

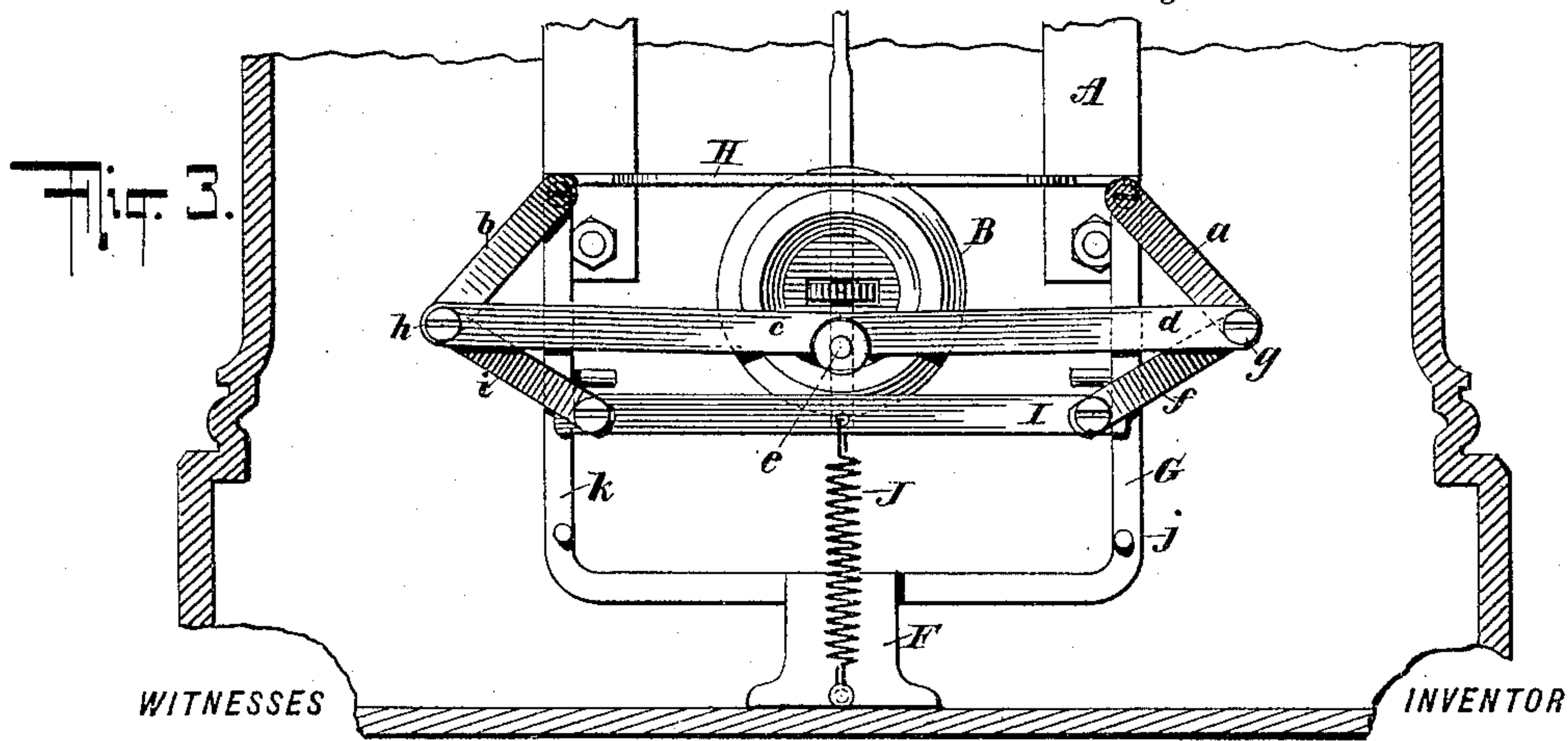
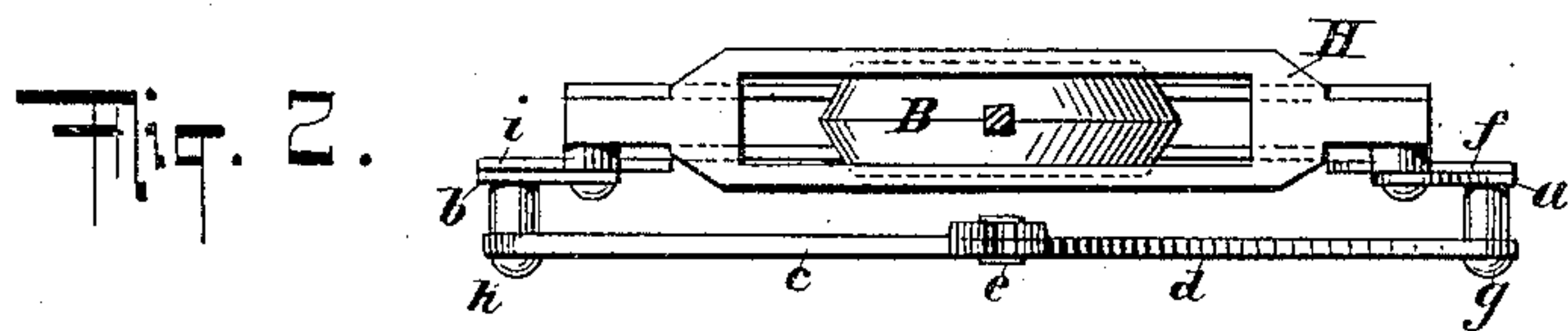
