

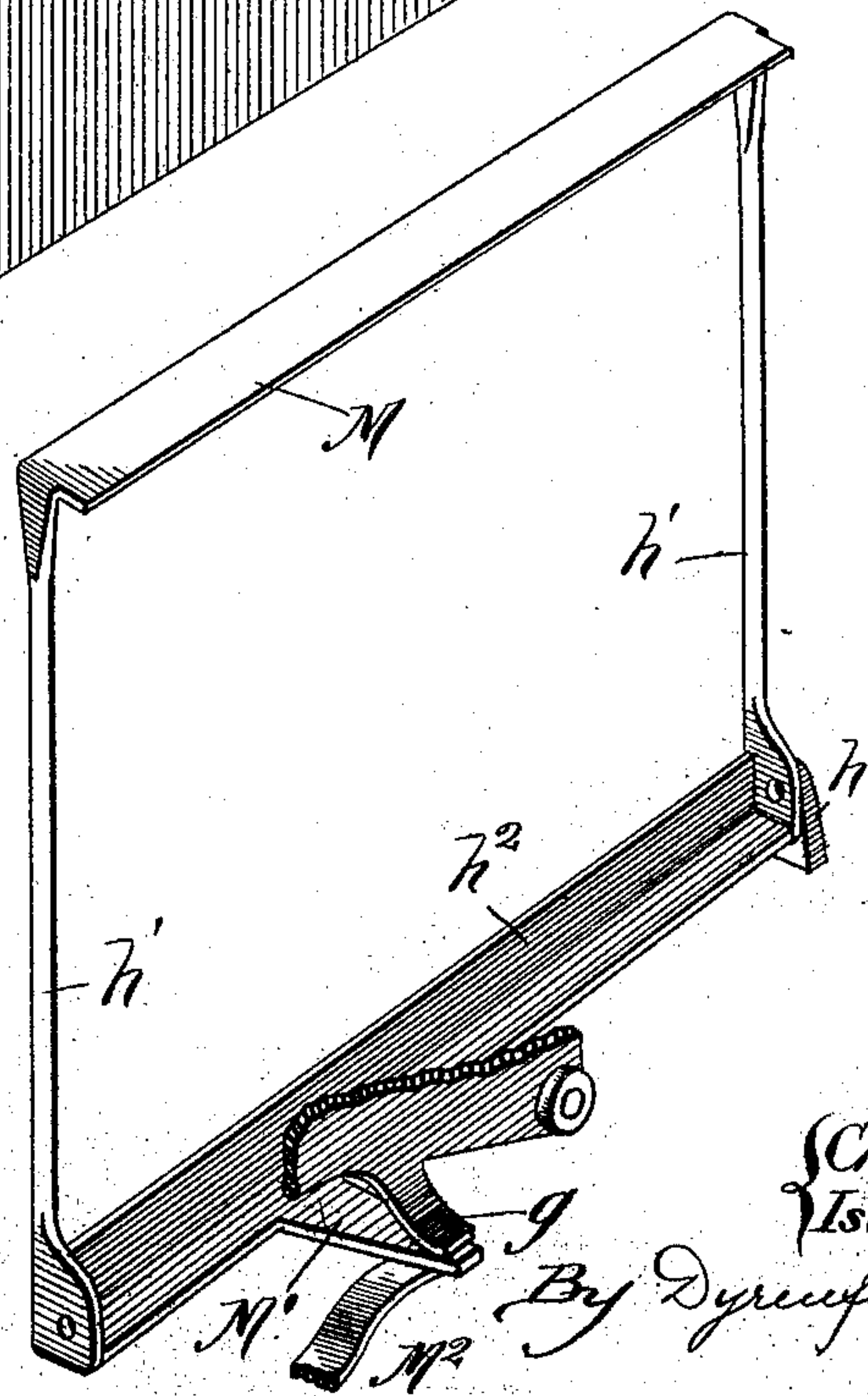
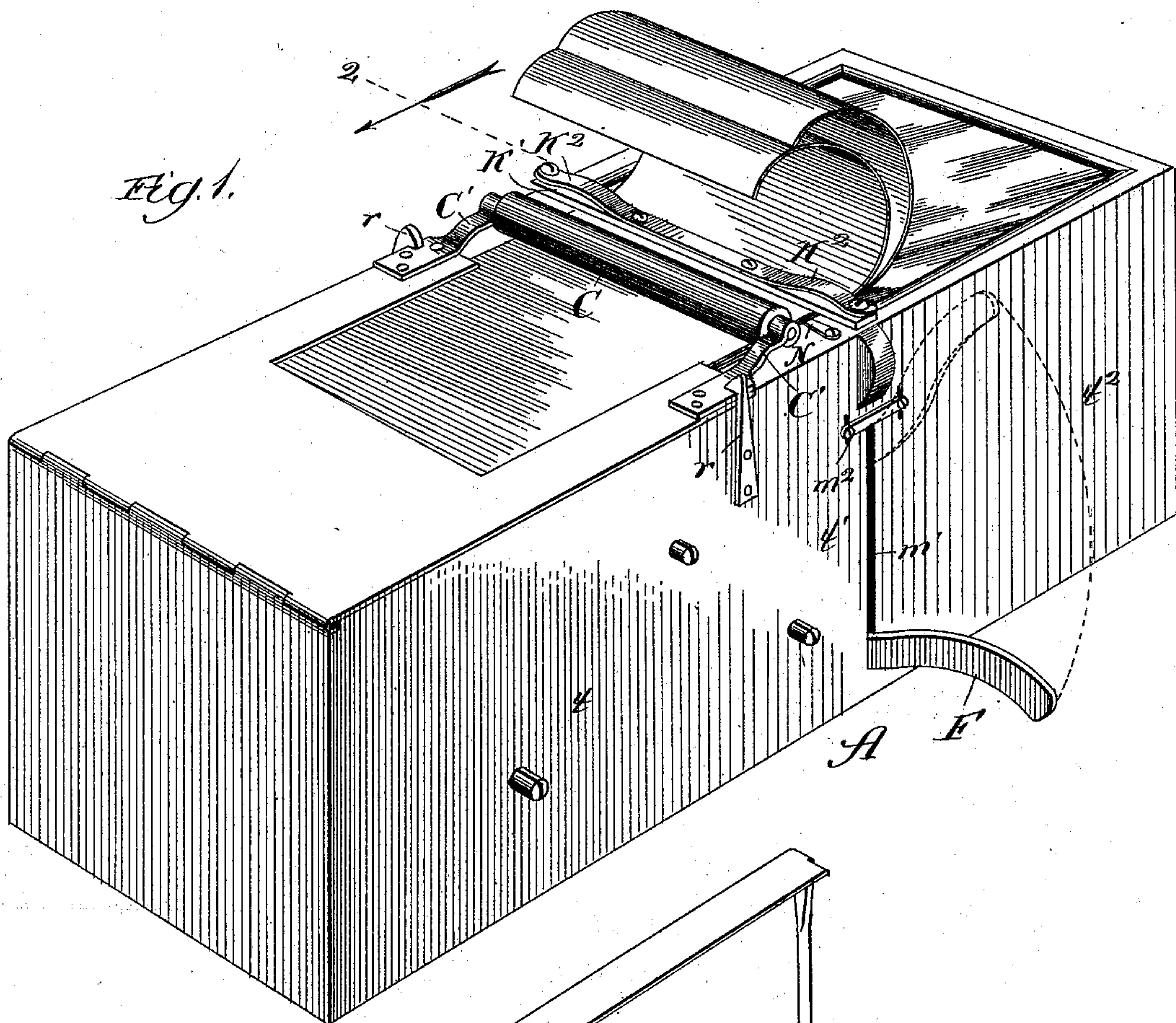
(No Model.)

