

(No Model.)

2 Sheets—Sheet 1.

D. L. GOFF.

MECHANISM FOR DELIVERING AND CUTTING ROLL PAPER.

No. 486,102.

Patented Nov. 15, 1892.

Fig. 1.

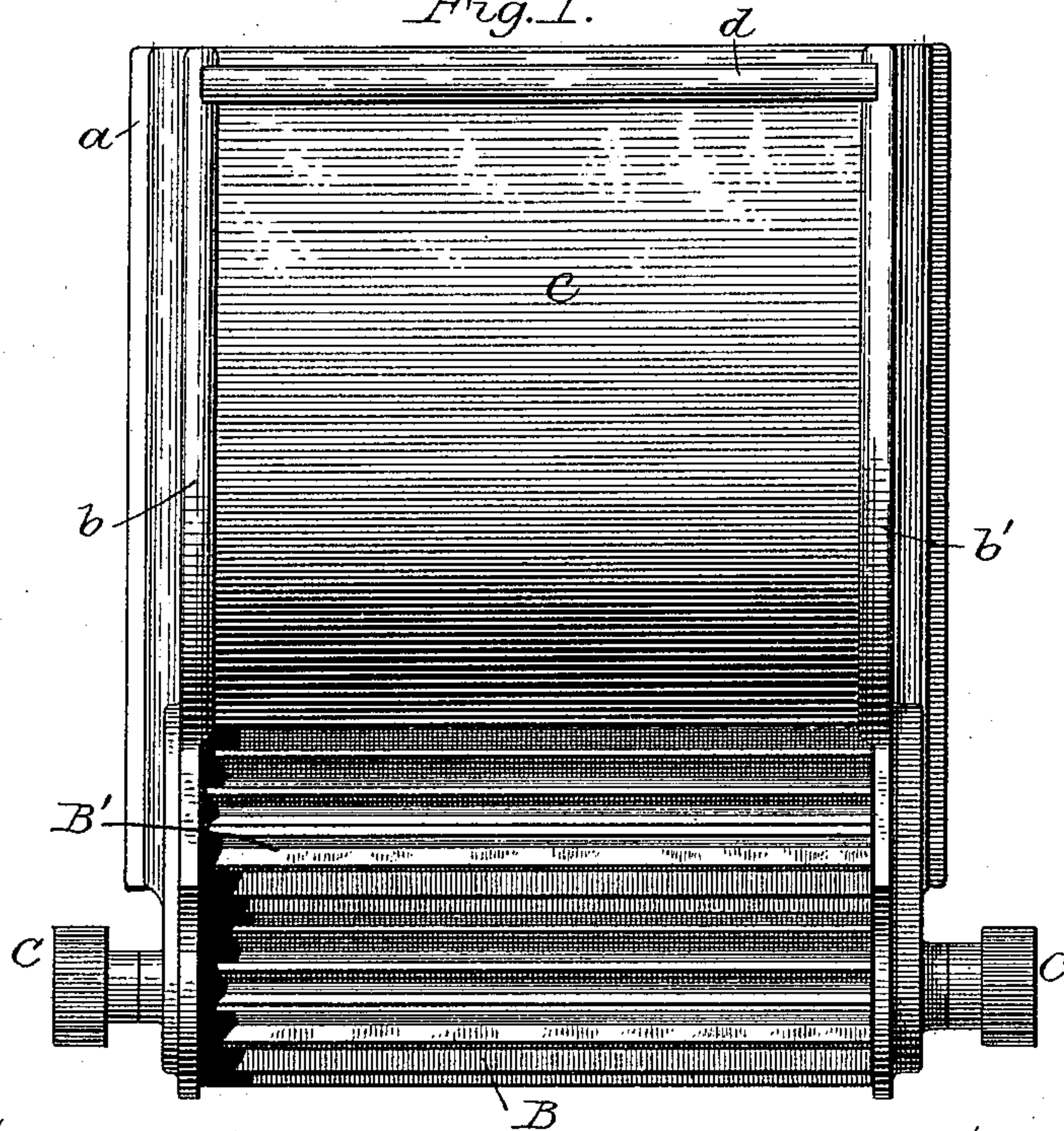


Fig. 2.

