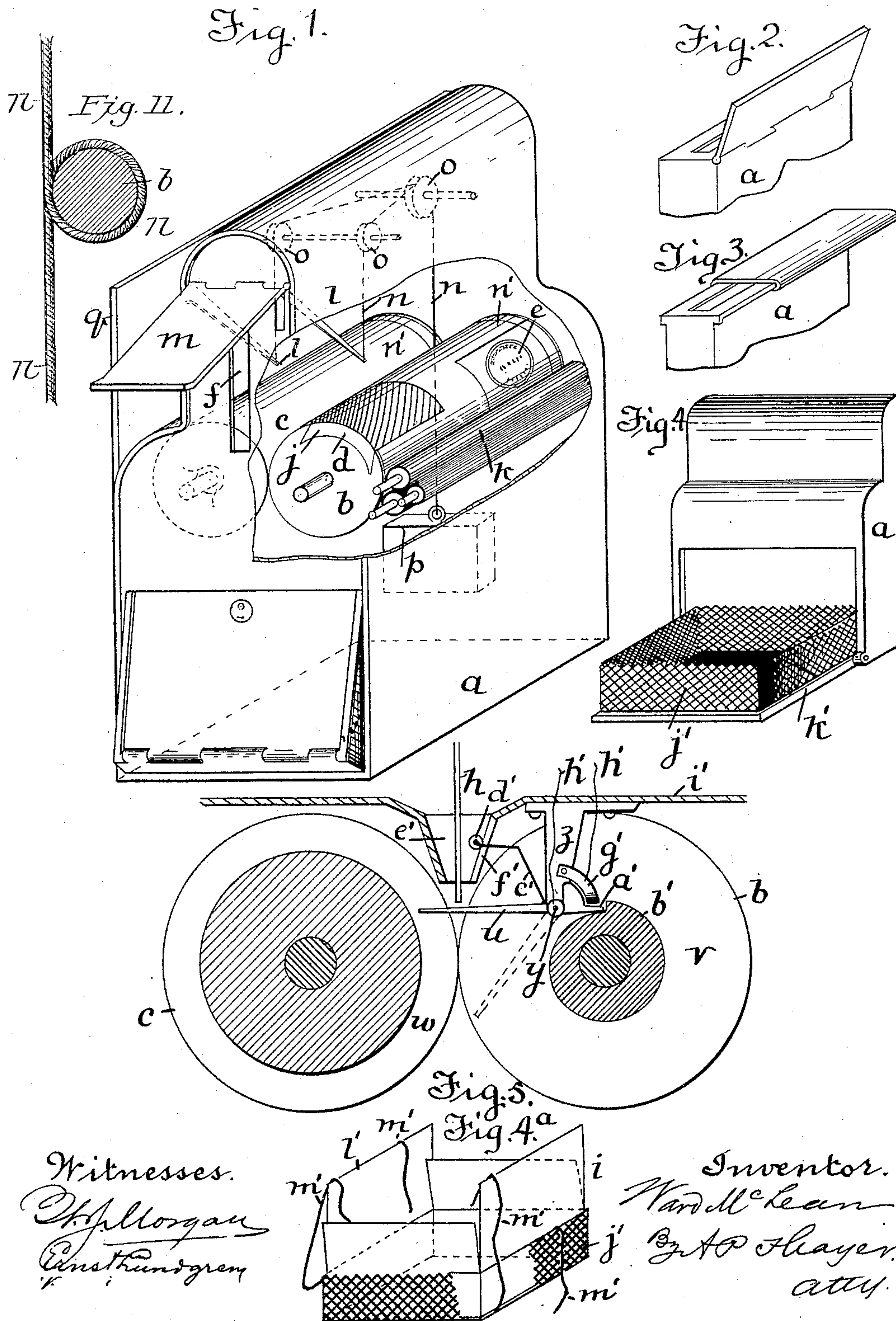


2 Sheets—Sheet 1.

COMBINED STAMP CANCELING, POSTMARKING AND RECORDING
MAIL BOX.

Patented Jan. 12, 1897.



