

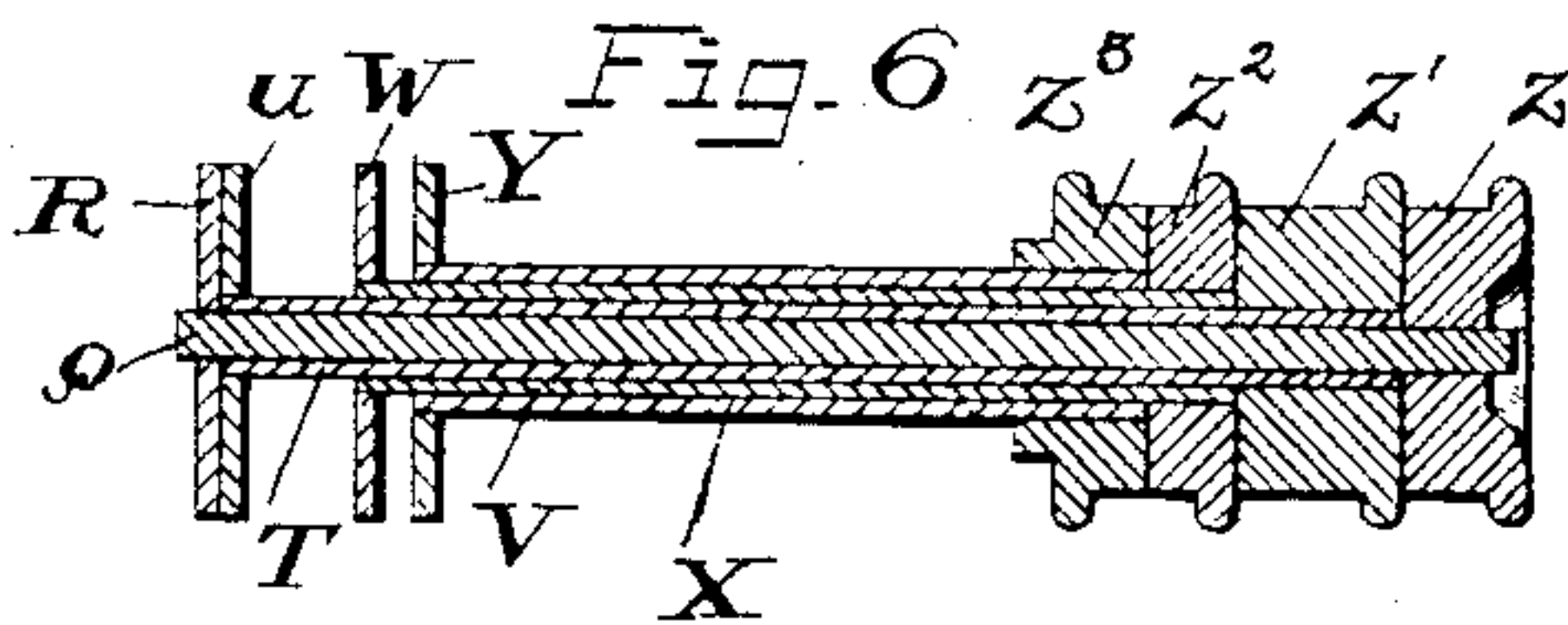
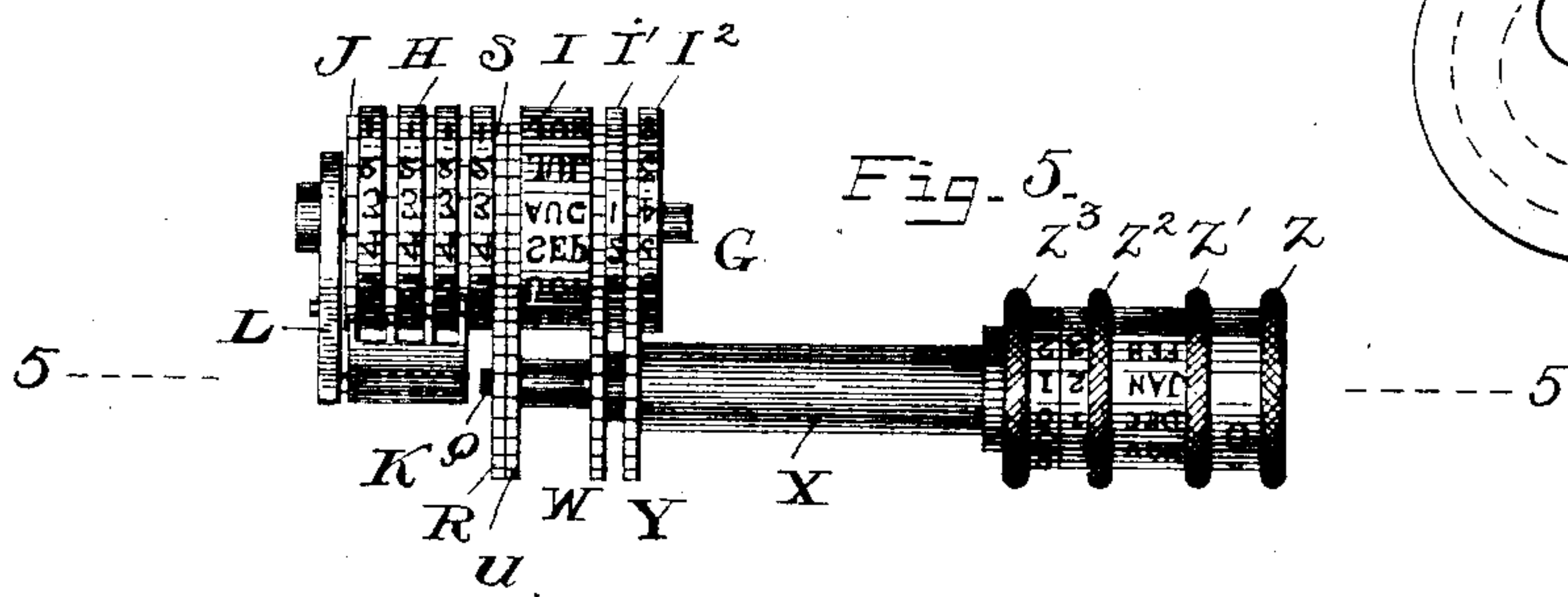