3 Sheets—Sheet 1.

C. F. BASSETT & I. S. DEMENT.
AUTOGRAPHIC REGISTER.

No. 505,260.

Patented Sept. 19, 1893.



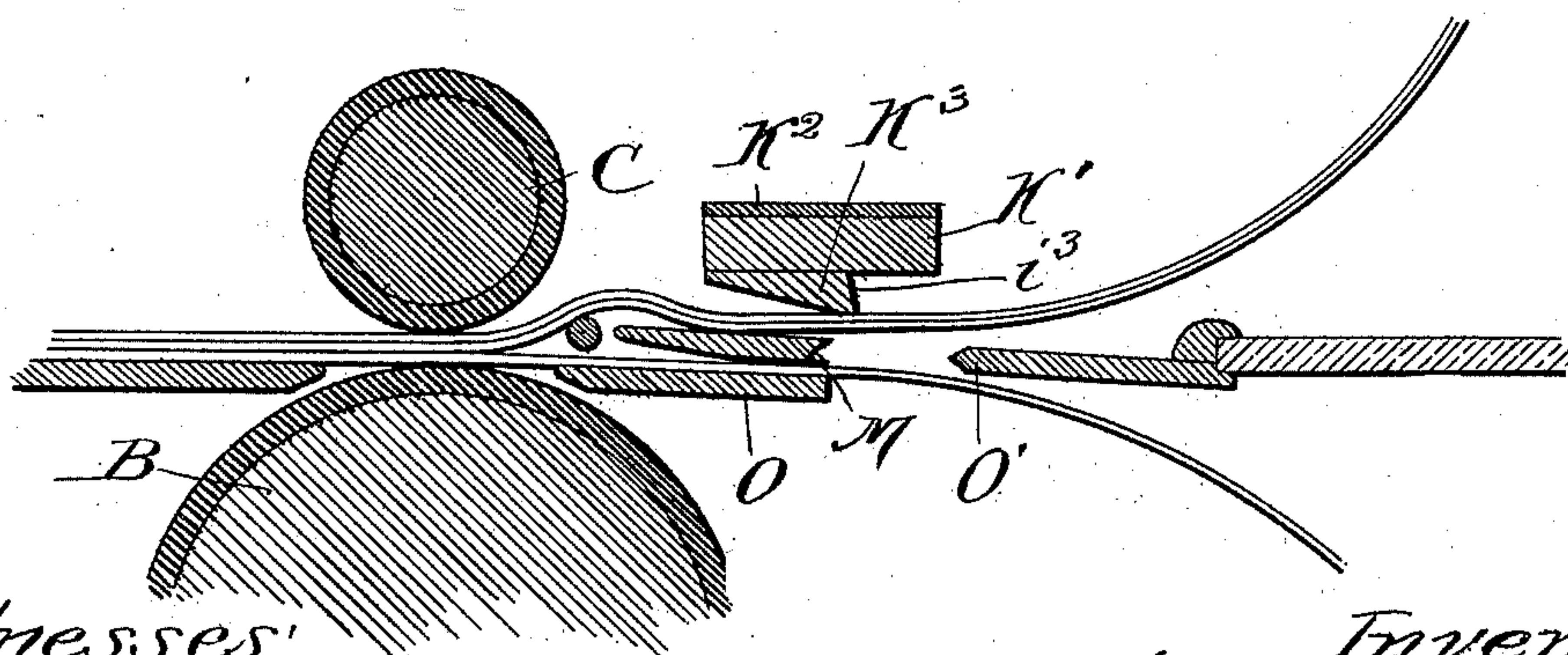
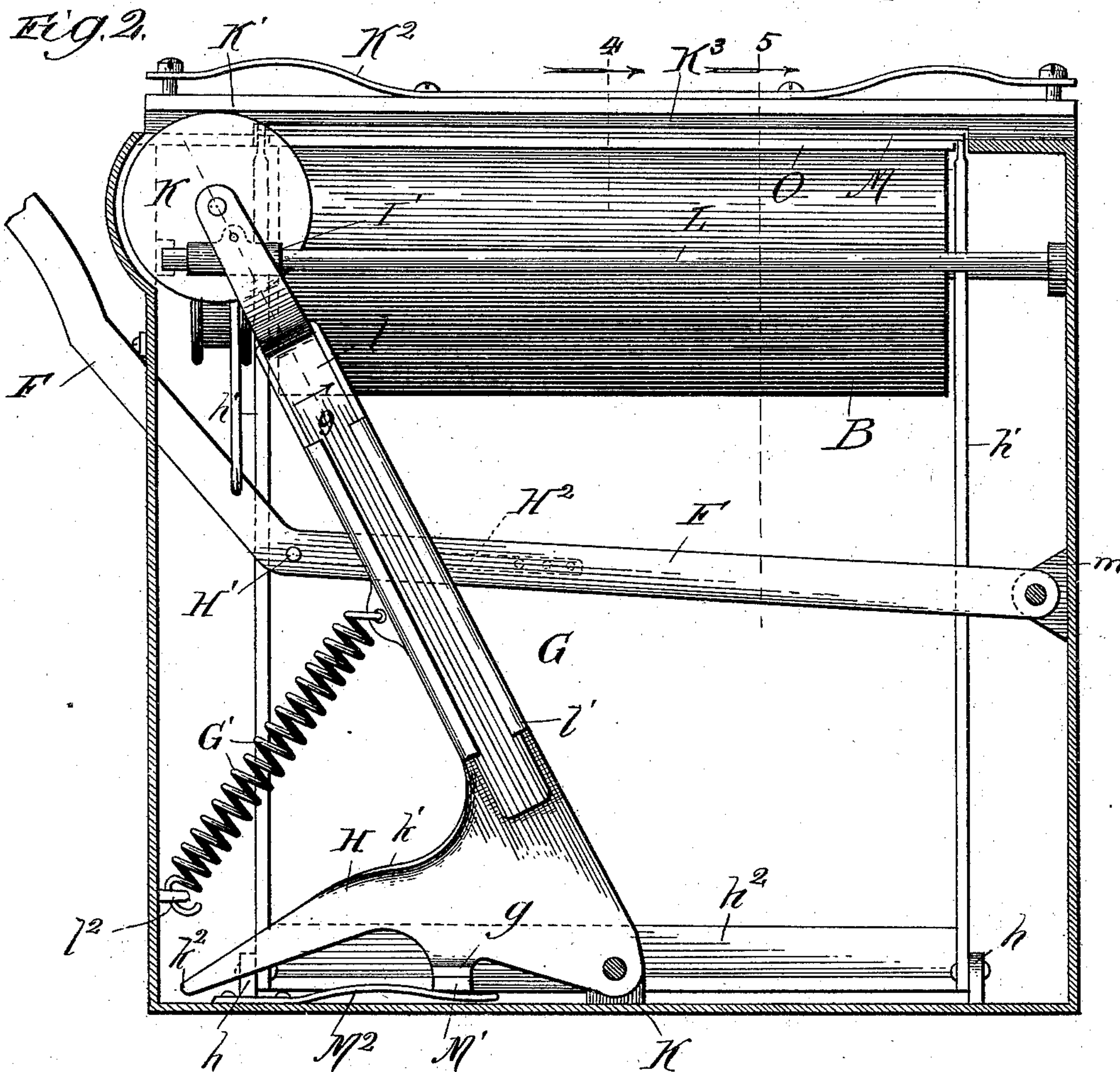
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Inventors:
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Attorneys.