(No Model.)

2 Sheets—Sheet 2.

W. McLEAN.

COMBINED STAMP CANCELING, POSTMARKING, AND RECORDING
MAIL BOX.

No. 575,004

Patented Jan. 12, 1897.

Fig. 7.

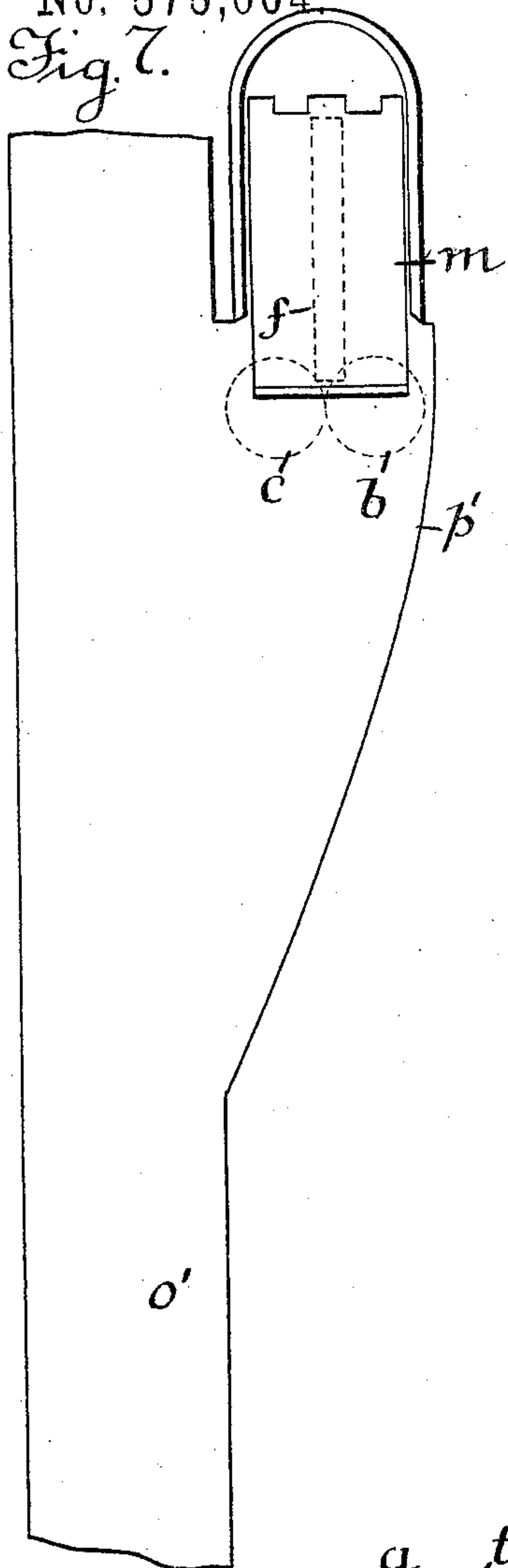


Fig. 6.