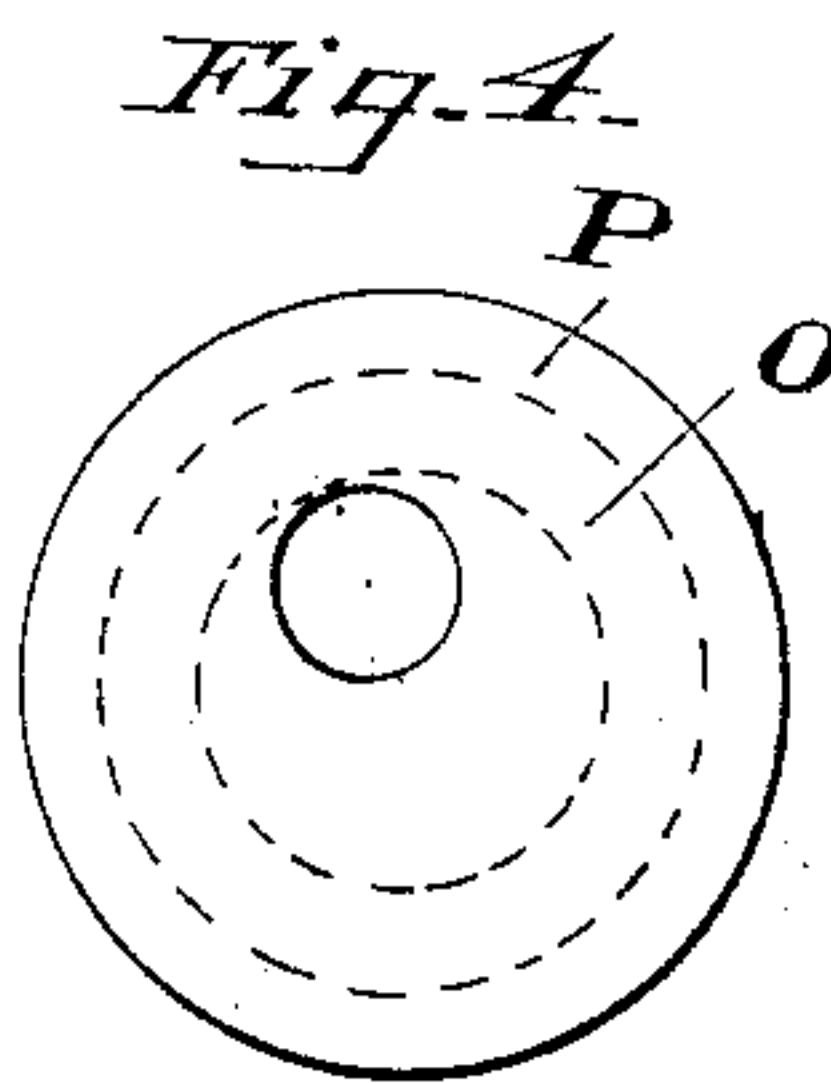
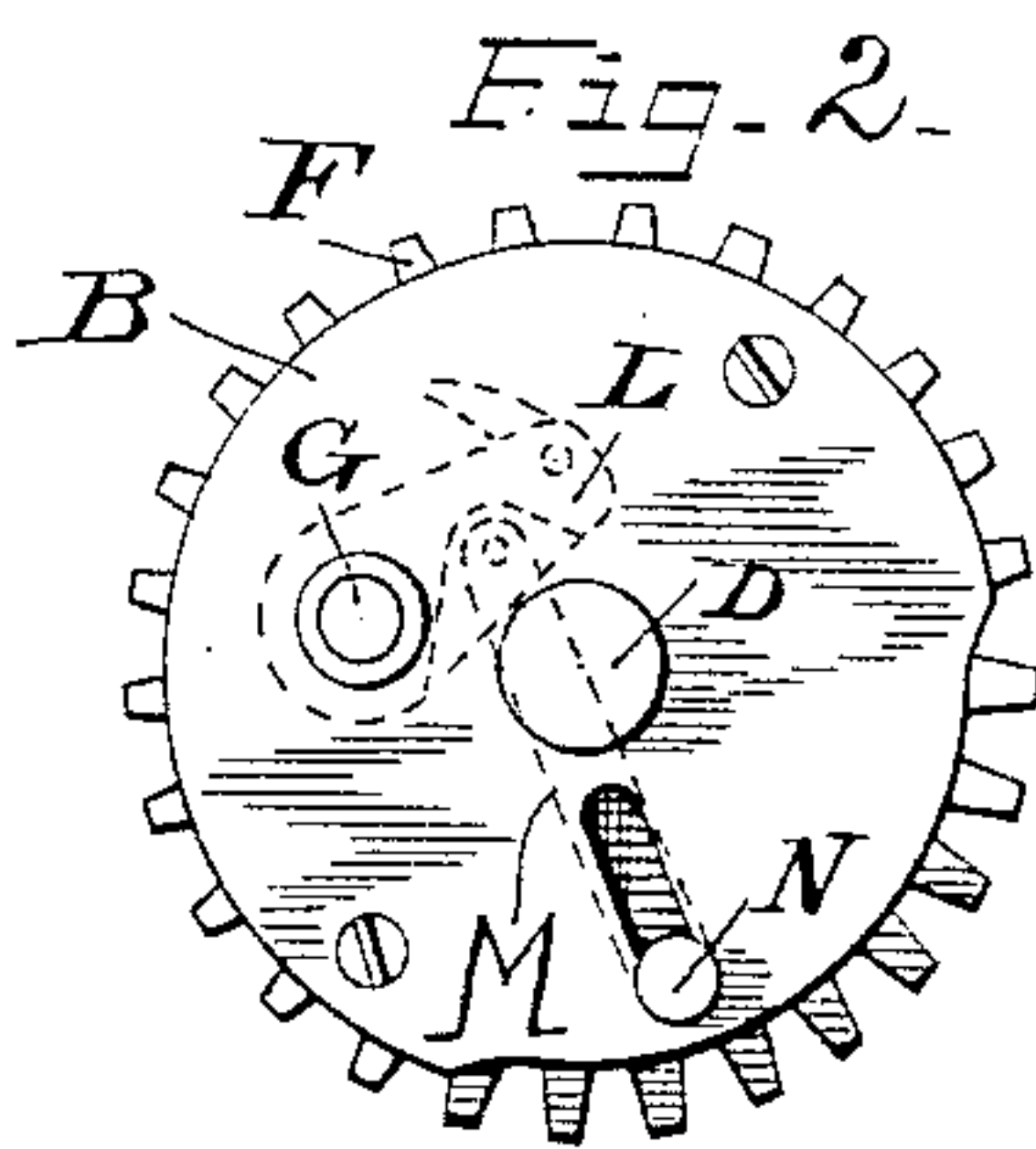