3 Sheets—Sheet 2.

No. 505,260.

Patented Sept. 19, 1893.



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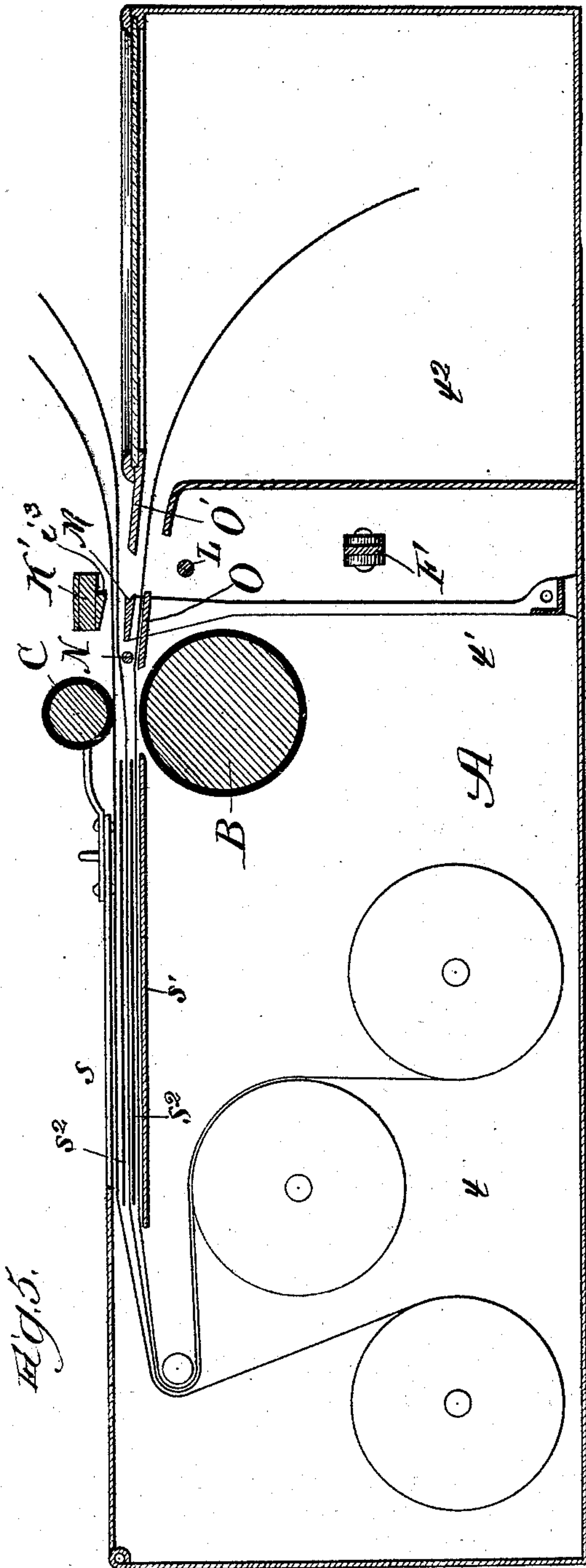
