

No. 798,075.

PATENTED AUG. 29, 1905.

H. E. SCHNEIDER.
ELEVATOR LOCK AND STOP.
APPLICATION FILED JAN. 25, 1905.

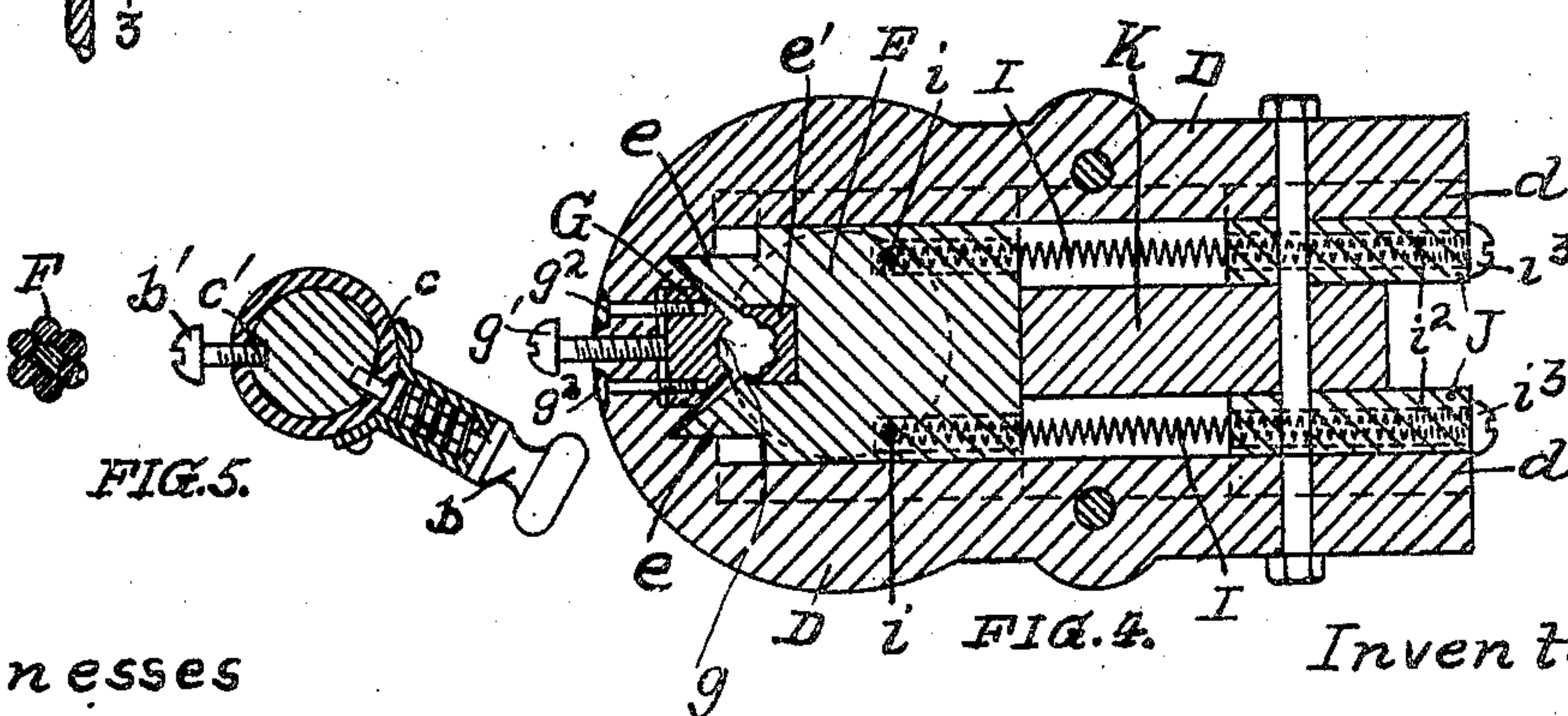