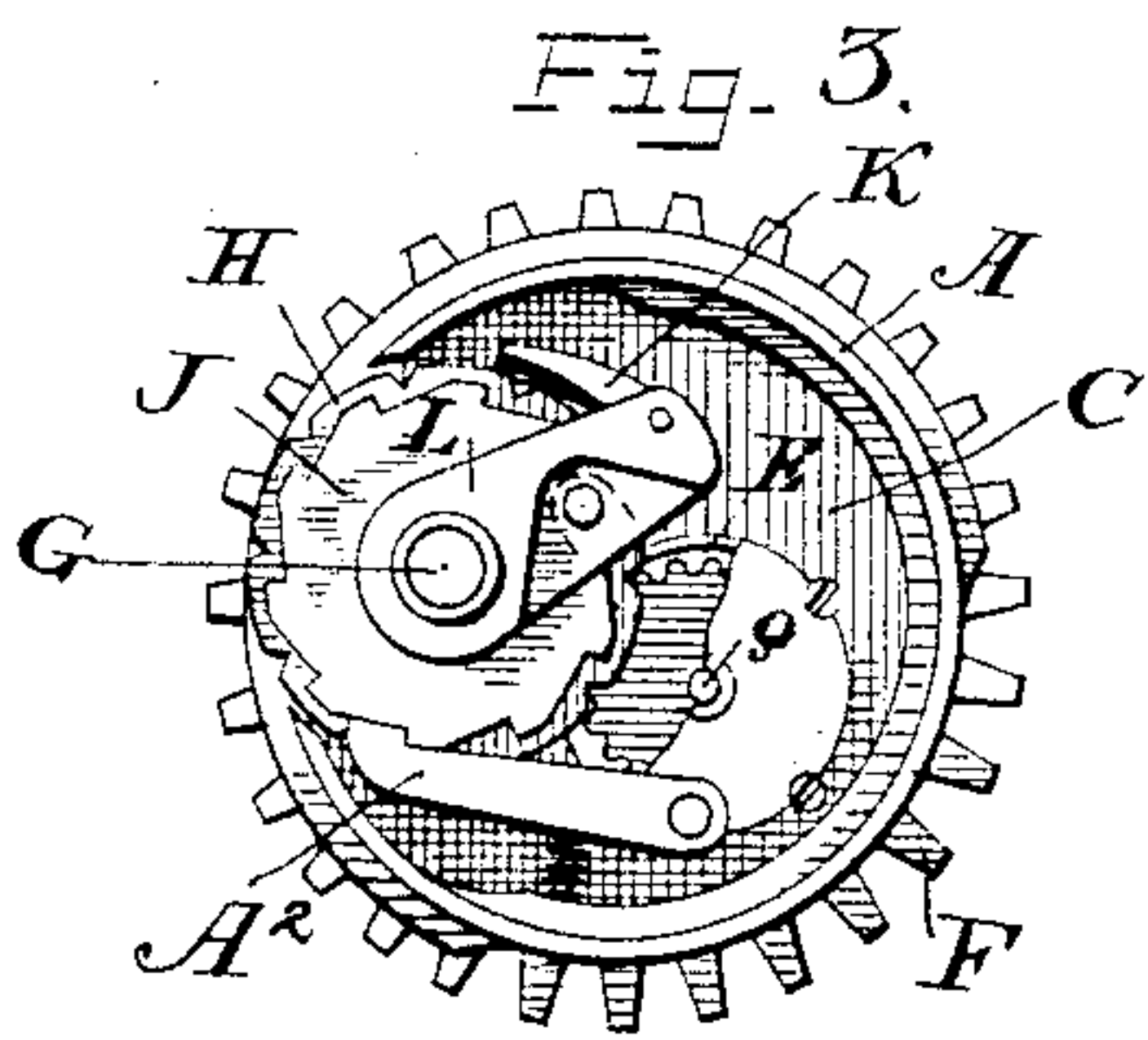
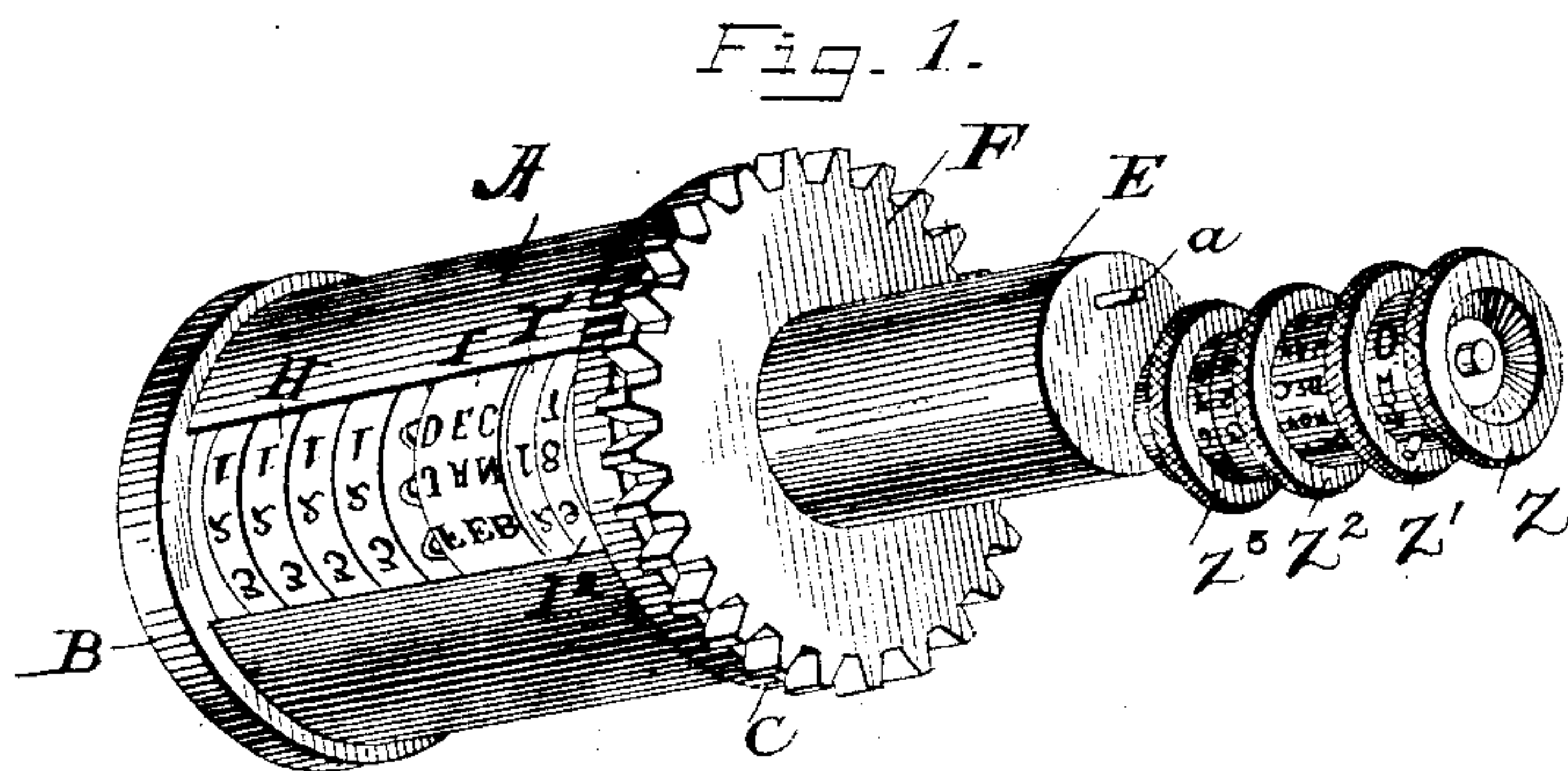
(No Model.)