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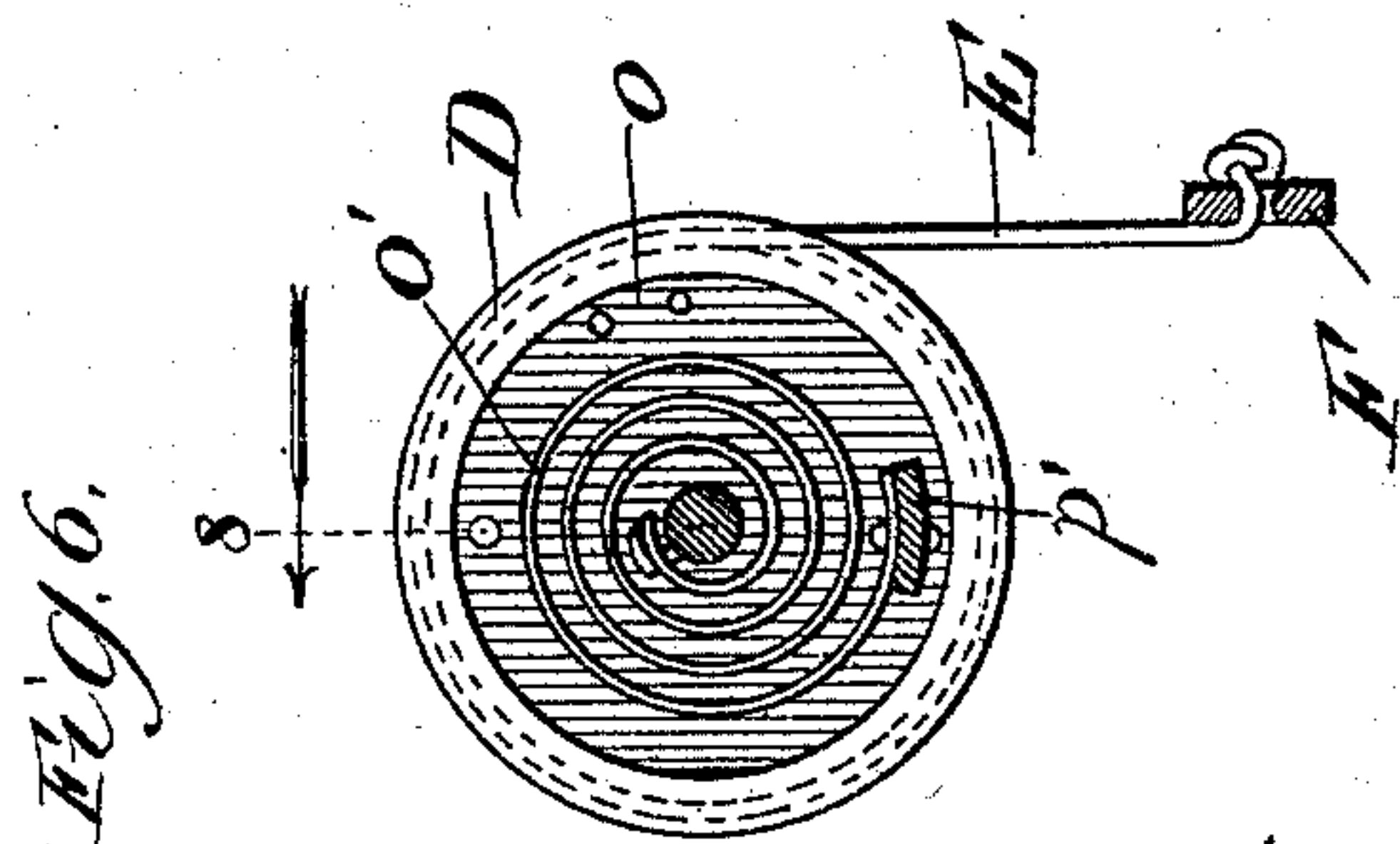
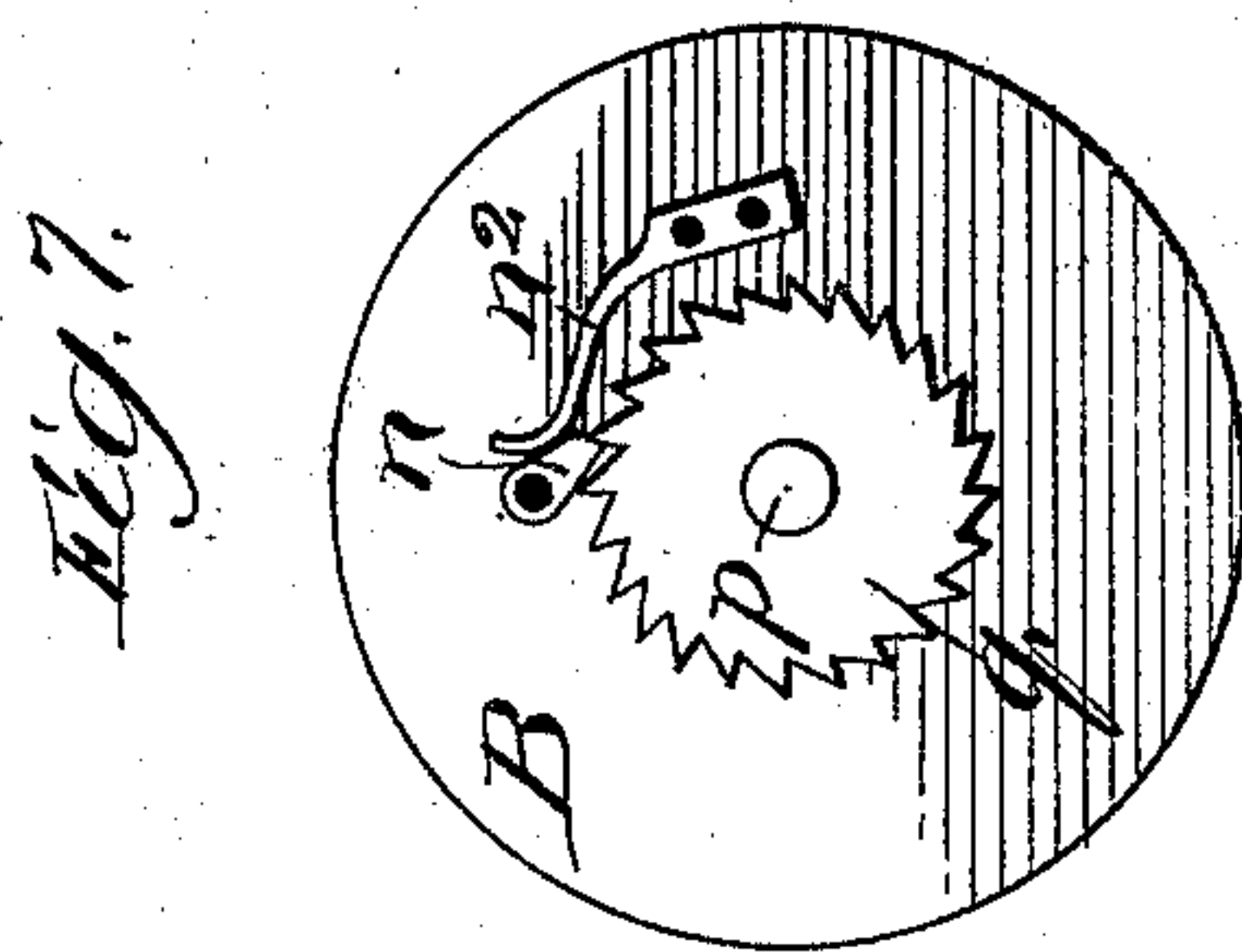
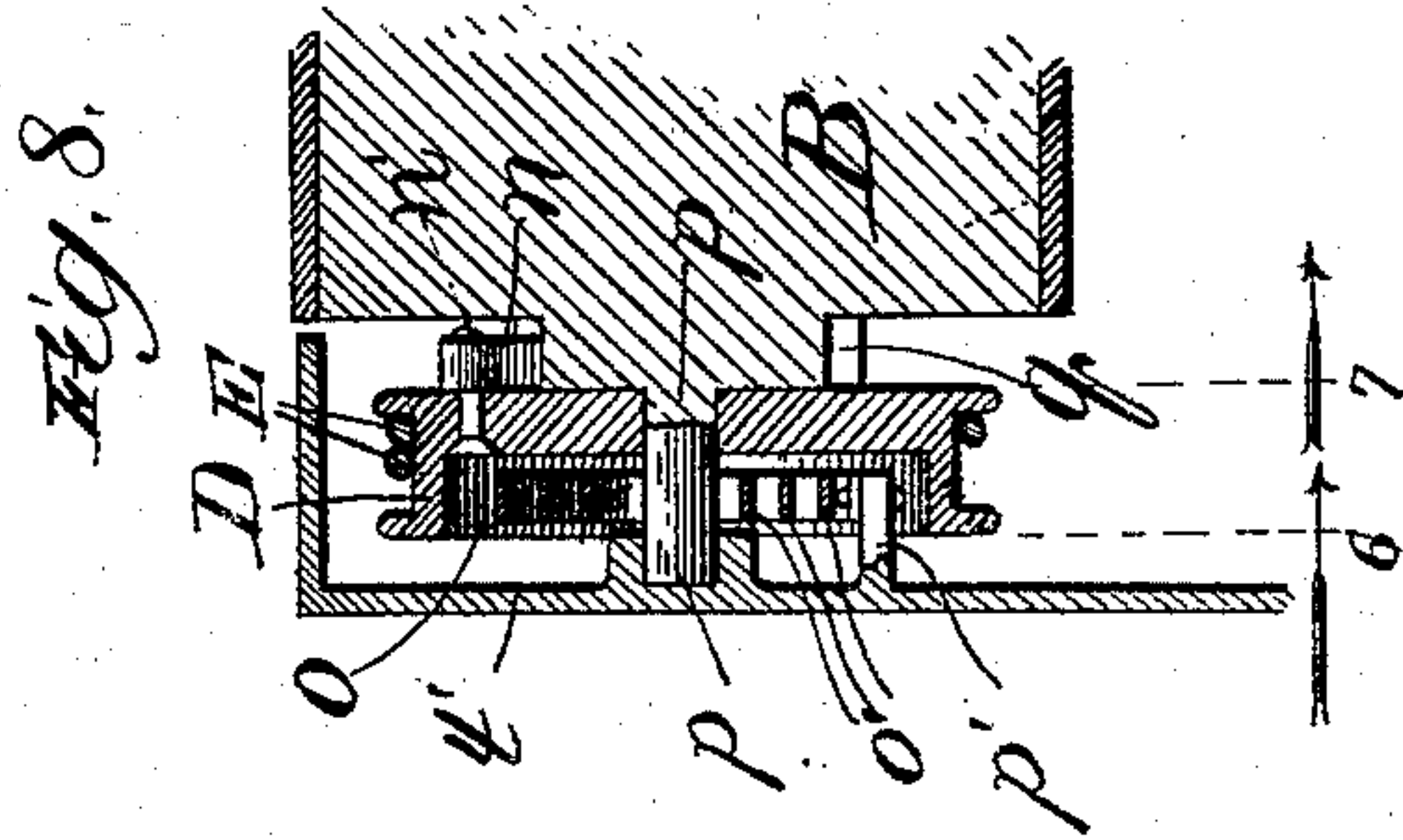
