

(No Model.)

3 Sheets—Sheet 1.

A. BERTRAM.

LETTER POSTMARKING AND CANCELING MACHINE.

No. 408,401.

Patented Aug. 6, 1889.

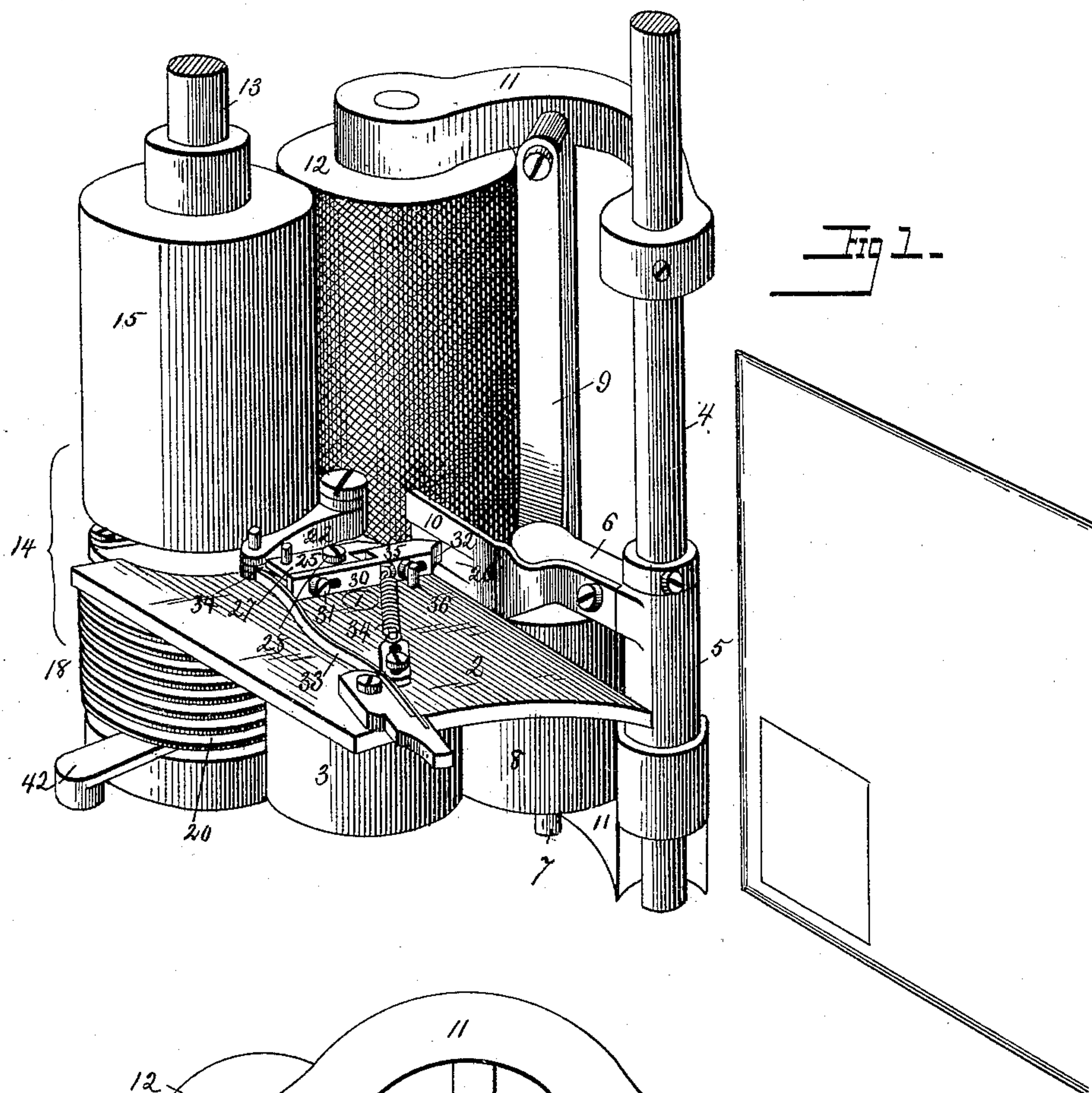
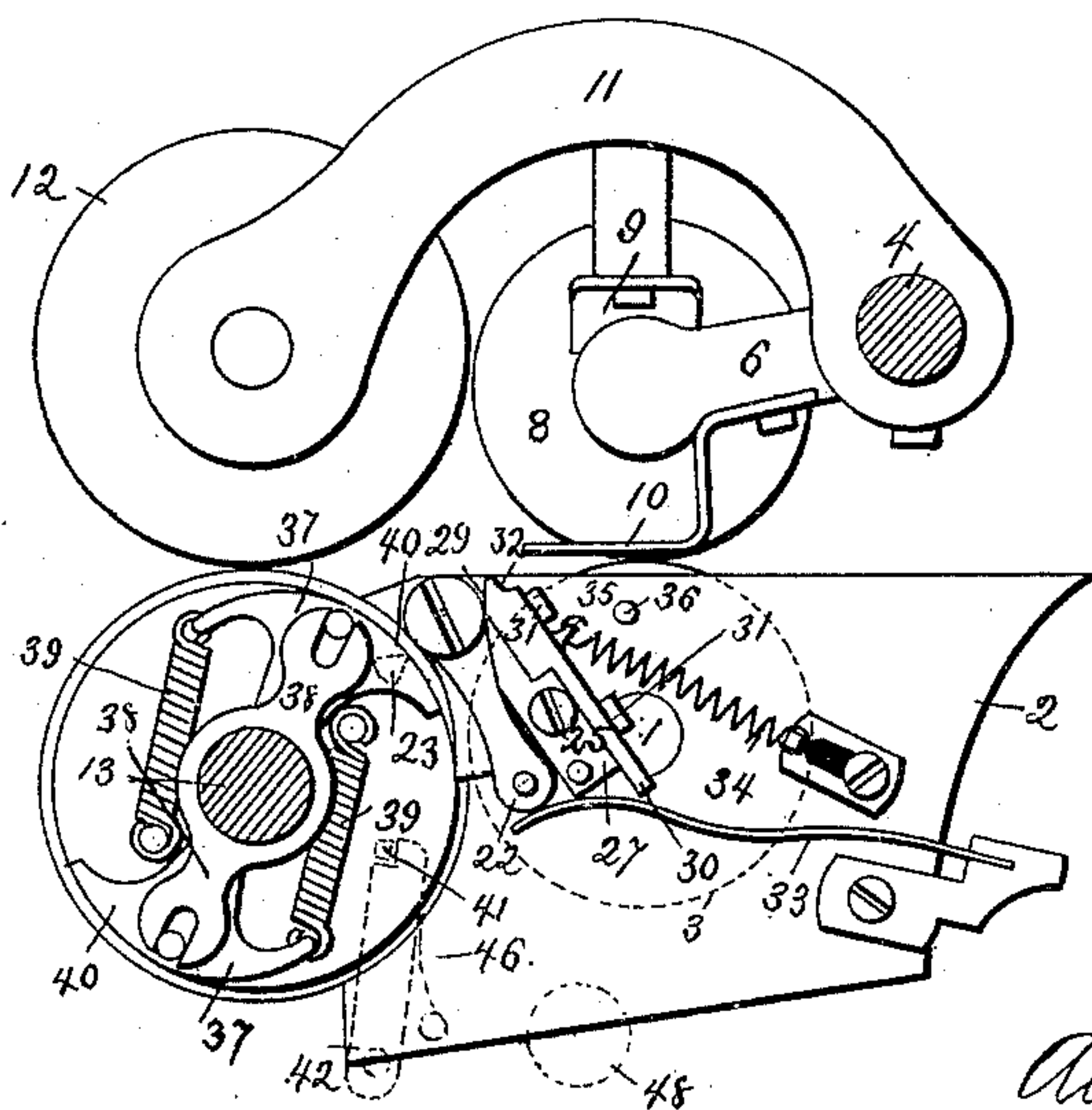


Fig. 2.



Attest:

Wm. A. Harries

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Inventor:

by

Foster & Freeman

Attys

(No Model.)