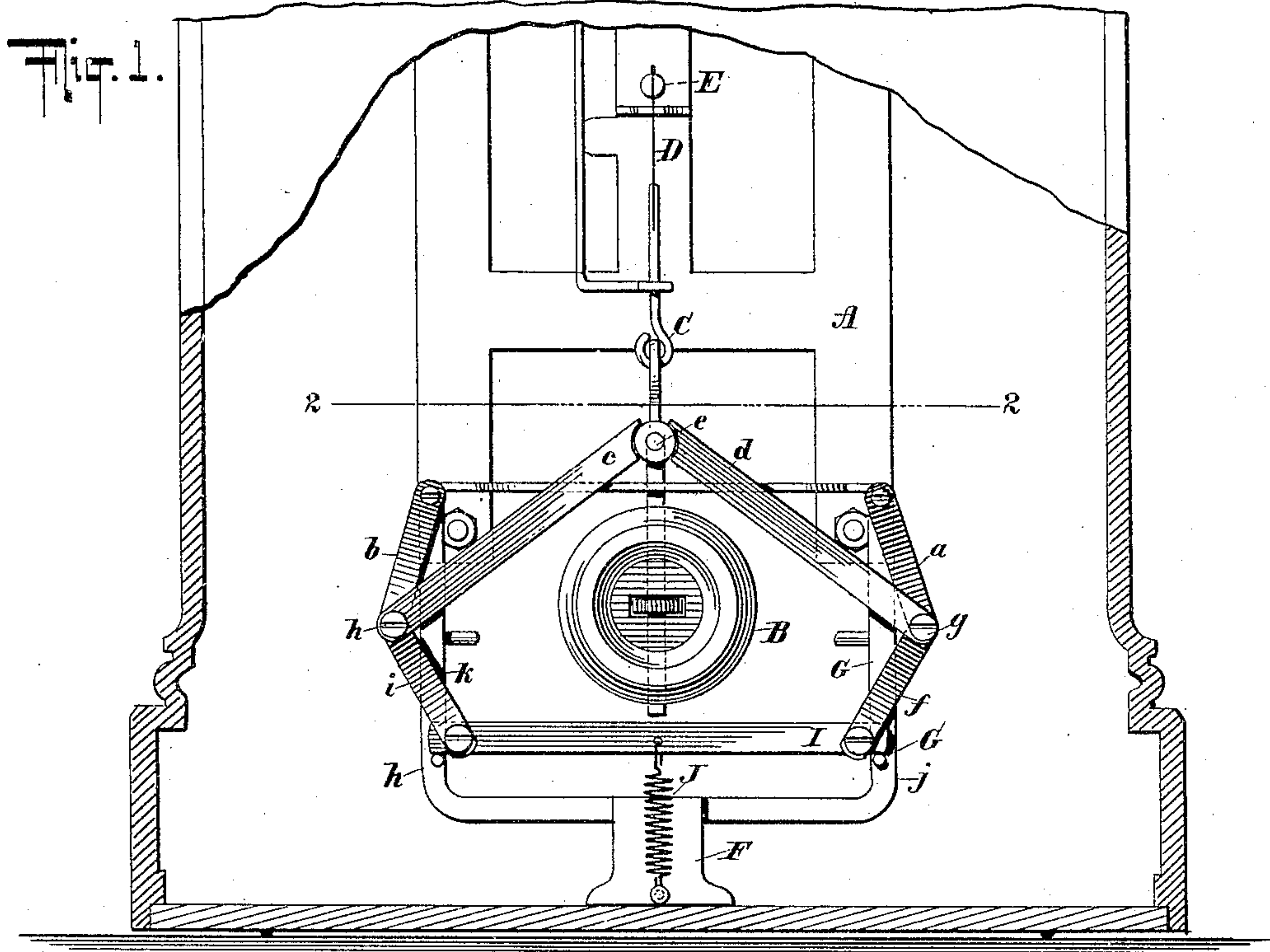
(No Model.)