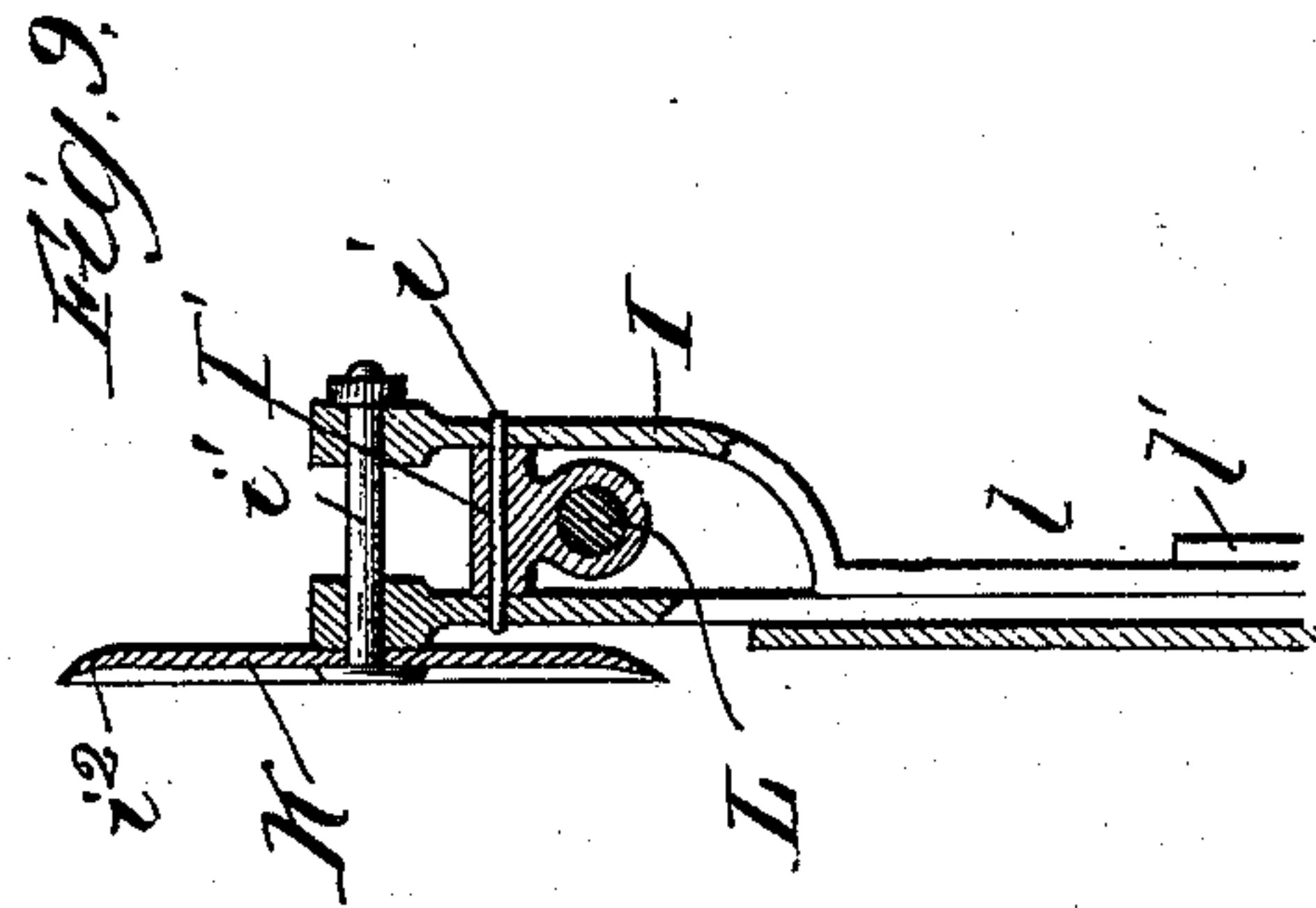
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Charles Gaylord,
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UNITED STATES PATENT OFFICE.