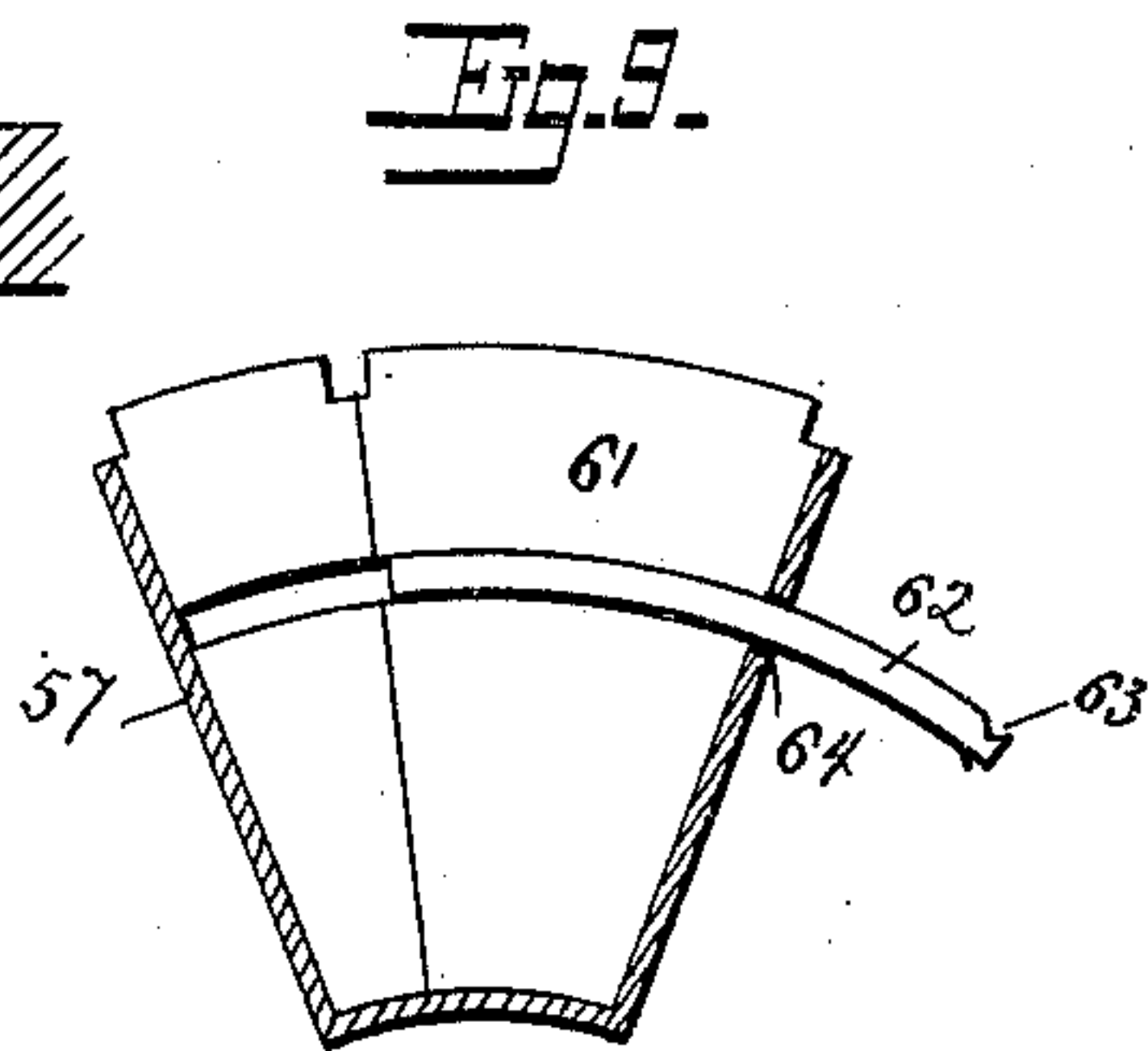
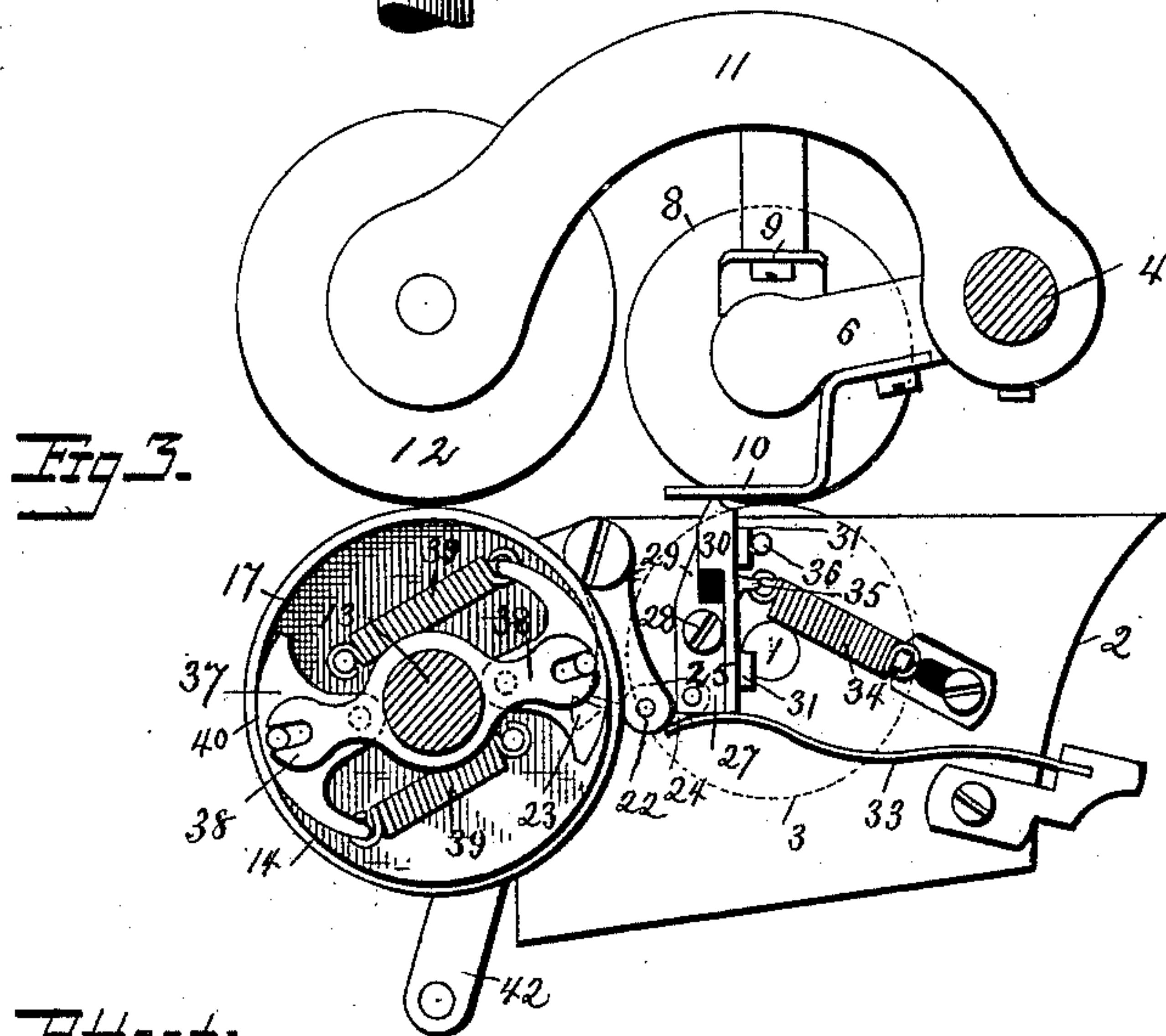
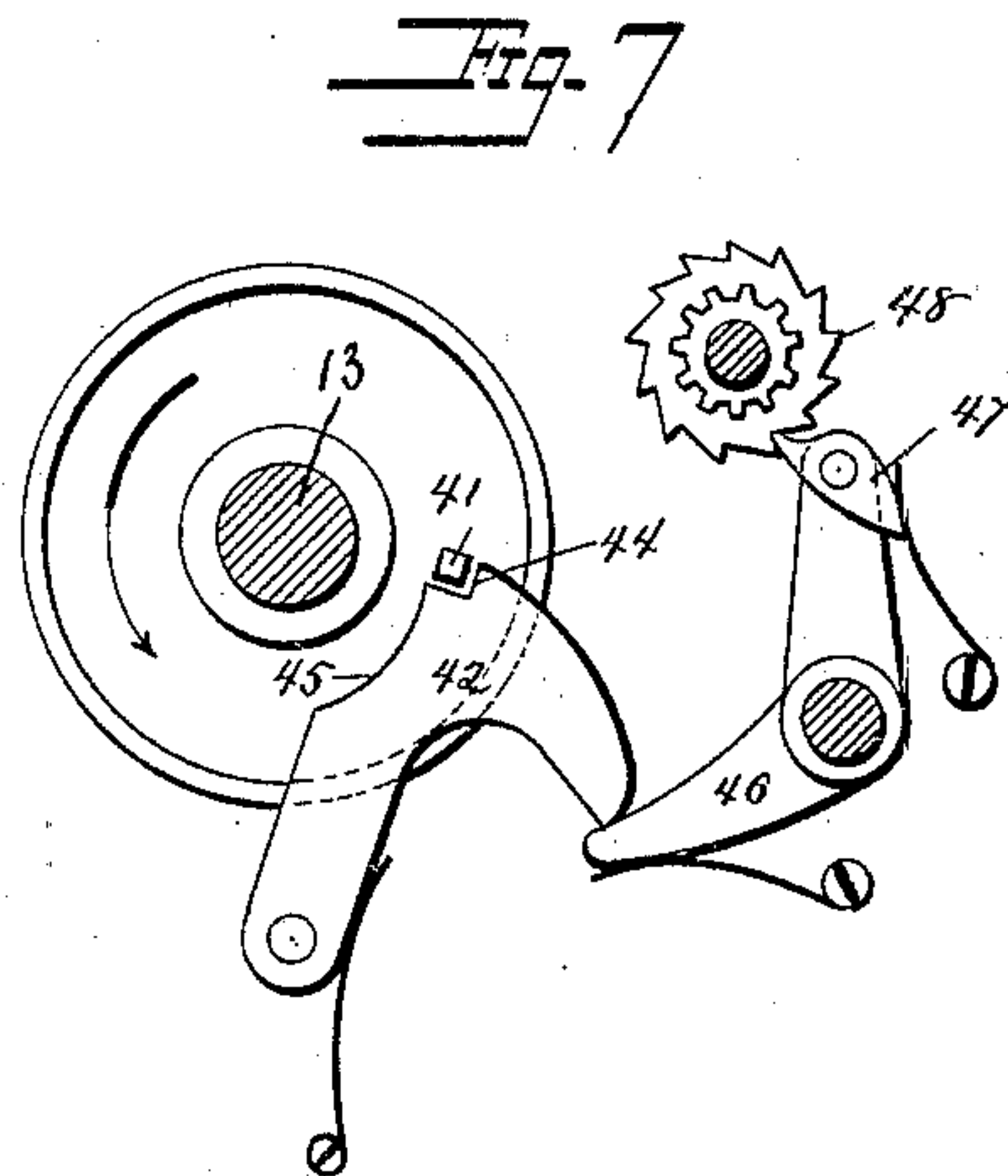
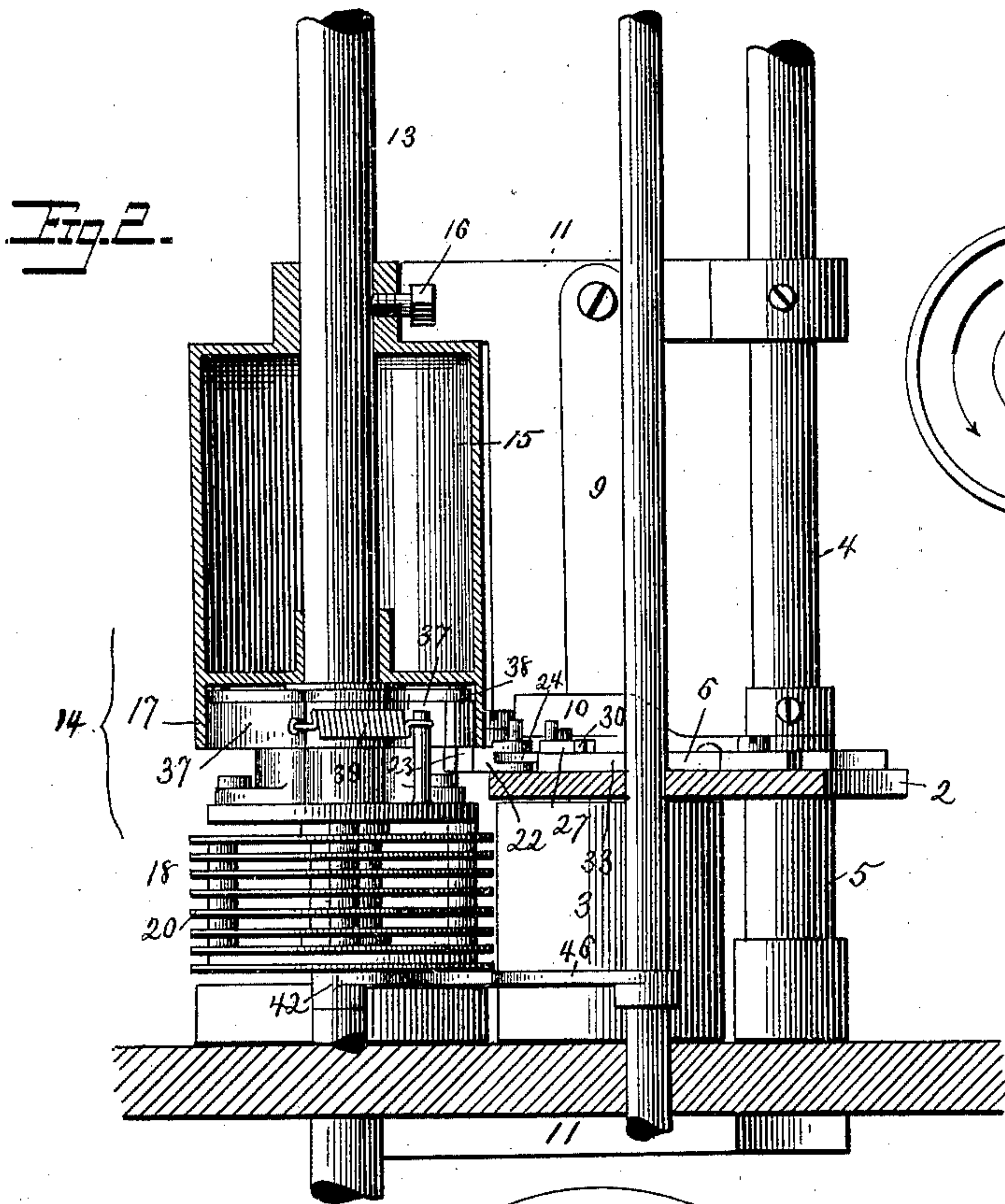
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No. 408,401.