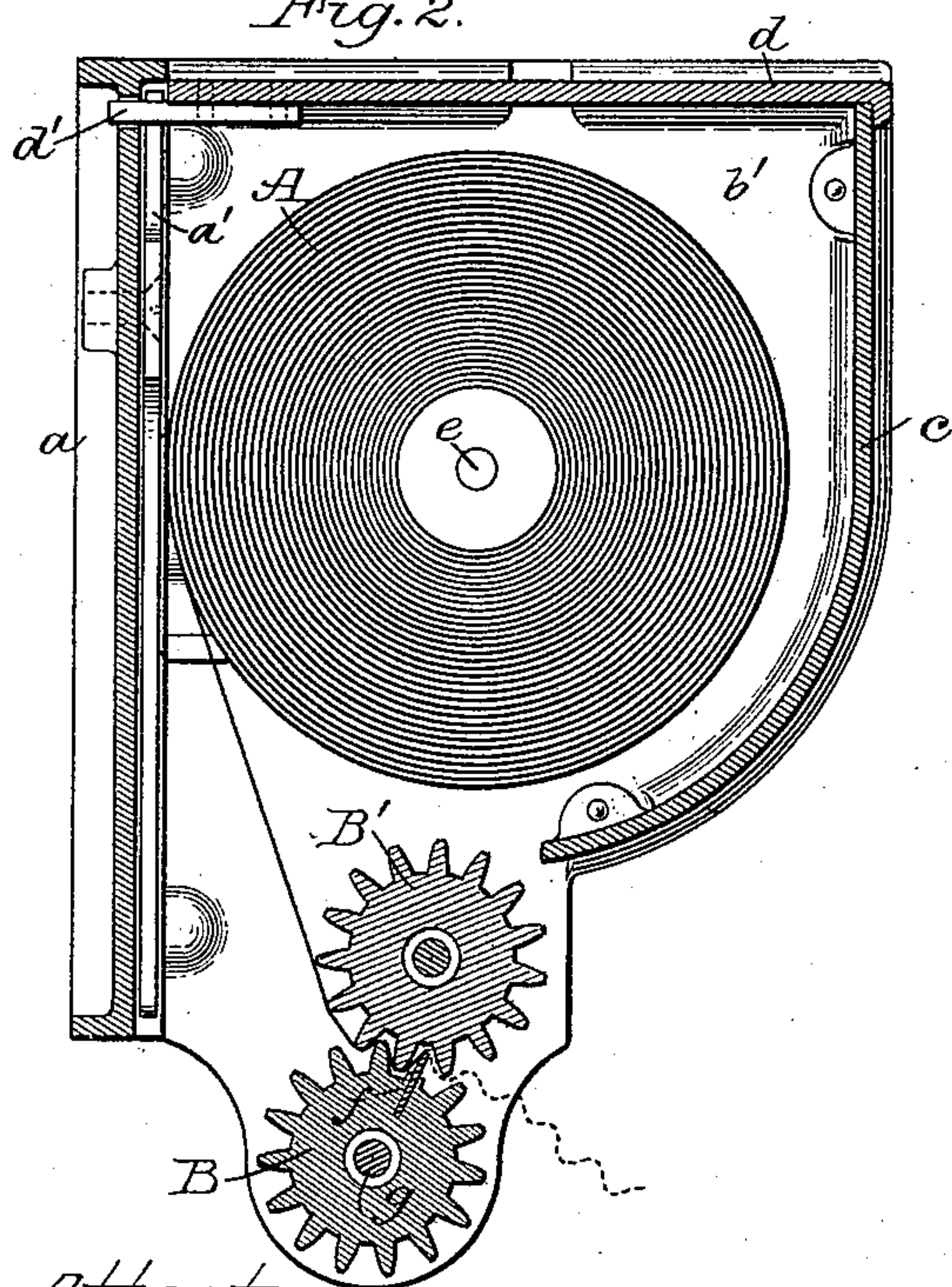
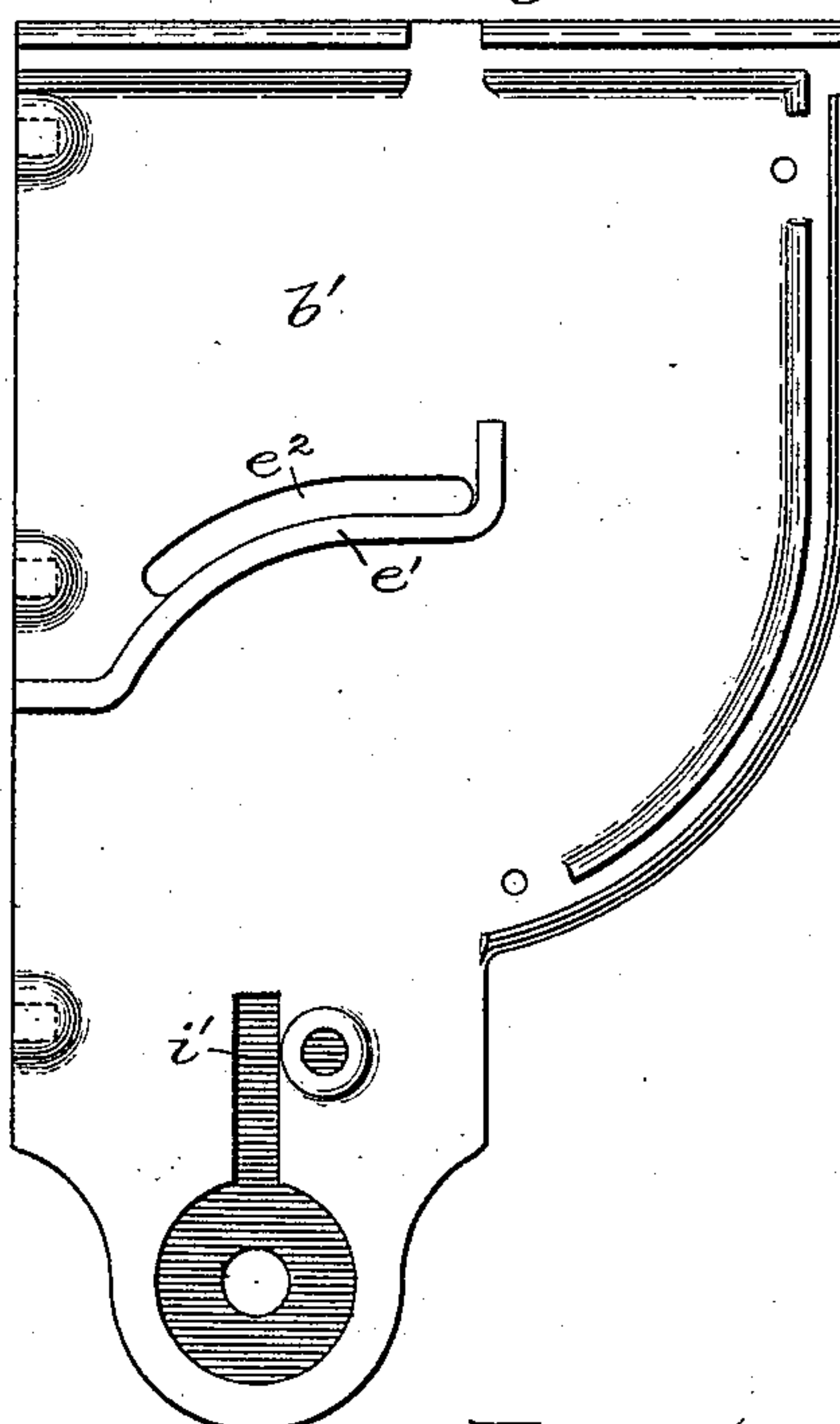


Fig. 3.



Attest:
Philip F. Larnet,
Howell Battle

Inventor:
Darius L. Goff
By *Wm. M. Wood* Attorney

(No Model.)