CHARLES F. BASSETT AND ISAAC S. DEMENT, OF CHICAGO, ILLINOIS.

AUTOGRAPHIC REGISTER.

SPECIFICATION forming part of Letters Patent No. 505,260, dated September 19, 1893.

Application filed January 3, 1893. Serial No. 457,012. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. BASSETT and ISAAC S. DEMENT, citizens of the United States, and residents of Chicago, Illinois, have
5 invented new and useful Improvements in Autographic Registers, of which the following is a specification.

Our invention relates to an improvement in the class of apparatus known as autographic registers, which are used for the purpose of
10 permitting duplicate or triplicate slips to be written with one impression of the pencil or stylus, one of the slips thus produced to be caused to remain in a case or compartment
15 of the apparatus, while the other two may be removed from the apparatus by tearing or cutting. In apparatus of this character, it is usual to provide, in a casing of suitable dimensions, two, three or more rolls of paper to
20 furnish the record slip and check slips, the rolls being mounted transversely of the casing, and the several sheets, caused to be fed outward, lying parallel with each other upon a plate horizontally supported with relation
25 to the casing. While lying thus parallel with each other upon the plate, the upper strip of paper is presented to an opening in the case through which the mark may be made with the pencil or stylus. It is usual, also, to cause
30 to lie between the moving sheets where they pass over the plate, strips of transfer paper, of the kind known as "carbon" paper, or the kind known as "ink manifold" paper, these strips being held rigidly either by
35 clamps at opposite ends, or by rollers upon which the strips are mounted in continuous rolls. The manifolding paper lies between adjacent sheets, so that a mark made with the pencil or stylus upon the sheet exposed
40 at the opening, is reproduced in the other sheets. Sometimes it is desirable that the record slip, which is usually the lowest of the slips upon which the marks are made, shall be severed from its roll of paper, at the same
45 time that the other slips are severed, and it is usually desired that this record slip shall automatically fall into the casing or compartment to receive it, to be held therein under lock and key. Sometimes, however, it is preferred
50 that the record slips shall remain a part of the continuous roll, while the check slips are severed from their rolls, in which

case a roller to receive the record roll is supplied, while a knife edge is presented by which the check slips may be severed quickly. 55
In an apparatus of this character, it is sometimes the case that the slips are severed by a knife cutting through all the strips, two of these strips being automatically fed out of the case, while the third is led into a com- 60
partment to receive it, where, sometimes, it is automatically placed upon a spindle. In all apparatus heretofore constructed for the purpose named, we believe, however, that the amount of strip fed forward by the feeding 65
roll was governed by the eye only, no means being provided for limiting the length which can be fed forward in one portion. We believe, also, that in autographic registers, as now constructed for the market, the feeding is 70
accomplished entirely by a crank, and the cutting, if performed, involves the manipulation of a separate piece of mechanism, either a crank or a lever.

It is the object of our invention to produce 75
an autographic register for the purpose described, in which the amount of paper fed forward for each slip may be automatically regulated.

A further object of our invention is to pro- 80
duce an apparatus of the kind described, in which the cutting of the strips to produce slips may be done by manipulation of the same handle used for operating the feed.

A further object of our invention is to pro- 85
duce an apparatus of the character described, in which the cutting of the paper may take place automatically when the proper amount has been fed forward to provide the slips.

A further object of our invention is to pro- 90
vide means for separating automatically the check slips from the record slips while the strips are being fed forward.

To these ends, our invention consists in an autographic register provided with mechan- 95
ism, as hereinafter described, whereby the objects above set forth respectively are attained, as well as in the details, general and specific, involved in such mechanism.

Our invention consists further, in certain 100
details and combinations of parts, whereby the operation of an autographic register of the nature described may be made more rapid, more perfect, and more simple.

In the drawings—Figure 1 is a perspective view of an autographic register, constructed according to our improvement. Fig. 2 is a cross section through the case on the line 2 of Fig. 1, showing in elevation the feed-operating and cutting mechanism. Fig. 3 is a sectional detail view of the guide plate and its operating mechanism, which directs the feed of the paper across the cutting opening. Fig. 4 is a longitudinal cross section through the upper part of the apparatus, taken on the line 4 of Fig. 2. Fig. 5 is a longitudinal sectional elevation on the line 5 of Fig. 2. Fig. 6 is a cross section of the spring drum connected with the lower feed roller. Fig. 7 is a view in elevation of the dog and ratchet mechanism; Fig. 8 a vertical central section taken through one end of the feed roller and attendant mechanism on the line 8 of Fig. 6; and Fig. 9 is a view in cross section of the cutter knife and the upper part of its carrying arm, taken on the line 9 of Fig. 2.

Sectional views are to be taken as indicated by the arrows, where given.

Our invention, in its broader form, is properly divided into two parts: first, the part relating to the feed of the strip, in connection with which is the mechanism for regulating the amount of strip fed forward in one portion; the second part relates to the cutting mechanism, in connection with which is the device, or its equivalent, shown in Fig. 3, for causing the strips to be fed forward in the proper line. By preference, and herein lies an important feature of our invention, the feed mechanism and the cutting mechanism are connected together to operate alternately, mechanism being introduced to stop the feed while the cutting takes place, and the operating mechanism for both the feed and cutting device being found in a single manipulative agency.