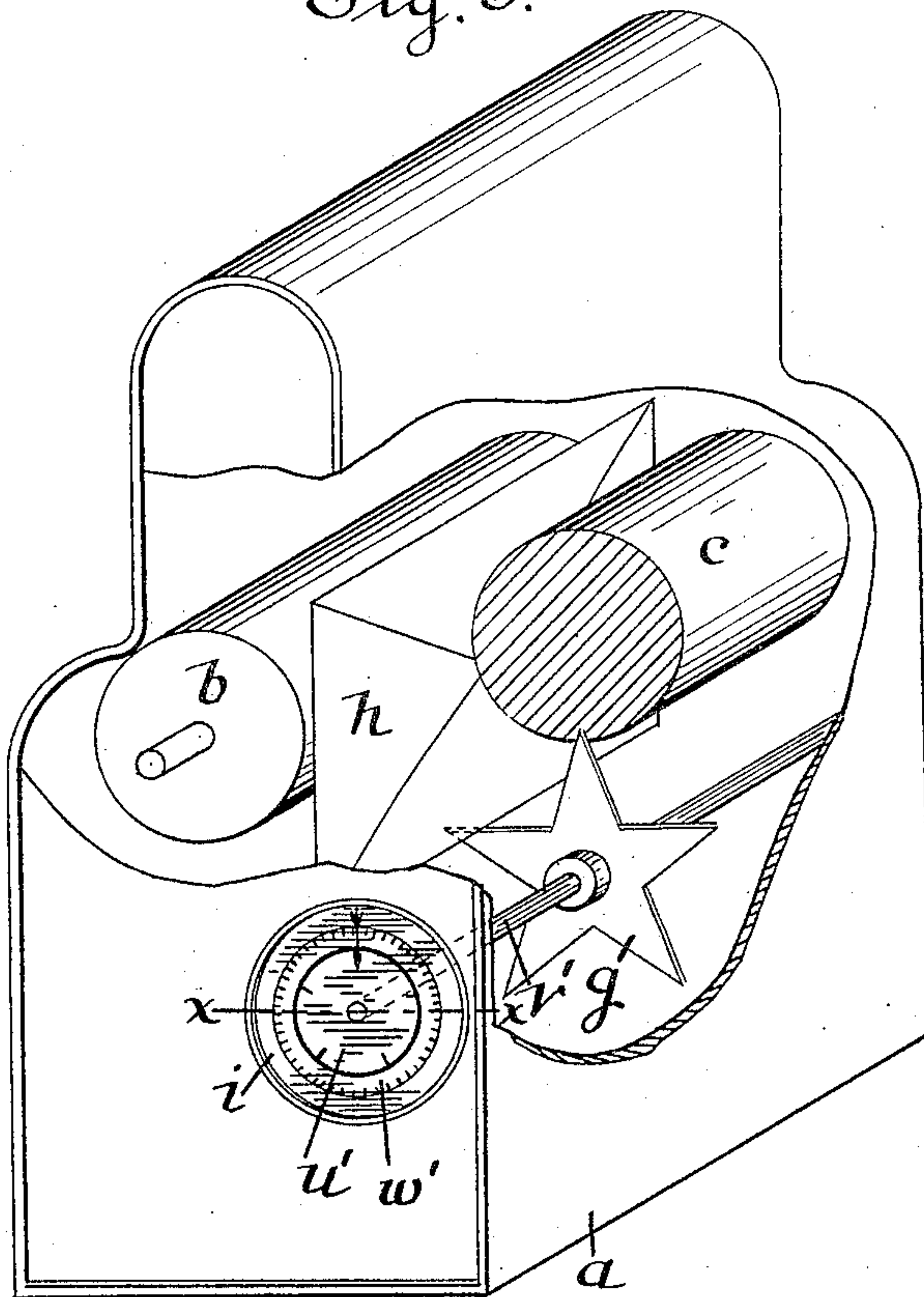


Fig. 8.

