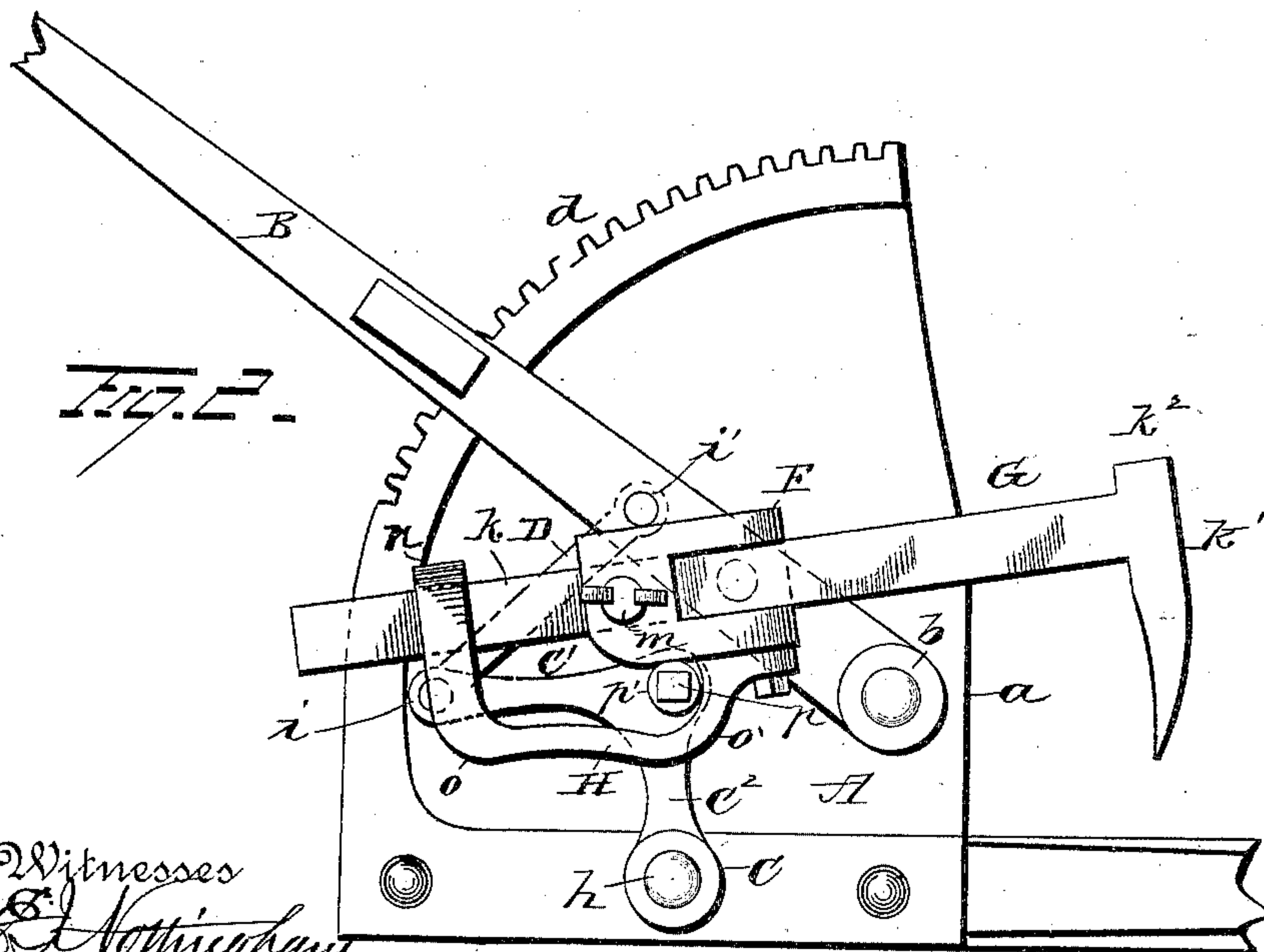
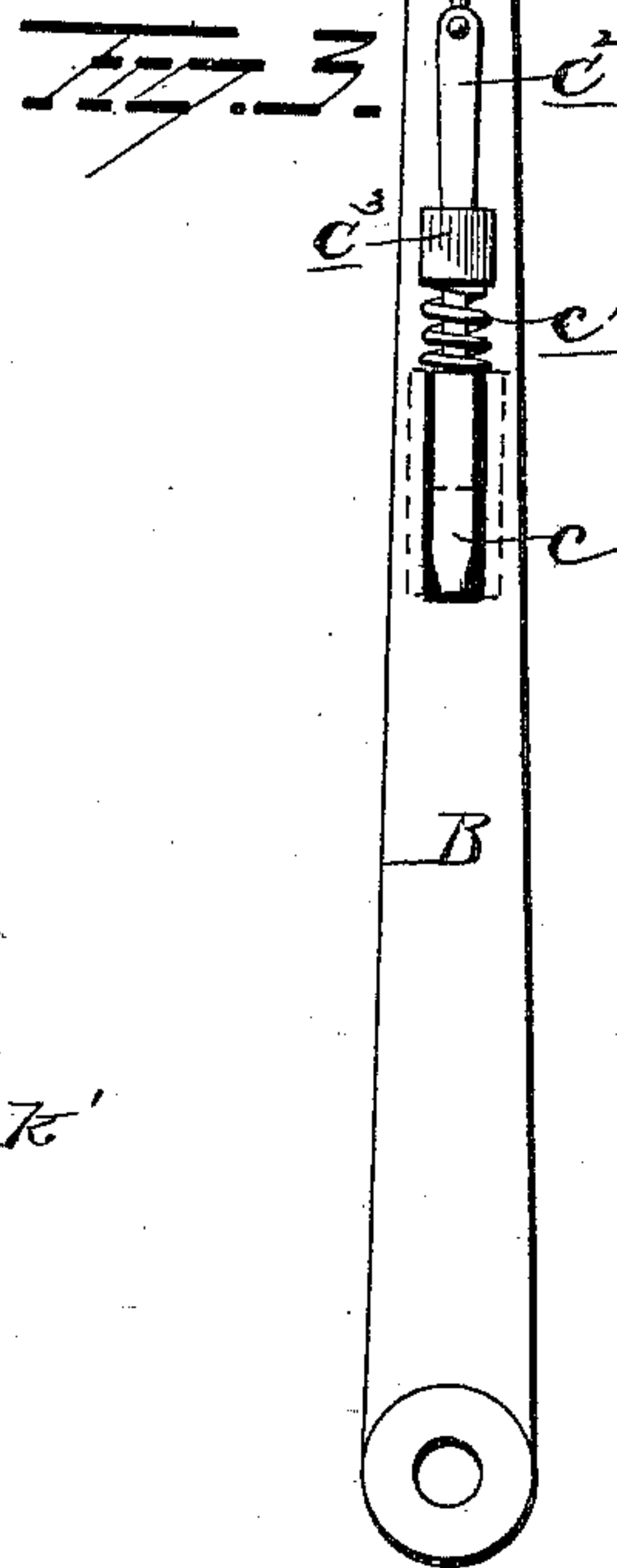