2 Sheets—Sheet 1.

F. KROEBER.  
PENDULUM CLAMP FOR CLOCKS.

No. 576,587.

Patented Feb. 9, 1897.



WITNESSES

INVENTOR

*Gustave Dietrich.*  
*Geo. C. Munn.*

*Florence Kroeber*  
BY *Briesau Knauth*

ATTORNEYS.

(No Model.)

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Fig. 4.

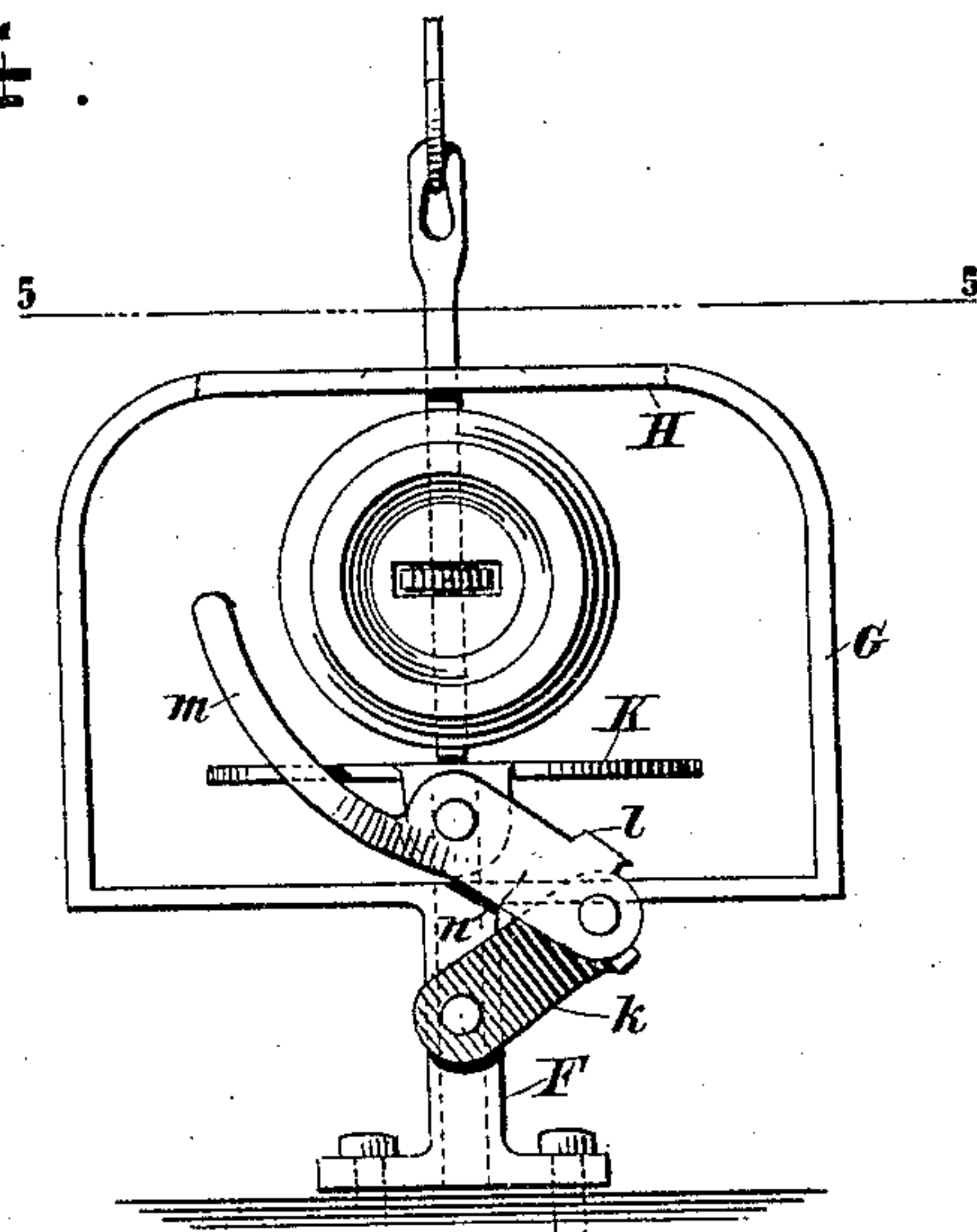


Fig. 5.