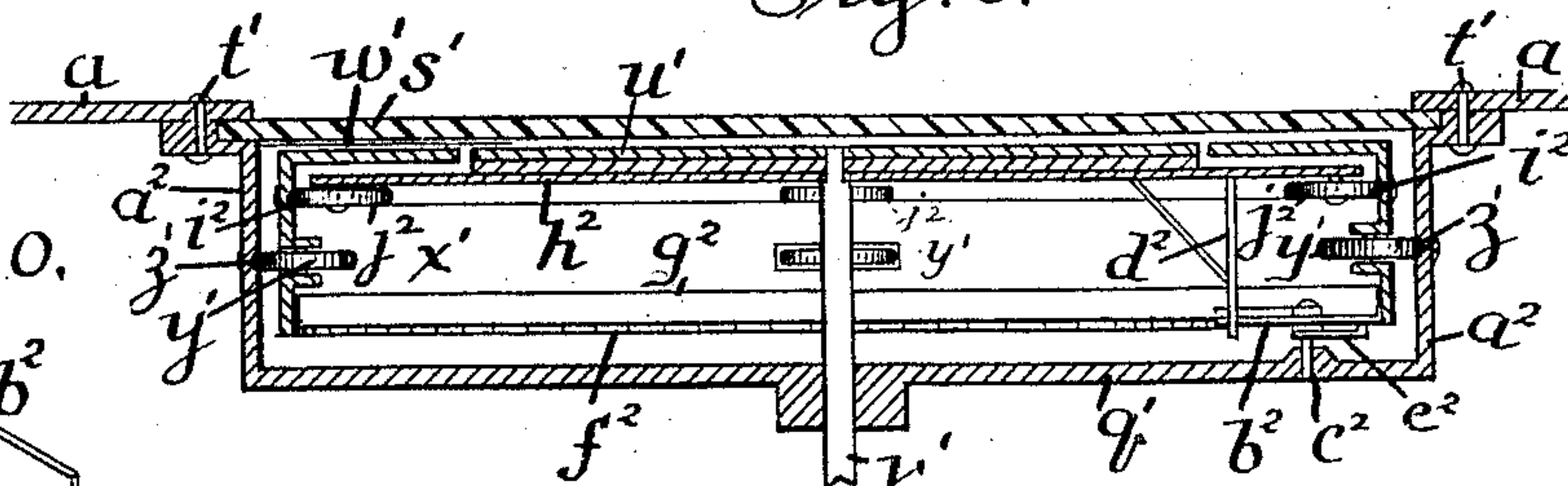


Fig. 10.