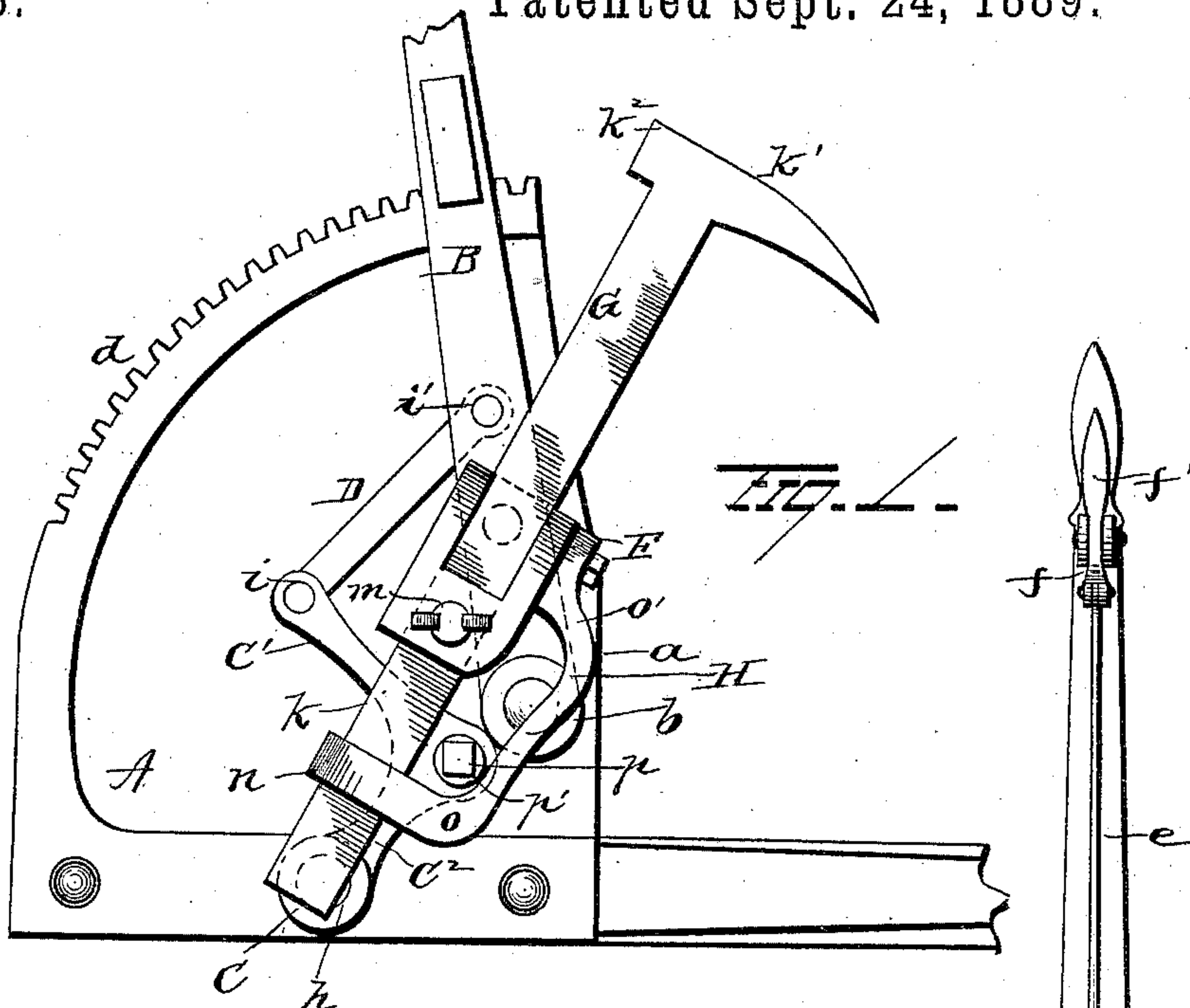