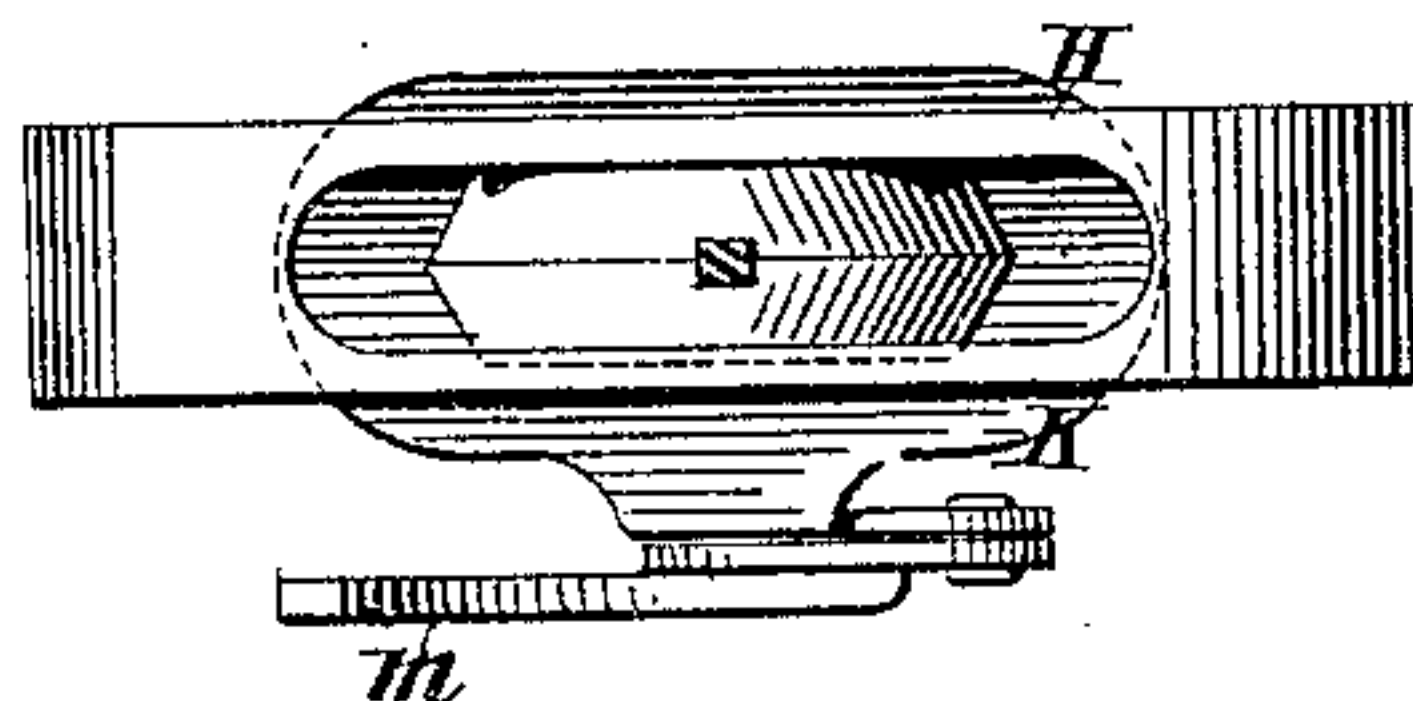