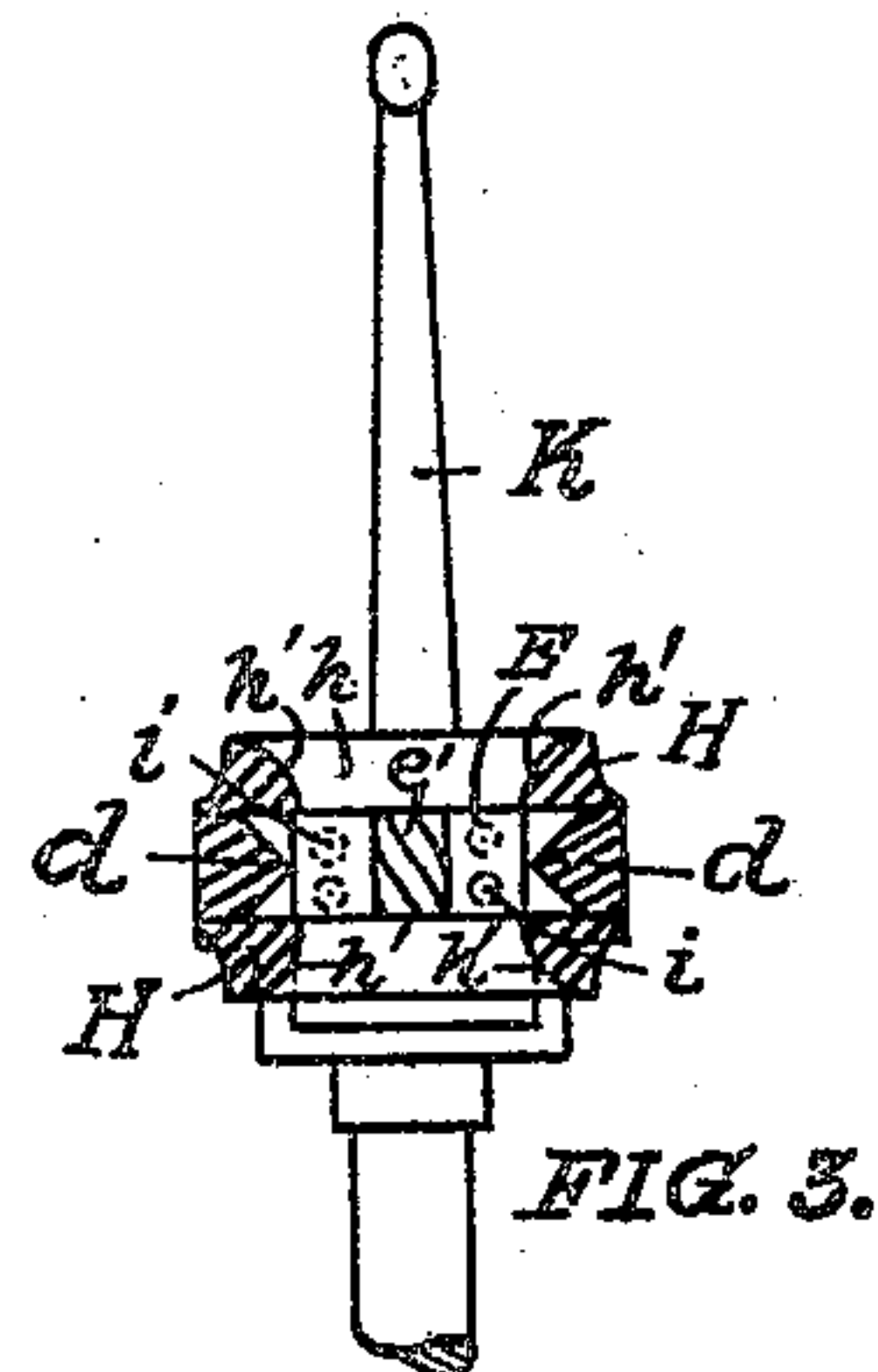