(No Model.)



B. J. KELLEY.  
SAW MILL DOG.

No. 411,503.

Patented Sept. 24, 1889.



Witnesses  
E. Nottingham  
G. F. Downing.

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*H. A. Seymour*



# UNITED STATES PATENT OFFICE.

BURWELL J. KELLEY, OF LAUREL, MISSISSIPPI.

## SAW-MILL DOG.

SPECIFICATION forming part of Letters Patent No. 411,503, dated September 24, 1889.

Application filed February 28, 1889. Serial No. 301,442. (No model.)

*To all whom it may concern:*

Be it known that I, BURWELL J. KELLEY, of Laurel, in the county of Jones and State of Mississippi, have invented certain new and useful Improvements in Saw-Mill Dogs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in saw-mill dogs or devices to hold a log or piece of timber upon the carriage of a saw-mill.

In saw-mills of modern construction a reciprocating carriage is provided with head-blocks or log-supporting tables arranged at spaced intervals across the carriage at intervals in its length. These devices are so arranged that a log placed on them and made to abut sidewise against their vertical standards may be moved laterally a spaced distance, which represents the thickness of a plank or board to be cut, and thus cause an overhang of the log to permit the circular or reciprocating saw to cut the board. It is of importance for the correct operation of the saw-mill to insure an even thickness throughout the length of the boards cut that the log shall be held tightly against the standards of the head-blocks; and it is further necessary that the log may be quickly released to turn it and clamp it, so as to square the body if it is to be cut into square timber.

The object of my invention is to provide a simple and reliable device which is secured to the standards of the carriage head-block, or, rather, takes the place of ordinary standards, so constructing the same that by their use a log may be clamped securely or released instantly by the simple movement of a lever pivoted on the standard.

With these objects in view my invention consists in the construction of parts and their combinations, as will be more specifically described in the annexed specification, and pointed out in the claims.

Referring to the drawings, making a part of this specification, Figure 1 is a side elevation of the head-block standard with my improved dog mechanism in position on it, the dog being shown in elevated adjustment.

Fig. 2 represents the dog adjusted to hold a log against the standard. Fig. 3 is a view of the lever B.

A represents the standard of a head-block A', on which it is adapted to be moved longitudinally. The mechanical device employed to move the standard upon the head-block, not being a part of this invention, is omitted from the drawings and description.