2 Sheets—Sheet 1.

W. MURPHY.
DATING AND NUMBERING DEVICE.

No. 541,247.

Patented June 18, 1895.



WITNESSES:

Henry D. Meade

Leonora Wiseman

INVENTOR.

William Murphy
BY Edward Rector
ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

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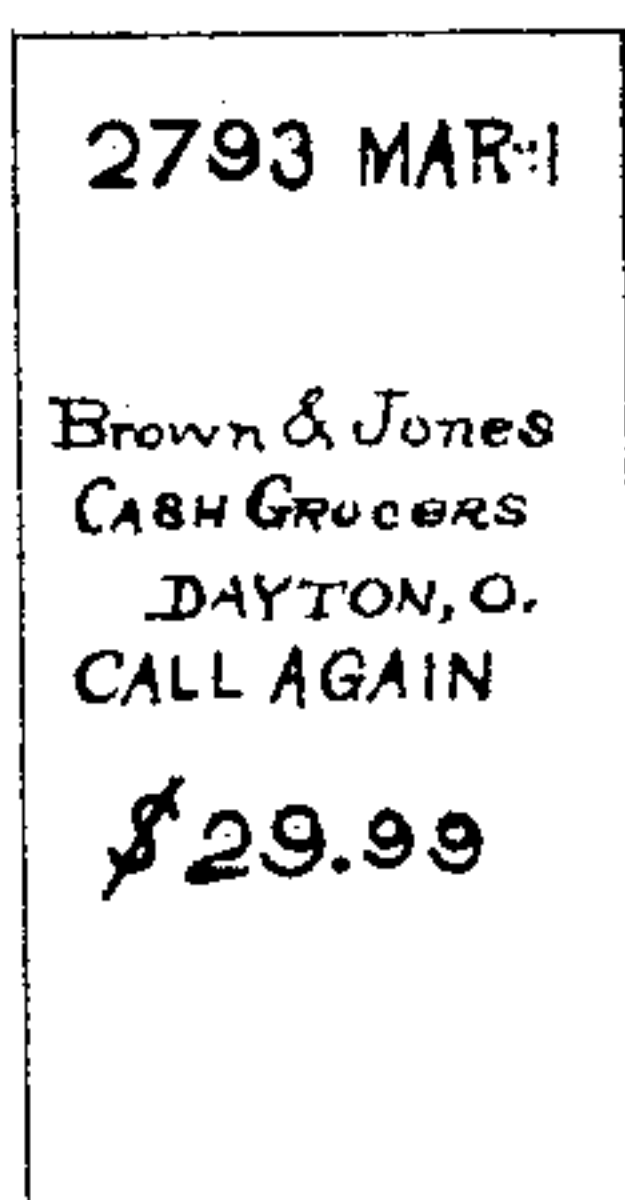