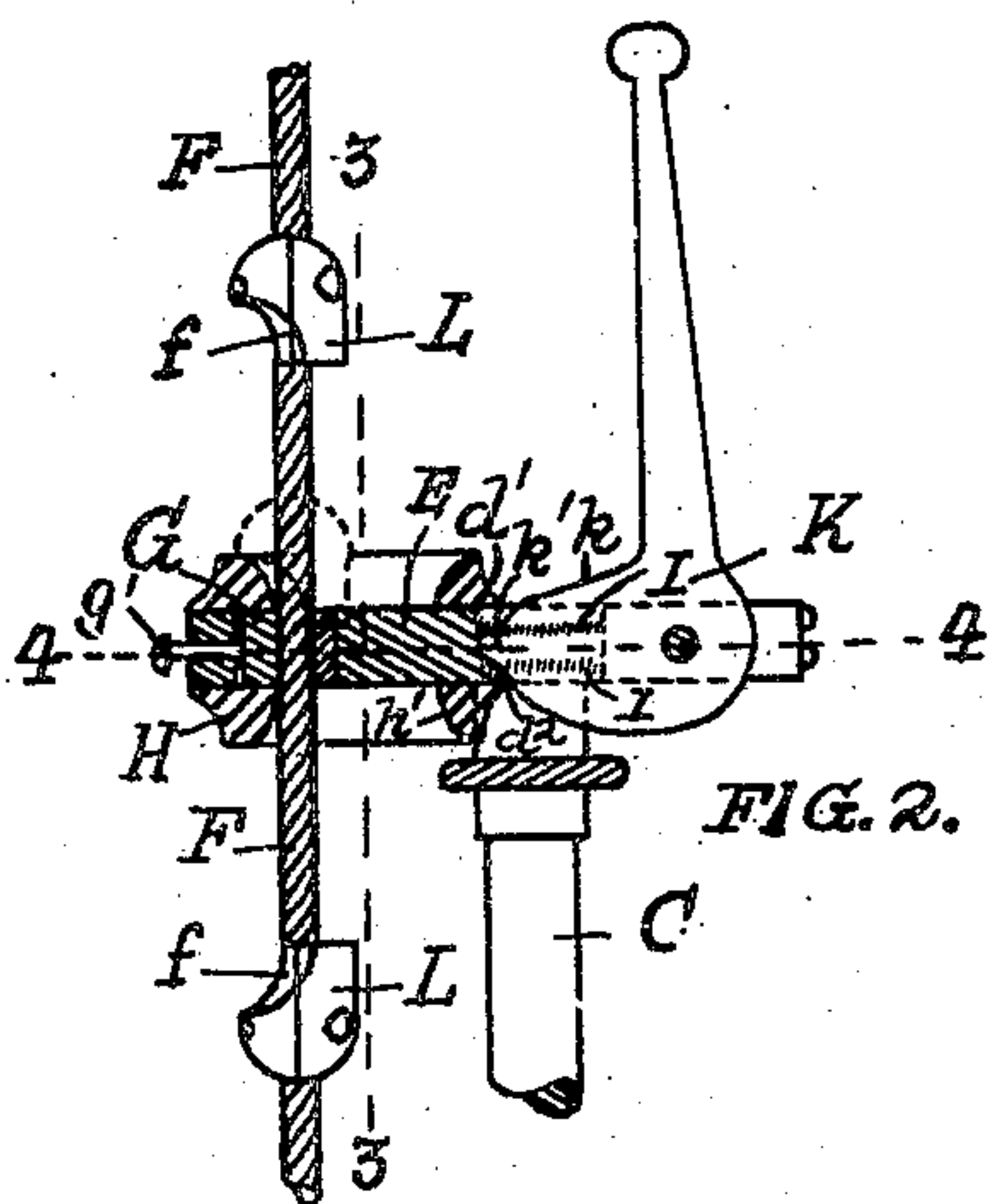
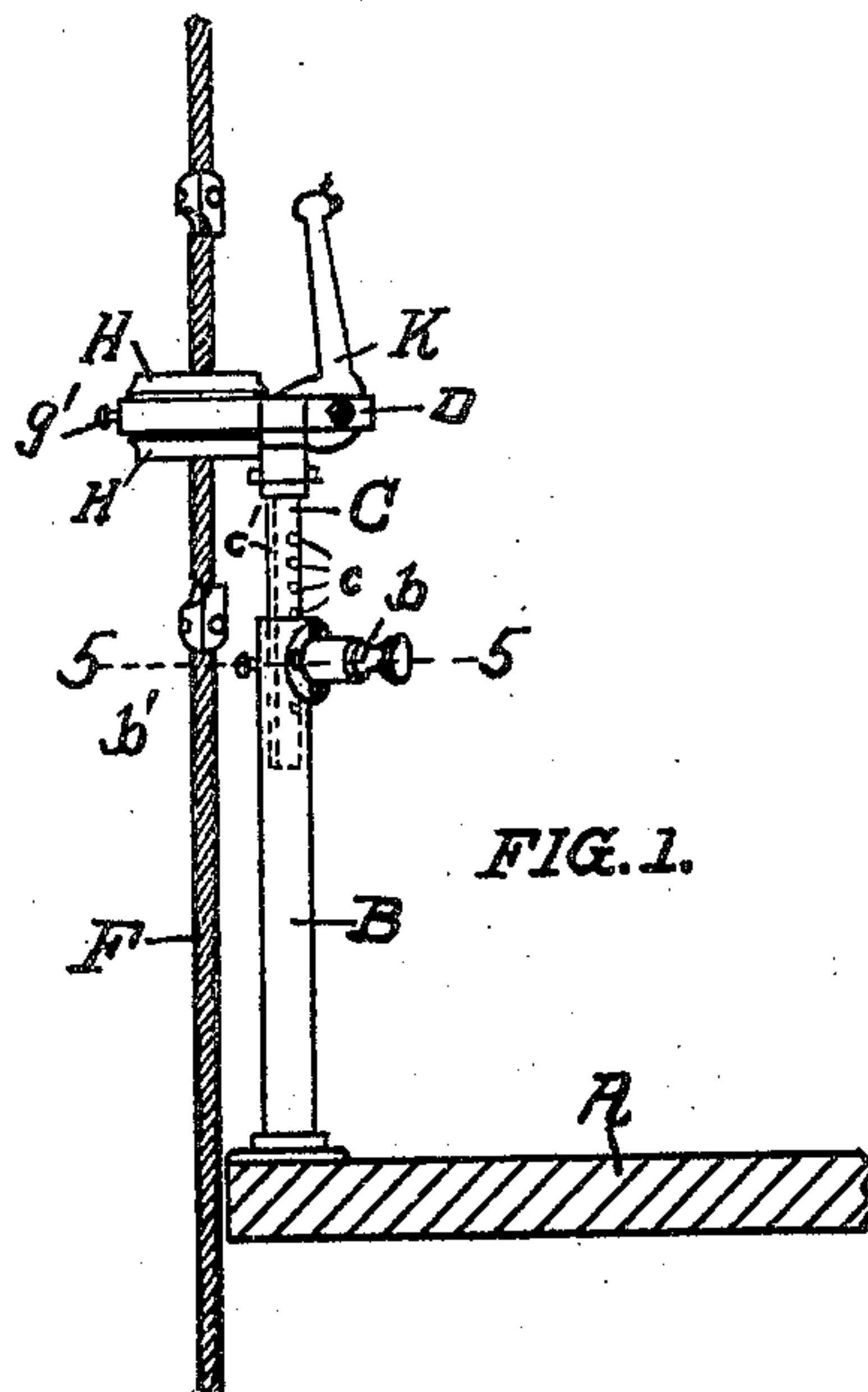