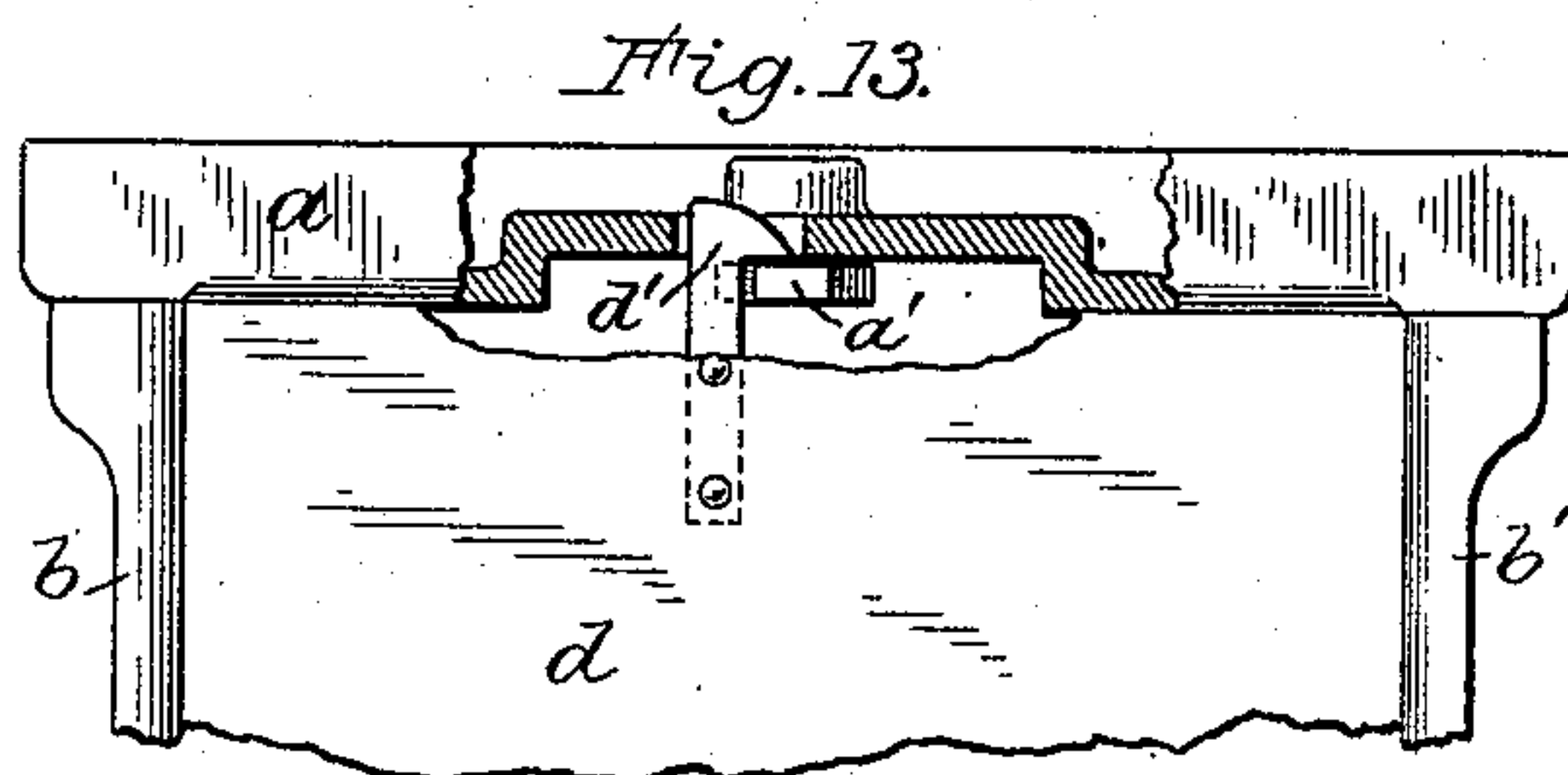
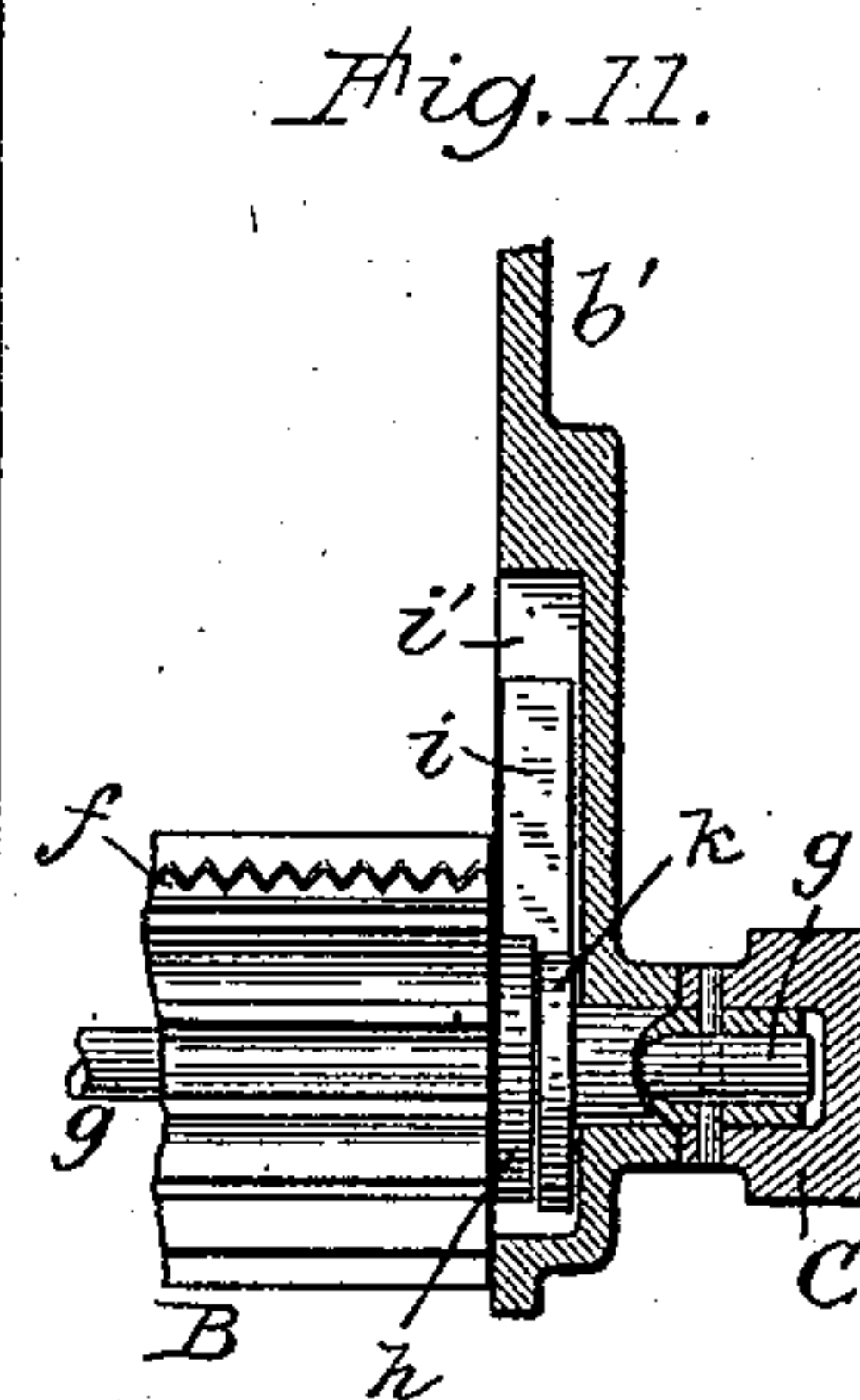
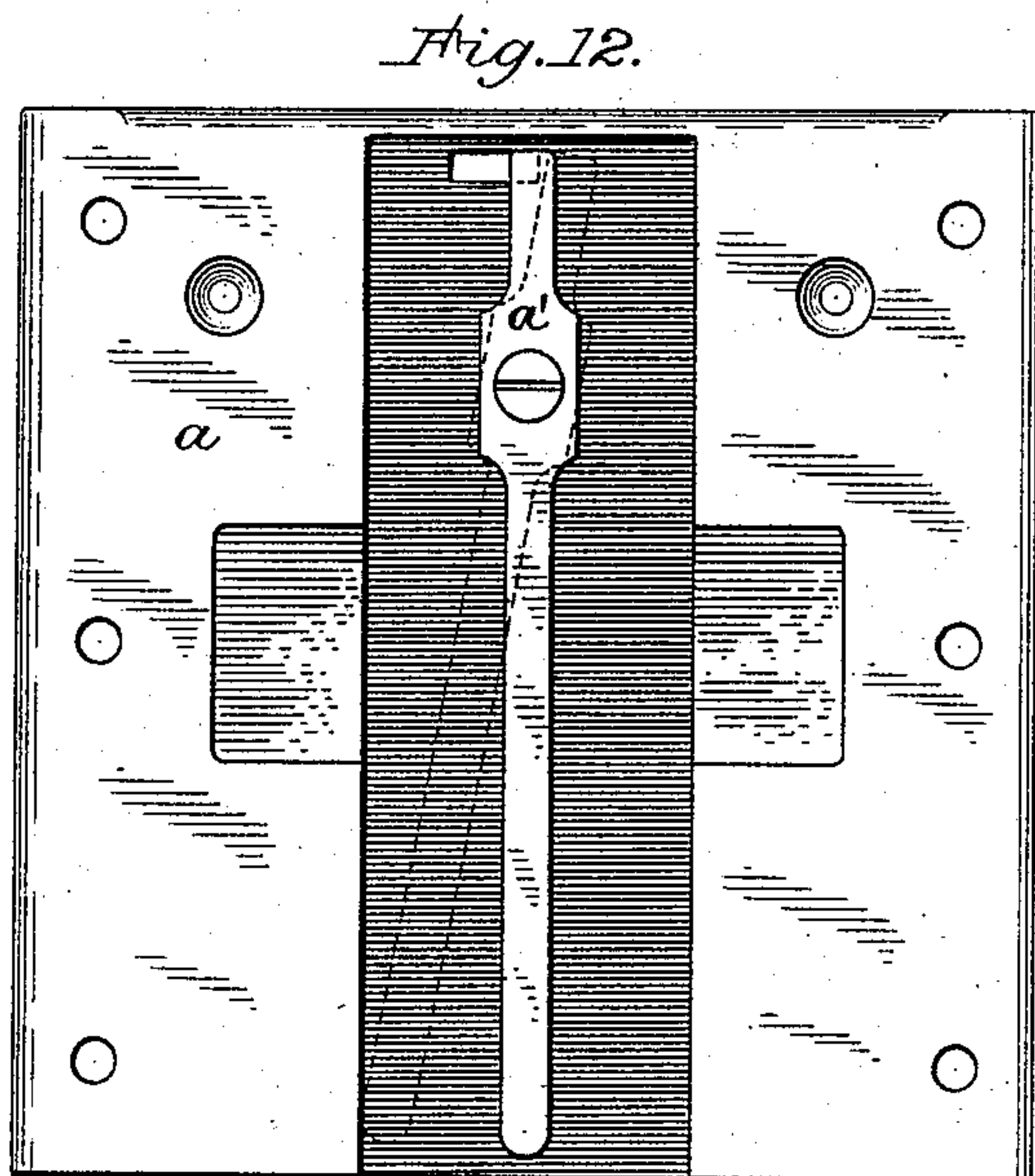