A represents the casing, which may be of any desired configuration, and it is divided into three parts, distinguished by their function, to wit, the part *t*, in which are supported the rolls of paper; the part *t'*, in which are found the feeding and cutting devices and their operating mechanism; and the part *t''*, which affords the receptacle for the severed record strips. It may here be stated that the parts *t* and *t''* may be of the kind usually found in devices of this nature, and that in the latter compartment there may be employed a spindle or other filing medium to hold the slips after severance, and, furthermore, that the compartment *t''*, will, as usual, be supplied with means for locking it, so that the slips therein contained may be inaccessible to unauthorized persons. It may, however, be stated that the compartment *t''* may be dispensed with entirely without departing from the broader features of our invention; for it is quite within the operation of the essential elements of the improvement to cause the record strip, or that lying lowest of all, to be turned back to a receiving roller before

reaching the cutting knife, which, therefore, will act upon the check slips only.

In the lid of the part *t* there is provided the opening *s*, beneath which there extends transversely across the casing the permanent plate or table *s'*, the function of which is to afford a firm back against which the writing may be performed. As usual, the strips of paper from the rolls pass longitudinally across the opening *s*, and sheets of carbon paper *s''* extend transversely across that opening between alternate strips, said carbon paper, which may find a substitute in any of the manifold papers available, being either in the form of sheets of a dimension to fit the opening, and held at the edges by the clamping action of the lid or other medium, or in the form of continuous strips held at opposite ends in rollers. Both these arrangements for the manifolding paper are in common use in apparatus of this kind, and shown in various patents relating thereto, and as they form no part of our invention, it is not deemed necessary to illustrate either form more fully.

The feed mechanism comprises the main roller B and co-operating roller C. Both these rollers are preferably faced with rubber. The roller C has its bearings at opposite ends in the springs *C'* riveted to the lid, and as the lid is adapted to be held firmly to the casing by the catches *r*, a pressure is exerted by the roller C sufficient to enable it to produce a feeding contact in the pair of rollers; while the connection of this roller C to the lid, which latter is hinged as before described, permits the feed to be opened for any of the usual purposes. The roller B has its bearing at either end in the side of the part *t'* of the casing, but it is not essential that this bearing shall be in the casing itself, but it may be in a plate secured to the casing.

In Fig. 8 the bearing is shown as formed in a lug extending inward from the casing. At one end of the roller B the bearing is in the form of a spindle *p*, adjacent to which there is formed the annular ratchet *q*. Around the spindle *p* there is supported the drum D, having the recess *o*, within, which is supported the spring *o'*, one end of which is secured to the spindle *p*, while the other end is secured to an inward extension *p'* of the casing section *t'*. The drum D is to be understood as loose upon the spindle *p*. Upon a bearing in the form of a bolt *n'*, extending inward from the drum D, there is hung a dog *n*, controlled by a spring *n''*, this dog being adapted to engage the ratchet *q* in one direction and slide over it in the other. Around the drum D there is wound a cord or chain E, the lower end of which is secured to the pivoted lever F. The lever F has its pivot in a stud *m* at one end of the frame, and extends through a slot *m'* cut through the part *t'* of the casing. In this position it is readily accessible to the hand. Externally or internally, but preferably the former, there is provided to extend across the opening *m'* a plate

m^2 , which is adjustable with relation to the casing A. The plate m^2 operates as a stop to the upward rise of the lever F, the purpose being to permit the amount of motion given to the feed roller B by the lever F to be changed from the maximum, or from that obtained with the lever capable of rising to the position shown in Fig. 1, to the minimum, which will be ascertained when the description of the cutting mechanism has been given.

The cutting mechanism comprises a lever G, made in two parts l and l' , one capable of sliding upon the other, said lever having its pivot in a stud k in the floor of the casing, and held in retracted position, as shown in Fig. 2, by the spring G' connected at its opposite end with the loop l^2 in the casing. From its lower or pivot end there extends inward from the lever G a cam H, constituting a lifting arm. In the lever F, at the proper point, a hole is formed, through which projects a pin H' , held by the spring H^2 , secured to one face of the lever F, as shown in Fig. 2, and which, therefore, normally projects from the lever into the plane of the lifting arm H. The upper edge of the lifting arm H is slightly curved or curled, as shown at k' , so that when the lever F is brought downward, the pin H' engages the curved surface and is forced inward, and is held in retracted position until it has passed the lifting arm. On the return of the lever F, the pin H' engages the arm H^2 , and lifts the latter and moves the lever G against the resistance of the spring G' , until the pin H' passes the point k^2 of the arm, when the latter is immediately retracted. The upper end of the member l of the lever G terminates in a fork I, at an intermediate point in which it carries the transverse sleeve I' , which is hung upon a pivot afforded in a pin i . The upper extremity of the fork carries through the medium of a shaft i' the cutting knife K. The knife K may be of any usual description, but it is preferred to employ it in the form of a cutting disk, having its circumferential edges turned inward, as shown at i^2 in Fig. 9. The co-operating member of the cutting device is found in the cross bar K' , made of wood, held by a spring K^2 to the upper side of the casing, thereby to have the property of yielding slightly, and provided on its under face with the cutting edge or block K^3 , the cutting face of which is beveled inward, as shown at i^3 . The cutting face i^2 of the disk, and the cutting face i^3 of the block K^3 , permit a scissors action, which is not only found more effective, but offers an advantage in the particular that the cutting edge is kept sharp with less difficulty. Extending transversely across the casing is the rod L, upon which slides freely the sleeve I' before mentioned. On the base of the casing are provided two pivot lugs h , which serve as pivot bearings for the vertical arms h' , carrying at their tops the inward projecting plate M. At the lower end the arms h' are connected by cross pieces h^2 , from which projects forward the stud or arm M' .