Patented Aug. 6, 1889.



Attest:

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Charles W. Morris Jr.

*August Bertram*  
Inventor:

by  
*John Freeman*  
Attys



(No Model.)

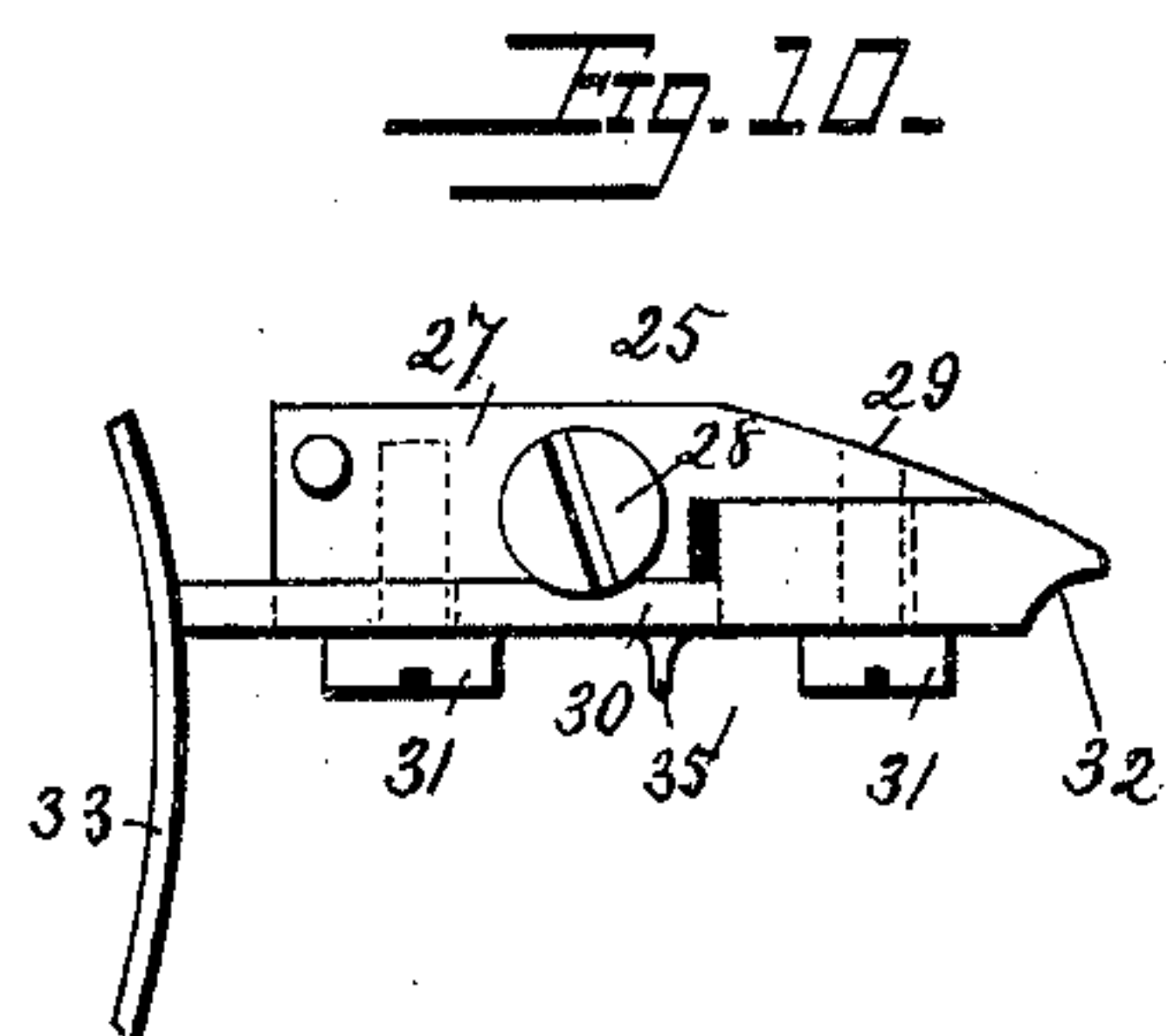