FIG. 5.

Witnesses

Agnes B. Grant,
Earle R. Passel

Inventor

Harry E. Schneider
By
Parkinson & Richards
his Attorneys

UNITED STATES PATENT OFFICE.

HARRY E. SCHNEIDER, OF NEWPORT, KENTUCKY.

ELEVATOR LOCK AND STOP.

No. 798,075.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed January 25, 1905. Serial No. 242,599.

To all whom it may concern:

Be it known that I, HARRY E. SCHNEIDER, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Elevator Locks and Stops, of which the following is a specification.

The object of my invention is to provide an improved elevator lock and stop which is of simple and durable construction and reliable in operation.

My invention consists in the combination and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a sectional elevation through the floor of an elevator-carriage, showing a lock and stop embodying my invention; Fig. 2, an enlarged vertical section of the lock and stop; Fig. 3, a section on line 3 3 of Fig. 2; Fig. 4, an enlarged section on line 4 4 of Fig. 2, and Fig. 5 an enlarged section on line 5 5 of Fig. 1.

To the floor A of the elevator-carriage is secured a hollow post or stand B, adapted to receive the rod C, upon which the elevator-lock is mounted. The rod C is provided with notches *c* and a longitudinal groove *c'* and post B with a spring-bolt *b* and a set-screw *b'*, adapted to engage said notches and groove, respectively. It will be seen that the notches and spring-bolt will permit of adjustments of the lock to different heights and that the groove and set-screw will serve to guide the rod C during adjustments.

Upon the top of rod C is secured a frame D, in which a sliding clamp E is mounted on ways or guides *d*. The clamp E is provided with spreading jaws *e* and a locking-piece *e'*, which is spirally grooved or corrugated to correspond to the spiral strands of the operating-cable F. Opposite to clamp E is mounted a locking-piece G, which has a smooth face *g* adapted to engage cable F and is rendered adjustable in position by means of screws *g'* and *g''*. Guide-plates H, having circular openings *h*, with rounded or beveled sides *h'*, are secured to the top and bottom of frame D in such position as to guide cable F between clamp E and locking-piece G. Four springs I are secured at one end in holes *i* in the rear of clamp E by means of screws *i'*, which pass through loops on their ends. The other ends of the

springs are secured in holes *i''* in blocks J by means of screws *i'''*, which have the same pitch as the springs and are simply screwed into the ends thereof. It will be seen that springs I tend to hold clamp E back from engagement with the cable F and that upon contraction the springs recede into holes *i* and *i''*, thus permitting clamp E to contact with blocks J, which serve as stops against further withdrawal. A further advantage of this construction lies in the fact that no space is required between clamp E and blocks J for springs I, thus saving space and material.

Between blocks J in frame D is pivoted a clamping-lever K, which is eccentrically mounted and provided with a pointed nose *k'*, adapted to contact with the rear of clamp E. The rear of clamp E is rounded off at *d'* for contact with the cam-surface *k* of lever K and provided with a stop *d''*, adapted to engage nose *k'* and limit the movement of said lever. It will be seen that lever K will serve to throw the clamp E to engage and lock the cable between locking-piece *e'* and G when rotated in one direction and that the springs I will withdraw said clamp when the lever is thrown in the opposite direction. The relation between nose *k'* and stop *d''* is such that lever K is stopped just beyond the plane through the lever-pivot and the center of clamp E, so that said lever is automatically locked in clamping position by the tension of said springs.

Stops L are provided on cable F at such places as desired. These stops are provided with rounded or beveled surfaces *f*, corresponding to the edges *h'* of plates H, and are of a size adapted to pass through openings *h* in plates H when clamp E is withdrawn.

In use the controlling-cable F is passed through openings *h* between clamp E and locking-piece G and pairs of stops L provided at the floors or places where it is desired to stop the elevator. The operator watches until lock arrives at a location between the desired stops. He then throws clamp E out far enough to engage either the upper or lower stop, depending upon the direction of travel of the elevator. When the stop engages with the clamp and the edges of hole *h*, the elevator is stopped by the longitudinal movement of the cable in the usual manner. After the carriage has stopped the operator completes the move-

ment of lever K, which securely locks the cable between clamp E and locking-piece F. The stops L are so set on the cable that when the stop is resting in correct position on clamp E and edges h' the spirals of the cable fit the corresponding grooves in locking-piece e' , so that a very firm grip on the cable is obtained. Should the cable be slightly out of position, the jaws e will throw it back, or if the cable be slightly turned out of position the surface f will be engaging edge h' and turn it back to position. The smooth face of locking-piece G permits a slight rotation of the cable under the influence of the grooves in locking-piece e' , so that the latter are more readily adjusted to a nice engagement with the strands of the cable. Thus it will be seen that a lock is provided for the cable which can only be released by the manipulation of the locking-lever K. By adjusting the height of the lock above the floor of the carriage the carriage may be stopped accurately at a floor when carrying widely-varying loads.