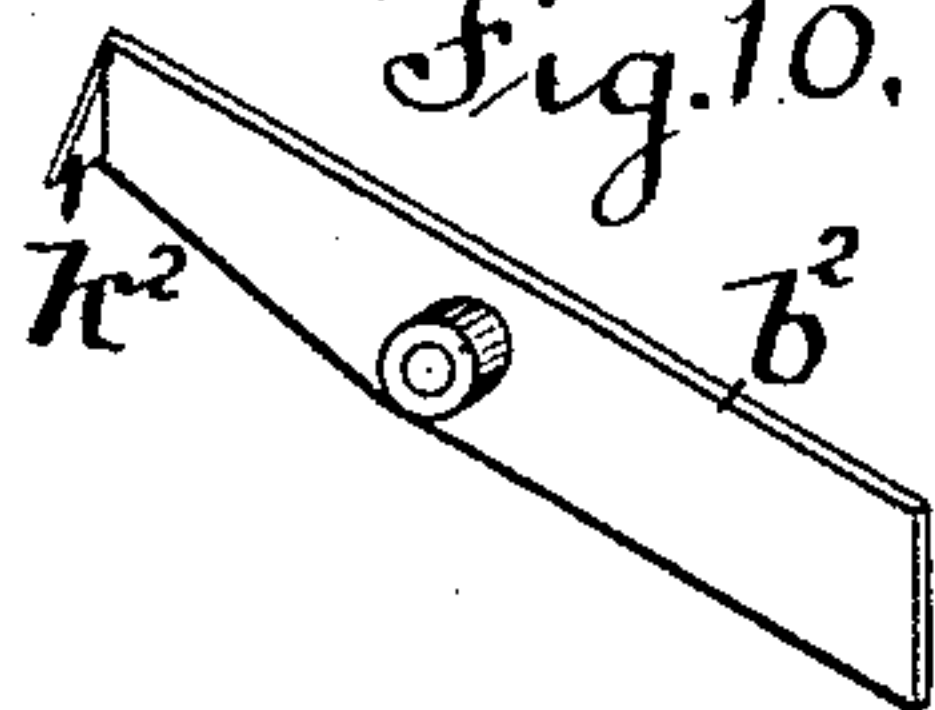
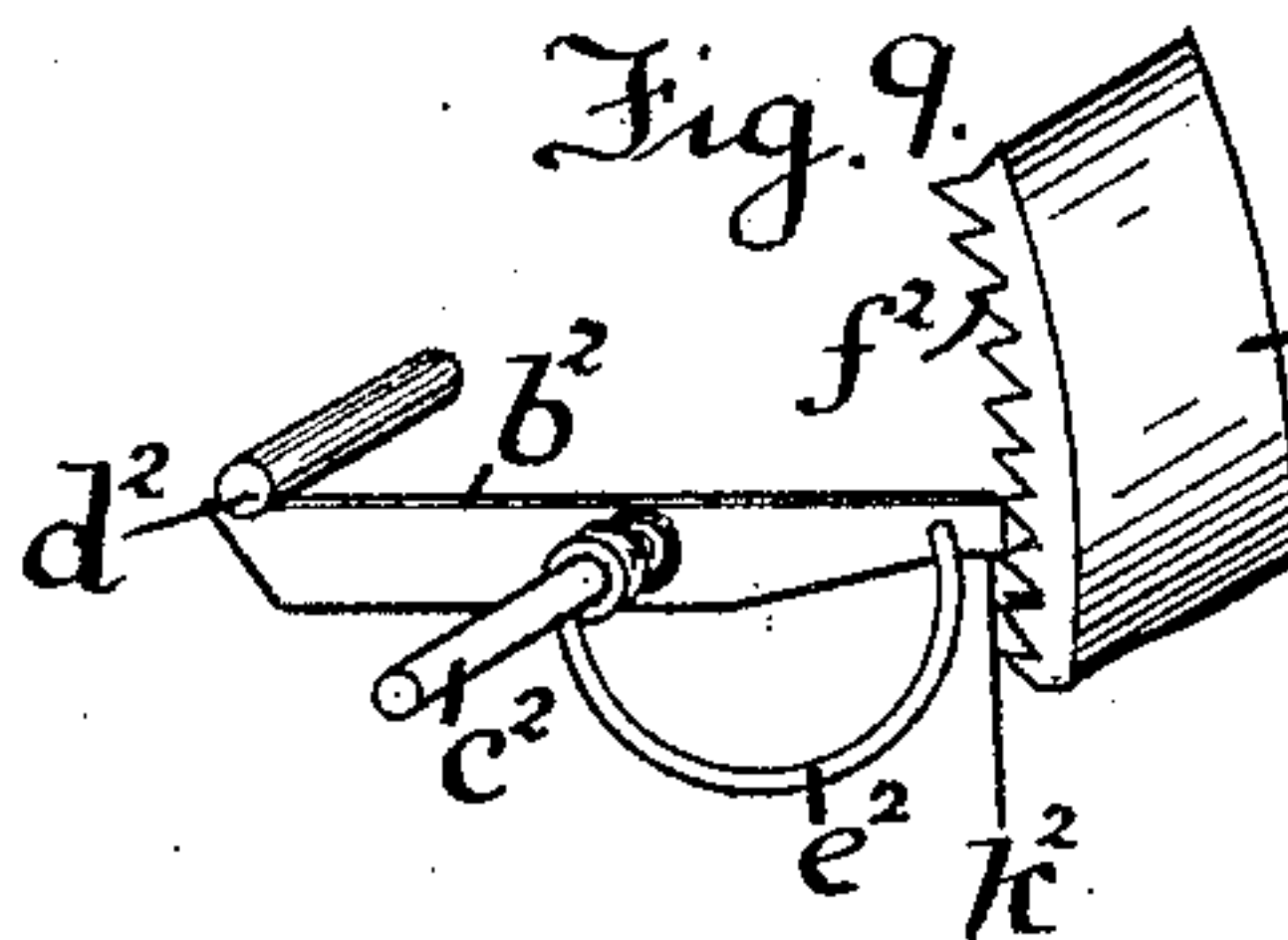


Fig. 9.



Witnesses.

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UNITED STATES PATENT OFFICE.

WARD McLEAN, OF BROOKLYN, NEW YORK.

COMBINED STAMP-CANCELING, POSTMARKING, AND RECORDING MAIL-BOX.

SPECIFICATION forming part of Letters Patent No. 575,004, dated January 12, 1897.

Application filed October 23, 1894. Serial No. 526,737. (No model.)

To all whom it may concern:

Be it known that I, WARD McLEAN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in a Combined Canceling, Postmarking, and Recording Mail-Box, of which the following is a specification.