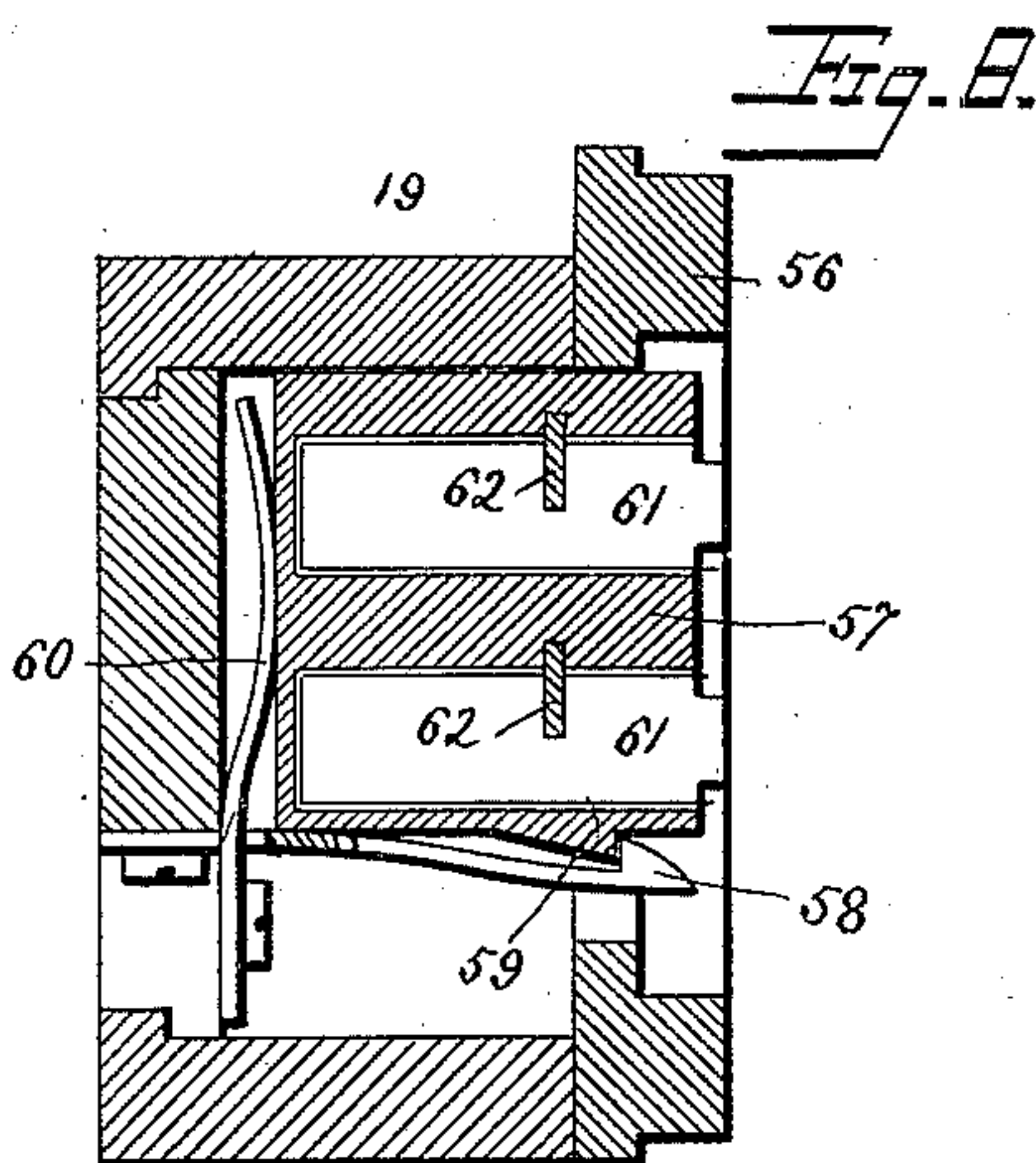
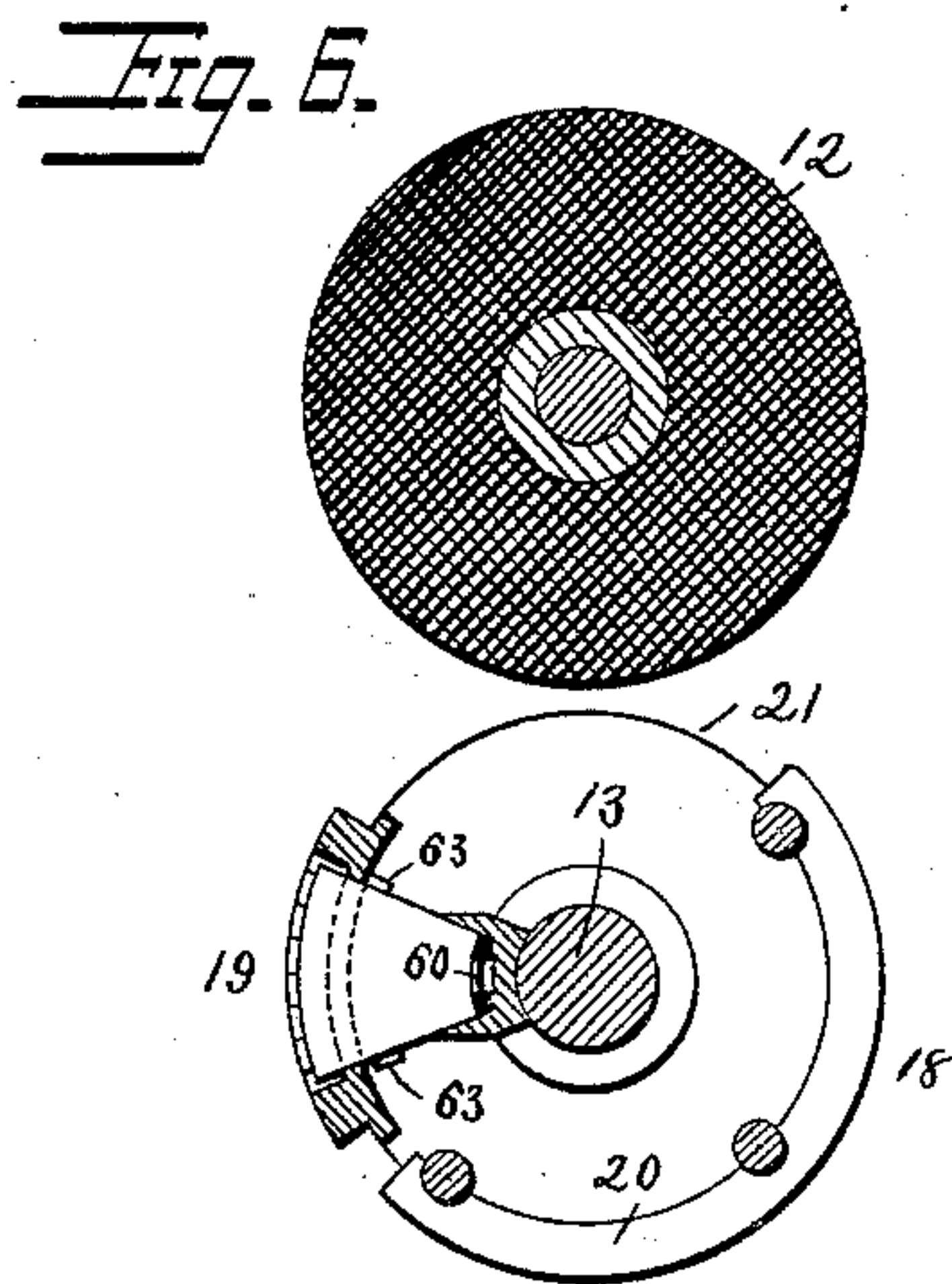
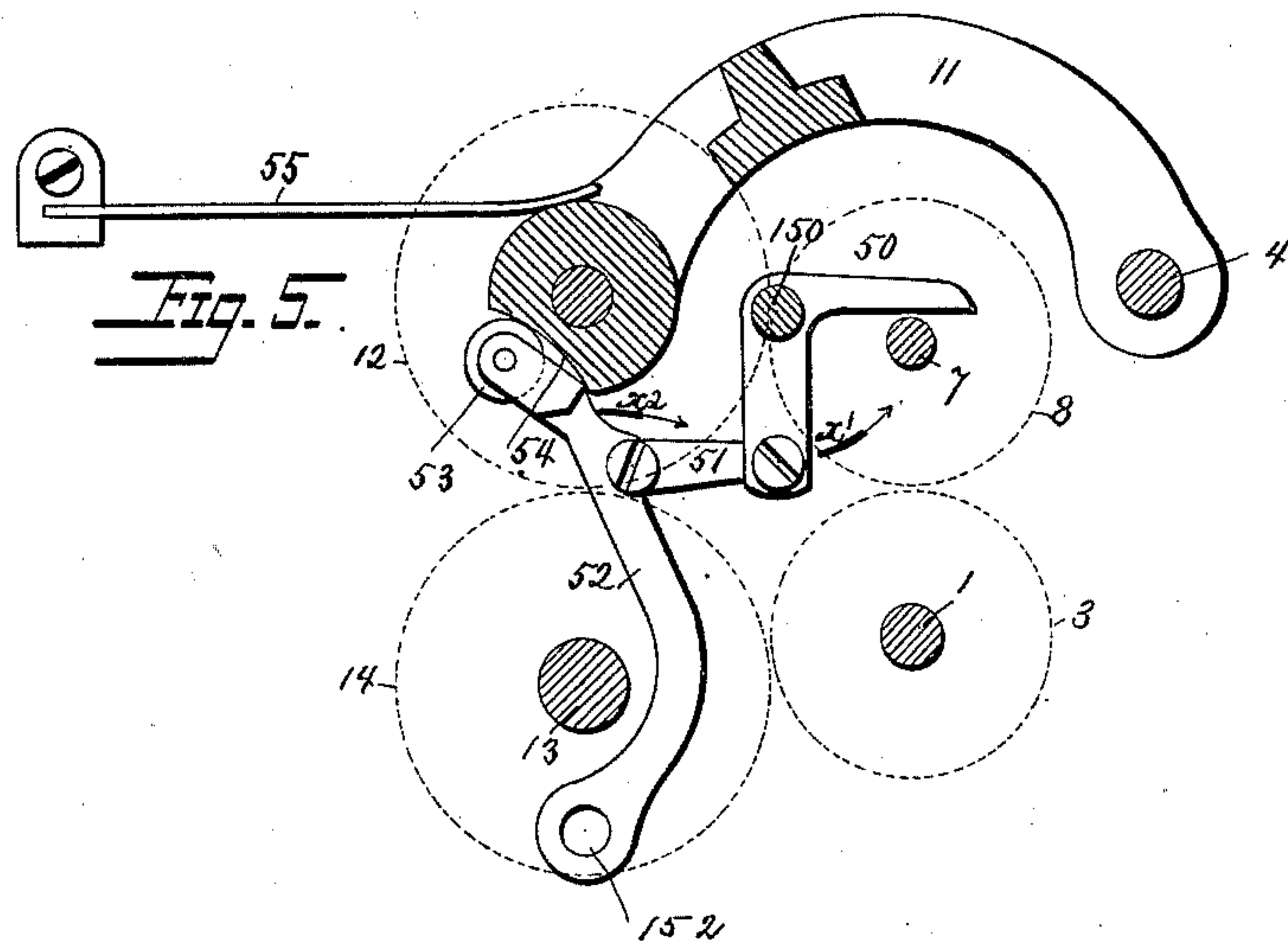
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Attest:  
*Wm. H. Harris*  
*Charles W. Morris Jr*