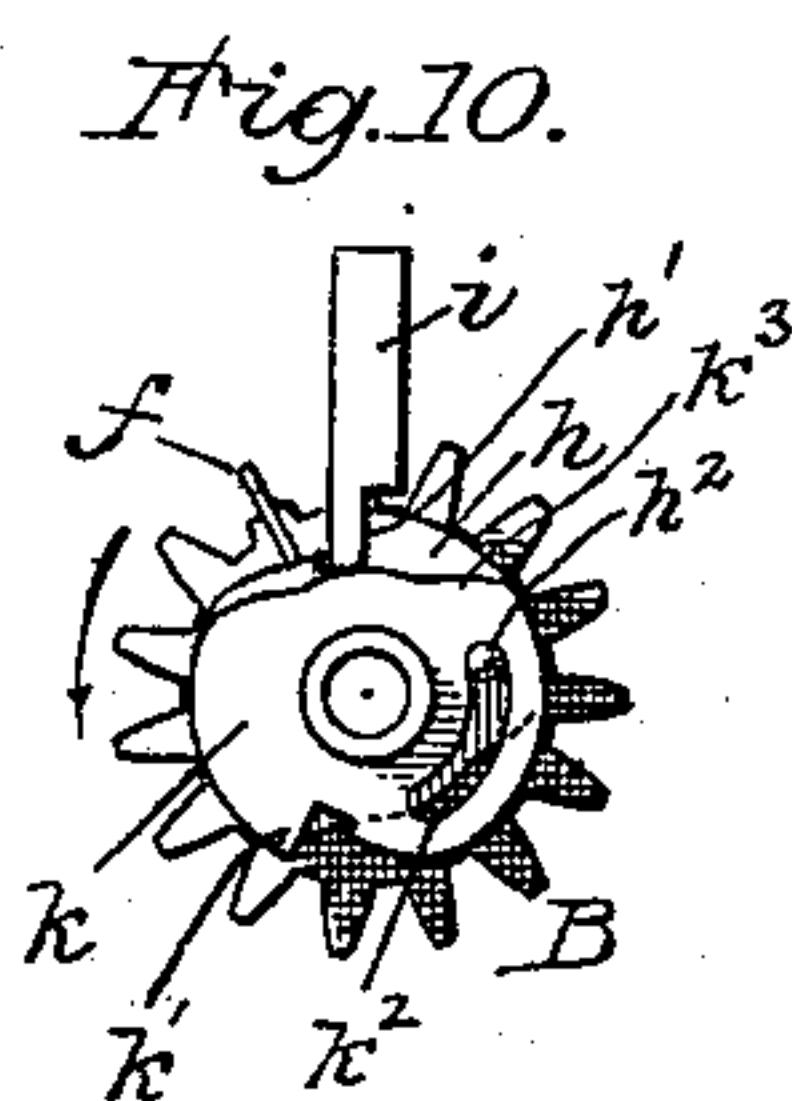
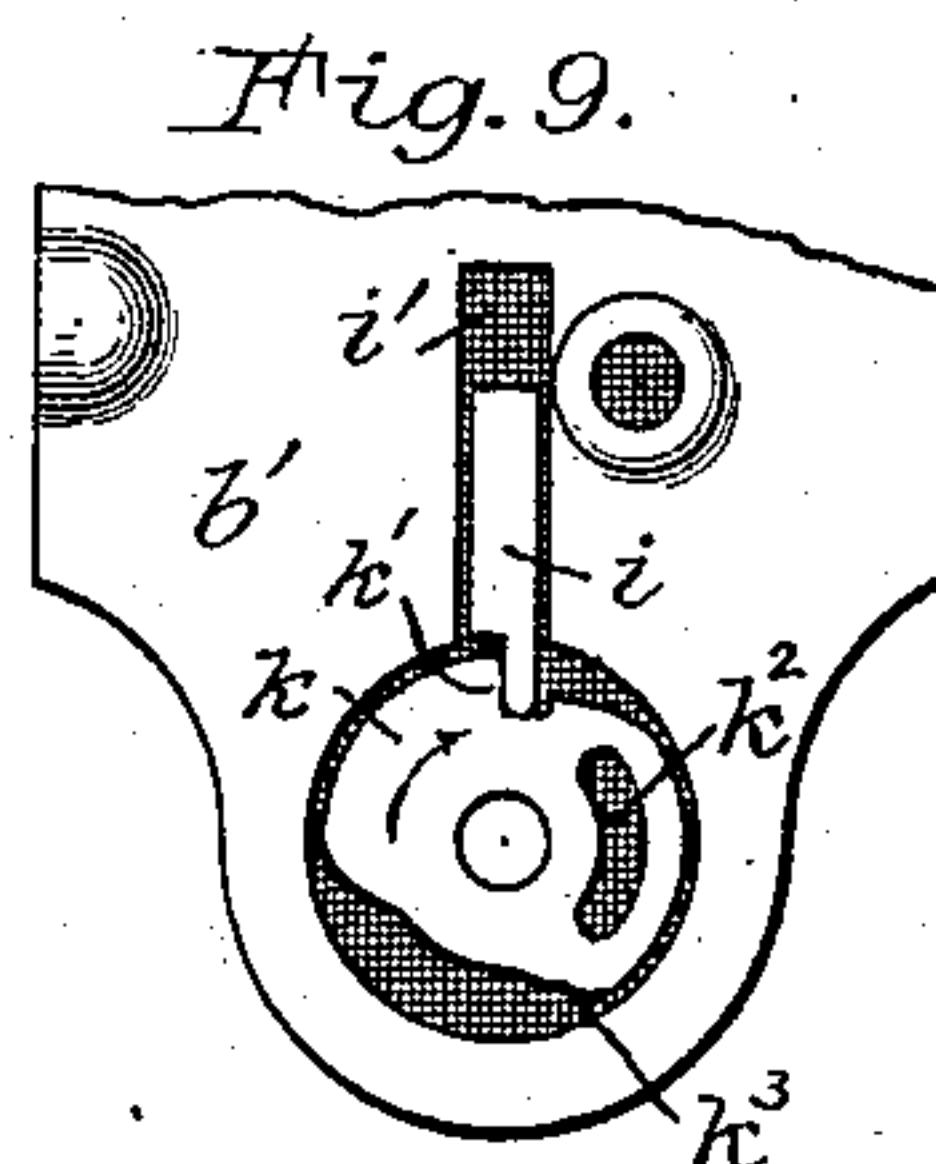