My invention consists of automatic stamp-canceling, postmarking, and recording apparatus combined with a mail box or receptacle in such manner that the letters will be postmarked with the locality and time of deposit, the stamps will be canceled, and the letters will be counted and the numbers registered, all in the act of depositing them, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a mail-box in which my invention is represented in one form in which it may be carried out, the box being adapted for depositing letters through a slot in one side near the top with a portion of the case broken out. Fig. 2 is a perspective view of the top portion of the box adapted for depositing the letters through a slot in the top of the box, with a hinged cover located on the top of the box in which the slot is made. Fig. 3 is a perspective view of a top portion of like form with a sliding cover of the slot as it may be arranged when preferred. Fig. 4 is a perspective view of a box provided with a basket in the bottom for the reception of the letters and adapted for containing a wrapper and cords for readily tying the letters on removal from the basket for keeping the letters of each box separate when desired, said basket and the box being adapted for the basket to be drawn out on the cover of the opening to the basket for greater convenience. Fig. 4^a is a perspective view of the basket provided with the wrapper and the strings. Fig. 5 is a transverse section of stamp-canceling and postmarking-rolls provided with apparatus for working the rolls by electric power. Fig. 6 is a perspective view of a mail-box in reverse of the view of Fig. 1, with a part broken out and a transverse section of one of the rolls, showing the registering apparatus as it may be arranged. Fig. 7 is a side view of a portion of a mail-chute, such as is employed in office buildings,

with the application of my invention indicated at one of the openings for dropping the letters in. Fig. 8 is a transverse section, on an enlarged scale, of a registering apparatus which I prefer to use, the section being taken on line *x x*, Fig. 6. Fig. 9 is a detail in perspective of the said registering apparatus on a still larger scale. Fig. 10 is a perspective view of the pawl of the registering apparatus detached and also enlarged. Fig. 11 is a detail showing the manner of applying the cords to the rolls for actuating them by the lid.

In any approved suitable mail-box, as *a*, I provide a pair of stamp-canceling and postmarking rolls, as *b* and *c*, suitably provided with canceling and postmarking dies, as *d e*, and others, if required, said dies being suitably arranged with relation to the slot-opening *f*, through which the letters are inserted, whereby they are caused to drop into the gap between said rolls to pass between them on their way to the receiving-space below, so as to be canceled and marked, and said rolls being provided with means for automatically causing them to rotate at the same time suitably to cancel and mark the letters; and below the rolls I provide the prime mover of registering apparatus, as star-wheel *g*, suitably to be shifted a stage by each descending letter *h*, and suitably connected with recording apparatus, as at *i*, Fig. 6, for registering the number of letters deposited.

The canceling-die *d* may be permanently fixed in the roll *b*, if desired, or it may be detachable, as may be preferred, and if detachable may be applied in any approved way, as in a dovetail groove, as indicated at *j*, Fig. 1, but the marking and dating die *e* will be removable for changing the dates and also the hours of the day, it being proposed that on certain rounds of the mail-collector, or on each, if desired, he shall carry appropriate substitute dies and change them in order to stamp also the approximate hour of mailing on the letters. Suitable inking-rolls, as *k*, are provided in connection with the die-carrying roll *b*, to which ink may be applied from time to time for inking the dies. The rolls are to be adjusted so that the dies will not touch the other roll when no letter is between them to avoid inking it. Various contrivances of apparatus may be employed for

rotating the rolls. In Fig. 1 I represent a couple of arms l , projecting inward from the pivoted end of the lid m , covering the slot f , so that they swing when the lid is raised to open the slot for inserting a letter, and to the free ends of these arms I connect cords n , which are arranged on suitable guide-pulleys o above the rolls, thence extend downward around the rolls, as indicated at n' , Fig. 1, and more clearly illustrated in Fig. 11, and below the rolls have the weight p attached, so that when the lid is raised the rolls will be turned to the position for receiving the letter, as in Fig. 1, and the weight will be raised, and when the lid is let fall the weight will turn the rolls in the direction for passing the letter downward between them into the space below, and at the same time making the canceling and marking impressions on it by the dies.