*August Bertram*  
Inventor:  
*by*  
*Foster T. Freeman*  
*attys*



# UNITED STATES PATENT OFFICE.

AUGUST BERTRAM, OF BROOKLYN, NEW YORK, ASSIGNOR TO MATTHEW J. DOLPHIN, OF SAME PLACE.

## LETTER POSTMARKING AND CANCELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 408,401, dated August 6, 1889.

Application filed June 18, 1887. Serial No. 241,753. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST BERTRAM, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have made certain Inventions in Letter Postmarking and Canceling Machines, of which the following is a specification.

My invention relates to postmarking and canceling machines, and more particularly to that class of machines in which the letters are fed continuously through the machine and operate automatic mechanism to cause the postmark and canceling-mark to be impressed upon the face of the letter in such a manner as to obliterate the stamp and clearly impress the postmark thereon; and my invention consists in certain novel constructions, combinations, and arrangements of the parts of such a machine, substantially as hereinafter more particularly pointed out.

Referring to the accompanying drawings, Figure 1 is a perspective view of so much of a postmarking and canceling machine as is necessary to illustrate my present invention. Fig. 2 is a side view, partly in section, of the same. Fig. 3 is a transverse section showing the operation of the tripping device. Fig. 4 is a similar view showing the trip in another position. Fig. 5 is a sectional view showing the means for controlling the relative positions of the printing and impression rolls to accommodate them for the passage of thick letters. Fig. 6 is a transverse section through the canceling and postmarking stamp. Fig. 7 is a detail view of the devices for preventing backward movement of the printing-cylinder. Figs. 8 and 9 are details of the type-holding device of the printing mechanism. Fig. 10 is a detail view, enlarged, of the trip.

In the drawings I have only shown so much of a postmarking and canceling machine as is necessary to clearly illustrate my invention, and it will be understood that the various devices are mounted in a suitable frame, which may be a part of a letter-separating apparatus; or the present device may be used as a machine by itself, the letters being conveyed or applied to the feeding-rollers in any suitable or desired manner.

A shaft 1, one end of which is mounted

upon the frame and the other end of which is journaled in the plate 2, is driven by any suitable mechanism (not shown) and carries a feeding-roller 3, preferably made of rubber or other suitable material. Loosely mounted upon a rod 4, secured in the frame of the machine, is a sleeve 5, having an arm 6, provided with a downwardly - extending pivot - pin 7, upon which is loosely mounted another feeding-roller 8, opposite the first feeding-roller 3. This arm can swing loosely upon the shaft 4, and a spring 9 is arranged to bear upon the arm and hold the separable feeding-rollers in juxtaposition under elastic pressure, so that they will grasp and feed forward letters of various thicknesses, which are introduced between them in any desired manner. The edge of the plate 2 forms a guide for the letters on one side, while the arm 6 has an extension 10, which forms a guide on the opposite side; also secured to the shaft 4 are arms 11, which support between their free ends an impression-roller 12, preferably made of rubber or other elastic material.