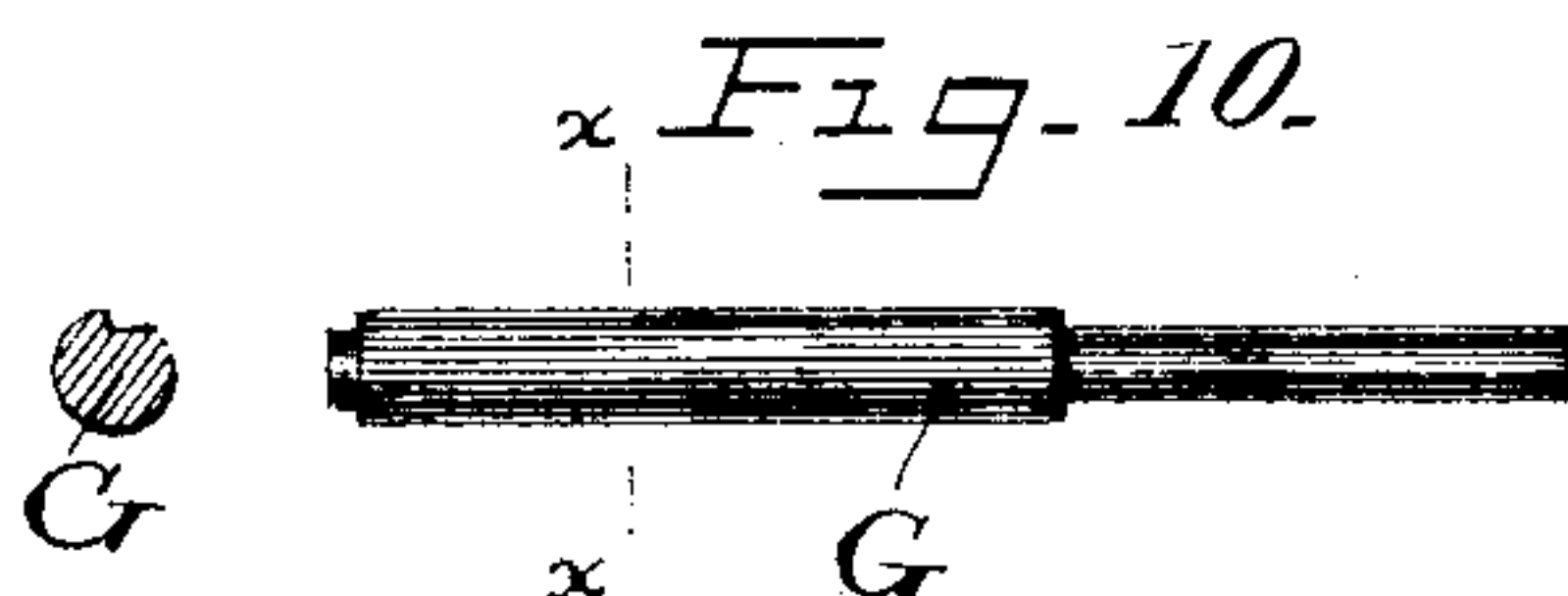
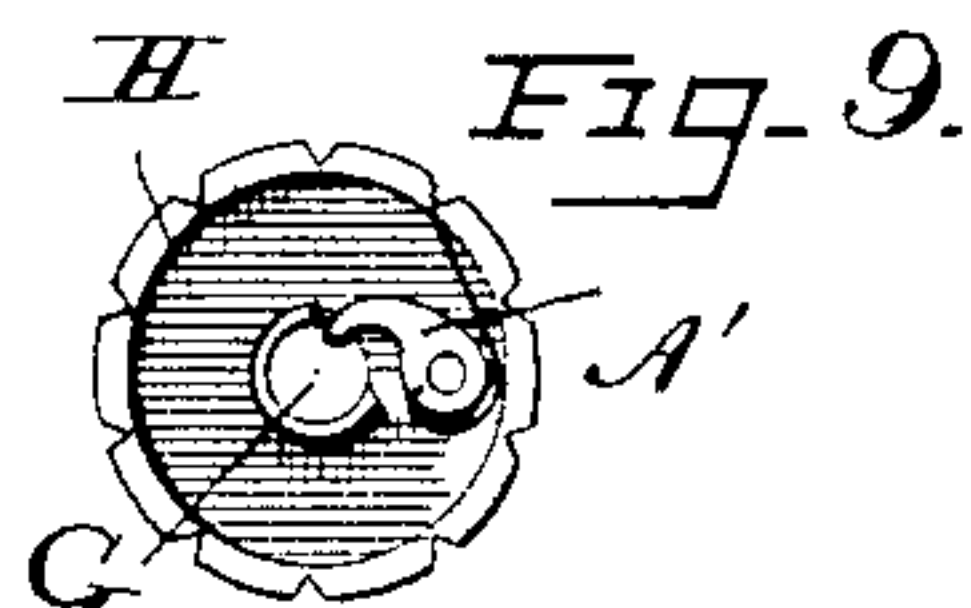
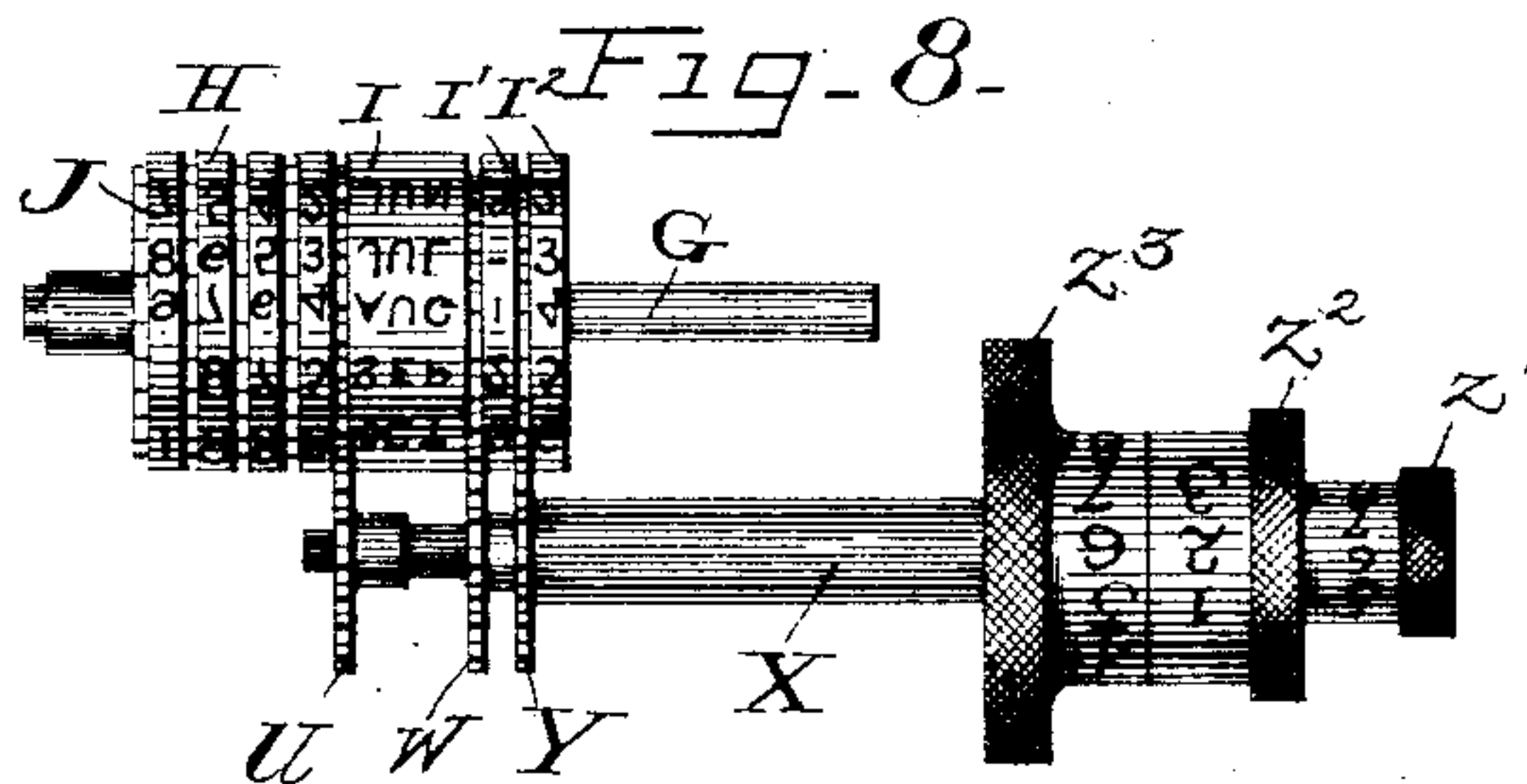
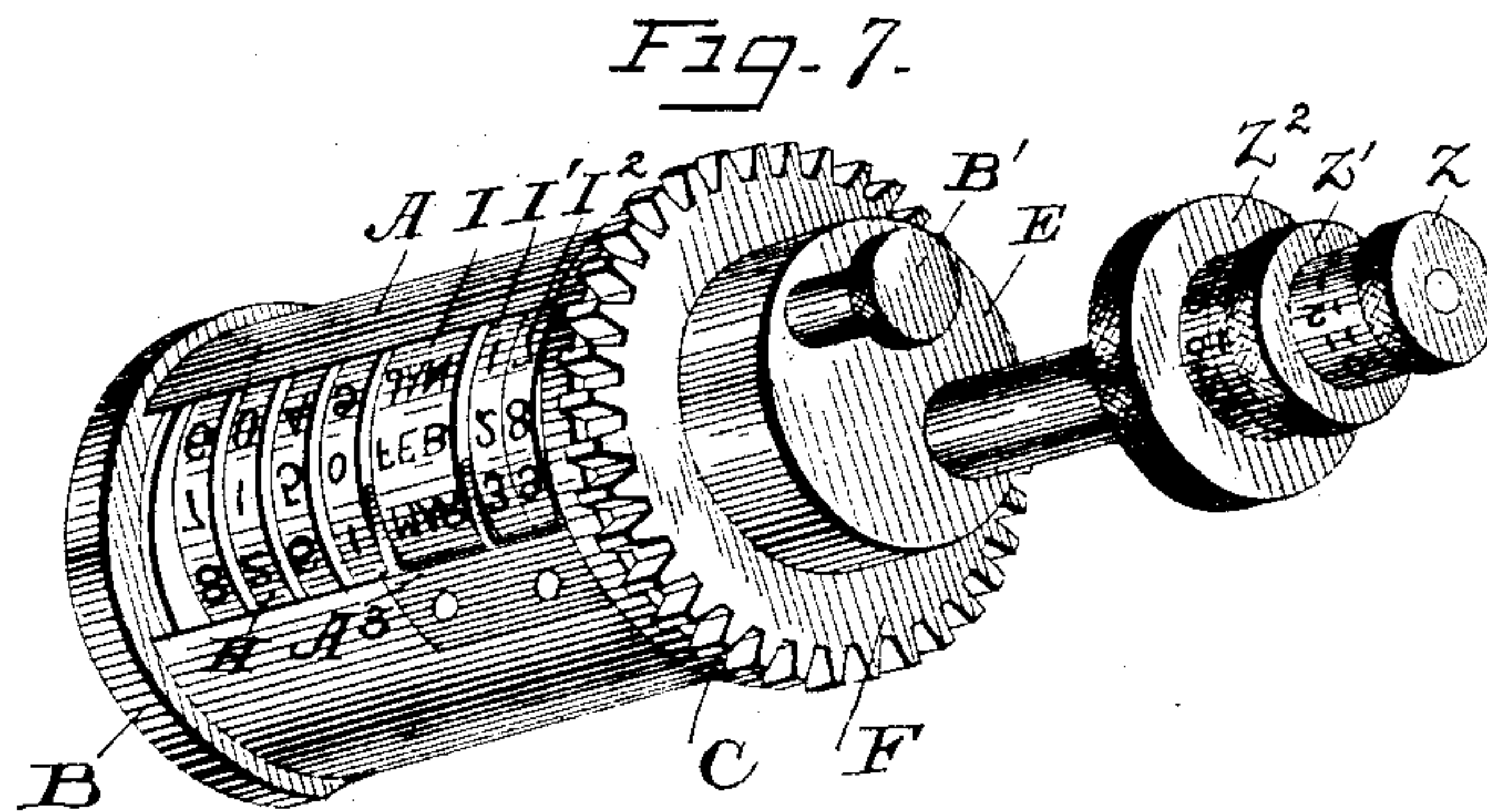


