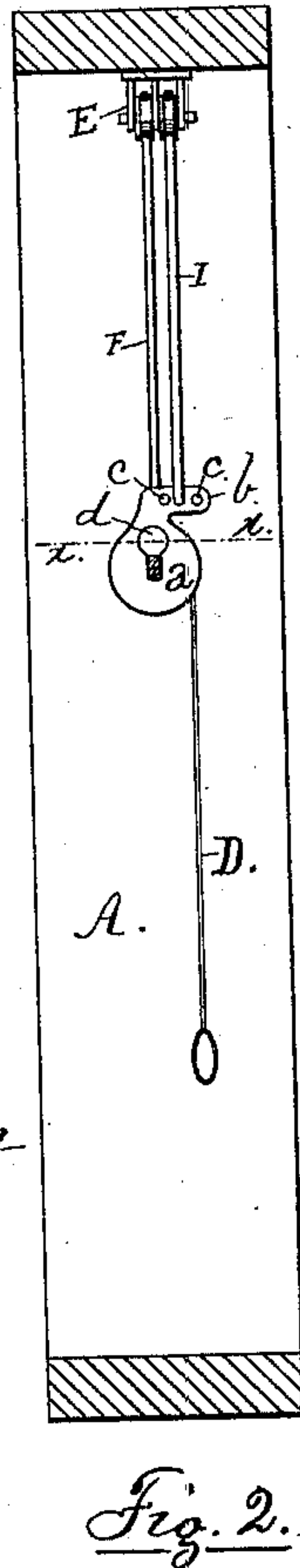
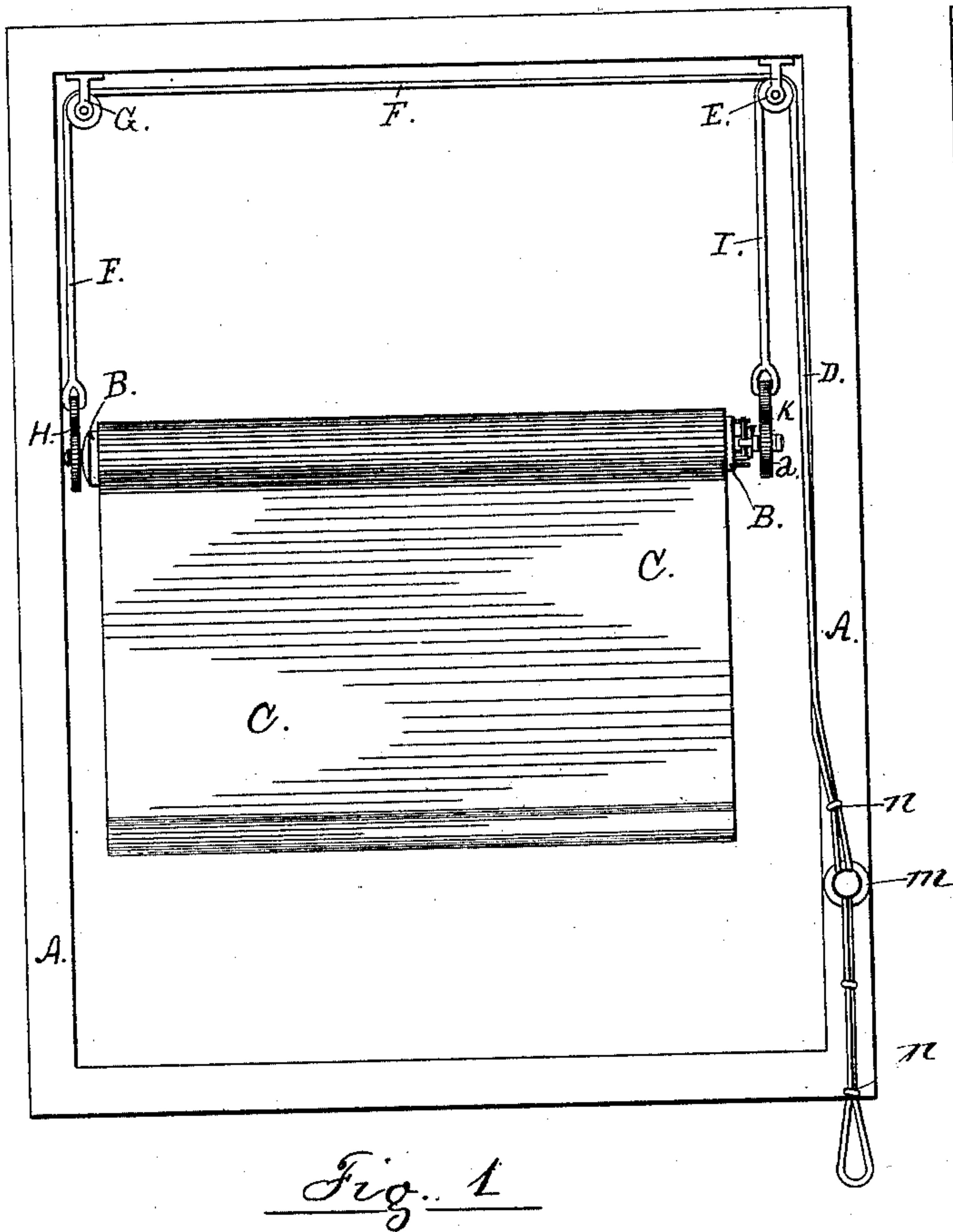
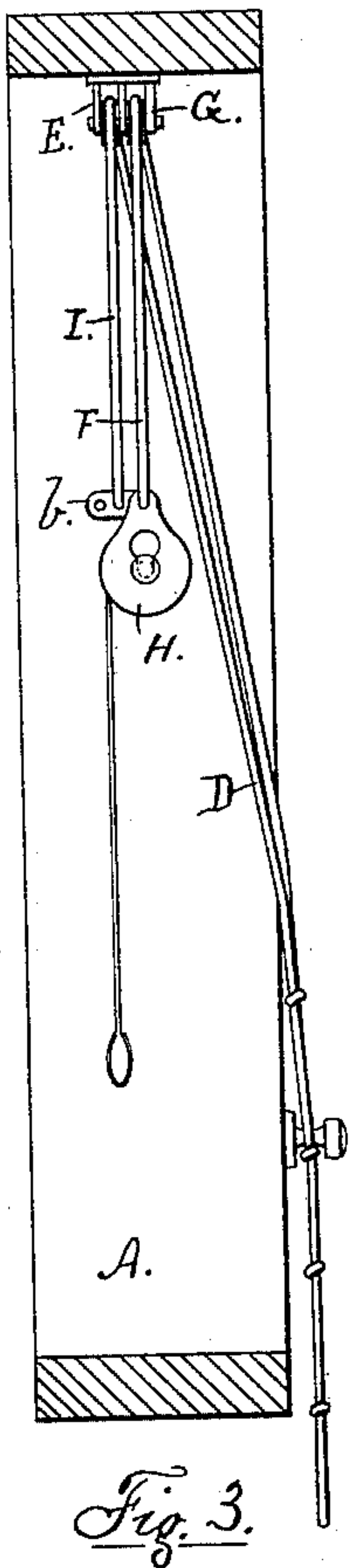