Opposite the impression - cylinder and mounted upon a shaft 13, which is supported in the frame of the machine and connected so as to be driven in unison with the shaft 1, is a printing-roller 14. This printing-roller consists of a cylindrical drum portion 15, which is secured to the shaft 13, as by a screw 16, so as to rotate therewith, and the lower portion is open and embraces the clutch mechanism, which is adapted to impinge upon the inner surface of the flange 17, in a manner herein- after described.

Loosely mounted upon the shaft 13 is the printing-cylinder proper 18, which may consist of any suitable printing-surface, and is shown as being provided with a postmarking portion 19 and canceling portion 20, the latter consisting of a series of plates extending partially around the printing-cylinder, leaving an open space 21 in that portion of the cylinder which is normally opposite the impression-roller when the cylinder is at rest. This printing-cylinder is normally held at rest by means of a pawl 22, which is pivotally mounted upon the plate 2 and engages with a lug or pin 23 upon one of the friction-pawls



hereinafter described. Connected to this pawl by a link 24 is a tripping device 25, the free end of which extends into the path of the latter and normally projects into a groove 26 in the guide-piece 10. This tripping device consists of a body portion 27, connected to the link 24 and pivotally mounted on the plate 2 by a pivot 28, and the free portion is cut away and preferably rounded or beveled at its outer edge 29. Mounted upon this portion is the sliding portion 30, which is secured to the body portion 29 by suitable screws 31, passing through slots in the sliding portion 30. The forward end of this sliding portion 30 is recessed at 32, so as to furnish a good bearing-surface for the projecting edge of the letter which impinges against it in its passage through the machine. A flat spring 33 is mounted upon the plate 2, and its curved free end bears upon the end of the trip connected to the pawl and tends to normally hold the sliding portion 30 in the path of the letter. Another spring 34 is adjustably secured to the plate 2 and to an eye 35 in the sliding portion of the trip, and this also tends to draw the trip into its normal position, so that it bears against the stop-pin 36, secured to the plate. When the letter passing between the feeding-rolls 3 and 8 impinges on the trip, its action is to quickly throw the trip to the extreme of its motion, as shown in Fig. 4, so as to permit the letter to pass, and as the pawl assumes this position the pressure of the spring 33 is removed from the end of the sliding portion, and said spring impinges momentarily upon the end of the body portion of the trip. When the spring 34 acts to draw the movable portion toward the pivot 28, the parts arrive to the position shown in Fig. 4, when the spring 34 causes the whole trip to assume the position shown in Fig. 10, the sliding portion being withdrawn from the end of the letter and moving along the face thereof, while the spring 33 presses on the end of the sliding portion and causes the free end of the trip to gently bear on the letter in its passage through the machine until the moment the rear end of the letter is reached, when the sliding portion assumes its normal position in the path of the next succeeding letter. It will thus be seen that the trip operates instantly upon the impingement of the letter against its free end to withdraw the pawl 22 from its stop 23 on the clutch mechanism.

It will be observed that in the construction shown the trip is pivoted out of its center and the short end acts upon the pawl at its free end, and by this system of leverage a very slight force on the long end of the trip serves to operate it to remove the pawl from engaging with the stop. Thus while the pawl acts as a positive holder for the stop when the printing-cylinder is out of operation it will be quickly and easily released the instant a letter impinging upon the trip moves it out of the path of the letter, and the force required to operate the trip in no way inter-

feres with the continuous progress of the letter through the machine.

The clutch mechanism consists of two pawls 37, pivoted to the printing-cylinder and connected by a bar 38, loosely mounted on the shaft 13, so that the pawls will operate in unison. The short ends of these pawls—one or both—are connected to a suitable retracting-spring 39, so that their free friction ends 40 will normally grip the inside of the flange of the drum 17 when they are not held under tension by the pawl 22 impinging on the lug 23. One or two springs 39 may be employed, the cross-bar 38 insuring a synchronous movement of the two friction-pawls at all times.

I do not wish to be limited to the use of two clutch-pawls 37, as satisfactory results might be obtained were a single one employed, while it will also be readily understood that three or more could be used if it be found desirable.

The operation of the machine being very rapid, it is essential to the durability of the parts that the connection between the driving-shaft and cylinder and the printing-cylinder be made gradually and easily—that is, without a sudden shock—and this I accomplish by the friction clutch mechanism shown, which, when tripped, engages with an easy but increasing friction with the inner face of flange 17 until the full power of the spring or springs 39 is exerted to force the friction-faces against the wall of the flange. When the letter has been canceled and the lug or pin 23 comes into engagement with pawl 22, it does so with a yielding force by reason of the same springs, and not with a positive blow, as would be the case were a positive clutch mechanism employed. A suitable stopping-pin 41 is also mounted on the printing-cylinder and engages with a holding-pawl 42, mounted upon some stationary portion of the machine, as upon the plate 2, and this pin operates to prevent the printing-cylinder rotating backward a slight distance, so as to release the lug 23. As shown, this pin 41 projects from the lower face of the printing-cylinder, while the pawl 42, which engages therewith, is pivoted to the under side of plate 2, although the position of these parts may be varied to best suit the construction of the apparatus. A spring 43 bears upon pawl 42 and normally holds it in the path of the pin 41, which, as it moves with the cylinder in the direction of the arrow, impinges upon the curved face 45 of said pawl, and causes it to swing outward upon its pivot until the pin comes into engagement with the shoulder 44, when the spring will force the pawl into the position shown in Fig. 7, thus locking the cylinder against backward movement. This action occurs immediately after the pin 23 comes into engagement with pawl 22 to release the clutch mechanism, the friction between the pawl and pin 41 serving to assist in gradually stopping the rotation of the printing-cylinder. Should the rotation of the printing-cylinder continue somewhat, so



as to carry the pin 41 beyond the end of pawl 42, no serious result will follow, as its backward movement, which would be caused by the action of spring or springs 39, will be stopped by the shoulder 44 before it would turn so far as to release lug 23 from pawl 22.

In Fig. 4 is shown a form of stop to prevent backward movement, in which the pin 41 is placed on the top of the printing-cylinder, while the lever or pawl 42, which engages therewith, is mounted on the upper face of plate 2, the other parts of the device operating in connection therewith being mounted or changed in position to suit this different arrangement of parts. This pawl 42, which is operated at each revolution of the printing-cylinder and as each letter passes through the machine, may serve as a convenient device for operating the counting mechanism, as shown in Fig. 7, wherein 46 is a bell-crank lever pivoted to the under face of plate 2, one arm of the lever being borne upon by a projection carried by pawl 42, the other arm of the bell-crank lever carrying a spring-pawl 47, which in turn moves the ratchet-wheel 48 on the main shaft of the counter. This counting mechanism may be of any preferred construction and need not be herein described further.

I will now proceed to describe a controller, which operates in connection with the feed-rollers to permit a letter of unusual thickness to pass between the impression and printing rollers 12 and 14, reference being had particularly to Fig. 5. These rollers 12 and 14 are separable and held toward each other by a spring 55 of considerable tension, so that it would be difficult to pass a thick letter between them unless some controlling mechanism were employed to force them apart before the edge of the letter comes in contact therewith.

Projecting centrally from one of the feeding-rollers 8 is a pin 7, which, when the roller is forced outward by a letter of unusual thickness, engages with the controller, consisting, as shown, of a bell-crank lever 50, pivoted at 150 to a suitable part of the frame of the apparatus, which bell-crank lever is connected by a link 51 with another lever 52, pivoted at 152 to a suitable part of the frame of the apparatus, and carrying at its end an anti-friction roller 53, adapted to engage with an incline or cam-face 54, formed on the lower arm 11 of the supporting-frame in which the impression-roller 12 is mounted.

It will be seen from the above description and an examination of Fig. 5 that when the roller 8 is forced outward to an unusual degree it will engage with the bell-crank lever 50, moving it in the direction of the arrow  $x'$ , which movement through link 51 will be transmitted to lever 52, causing it to move in the direction of arrow  $x''$ . This movement, by reason of the engagement of roller 53 with the face 54, will swing the roller 12 and the frame in which it is mounted away from the print-

ing-cylinder 14 sufficiently far to permit the passage of the letter.

The relative arrangement of the above-described parts is such that no motion is communicated to the controller and to the roller when a letter of ordinary thickness passes through the machine.