Fig. 11.

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UNITED STATES PATENT OFFICE.

WILLIAM MURPHY, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF SAME PLACE.

DATING AND NUMBERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 541,247, dated June 18, 1895.

Application filed April 20, 1895. Serial No. 546,455. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MURPHY, a citizen of the United States, residing at Dayton, in the county of Montgomery, in the State of Ohio, have invented a certain new and useful Improvement in Dating and Consecutive-Numbering Devices for Cash-Registers and other Machines, of which the following is the description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates more particularly to dating and numbering devices such as those shown and described in Patent No. 483,511, to Cook, and there shown applied to a cash register and indicator, and operating to date and consecutively number the checks printed by and issued from the machine. Similar dating and numbering devices applied to similar machines have been shown and described in subsequent patents.

My present invention consists in the combination with such dating and numbering devices of a novel means for resetting the numbering wheels to zero and adjusting the dating wheels to print different dates. Inasmuch as the dating and numbering devices may be employed for other purposes and in connection with other machines than the ones heretofore referred to, and inasmuch as my invention may be readily understood without illustration and description of the cash register or other machine, my drawings and specification will be confined to an illustration and description of the numbering and dating devices alone, with my invention applied to them.

In said drawings, Figure 1 is a perspective view of the rotary cylinder containing the numbering and dating wheels and provided with the attachment for resetting and adjusting such wheels; Fig. 2, a view of the left-hand end of the cylinder shown in Fig. 1; Fig. 3, a corresponding view with the head of the cylinder removed to expose the parts within the cylinder; Fig. 4, a view of the fixed plate containing the cam-groove by which the pawl-carrier of the consecutive-numbering wheels is actuated in the rotations of the cylinder; Fig. 5, a plan view of the wheels and co-operating devices removed from the cylinder;

Fig. 6, a longitudinal section on the line 5 5 of Fig. 5; Fig. 7, a view corresponding to Fig. 1 with a modified arrangement of the resetting means for the numbering-wheels; Fig. 8, a view corresponding to Fig. 5, showing the modified arrangement of parts in Fig. 7; Fig. 9, a detail side elevation of one of the numbering-wheels, showing its pawl which co-operates with the notch in the shaft at the resetting operation; Fig. 10, a plan view and cross-section of the shaft upon which the numbering and dating wheels are mounted, and Fig. 11 a sample of a check printed by a cash-register equipped with this numbering and dating device.

The same letters of reference are used to indicate identical parts in all the figures.

A represents a hollow cylinder having its opposite ends closed by heads B C. The head B has formed upon it a journal D, Fig. 2, by which the left-hand end of the cylinder is supported in its bearings, while the opposite head of the cylinder has projecting from it a journal E having fitted over it a gear T secured to and bearing against the head C, by which and suitable intermediate gears, not shown, the cylinder is geared to the driving shaft by which it is rotated. At one side the shell of the cylinder is cut away or provided with a longitudinal opening extending its full length, under which opening within the cylinder, upon a shaft G journaled at its opposite ends in the heads of the cylinder, are mounted the numbering and dating wheels, whose peripheries, owing to the size of the wheels and their arrangement eccentrically within the cylinder, project through the opening above referred to, into position to co-operate with a suitable impression roller to effect the printing of their numbers and characters upon a paper strip passed between them and such roller.

The consecutive numbering wheels II, as seen in Fig. 5, are mounted upon the left-hand end of the shaft G in the left hand end of the cylinder, while the dating wheels are mounted upon the right hand portion of the shaft, in the right hand end of the cylinder. The dating wheels consist of a month wheel I, bearing type letters representing abbreviations of the names of the twelve months,

and two day wheels I' I^2 , of which the wheel I^2 may be said to be the units wheel and the wheel I' the tens wheel. The wheel I^2 bears type numbers representing the nine digits, while the wheel I' bears numbers representing the first three digits. By adjusting these two wheels in relation to each other any day of the month from 1 to 3 may be indicated and printed by them, as will be understood.

For the purpose of actuating the consecutive numbering wheels H each of them has secured upon its left hand side a ratchet wheel J , with which ratchets co-operates the four-toothed pawl K pivoted to a pawl-carrier L hung upon the left-hand end of the shaft G , Fig. 3. A suitable spring presses the pawl K toward the ratchets J . As is common in devices of this character each ratchet, except that of the fourth or left-hand wheel, has one notch of greater depth than the others, and these deep notches of the respective ratchets also vary in depth, increasing from that in the ratchet of the second wheel from the left to that in the ratchet upon the right hand one, the latter being the deepest of the three. The four teeth of the pawl K also vary in length and position, as shown, with the result that at each vibration of the pawl-carrier the primary or right hand wheel of the set will be advanced one number and when it has completed one revolution its deep notch will be brought beneath the co-operating finger of the pawl K , so that at the next actuation of the pawl its second tooth will be permitted to engage the ratchet of the second wheel and advance the latter one number, and when the second wheel has been turned a complete revolution by ten revolutions of the first wheel the second tooth of the pawl will drop into the deep notch of the ratchet of the second wheel and the third tooth of the pawl be thus permitted to engage the ratchet of the third wheel. When the third wheel has been turned a complete revolution the fourth tooth of the pawl will be permitted to engage the ratchet of the fourth wheel to advance the latter one number; so that at each revolution of each wheel the next higher wheel in the set will be advanced one number, as is common.

The pawl-carrier L has pivoted to it one end of a link M , shown in dotted lines in Fig. 2, which link has its opposite end provided with the stud N projecting through a slot in the cylinder head B , Fig. 2. The outer end of this stud fits in a cam groove O in a fixed plate P , Fig. 4, secured in position adjacent the cylinder head B . At each rotation of the cylinder the travel of the stud N in the cam groove O will cause the stud to be reciprocated back and forth in its slot in the cylinder-head and the pawl-carrier and pawl vibrated to actuate the numbering wheels H in the manner above described.

In addition to the printing of the numbers and dates, the cylinder A may have secured upon its periphery electrotypes for printing any desired matter, such as the business card

of the establishment in which the device is used, so that a printed check such as that shown in Fig. 11, for instance, may be produced.

The numbering and dating devices above described are substantially the same as those shown in the Cook and subsequent patents heretofore referred to, and my invention consists in the novel application of means for returning the numbering wheels to zero and setting the dating wheels. Extending through the tubular journal E at the right hand end of the cylinder is a shaft Q which has fast upon its extreme left-hand end a gear wheel R which meshes with a gear wheel S fast upon the shaft G upon which the dating and numbering wheels are mounted. Surrounding the shaft Q is a sleeve T upon whose extreme left hand is secured a gear wheel U which meshes with a gear wheel fast upon the side of the month wheel I of the dating wheels. Surrounding the sleeve T is a sleeve V having fast upon its left-hand end a gear wheel W meshing with a gear wheel fast upon the side of the dating wheel I' , while surrounding the sleeve V is a third sleeve X having fast upon its left-hand end a gear Y meshing with a gear upon the dating wheel I^2 . This outer sleeve X is supported and has its bearing in the opposite ends or heads of the tubular or hollow journal E before described, and this sleeve constitutes the support and bearing for the sleeves and shaft within it. The shaft Q and the respective sleeves have secured upon their right hand ends thumb-pieces Z , Z' , Z^2 , and Z^3 , by which the shaft and sleeves may be turned. These thumb-pieces are provided with suitable numbers and characters which co-operate with some suitable indicating point, such as the pin a projecting from the end of the journal E , Fig. 1, by which the position of the numbering and dating wheels may be indicated by the position of the thumb-pieces, so that when the thumb-piece Z' , for instance, is turned until the letters indicating a given month are brought to such indicating position it will be known that the month printing wheel I has been turned in the cylinder to bring the type-letters representing such month to printing position; and in the same manner by turning the thumb-pieces Z^2 and Z^3 the printing wheels I' and I^2 may be set to print any desired day of the month.