Instead of using two arms l for the two cords one arm may be sufficient for both cords, but it is preferable to use two arms, because one arm to each upper corner of the lid equalizes the stresses on the lid and it works more freely than with one arm alone, which cannot well be placed in the middle of the cover, where it would work best, because it would interfere with the letters. If the rolls were geared together, as they may be, one cord and weight turning one roll would be sufficient, or the blank roll may be free and depend on the friction of the letter against it for being turned. The rolls may be covered with emery-paper or other like material for greater frictional contact with the letters, and when the cords are applied the rolls may be reduced in size, so that the cords will not interfere with the grip of the surfaces of the rolls on the letters.

It will be seen that only one letter is to be put in at a time and that the lid is to be raised and let fall once for each letter, for which suitable directions, together with other necessary instructions for the public, will be conspicuously explained on a card duly attached to the box.

A rack or crib may be provided on the exterior of the box in any approved way, as by the application of the plate q , in which the letters may be temporarily deposited when several are to be mailed, to relieve both hands, so that one may be used for raising and holding the lid and the other for taking the letters individually from the crib and inserting them in the slot.

The rolls, or one of them, may be composed of yielding material, as rubber, for passing letters of more than ordinary thickness.

For drop-boxes or other receptacles where the lid for covering the slot is not used, as in post-offices, and is not available for working the rolls, the rolls, or one of them, as the die-carrying roll, may be geared with a motor of any kind, as a spring or weight power motor or an electric motor, ready for instantly starting the rolls when the stop device retaining

the motor is tripped or when the electric circuit is closed with a tripping-lever or a circuit-closing lever, as u , suitably located for being actuated by the dropping letter to set the motor in operation. For this purpose the die-carrying roll may be made with a deep circumferential channel or groove, as v , at any suitable place between the ends, so that it will range about the middle of the falling letters and roll c will be made with a coincident groove w , but not necessarily so deep, and the lever u will be pivoted, as at y , in the extremity of a hanger z , pendent in the groove v , with the short arm, which is weighted so as to overbalance the long arm, adapted to gravitate into a notch a' in the hub b' of the roll to stop the roll in the right position for the dies to register properly with the letters when set in motion, while the long arm of the lever ranges across the path of the falling letters into the groove w for being operated thereby. The speed of the rolls will be so graduated that the letter will escape and the lever will return to its normal position ready for stopping the rolls with the dies in the normal position when or slightly before they have made a complete revolution.

To prevent a passing letter from being followed so quickly by another as to interfere with the return of the lever to normal position in proper time, a light spring c' , having a friction-roller d' , is carried on the axis of lever u , so that the roller bears on the side of the falling letter while passing, and then springs forward as the upper edge of the letter passes it across the chuteway e' and serves as a stop to hold the next letter until the lever rises again, when said stop swings back out of the chute and permits the fall of the detained letter. A slot is made in the side of the chute at f' , permitting this spring-stop to operate in the manner stated.

If an electric motor is used for operating the rolls, the short arm of the lever will form one contact-piece and the arc g' may form the other contact-piece of an electric circuit h' , to be closed as soon as the said arm escapes from notch a' and releases the roll, said contacts being so adjusted that they will separate and open the circuit just before the arm enters the notch and stops the roll.

The chute e' is supported by the plate i' , which may have its support in any suitable arrangement, and any approved guide may be employed to direct the letters into said chute.

In Fig. 4 I represent a basket j' , located in the bottom of the space below the rolls for receiving the letters, with a door k' in the side of the box for access to said basket and adapted for a shelf on which the basket may be supported when partially drawn out for convenience in removing the letters, and I propose in practice to place a sheet of paper, as l' , in the basket, with cords, as m' , under it, as in Fig. 4^a, whereby the letters may be quickly bundled and tied on removal to keep

the letters of each box separate when desired for any purpose.

In Fig. 7 I represent my improved canceling and marking box as an attachment to a mail-chute o' , the said box being applied to one side of the chute, as at p' , so as to discharge the letters into it after canceling and marking them. In this case the rolls will be actuated by the lid or cover m of the slot, as in Fig. 1, or other equivalent means may be employed. The chute will be provided with such box at each floor or other place for dropping the letters, the registering apparatus included when desired.