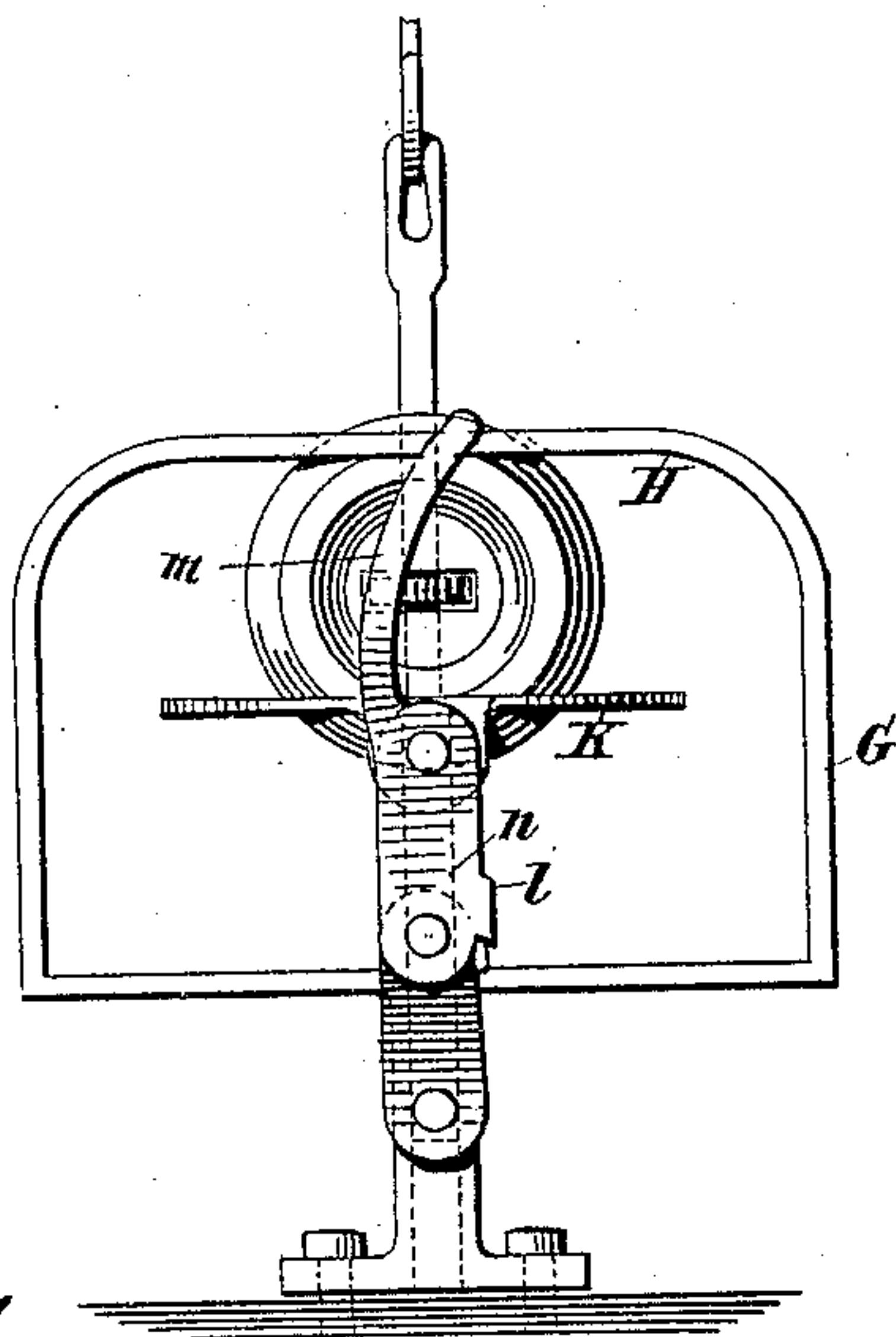