When the thumb-piece Z is turned a complete revolution the shaft G upon which the numbering and dating wheels are mounted will be turned a complete revolution. This will not affect the dating wheels, since they are free to turn, or permit the shaft to turn, independently in either direction, but there are interposed between the numbering wheels H and the shaft G suitable devices for causing the shaft to pick up the wheels when it is turned in one direction and carry them to zero or initial position. To this end the left-hand end of the shaft, upon which said num-

bering wheels are mounted, is provided with a longitudinal groove, as seen in Figs. 9 and 10, while each numbering wheel H has pivoted to its side a pawl A' spring-pressed against the shaft and co-operating with the notch therein. When the shaft is turned in the direction of the arrow in Fig. 9 each wheel H will be picked up by it as its notch comes under the pawl of said wheel, so that by a complete revolution of the shaft all the wheels will be returned to initial position.

The numbering wheels H are yieldingly held in the positions to which they are moved by their actuating pawl, and accidental displacement of them prevented, by means of spring-pressed holding-pawls A² engaging the ratchets J of the wheels, Fig. 3, while the dating wheels are held from accidental displacement by spring-fingers projecting from and formed of a sheet metal plate A³ secured to the surface of the cylinder A at the lower edge of the opening therein, said fingers extending down beside the wheels and bearing against the gears upon the sides of the wheels, Fig. 7.

In the manner and by the means above described the consecutive numbering wheels may be readily reset to initial position by turning the thumb-piece Z, while by turning the thumb-pieces Z', Z², and Z³ the date wheels may be set to print any date desired.

In Figs. 7 and 8 a modified arrangement of the parts is shown, in which the right hand end of the shaft G is extended through the right hand end of the cylinder and through the journal E and has fast upon it a thumb-piece B' by which it may be turned to reset the wheels. The devices for setting the dating wheels remain substantially the same as in the construction first described, as seen in Fig. 8. In said Fig. 8 the different months are, in the present instance, indicated upon the thumb-piece Z' by numbers, instead of by abbreviations of their names, as may be done in Figs. 1 and 5 if desired.

Having thus fully described my invention, I claim—

1. In a numbering and dating device, the combination of a rotary cylinder, a shaft eccentrically mounted therein, a series of consecutive-numbering wheels mounted upon said shaft and projecting through an opening in the cylinder, means for actuating said wheels at the rotations of the cylinder, means intermediate said wheels and the shaft for causing the latter to reset the wheels when turned in one direction, a series of dating wheels mounted upon the same shaft beside the numbering wheels, and means for independently turning the shaft and dating wheels to reset the numbering wheels and adjust the dating wheels, substantially as described.

2. In a numbering and dating device, the combination of a rotary cylinder, a shaft eccentrically mounted therein, a series of consecutive-numbering wheels mounted upon said shaft and projecting through an opening

in the cylinder, means for actuating said wheels at the rotations of the cylinder, means intermediate said wheels and the shaft for causing the latter to reset the wheels when turned in one direction, a series of dating wheels mounted upon the same shaft beside the numbering wheels, means for turning the shaft to reset the numbering wheels, a series of concentric sleeves mounted in one end of the cylinder, their inner ends being geared to the respective dating wheels and their outer ends projecting outside the cylinder, and a series of thumb-pieces upon the outer ends of said sleeves, substantially as and for the purpose described.

3. In a numbering and dating device, the combination of a rotary cylinder, a shaft eccentrically mounted therein, a series of consecutive-numbering wheels mounted upon said shaft and projecting through an opening in the cylinder, means for actuating said wheels at the rotations of the cylinder, means intermediate said wheels and the shaft for causing the latter to reset the wheels when turned in one direction, a series of dating wheels mounted upon the same shaft beside the numbering wheels, a shaft and a series of concentric sleeves surrounding the same, journaled in one end of the cylinder, the inner end of the shaft being geared to the shaft upon which the numbering and dating wheels are mounted and the inner ends of the concentric sleeves being geared to the respective dating wheels, and the outer ends of the shaft and sleeves projecting outward through the end of the cylinder, and a series of thumb-pieces secured upon the outer ends of the shaft and sleeves for turning the same, substantially as and for the purpose described.

4. In a dating and numbering device, the combination of the cylinder A having the enlarged journal E at one end, the shaft G eccentrically mounted in the cylinder, the numbering and dating wheels arranged upon said shaft, means for actuating the numbering wheels at the rotations of the cylinder, and means intermediate said wheels and the shaft for causing the shaft to reset the wheels when turned in one direction, the shaft Q and concentric sleeves T V X extending through and mounted in the journal E of the cylinder, the inner end of the shaft Q being geared to the shaft G and the inner ends of the sleeves being geared to the respective dating wheels, and the thumb-pieces fast upon the outer ends of the shaft and sleeves for turning them to reset the numbering wheels and adjust the dating wheels, substantially as described.

5. In a numbering and dating device, the combination of the rotary cylinder A, the shaft G concentrically mounted therein, the numbering wheels H and the dating wheels located upon said shaft, the pawl-carrier L hung upon said shaft beside the numbering wheels, the pawls K carried thereby and co-operating with the ratchets of the wheels, the link M connected at one end to the pawl-car-

rier and provided at its other with the stud N projecting through the slot in the cylinder head, the plate P containing the cam groove O co-operating with the stud N, means inter-
5 mediate the shaft G and wheels H for causing the shaft to reset the wheels when it is turned in one direction, and means for independently turning the shaft G and the dating wheels, substantially as and for the purpose described

WILLIAM MURPHY.

Witnesses:

ALVAN MACAULEY,
J. GILMORE FLETCHER.