On the base of the casing there is supported a spring M^2 , which engages the arm M' , and holds the same normally in an elevated position. The upper face of the casing is longitudinally slotted to permit the arms h' to extend through the same, as shown in Fig. 2, so that the plate M lies above the case, its normal position, when under the influence of the spring M^2 alone, being as shown in Fig. 4, to wit, retracted from the cutting opening so as to present no obstacle to the movement of the cutting knife in co-operation with the plate K' . The lifting arm H is provided on its under side with a projection g , which when the lifting arm is in the position shown in Fig. 2, or in other words, when in its normal position, engages the arm M' and holds it depressed against the resistance of the spring M^2 . When the arm H is lifted, the arm M' is released and permitted to rise, and by this action, through the medium of the vertical arm h' , retracts the plate M from its usual position, in which it covers the cutting opening, to the position shown in Fig. 4. When the lifting arm H returns after cutting, the arm M' being again depressed, the plate M returns to cover the opening. The function of the plate M is to prevent the introduced check strips from being fed into the casing instead of out of it. On the upper face of the casing there is supported a guide-rod N, behind which is the opening for the friction roller B, and beneath which is a plate O, forming part of the upper wall of the casing. In order that an opening may be afforded for the passage of the strip, before severing, into the compartment t^2 , it is apparent that a space must be provided in the casing wall, between this compartment and the plate O. This is produced in our invention by causing the plate O to incline downward at its farther side, and by causing the opposite side of the cutting opening to be in the form of a sharp edged plate O' , which, by preference, projects upward at its edge. The edge of the plate O' is on a level with the edge of the plate M, which latter, moreover, is preferably recessed in the edge to make a reasonably close joint with the edge of the plate O' .

The operation of the device as here described is as follows:—The downward movement of the lever F, drawing upon the cord E, causes the rotation of the rollers B and C. Before this operation, the strips of paper from the rolls are carried across the writing face of the casing, two strips being caused to extend above the rod N, while the lowest or record strip, extends below this rod, and hence into the compartment t^2 . At this time the arm M' is held depressed, so that the plate M extends across and closes the cutting opening. Therefore, the check slips, when placed in position, are prevented from entering the compartment t^2 . As stated, the lever F is depressed until it assumes its lowest position, as indicated in full lines in Fig. 1, whereupon a certain pre-determined amount of paper

has been fed onward across the writing face of the casing. To change the amount of paper thus fed, the stop m^2 is employed. If in a position lower than shown in Fig. 1 it is quite apparent that the lever F will travel a shorter distance in passing from its uppermost to its lowermost position, and that, therefore, the rotation of the feed roller B is less. Having reached its lowest position it is then elevated, whereupon the pin H' engages the lifting arm H, causing the knife K to travel across the paper and sever all the strips. The moment the knife begins to move, the spring M^2 begins to act to retract the plate M, so that no obstacle to the movement of the knife is presented. When the knife has traveled entirely across the casing, the pin H' escapes from the arm H and the latter, with its lever and knife, is retracted by the spring G'. By reason of the pawl and ratchet mechanism on the winding drum, the return or lifting of the lever F does not rotate the friction roller.

What we claim as new, and desire to secure by Letters Patent, is—

1. In an autographic register, the combination with the feed-roll, the cutter and the cutter-carrying mechanism, of a lever, and a connection between the lever and feed-roll, whereby the lever when moved in one direction operates to give a corresponding rotation to the roll, an adjustable stop engaged by the lever in its return movement, whereby the extent of movement of the lever is limited with corresponding limitation upon the amount of movement of the feed-roll, and a connection between the lever and the cutter-carrying mechanism when the lever is on its return stroke, substantially as described.

2. In an autographic register, the combination with the feed roller, the transversely movable cutter arranged to cut the strip after being fed forward, and the oscillating arm carrying said cutter, a lever connected with the feed roller and operating to rotate the same, and a connection between said lever and said cutter carrying arm when the lever has reached its advanced position, whereby the lever in its forward motion shall rotate the feed roller, and in its return motion shall operate the cutter, substantially as described.

3. In combination with the feed roller of an autographic register, and means for preventing the backward rotation of said roller, a lever operating said feed roller in advancing, a cutter moving transversely across the strips, an oscillating arm carrying said cutter, and a connection between said oscillating arm and said lever when the latter has reached the limit of its advanced motion, whereby on the return motion of the lever the cutter is operated and the feed is held at rest, substantially as set forth.

4. In an autographic register, the combination with the feed roller and transversely moving cutter and with the case having an opening to permit one slip to enter the casing, of a guide plate M, operating to cover

said opening thereby to prevent the introduction of the check strips, and acting as a guide to direct the record slip through the opening, and means, substantially as described, for moving said plate away from said opening, as set forth.

5. In an autographic register, in combination with the casing, a knife moving transversely across the casing, an arm carrying said knife, having its pivot in the base of the casing, and a lever engaging and operating said arm, substantially as described.

6. In an autographic register, in combination with the casing, a knife movable transversely across the casing, an arm carrying said knife, having its pivot in the base of the case, a lift arm connected therewith, and a lever pivoted in the casing and accessible to the hand outside of the casing, having a pin adapted to engage the lift arm to lift the same and to pass the lift arm in the downward motion, whereby the movement of the lever operates the knife, substantially as described.

7. In an autographic register, in combination with the knife movable transversely across the casing, a movable plate M, movable in and out of the path of the knife and serving to cover the cutting opening, substantially as described.

8. In an autographic register, in combination with the feed rollers, the separating rod and the movable separating plate, substantially as and for the purpose set forth.

9. In an autographic register, in combination with the casing, the plate M for the purpose described, the pivoted arms h' carrying said plate and connected at their bases, the arm M' and spring M^2 , as and for the purpose described.

10. In an autographic register, in combination with the casing, the rod L, the knife carrying lever, the sleeve secured to said lever and engaging and traveling on said rod, a spring operating to retract said lever, and a lever operating to advance it, substantially as described.

11. In an autographic register, in combination with the knife-carrying pivoted lever, and the plate normally covering the cutting opening in the casing, the arm M' , spring M^2 and projection g , arranged to operate substantially as described, whereby in its retracted position the knife carrying lever holds the plate over the opening, to be automatically withdrawn therefrom when the knife carrying lever is advanced.

12. In an autographic register, the combination with the feeding roll and the casing having a transverse cutting opening, the cutting knife comprising a cutting disk movable transversely across the casing in said opening, mechanism operating the feeding rolls, and the cutting knife, mechanism restraining the motion of the feeding rolls during the movement of the cutting knife, a movable plate adapted to close said cutting opening

when the knife is advanced, and a block
K³ having a beveled cutting edge to cooper-
ate with the cutting knife and supported
above the cutting opening, substantially as
described.

5 13. In an autographic register, the casing
having the cutting opening, the downwardly
inclined plate O, the upwardly inclined plate

O' and the movable plate M, all arranged to
operate substantially as and for the purpose so
described.

CHARLES F. BASSETT.

ISAAC S. DEMENT.

In presence of—

J. N. HANSON,

W. N. WILLIAMS.