(No Model.)

H. D. KNIGHT.  
CURTAIN FIXTURE.

No. 435,018.

Patented Aug. 26, 1890.



Witnesses

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# UNITED STATES PATENT OFFICE.

HORATIO D. KNIGHT, OF LANCASTER, PENNSYLVANIA.

## CURTAIN-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 435,018, dated August 26, 1890.

Application filed May 11, 1889. Serial No. 310,466. (No model.)

*To all whom it may concern:*

Be it known that I, HORATIO D. KNIGHT, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Curtain-Fixtures, of which the following is a specification.

This invention relates to improvements in that class of curtain-fixtures wherein a spring-roller is used and in which the curtain can be adjusted higher or lower on the window by means of cords, and can also be rolled or unrolled at whatever position it is placed, so as to shade any part of the window.

The object of the invention is to simplify the construction of fixtures of this class by doing away with the use of guide-rods or any special attachment whereby the spring of the roller is prevented from turning the hanger to which the supporting-cords are attached, thereby avoiding the cost of such guide-rods or other special attachment, the strain produced by the friction between the sliding and stationary parts of the same, and the locking of those parts while the curtain is being raised or lowered, caused by the unavoidable irregularity of the two ends of the curtain-roller while moving up or down. I accomplish this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an elevation showing a window with the curtain-fixture applied. Fig. 2 is a vertical transverse section of the frame on a line between the hanger K and the roller, and shows a side view of the hanger and its connections. Fig. 3 is a similar view of the opposite side of the same with the side of the frame removed. Fig. 4 is an enlarged top view of the right-hand end of the roller with a portion of its fixtures in section on the line *xx* of Fig. 2.

In the drawings, A shows the frame of any ordinary window.

B is the curtain-roller, and C is the curtain which winds thereon.

D is a double suspension-cord for raising or lowering the roller. The double length of the cord passes upward over a sheave E or other bearing, after which it divides into two

branches, one of which F is carried across the window to and over a similar sheave G, from which it depends, the lower end being attached to any ordinary hanger H, which supports one end of the roller. The other branch I of the cord is carried downward and attached to the hanger K, which supports the opposite end of the roller.

The novelty of my invention consists in the peculiar construction of the hanger K. As will be seen in Fig. 2, it consists of a lobe *a*, in an opening through which the spindle of the roller is supported, the spindle and the part of the opening in which it rests being of such shape as to prevent the spindle from revolving in the opening, and an arm *b*, projecting backward from the upper end of the lobe and above the spindle *d* of the roller at an approximate right angle with the axis of the roller. This arm is provided with two or more perforations *c*, through one of which the cord I is secured. The effect of this construction is such that the leverage of the point at which the cord I is fastened to the arm *b* overcomes the tendency of the spring to turn the hanger. This leverage must be regulated by the strength of the spring, for which purpose there are a number of perforations *c* through the arm *b*, as before stated. The double cord between the knob *m* and the sheave E is provided with knots *n n* at regular intervals to engage the knob *m*.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with a spring-roller and suspension-cord, of a hanger having an opening in which the spindle of the roller is immovably supported, and a projection from the side of said hanger forming a horizontal angle with the axis of the spindle, said projection being adapted to be engaged by the suspension-cord above the spindle at variable distances horizontally from the said spindle, substantially as specified.

H. D. KNIGHT.

Witnesses:

GEO. A. LANE,  
WM. R. GERHART.