As it is essential that the force of spring 55 should be exerted upon the letter to hold it against the printing-cylinder, I so construct the controller that the distance which the rollers 12 and 14 shall be separated shall be slightly less than the thickness of the letter which operates said controller, so that when the letter enters between said rollers 12 and 14 the full force of spring 55 shall be exerted thereon, this controller being not to reduce the pressure upon the thick letter, but to control the relative position of the rollers in order to permit its entrance between them, after which it will be fed through the machine independently of the mechanism described. By the combination of the controller and separable feed and printing rollers just described I am enabled to reduce the size of the rollers 12 and 14 very materially, and yet insure that a letter of any thickness shall be properly grasped thereby as it is presented to them and forced through the machine, whereas otherwise a difficulty would be experienced by reason of the letter stopping when it reached said rollers.

Referring now to the postmarking portion of the die particularly illustrated in Figs. 6, 8, and 9, 56 represents the stationary portion of the die which carries the type adapted to impress the name of the city or town and also the year, and 57 represents generally the removable portion of the die carrying the type which give the impression of the month, day of the month, hours of mailing &c., which latter type have to be frequently removed and changed. This portion 57 of the die consists of a case or holder of wedge shape, adapted in the construction which I have shown to hold two sets of type. It is held in the seat or socket provided therefor in the stationary portion 56 by means of a spring 58, having a hooked end adapted to engage with a lug or projection 59, carried by the removable type-carrier. Mounted in the bottom of the socket or seat for this removable type-carrier is a flat or other shaped spring 60, so arranged that when the type-carrier is in place and the hooked end of spring 58 comes into engagement with lug 59 said spring 60 will be under compression. This insures that when the outer end of spring 58 is depressed, thus releasing the type-carrier, it shall be forced outward by spring 60 sufficiently far to permit its easy removal.

The removable type 61 are confined in the seats or cells therefor in the type-carrier by means of keys 62, seated in sockets formed in said type and the adjacent wall of the type-holder. These keys and the seats in which they rest are curved at an angle parallel with



the outer printing-faces of the type. The outer projecting end of each key is grooved or formed with a head 63, which extends through an aperture 64 in the end wall of the type-cell, so that it may be easily taken hold of and withdrawn.

The above means for holding the type in their seats is both simple and satisfactory in its working, as the key may be easily and quickly withdrawn and the type changed, thus avoiding the delay which has heretofore been incident to stamp-canceling machines by reason of the tedious methods of changing the type.

The types 61 are of wedge shape, and so arranged that they completely fill the cells in which they are held. This construction insures that they shall support one another, and thereby remove all strain from the key 62, which might, were there any looseness of the keys in their cells, be bent out of shape by the movement of the type caused by the pressure incident to the act of printing. When it is desired to remove less than the whole number of type held in any seat or cell of the holder, it may be done by only partially removing the key, as shown in Fig. 9, when such type as are to be changed may be removed, while those which it is desired to remain are securely held in place by the key, as will be understood without further description.

Having thus described the separate parts in detail of my postmarking and canceling device, I will now proceed to describe its operation.

Supposing the parts to be in the position shown in Figs. 1, 2, and 3, the feeding-rollers, the impression-roller, and the portion 16 of the printing-roller being all in rotation, while the printing-cylinder 18 is at rest by reason of the clutch mechanism being held from engagement with flange 17 by the pawl 22, lying in the path of the pin 23, and that a letter be advancing over the plate 2, and its forward edge to come into engagement with the end of the sliding portion 30 of the tripping device, the first movement of parts will be to rock the trip upon its pivot 28, withdrawing the pawl 22 from engagement with the pin of the clutch mechanism, thereby permitting the spring 39 to force outward the clutch-faces, which, coming into engagement with the flange 17, locks together the upper cylinder 14 and the printing-cylinder. As the forward end of the letter advances, and while the trip is being rocked thereby into the position shown in Fig. 4, the sliding portion 30 of the tripping device is drawn back upon the main portion and the extreme end or nose thereof is moved out of contact with the edge of the letter by the tension of the spring 34, the spring 33 being out of engagement with the rear end of the sliding part 30, as shown in Fig. 4. The continued force of the spring 34 rocks the whole tripper

upon its pivot 28 to the position shown in Figs. 1 and 10, and as the sliding portion 30 of the trip is held back upon the main part 27 thereof during this movement—that is, from the position shown in Fig. 3 to that shown in Fig. 1—the end or nose of the part 30 may and ordinarily does slide upon and in contact with the face of the moving letter without waiting for its complete passage, and in such change of position the spring 33 is forced backward, as shown in Fig. 10, the tension of the spring 34 being sufficient to rock the trip on its pivot, even against the force of the spring 33. The parts are now in the position shown in Fig. 1, except that the letter is passing between the rollers and the sliding portion of the trip is held back, as shown in Fig. 13, the spring 33 holding its nose in contact with the letter until it has passed, when the parts resume the position shown in Fig. 1, with the nose of the part 30 resting in the groove 26, so as to be in the path of the next succeeding letter. It will be noted that when the trip is rocked back into the position represented by Fig. 1 it carries forward the pawl 22, so that it is in position to engage the pin 23 as it completes its revolution, and thus throws the clutch out of engagement. Since the return movement of the trip takes place without waiting for the letter to fully pass, the printing-cylinder is prevented from making more than a complete revolution, and is always stopped at the proper point for perfect registry when another letter is to be marked, no matter what may have been the length and size of the letter previously passed through the machine. Immediately after the printing-cylinder has made one complete revolution, thus canceling the stamp and postmarking the letter, and the pawl 22 is engaged by the pin 23, which throws out of engagement the clutch mechanism, thus allowing the printing-cylinder to run free, the mechanism for preventing the backward movement of the printing-cylinder is brought into operation, as hereinbefore described. These operations—that is, the releasing of the clutch mechanism and the bringing into operation the mechanism for preventing the backward movement—may and usually do take place before the letter has passed the trip 38. As soon, however, as the letter completely passes the trip, the sliding portion 30 thereof is forced outward by the spring 33 into position to be engaged by the next succeeding letter, when the above-described operations are repeated.

It will be understood that after the printing-cylinder has completed its revolution the open portion 21 thereof lies opposite the impression-roller 12, so that the letter shall only be inked at the proper place, for it will be seen should the marking or canceling device extend continuously around the cylinder the letter would be marked from end to end, while the impression-roller would also be inked when



the letter passed from between it and the printing-cylinder, thus causing the succeeding letter to be smeared on the reverse side.

It will be, of course, understood without further explanation that the operations of the tripping device and the printing-roller will be the same whether the devices hereinbefore described to be used when a thick letter passes through the machine be in operation or whether they be at rest, and it will also be understood that as each letter passes through the machine and is canceled the counting mechanism will be operated.

While I have not shown in the drawings any device for inking the printing-dies, it will be understood that any desired or preferred construction of pad or inking-roller may be brought into engagement therewith after each impression.

It will be seen that the tripping device herein described so operates that the pawl 22 shall come into position to intercept the pin 23, carried by the clutch mechanism, before the letter passes the end of the arm of the trip with which it engages, so that no matter what may be the length of the letter it shall be canceled at the proper point, and only at the proper point, this operation, in the device which I have shown, being permitted by the part 30 of the trip sliding relatively to the pivoted portion thereof.

The groove 20 in the guide-plate 10, in which groove lies the free end of the tripping device which releases the clutch mechanism, insures that no letter can possibly pass through the machine without the printing-cylinder being set into operation.

The machine which I have described is entirely automatic, and is continuous in its operation. The letters are fed to and through the machine without having to stop or be retarded in their motion in order to receive the postmark and cancellation at the place required on the letter while the shaft upon which the printing-cylinder is mounted and from which it receives its motion is in continuous rotation. The speed at which my machine may be run is practically unlimited, as the letters cannot be fed to the machine so fast as to prevent the printing and tripping mechanisms from operating perfectly.