The standard A is formed as the quadrant of a circle having a toothed edge. Its vertical face *a*, forming a right angle with the top face of the head-block A', is designed to afford an abutment for log contact, it being understood that two or more of the head-blocks with standards are used, and the standards arranged having their vertical faces *a* in alignment to be simultaneously advanced by proper means to permit the saw to engage a log, as has been before mentioned. On the side face of the standard a lever B is pivoted at *b*, said lever having a locking-toe *c* held in an elongated slot and adapted to be actuated by a spring *c'*, so as to mesh with teeth *d*, cut in the circular edge of the standard. There is a slide-bar *c''*, made to work in a perforated lug *c''* and connected by its lower end to the locking-toe *c*, its upper end having a pivoted engagement with a link *e*, which connects the rocking handle *f* with the locking-toe to permit it to be released by pressure on the handle-piece *f'* when the lever B is to be moved, this construction being similar to the usual approved form of reversing-lever rigging used to adjust and lock in desired position other parts of head-block-setting gear.

A bent arm C is pivoted at *h* on the side face of the standard A, and consists of the parts C' C'', arranged approximately at right angles to each other. The upper arm C' is pivotally attached to one end of a link D at *i*, the opposite end of said link being similarly attached to the side of the lever B at a point *i'*. The distance between the point *i'* and pivot-point *b* of lever B is about equal to the distance between the pivot-points *i* and *h* on bent arm C, so that a movement of the lever B will communicate a rocking motion to this arm in planes parallel to that of the lever at any point of its vibration toward or from the vertical face *a* of the standard A.



Upon the side of the lever B, between the pivot-points  $i'$  and  $b$ , an elongated box F is pivoted by one of its ends, the rectangular hole made through it lengthwise affording support for the flat limb  $k$  of the dog G, which is made to slide therein. On the outer end of the limb  $k$  a transverse head  $k'$  is formed, the upper part  $k^2$  of which is formed as a pole to receive the impact of a hammer, if necessary, the other elongation of the head  $k'$  being sharpened and bent slightly into hook shape, so as to be adapted to engage the upper surface of a log I, that is in position on the head-blocks A' of the saw-carriage.

There is a set-bolt  $m$  introduced in a tapped perforation of the side wall of the box F, said bolt or thumb-screw being provided to have a forcible impinge upon the limb  $k$  of the log-dog G and hold it firmly at any desired point of extension.

A guide-bar H is secured by one of its ends to the lower surface of the box F and projects toward the head of the dog G a suitable distance to afford additional support thereto, it being furnished with a loop  $n$  on its outer end, which encircles the limb  $k$  and tends to hold the same in alignment with the box F, giving it lateral support.

The guide-bar H is bent at  $o$  and  $o'$  to afford space between its top edge and the lower edge of the limb  $k$  and box F to allow the anti-friction roller  $p'$ , which encircles a supporting-stud  $p$ , that projects from the limb C<sup>2</sup> of the bent arm C, to project through the elongated opening thus produced between these adjacent parts, and thus be located properly to have sliding and rolling engagement with the lower edge of the limb  $k$ , and cause said limb to vibrate simultaneously with the rocking of the bent arm C.

In operation the log being rolled upon the head-blocks against the standards A, it is apparent that a downward rocking movement of the levers B away from the face  $a$  of the standards A will cause the hook ends of the dogs G to be embedded in the top surface of the log, the arc described by the head of these dogs being such as to draw or hug the log tightly against the standards.

Should the log be very hard wood, it may be necessary to tap the poles of the dogs G with a hammer to sink their sharp points into the log; but ordinarily the rapid movement

of the levers B will be sufficient to sink the dog-teeth into the log and hold it firmly against the standards A, the interlocking of the toe C with the teeth  $d$  holding the log firmly until released by tripping the toe in an obvious manner.

Slight changes might be made in the details of the operating mechanism herein described without departure from the manifest scope of my invention; hence I do not desire to limit its construction to the exact forms herein shown; but,

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

1. The combination, with a head-block, of a segmental toothed standard, a lever adapted to vibrate and interlock with the teeth of the curved face of the standard, a dog pivoted to the lever at a point behind the pivotal connection of the dog and lever, and devices to connect the dog limb and lever, substantially as set forth.

2. The combination, with a standard, the edge of which is a curved segmental rack, a lever pivoted to have its movable locking-toe engage the teeth of this segmental rack, and a device to trip the locking-toe of the lever, of an elongated box pivoted by one end to the lever, a log-holding dog, the limb of which is made to slide in this box and be secured at any desired point, and a pivoted connecting-arm and link, which are adapted to rock the log-dog when the lever is vibrated, substantially as set forth.

3. The combination, with a segmental toothed standard having a vertical face and a pivotal lever adapted to interlock with the teeth of the standard, of an elongated box pivotally attached to the lever, a log-holding dog adjustably secured in the box, a bent arm pivoted to the standard, a link connecting the arm and lever, and an anti-friction roller mounted on the bent arm and engaging an extension of the elongated box, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BURWELL J. KELLEY.

Witnesses:

B. E. DUVALL,

B. M. GRAY.