If for any reason it is desired to stop the carriage at other than places which are provided with stops L, this may be done by simply throwing out the clamp E to engage the cable, and when the lever K is automatically locked the engagement with the cable is quite as firm as before, although the exact place of stopping the elevator cannot be regulated so nicely.

I claim as my invention—

1. In an elevator-lock, the combination of a stationary locking-piece; a sliding clamp adapted to coöperate with the locking-piece to engage the controlling-cable; a spring normally withholding the clamp from engagement with the cable; an eccentric locking-lever adapted to throw the clamp to engage the cable and provided with a pointed nose; and a stop on the clamp adapted to engage the nose and limit the movement of the lever, substantially as specified.

2. In an elevator-lock, the combination of a stationary locking-piece having a smooth engaging face; a sliding clamp adapted to coöperate with the locking-piece to engage the controlling-cable, and provided with spiral grooves adapted to fit the strands of the cable; a spring normally withholding the clamp from engagement with the cable; an eccentric locking-lever adapted to throw the clamp to engage the cable and provided with a pointed nose; and a stop on the clamp adapted to engage the nose and limit the movement of the lever, substantially as specified.

3. In an elevator-lock, the combination of frame D; locking-piece G; clamp E; springs I; locking-lever K having the nose h' and stop d^2 on clamp E, substantially as specified.

4. In an elevator-lock, the combination of frame D; locking-piece G, having a smooth

engaging face; set-screws g' and g^2 for adjusting the locking-piece; clamp E, having spreading jaws e and locking-piece e' provided with a grooved face adapted to fit the strands of the cable; springs I; locking-lever K having the nose h' , and stop d^2 on clamp E, substantially as specified.

5. In an elevator lock and stop, the combination of a stationary locking-piece; a sliding clamp adapted to coöperate with the locking-piece to engage the controlling-cable; a spring normally withholding the clamp from engagement with the cable; a guide-plate H having opening h provided with edges h' ; a stop L, on the cable, provided with surface f ; and means for operating the clamp, substantially as specified.

6. In an elevator lock and stop, the combination of a stationary locking-piece; a sliding clamp adapted to coöperate with the locking-piece to engage the controlling-cable; spreading jaws e , on the clamp, for returning the cable to position; a spring normally withholding the clamp from engagement with the cable; a guide-plate H having opening h provided with edges h' ; a stop L, on the cable, provided with surface f ; and means for operating the clamp, substantially as specified.

7. In an elevator lock and stop, the combination of a stationary locking-piece; a sliding clamp adapted to coöperate with the locking-piece to engage the controlling-cable; a spring normally withholding the clamp from engagement with the cable; a guide-plate H having opening h provided with edges h' ; a stop L, on the cable, provided with surface f ; an eccentric locking-lever adapted to throw the clamp to engage the cable and provided with a pointed nose; and a stop on the clamp adapted to engage the nose and limit the movement of the lever, substantially as specified.

8. In an elevator lock and stop, the combination of a stationary locking-piece; a sliding clamp adapted to coöperate with the locking-piece to engage the controlling-cable; spreading jaws e , on the clamp, for returning the cable to position; a spring normally withholding the clamp from engagement with the cable; a guide-plate H having opening h provided with edges h' ; a stop L, on the cable, provided with surface f ; an eccentric locking-lever adapted to throw the clamp to engage the cable and provided with a pointed nose; and a stop on the clamp adapted to engage the nose and limit the movement of the lever, substantially as specified.

9. In a stop for elevators, the combination of guide-plate H having opening h provided with edges h' and stop L having the surface f , substantially as specified.

10. In an elevator-lock, the combination of a hollow post secured to the floor of the carriage; a grooved rod adapted to slide longitudinally

5 dinally in the post and provided with a series of notches; a catch on the post adapted to engage the notches in the rod a set-screw on the post adapted to engage in the groove on the rod; frame D mounted on the rod; locking-piece G on the frame; clamp E on the frame; springs I; locking-lever K having nose k' ;

and stop d^2 on clamp E, substantially as specified.

HARRY E. SCHNEIDER.

Witnesses:

ALBERT H. SCHNEIDER,
BRAYTON G. RICHARDS.