While I have described the construction of machine which I now deem the most advantageous and best adapted to the work which it has to perform, I still do not desire to be limited to all the details herein shown and described, as it will be readily understood that many parts of the device may be varied by the use of equivalent parts without departing from the spirit of my invention. Therefore I do not limit myself to the exact construction and arrangement of parts shown and described. I do not, however, claim, broadly, the combination of a marking-roller normally at rest, a continuously-revolving roller mounted on the marking-roller shaft, a clutch between the two rollers, and a trigger in the letter-path

connected to the clutch and actuated by the letters fed over the letter-supporting bed. I also desire to disclaim the combination of the marking-roller with a revolving roller, both mounted on a common shaft, a clutch for connecting the two rollers, and a trigger for operating the clutch. I also desire to disclaim the combination, with a marking-roller and a revolving roller both mounted on a common shaft and detachably connected together, of a stop for stopping the marking-roller after it has registered. I also disclaim the combination, with a marking-roller and a feed-roller both mounted on a common shaft, of a clutch for connecting the two rollers, a trigger for operating the clutch, and a stop for stopping the marking-roller. I also disclaim the combination, with an intermittently-revolving marking-roller, a trigger projecting into the letter-path, and a connection between the trigger and roller for starting the latter, of a stop for engaging and holding the said roller at the proper point for registry with the next letter. I also disclaim a trigger consisting of a pivoted adjustable lever extending into the letter-path, provided with springs for resetting it to its normal position after the letters have passed its end, said trigger through a suitable connection transmitting motion from the letters to the marking-roller. I also disclaim the combination, with two rollers mounted on the same shaft, of a pressure-roller against which they rotate, a marking-roller normally at rest, a trigger, and means for bringing the marking-roller into action when the letters in transit encounter the trigger in the letter-path. I also disclaim the combination, with the letter-bed, of a roller having its die normally out of action to prevent smearing when no letters are passing, a support for said roller, and a contact-finger or trigger in the letter-path connected to the support, whereby the roller is brought into action by the contact of the letter with the aforesaid finger; also, the combination of a marking-roller, a letter-bed or support for the letter while being marked, a contact-finger in the letter-path adapted to bring the marking-roller into action by the contact of the letter with the finger, and a guide for guiding the letter to the finger to insure the encounter of the letter with the finger. I also disclaim the combination of a marking-roller, a marking-abutment to support the letter while being marked, a contact-finger in the letter-path, and suitable connections between the marker and finger, whereby the letters are automatically marked by the contact of the letter with the contact-finger, which brings the marker into action upon the letter. I also disclaim the combination, in a letter-marking machine, of the following instrumentalities, to wit: a marking-roller, a letter-supporting bed, a letter conveyer or feed, a contact-finger in the letter-path, and a guide for directing the letter to encounter the finger, and I also disclaim the combination of a mark-



ing-roller with the contact-finger connected to operate the marking-roller without stopping the letter to control the registry of the marking-die thereon, all of the above matter  
5 disclaimed forming the subject-matter of separate pending applications in favor of George W. Hey.

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

10 1. The combination, with the rotating drum, of a marking device, and a clutch mounted on the marking device and engaging the drum, said clutch consisting of pawls pivoted to the marking device, a bar connecting the pawls,  
15 springs tending to hold the pawls in engagement with the drum, and a lug secured to one of the pawls, whereby they may be released, substantially as described.

20 2. In a letter-marking device, the combination of a letter-feed, an intermittingly-operating letter-marker, a pivoted pawl which stops said letter-marker, a pivoted trip having an arm projecting into the path of the letter and connected with said pawl, said trip  
25 and pawl being movable on their respective pivots to permit the stopping of the letter-marker before the letter has completely passed the arm of the trip, substantially as described.

30 3. In a letter-marking device, the combination of a letter-feed, an intermittingly-operated letter-marker, a pivoted pawl which stops said letter-marker, and a pivoted trip connected with said pawl to withdraw it from en-  
35 gagement with the marker and having a sliding arm permitting the pawl to come into position for stopping the marking device before the letter has passed the arm, substantially as described.

40 4. In a letter-marking device, the combination of a letter-feed and intermittingly-operated letter-marker, a pivoted pawl which stops the letter-marker, a spring which tends to force said pawl into position to stop the marker,  
45 and a pivoted trip connected with said pawl to withdraw it from engagement with the marker, having a sliding arm projecting into the path of the letter, said sliding arm permitting the pawl to be moved by the spring  
50 into position for stopping the marking device before the letter has passed the arm, substantially as described.

55 5. In a letter-marking device, the combination of a letter-feed, an intermittingly-operating letter-marker, a pawl which stops said letter-marker, a spring which tends to force the pawl into position to stop the marker, a trip consisting of a pivoted portion, and a sliding arm secured thereto extending into  
60 the path of the letter, said trip being connected with the pawl, substantially as described.

65 6. In a letter-marking device, the combination of a letter-feed, an intermittingly-operating letter-marker, a pivoted pawl which stops the letter-marker, a spring which tends to hold said pawl in position to stop the

marker, a trip consisting of a pivoted portion connected to the pawl, and a sliding portion extending into the path of the letter, and  
70 a spring bearing against said sliding portion of the trip to force it into the path of the letter, substantially as described.

7. In a letter-marking device, the combination of a letter-feed, an intermittingly-oper-  
75 ating letter-marker, a pivoted pawl which stops the letter-marker, a trip having a pivoted portion connected to said pawl, and a sliding arm projecting into the path of the letter, a spring connected to the sliding por-  
80 tion of the trip and tending to force the pawl into position to stop the marker, and another spring bearing against the end of the sliding arm and tending to force it into the path of the letter, substantially as set forth. 85

8. In a letter-marking device, the combination of a letter-feed, a continuously-rotating shaft, a letter-marking cylinder loosely  
90 mounted thereon, a clutch interposed between said shaft and cylinder having friction-faces, a spring which tends to force said friction-faces into engagement with the opposing bearing-faces, a stopping-pawl adapted to en-  
95 gage with a projection carried by the clutch to compress said spring and release the frictional faces, and a trip operated by the letters for withdrawing the pawl, substantially as described.

9. The tripping device consisting of a pivoted pawl, a lever connected to the pawl, a  
100 sliding arm mounted on the lever, a spring bearing upon the end of the lever, and a spring connected to the sliding arm, substantially as described.

10. In a letter-marking device, the combination of a letter-feed, a continuously-rotating  
105 shaft and intermittingly-rotated printing-cylinder mounted thereon, a stop projecting from said cylinder, and a catch-pawl with which said stop engages after being released from  
110 said shaft, substantially as described.

11. In a letter-marking device, the combination of a letter-feed, a continuously-rotating shaft, a marking-cylinder mounted thereon, a  
115 clutch device interposed between the shaft and cylinder, a pin carried by the cylinder, a catch-pawl with which said pin engages after the cylinder is released from the clutch, and a spring which forces said pawl into the path of the pin, substantially as described. 120

12. In a letter-feeding device for a letter-marker, a movable frame provided with a feed-roller, a guide-plate carried by said frame,  
125 and a trip having an arm resting adjacent to said guide-plate, substantially as and for the purpose set forth.

13. In a feed for a letter-marking device, a movable frame provided with a feed-roller, and a guide-plate carried by said frame and having  
130 formed therein a groove, in combination with a letter-trip having an arm resting in said groove, substantially as and for the purpose set forth.

14. The combination, with separable feed-



rollers, of separable impression and printing cylinders, and a controller between the feed-rollers and the impression and printing cylinders, whereby the position of the feed-rollers controls the position of the impression and printing cylinders, substantially as described.

15. The combination, with a marking-roller, an impression-roller having spring-actuated journals, and a feed-roller journaled in a swinging spring-actuated frame, of a lever actuated by the swinging feed-roller, and another lever connected thereto and arranged between said lever and the impression-roller for pressing the latter back from the marking-roller as the feed-roller swings aside, substantially as and for the purpose set forth.

16. In a letter-marking device, the combination of a printing-roller and impression-roller held toward the printing-roller by a spring, feeding-rollers, a lever adapted to be operated when the feeding-rollers are unusually separated, as by a letter of unusual thickness, another lever bearing against the support of the impression-roller, and a link connecting said levers, whereby the printing and impression

rollers are separated by the separation of the feeding-rollers.

17. In a letter-marking device, the combination of the stationary portion of the printing-surface, the removable portion seated in the stationary part, a catch for confining said removable portion in its seat, and a spring under compression when the removable portion is in place and tending to force it out of its seat when released, substantially as described.

18. A removable type-holder having a type-cell, the inner wall of the type-cell being grooved and the side wall being perforated, and a key seated in said groove and in corresponding grooves in the types, and having an end projecting through said aperture by which it may be easily withdrawn, substantially as described.

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

AUGUST BERTRAM.

Witnesses:

J. S. BARKER,  
SIDNEY L. JOHNSON.