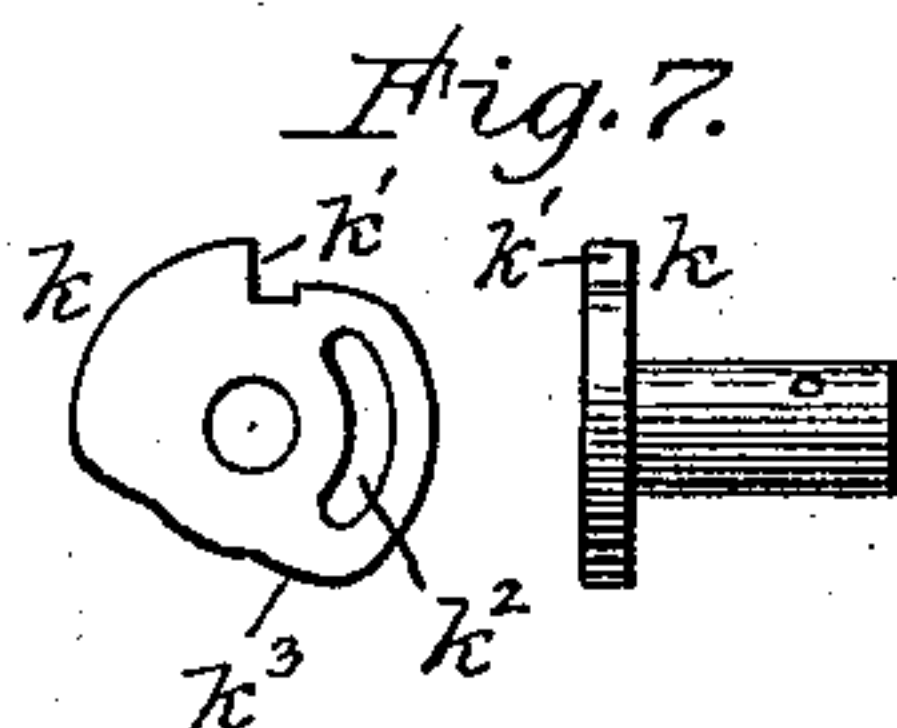
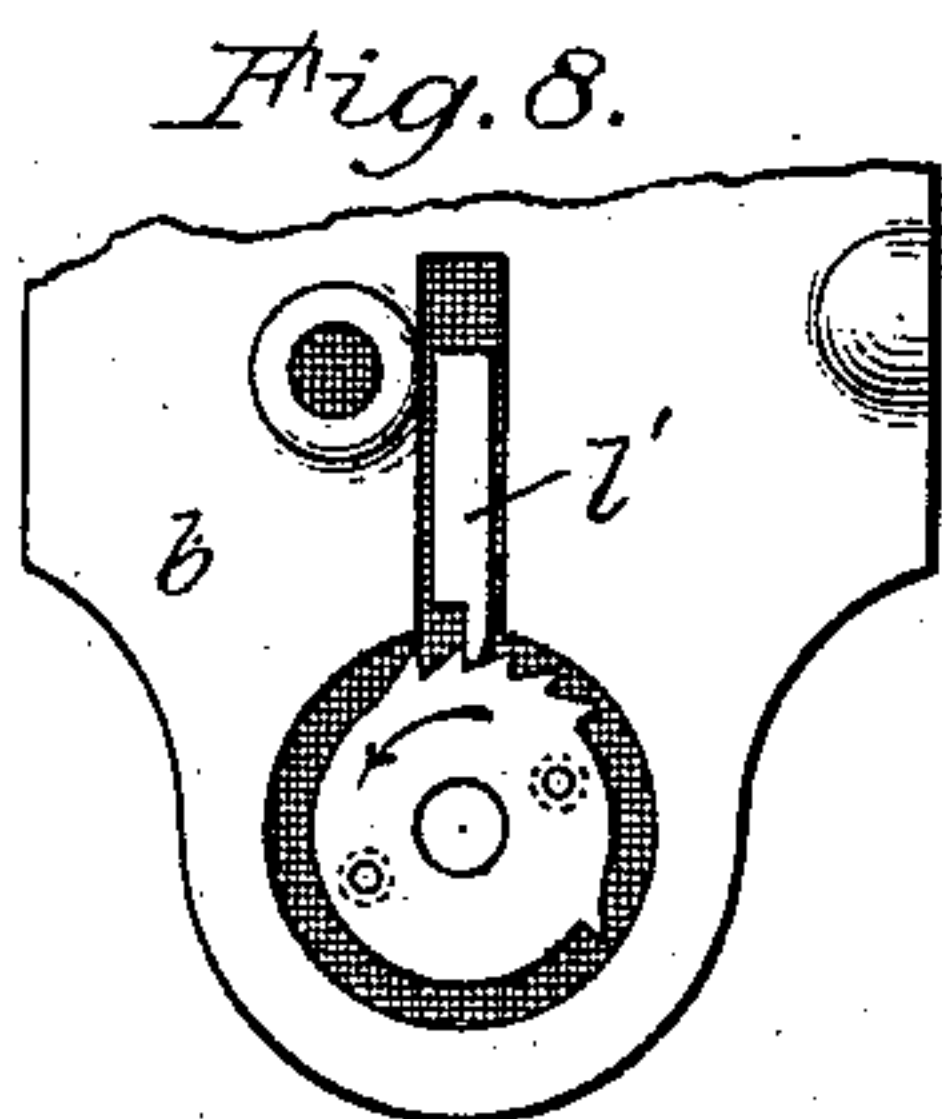
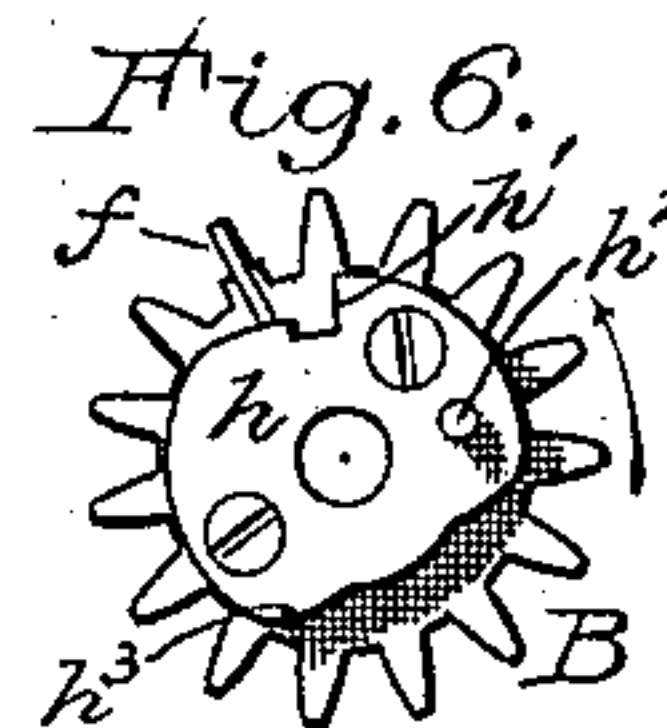