Fig. 6.



WITNESSES

*Gustave Dietrich*  
*Geo. A. Mause*

INVENTOR

*Florence Kröber*  
BY *Briesen & Mautz*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

FLORENCE KROEBER, OF NEW YORK, N. Y.

## PENDULUM-CLAMP FOR CLOCKS.

SPECIFICATION forming part of Letters Patent No. 576,587, dated February 9, 1897.

Application filed August 22, 1896. Serial No. 603,577. (No model.)

*To all whom it may concern:*

Be it known that I, FLORENCE KROEBER, a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Pendulum-Supporters, of which the following is a specification.

My invention relates to pendulum-supporters, and has for its object to produce a device which will lift and support the pendulum, taking the weight of the same off the pendulum-rod and tension-spring, so that the clock may be transported with the pendulum in place.

To this end my invention consists in the construction hereinafter set forth and claimed.

In the drawings, Figure 1 is a front or face view of a pendulum-support made in accordance with my invention. Fig. 2 is a sectional plan view of Fig. 1, the section being taken on line 2 2 of Fig. 1; and Fig. 3 is a similar view of the same, showing its closed position. Fig. 4 is a front or face view of a pendulum-support constituting another form of my invention. Fig. 5 is a sectional plan view thereof, the section being taken on line 5 5 of Fig. 4; and Fig. 6 is a front face view or elevation similar to Fig. 4, showing the pendulum-supporter in its elevated position.

In the drawings, Figs. 1 to 3, A indicates a clock-movement from which a pendulum B is suspended by the ordinary suspension or pendulum rod C, and the suspension-spring D, which works freely up and down in the suspension-post E. It is well known that the suspension-spring D is very delicate, and a jar imparted to the pendulum-ball is liable to cause the spring D to be torn by the pin which passes therethrough and rests on the top of the slot of the suspension-post E. Especially is this liable to happen when the clock is shipped with the pendulum in place. By my invention I obviate this danger by raising the pendulum-ball to take the weight off the suspension-spring and at the same time securely clamping the pendulum-ball to prevent it from moving after it has been lifted, so that the pendulum will be securely held from all movement. This device I have illustrated in the drawings, wherein F is a post carrying a yoke G, whose top cross-bar H is slotted for the passage of the pendulum-rod C and for the passage of the upper edge

of the pendulum-ball B when the same has been lifted. Pivoted to the top of the yoke are toggle-levers *a b*, to which a pair of toggle links or levers *c d* are pivoted by one end and pivoted together at *e*. Pivoted to the ends of the links or levers *a d* is a link or lever *f*, the said three levers being pivoted together at a common point *g*. Pivoted to the common junction or pivotal point *h* of the levers *b c* is a lever *i*. Working on the side bars *j k* of the yoke G is a sliding cross-bar I, to which bar the links *i f* are pivoted by their lower ends. The spring J is interposed between the bar I and the standard F. The operation of this form of my invention is as follows:

Supposing the parts to be in the position shown in Fig. 1 and it is desired to lift and clamp the pendulum, the toggle-links *c d* are forced downward, thereby forcing their lower ends apart and bearing upon the toggle-links *b i* and *a f*, so as to raise the bar I to cause the same to lift the pendulum-ball, so that the pendulum-ball will be firmly gripped between the bars H I, thereby being secured from movement and being supported by the bar I, so that none of the weight of the ball comes on the pendulum-rod or the suspension-spring D.

In Figs. 4, 5, and 6 I have illustrated a modification of my invention. In these figures, F indicates the base or standard of the yoke G, as in the former case, and H the top cross-bar thereof, which top cross-bar is slotted, as before, for the reception of the pendulum-ball when it is raised. Pivoted to the standard F is a toggle-link *k*, to which is pivoted a toggle-link *l*, which link *l* is prolonged to form a handle *m*. This link *l* is also pivoted to a platform or cross-bar K, which platform is slotted for the reception of the lower edge of the pendulum-ball and provided with a guide-rod *n*, (shown in dotted lines in Figs. 4 and 6,) which works in the bore of the standard F.

Supposing the parts to be in the position shown in Fig. 4 and it is desired to lift and clamp the pendulum-ball, the arm *m* is thrown to the right, thereby bringing the toggle-links in line with each other, causing the platform K to lift the ball. As the platform K continues to rise the parts get in the position shown in Fig. 6, wherein the ball is shown as



lifted by a platform K and gripped between the platform K and the upper cross-bar II of the yoke G.

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

1. A pendulum-supporter consisting of a combined lifting and clamping means for lifting and clamping the pendulum to hold the same from moving.
2. The combination of an upper cross-bar and a lower cross-bar or platform, and means for raising or lowering the said lower cross-bar or platform, whereby the lower cross-bar or platform will raise the pendulum-ball and bring it against the upper cross-bar, whereby the pendulum-ball will be held between the cross-bars.
3. A pendulum-supporter comprising the combination of a stationary upper cross-bar, with an up and down moving lower cross-bar, whereby the rising cross-bar will lift the said pendulum and force it against the upper cross-bar, whereby the pendulum will be held between the cross-bars.
4. A pendulum lifter and supporter comprising the combination of a plurality of slotted cross-bars, the lower of which is movable, and means for raising and lowering the lower cross-bar, whereby the pendulum will be gripped by the slotted portions of the bars.
5. The combination of an upper cross-bar, a lower cross-bar, and means for raising and lowering the lower cross-bar to raise and grip the pendulum comprising one or more pairs

of toggle-links and an operating-lever therefor, substantially as described.

6. In a pendulum-supporter, the combination of a stationary part located above the pendulum-ball and adapted to be engaged by the said pendulum-ball, a movable part located below the said pendulum-ball and adapted to engage the said pendulum-ball to raise the said pendulum-ball and force it against the stationary part, and means for raising and lowering the movable part in a vertical direction whereby the movable part will force the pendulum against the stationary part, the said two parts constituting a combined means for raising the pendulum and gripping the same to relieve the suspension-spring of the strain of the weight of the pendulum-ball.

7. An auxiliary pendulum-supporting device, comprising pendulum-ball-grasping devices arranged to grasp and hold the pendulum-ball and to lift the same so that the weight of the pendulum-ball will be supported by the said pendulum-ball-grasping devices.

8. A pendulum-ball-supporting device consisting of a plurality of pendulum-ball engaging and lifting means adapted to seize and lift the pendulum-ball clear of its normal supports.

FLORENCE KROEBER.

Witnesses:

W. VON SCHLEPEGRELL,  
CHAS. KROEBER.