For the registering apparatus I provide a case q' and secure it, as at t' , to the inside of one of the side plates of the box a , having a suitable glazed opening s' , and arrange the rotating dial u' in said case on the shaft v' of the star-wheel, with an annular rotating dial w' surrounding dial u' and graduated to register the rotations of said dial u' .

The dial w' is carried by a ring x' , which is mounted on wheels y' , which travel in a groove z' in the rim a^2 of the case q' , being made to move one step at each revolution of dial u' by a pawl b^2 , pivoted on a stud c^2 , supported in the back of the case q' , which is thrown once at each revolution of dial u' , and by a spring e^2 , attached to it and to the pivot-stud c^2 , said pawl taking effect on a toothed rack f^2 , formed in a turned-up flange of one edge of a ring g^2 , which is fitted inside of the ring x' . The dial w' has a disk h^2 of larger size than itself attached to its inside and reaching nearly to the inside of ring x' and carrying rollers j^2 , which run in a groove i^2 in ring x' for guiding and supporting the said disk.

The pawl b^2 has its toe k^2 for engaging the teeth f^2 of the rack projecting laterally from one side, said toe being beveled on one edge, and the pawl is a thin piece of spring metal adapted to spring sidewise, so that the pawl, being pivoted centrally on a fixed stud c^2 , will escape from the teeth of the rack by springing sidewise for the back motion, and will spring in again to engage the teeth for the forward motion.

The stud-pin d^2 shifts the pawl in the back motion and escapes past the end of the pawl, and the spring e^2 shifts the pawl on the forward motion to actuate the dial w' .

I do not limit myself to this particular form of registering apparatus, it being my purpose to employ any approved form or construction of such devices.

I claim--

1. The combination with a mail-box or other letter-receptacle, of rolls adapted for passing the letters between them and canceling the stamps and postmarking the letters when dropped in the box, motive apparatus geared

with one or both of said rolls for operating them, a motor detaining and releasing lever subject to the dropping letters, and the spring-guard located in the chute above the rolls for detaining letters falling in undue succession substantially as described.

2. The combination with a mail-box or other letter-receptacle, of rolls adapted for passing letters between them, and canceling the stamps and postmarking the letters when dropped in the box, motive apparatus geared with one or both of said rolls for operating them, and a motor detaining and releasing lever located in the grooves of the rolls and subject to the dropping letters in advance of the rolls substantially as described.

3. The combination with a mail-box or other letter-receptacle, of rolls adapted for passing the letters between them, and canceling the stamps and postmarking the letters when dropped in the box, motive apparatus geared with one or both of said rolls for operating them and consisting of the arms of the slot-cover, and cord or cords and weight connected with said rolls substantially as described.

4. The combination with a mail-chute, of rolls adapted for passing the letters between them and canceling the stamps and postmarking the letters when dropped in the chute, and means for automatically actuating the rolls, said rolls located at one side of the main passage of the chute for free passage of other letters dropped from above substantially as described.

5. The combination with a mail-box or other letter-receptacle, of rolls adapted for passing the letters between them and canceling the stamps and postmarking the letters, means for actuating said rolls, and recording apparatus whereof the prime mover is located under the rolls and adapted to be actuated by the letters impelled by the rolls substantially as described.

6. The combination with a mail-box or other letter-receptacle, of rolls adapted for passing the letters between them and canceling the stamps and postmarking the letters, means for actuating the rolls and registering apparatus whereof the prime mover is a star-wheel located under the rolls and subject to the letters impelled by the rolls, and carries the units-disk mounted on wheels in the ring carrying the annular disk, and said annular disk mounted on wheels carried in the case-ring and geared with the units-disk by the ratchet and pawl substantially as described.

Signed at New York city, in the county and State of New York, this 19th day of October, A. D. 1894.

WARD MCLEAN.

Witnesses:

W. J. MORGAN,
A. P. THAYER.