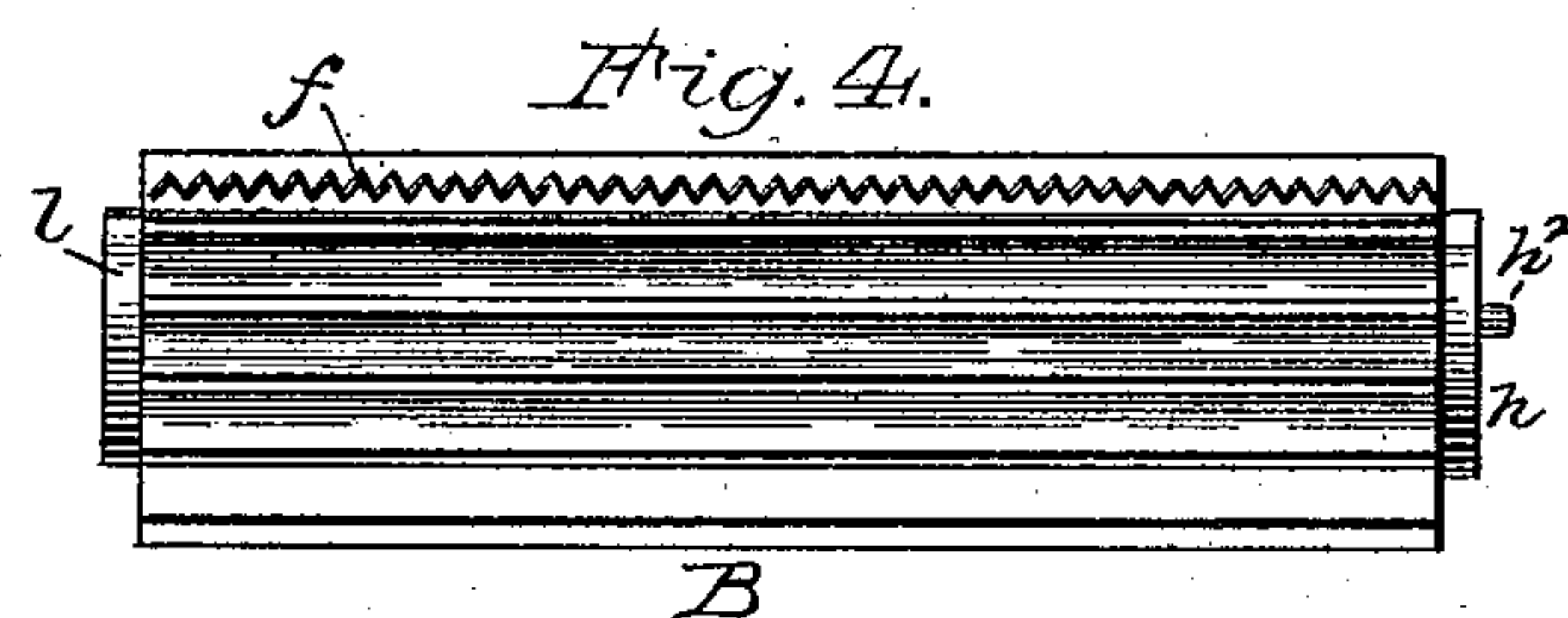
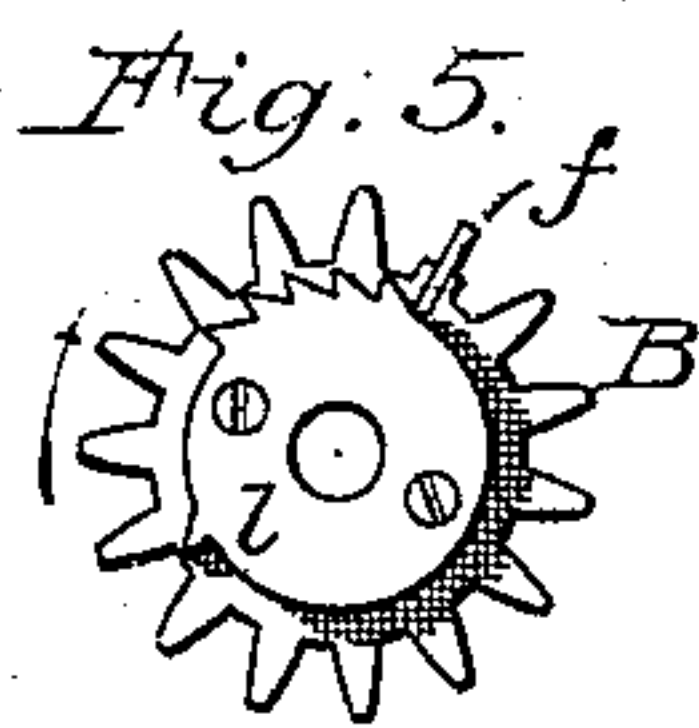
2 Sheets—Sheet 2.

D. L. GOFF.

MECHANISM FOR DELIVERING AND CUTTING ROLL PAPER.

No. 486,102.

Patented Nov. 15, 1892.



Attest:
Philip F. Larnes.
Notary Public

Inventor:
Darius L. Goff
By *Wm. M. Goff* Attorney

UNITED STATES PATENT OFFICE.

DARIUS L. GOFF, OF PAWTUCKET, RHODE ISLAND.

MECHANISM FOR DELIVERING AND CUTTING ROLL-PAPER.

SPECIFICATION forming part of Letters Patent No. 486,102, dated November 15, 1892.

Application filed May 5, 1892. Serial No. 431,907. (No model.)

To all whom it may concern:

Be it known that I, DARIUS L. GOFF, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Mechanism for Delivering and Cutting Roll-Paper; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

In my application for Letters Patent filed September 25, 1890, Serial No. 366,075, I disclosed certain improvements in machines of the class above referred to, and therein I illustrated and described various organizations respectively embodying all or various portions of my invention, appropriately claimed in said application. My said machines involve the use of delivering and measuring rolls and stopping and releasing mechanism, and some of said machines were double and others single, the one operating with two roll-packages of paper and the other with one roll-package. Of these single machines there were two kinds, one of which involved a necessity for the manipulation of the shaft of one of the paper-delivery rolls in imparting thereto a semi-rotation for the double purpose of releasing the stopping mechanism and advancing a grasping length of paper from the free end of the roll-package, so that a predetermined length might be pulled therefrom before the automatic operation of the stopping mechanism, and it is to this particular class of machine that my present application pertains, and the features of novelty to which this application is restricted are in part such as could not have been appropriately claimed in my said original application, coupled with certain additional improvements.

After describing my present invention, in connection with the drawings, the novel features appropriate to this application will be duly specified in the clauses of claim hereto annexed.

Referring to the drawings, Figure 1 illustrates one of my machines in front elevation. Fig. 2 illustrates the same in vertical cross-section with a roll-package of paper therein. Fig. 3 is a view of the inner side of one of the end plates of the casing of the machine. Fig.

4 is a front view of the lower roll and its cutter. Figs. 5 and 6 illustrate, respectively, the two ends of said roll. Fig. 7 illustrates in two views a cam-plate and its sleeve, which is carried on the shaft of the lower roll and co-operates with the cam-plate on the end of the roll, as shown in Fig. 6. Fig. 8 illustrates the lower portion of the inner side of one of the end plates, with a gravity-pawl and the toothed disk carried by the lower roll, as shown in Fig. 5. Fig. 9 illustrates the lower portion of the inner side of the other end plate with the cam-plate of Fig. 7 and its gravity-pawl in position for service. Fig. 10 illustrates in side view the two cam-plates and their pawl. Fig. 11 illustrates the two cam-plates in edge view, their pawl resting thereon, a portion of the lower roll, its shaft, and its hand-wheel. Fig. 12 is a view of the inner side of the back plate of the casing, illustrating a gravity-latch by which the sliding cover of the casing is secured in its closed position. Fig. 13 illustrates in top view the rear portion of the casing with a portion of the back plate and cover broken away for disclosing the gravity-latch and its keeper.

The casing of the machine may be largely varied in its construction, provision being made for properly mounting the operative mechanism therein. As here shown the casing is composed of metal and comprises a back plate *a*, having holes by which it may be screw-mounted on a vertical wall, two end plates *b* and *b'*, a curved front plate *c*, all united by screws or rivets, and a sliding top or cover *d*. The upper portion of the casing is of suitable interior dimensions to afford a chamber for freely receiving a roll-package *A* of paper which may have a central tubular core or an axial opening for receiving a supporting-shaft *e*, which at its projecting ends has free bearings upon suitable ledges *e'* on the inner sides of the two end plates, the latter having an opening or slot *e²* for enabling an inspection from time to time as to the quantity of paper in the package. The back plate *a* is vertically recessed for the reception of a vertical pivoted gravity-latch *a'*, (shown in Figs. 2, 12, and 13,) which, being normally vertical, readily engages with the keeper *d'* on the cover *d* when the latter has been pushed into its closed position, the releasing from the

latch being effected by swinging it on its pivot, as shown in dotted lines in Fig. 12. Access to the lower end thereof is afforded at the bottom of the casing, which being practically
 5 concealed when the machine is mounted on a wall renders the interior to that extent inaccessible to persons not familiar with the structure, the object being to in a measure guard against the pilfering of the roll-pack-
 10 age when the machine is used with closet-paper in hotels, for instance.

Below the roll-package there is a pair of rolls B and B', between which the free end of paper from the package is delivered, as indicated in Fig. 2, and inasmuch as the rolls are
 15 operatively coupled or geared together and are restricted to single rotations they are not only delivering-rolls, but measuring-rolls as well. The lengths of paper delivered are pre-
 20 determined according to the measuring capacity of the rolls. This measuring capacity ordinarily depends upon the peripheral dimensions of the rolls; but when corrugated longitudinally, as shown, the rolls have high
 25 measuring capacity with comparatively-small diameters. The corrugations of the rolls in meshing with each other, as shown, operate as gearing by which the rolls are made to rotate in harmony. The lower roll B car-
 30 ries a longitudinal paper-cutter *f*, preferably serrated on its working edge and in the form of a thin blade radially inserted in the roll in (and in part serving as) one of the corrugations. The upper roll B' is mounted
 35 on a shaft or rod having bearings or supports in the end plates *b b'*. The lower roll is loosely mounted on its shaft *g*, and the latter has bearings in the end plates of the casing, and both of its ends protrude and are
 40 provided with hand-wheels C, by means of which both rolls may be partially rotated under conditions to be hereinafter described. The rolls being restricted normally to a single rotation, a stopping mechanism is relied upon,
 45 and this may be widely varied, so long as it is organized so as to operate when the paper-cutter is at the bight of the rolls and in position for service, as indicated in Fig. 2. As
 50 here shown the stopping mechanism consists of a cam-plate *h*, secured to one end of the roll B, as shown in Figs. 4, 6, 10, and 11, and a gravity-pawl *i*, freely supported on the edge of said cam-plate in a guiding-slot *i'* in the
 55 end plate *b'*, Figs. 3, 9, and 11. The cam-plate *h* has a stop-catch at *h'*, which is arrested by the pawl *i* and held until the latter is lifted by suitable releasing mechanism, which in this case consists in part of a second
 60 cam-plate *k* on a sleeve pinned to the shaft *g*, which has thereon the hand-wheels C. This cam-plate *k* has a stop-catch *k'* of its own, which at each rotation engages with said pawl. The cam-plates *i* and *k* are operatively
 65 connected by means of a curved slot *k²* in the face of the cam-plate *k*, freely occupied by a pin *h²*, laterally projecting from the cam-plate *h*. This pin-and-slot connection provides for

a little less than one-quarter of a revolution to both rolls independently of each other, so that because of this lost motion either cam-
 70 plate can operate for releasing the other from the pawl *i*, each being provided with appropriate cam-faces *h³* and *k³*. The pawl *i* is wide enough to rest on the edges of both cam-
 75 plates, and when engaged by either stop-catch *h'* or *k'* the cam-plate which for the time being is disengaged operates as the releasing device. If the cam-plate *h* should be in con-
 80 tact with the pawl, the rotation of the hand-wheel and cam-plate *k* will be necessary for effecting a release. When the cam-plate *k* is engaged by the pawl, the roll B must be rotated, and this is effected by pulling on
 85 the free end of the paper, (indicated in dotted lines in Fig. 2,) a grasping length of which is projected by the rolls during a partial rotation of the hand-wheels C, continued
 90 after the stopping mechanism has been released. In other words, assuming that a grasping length of paper projects from the rolls, the operation will be as follows: Pulling
 95 the paper causes the rolls to rotate, whereupon the pawl *i* is disengaged from the cam-plate *k* by the cam-plate *h*, the rolls continuing to rotate until said pawl engages with the
 100 cam-plate *h*, which stops the rolls. After the length of paper has been severed the hand-wheel is then rotated to project the end of the paper for grasping; but before the paper can
 105 be so advanced the cam-plate *k*, which is rotated by the hand-wheel, first releases the pawl *i* from the cam-plate *h*, and then both rolls are rotated until the pawl *i* engages with
 110 the stop-catch on the cam-plate *k*, which limits the rotation of the rolls by the hand-wheel, and then, as already explained, the outward
 115 draft of the paper causes the cam-plate *h* to release the pawl from the cam-plate *k* and the rotation of the rolls continues until the cam-plate *h* is again engaged by the pawl.
 120 When a predetermined length of paper has been pulled out, the stopping mechanism operates with the knife or cutter *f*, located in position to sever the paper, whether the latter
 125 be pulled evenly and downwardly or torsionally, as is preferable. After the protruding end or desired length of the paper has been cut off the then free end of the paper remains bitten by the rolls to a limited extent,
 130 which renders it important that said rolls should not be backwardly rotated, as by inadvertance, and this is prevented by providing a back-stop mechanism at the other end
 135 of the roll, as shown in Figs. 4, 5, and 8. A ratchet-toothed disk *l* is secured to the end of the roll B, which co-operates with a gravity-pawl *l'* in such a manner that while the roll may freely revolve in its proper direction it is securely held against backward rotation. In this instance the teeth on the disk are few
 140 in number and located so as to operate at the time the cutter is in position for service; but the entire periphery of the disk may be provided with teeth, if desired. Inasmuch as the

cutter always occupies its one position when operative, it will be seen that the stopping mechanism is an essential feature in the measuring portion of the organization without reference to the cutter, and hence it is immaterial to certain portions of my invention in what manner the cutter may be arranged, so long as it can be properly engaged by the paper when the free end of the latter is grasped and pulled toward and in contact with the cutter.

Having thus described my invention, I claim herein and desire to secure by Letters Patent—

1. In a paper-delivering machine, the combination, substantially as hereinbefore described, of a pair of delivering and measuring rolls geared together, a cutter for severing

the paper, stopping and releasing mechanism controlling said rolls, and a hand-wheel coupled to one of said rolls for releasing the stopping mechanism and also for imparting a semi-rotation to the rolls.

2. The combination of a pair of corrugated delivering-rolls operatively coupled together, a hand-wheel coupled to one of said rolls for forwardly rotating them both in harmony, a longitudinal cutter carried radially on one of said rolls, and a ratchet and pawl for guarding against backward rotation, substantially as described.

DARIUS L. GOFF.

Witnesses:

JAMES A. PERRY,
M. W. SPENCER.