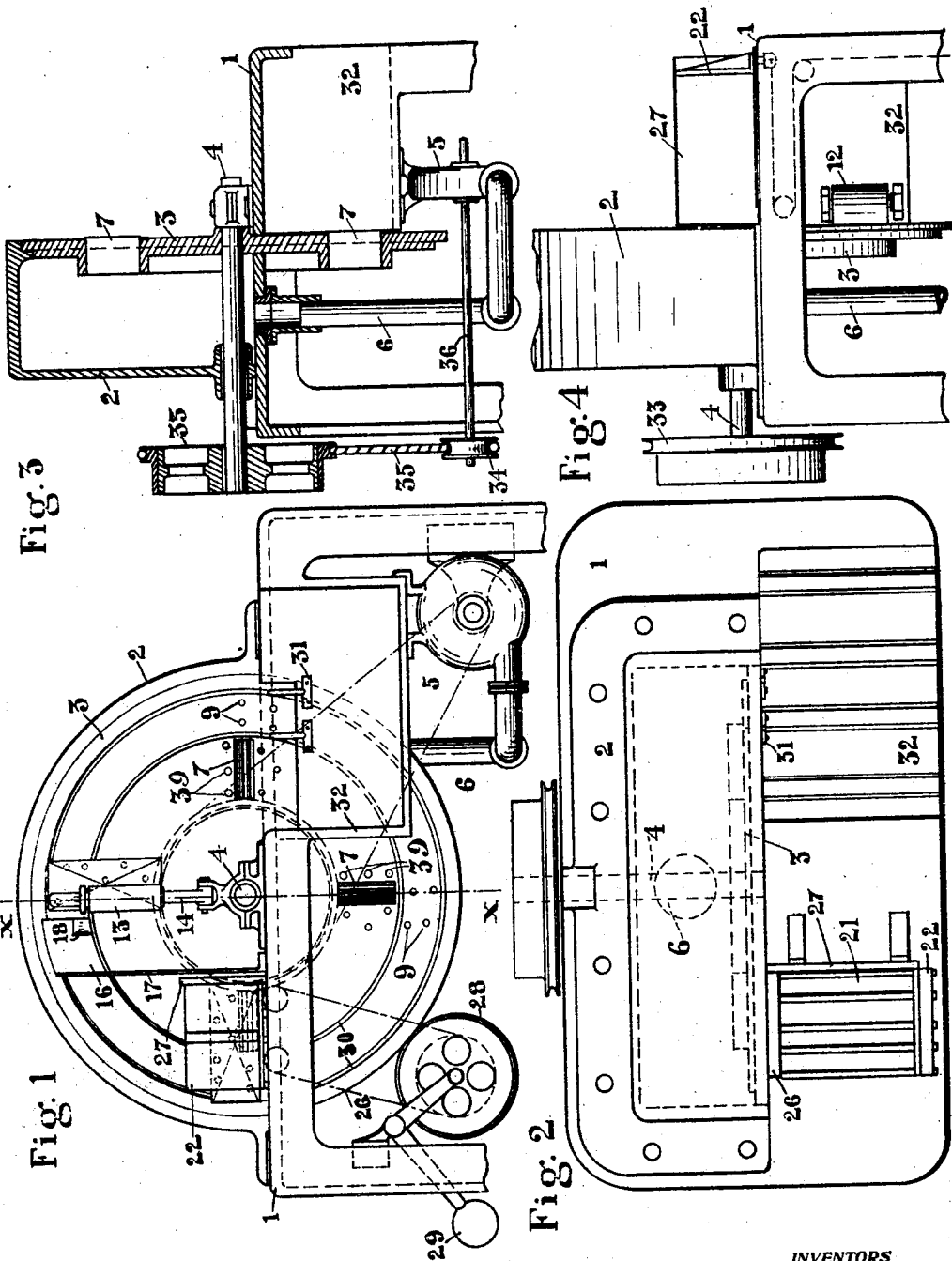


L. BLESSING, M. L. ATEN & G. H. POIRIER.
LETTER CANCELING MACHINE.
APPLICATION FILED MAR. 27, 1909.

941,848.

Patented Nov. 30, 1909.
2 SHEETS—SHEET 1.



WITNESSES:

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Fig. 7

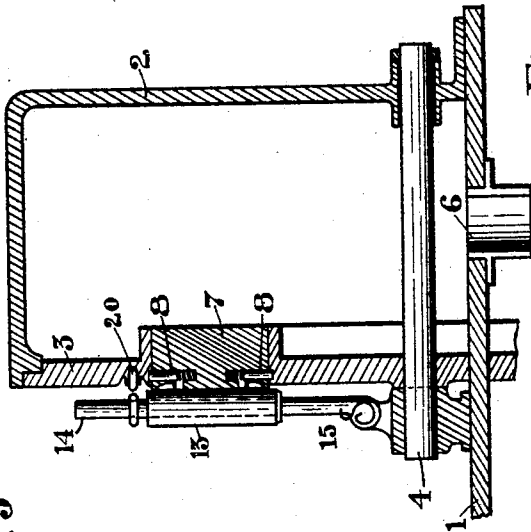


Fig. 8

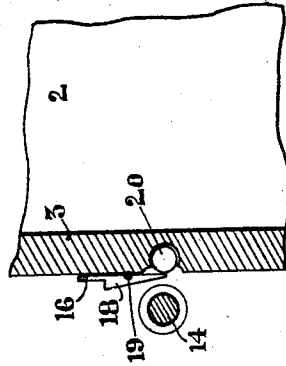


Fig. 5

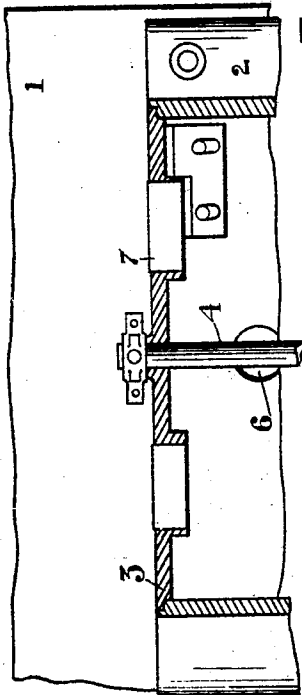


Fig. 6

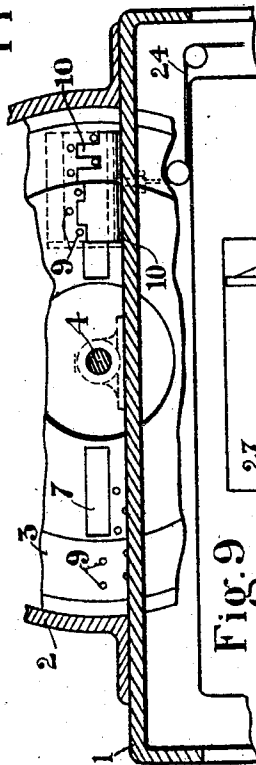


Fig. 10

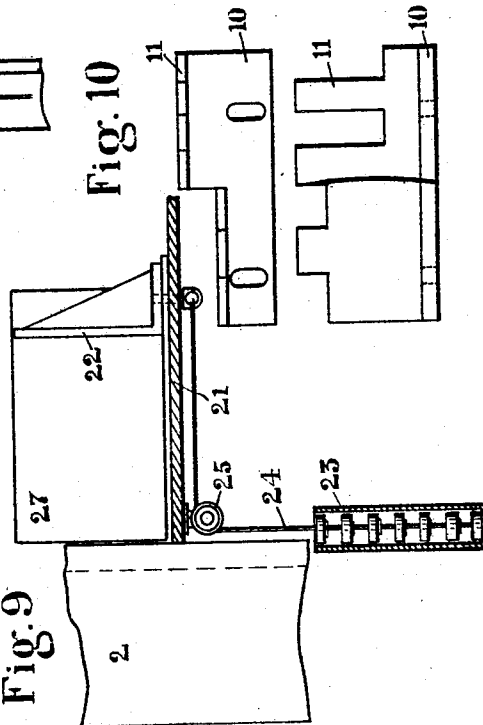
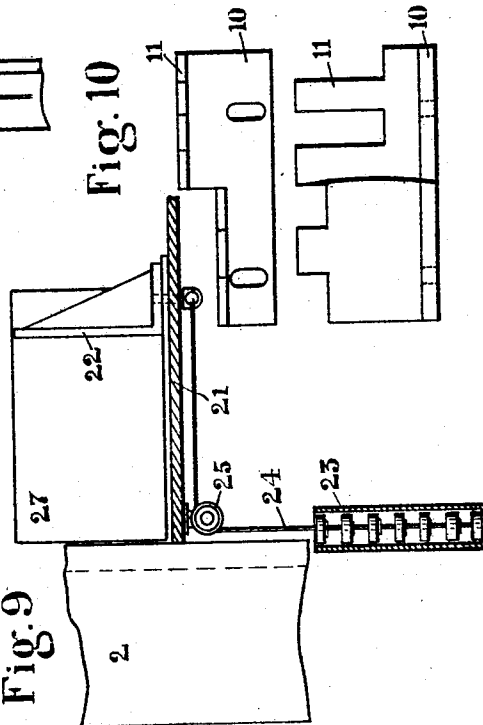


Fig. 9



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UNITED STATES PATENT OFFICE.

LOUIS BLESSING, MERRITT L. ATEN, AND GEORGE H. POIRIER, OF JACKSON, MICHIGAN;
SAID ATEN ASSIGNOR OF ONE-HALF OF HIS RIGHT TO JULIAN J. BENNETT, OF
JACKSON, MICHIGAN.

LETTER-CANCELING MACHINE.

941,848.

Specification of Letters Patent.

Patented Nov. 30, 1909.

Application filed March 27, 1909. Serial No. 486,098.

To all whom it may concern:

Be it known that we, LOUIS BLESSING, MERRITT L. ATEN, and GEORGE H. POIRIER, citizens of the United States of America, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Letter-Canceling Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to letter canceling machines and more especially to certain features thereof whereby rapidity and positiveness of action are obtained together with simplicity of construction.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in side elevation, partly broken away, of a machine embodying features of the invention. Fig. 2 is a plan view thereof. Fig. 3 is a view in vertical section on line $x-x$ of Fig. 1. Fig. 4 is a view of the receiving end of the machine. Figs. 5 and 6 are views in detail, partly in section, of a cut-off plate and disk. Fig. 7 is an enlarged view in detail of a printing roll. Fig. 8 is a view in detail of the printing roll. Fig. 9 is a view in detail of a letter chute. Fig. 10 shows details of the cut-off plate.

Referring to the drawings, a horizontal table 1 of suitable design has a semi-circular drum 2 suitably secured thereon with a rotating disk 3 forming the front face thereof, carried by a horizontal shaft 4 journaled in bearings on the table. The disk passes through a slot in the table top 3 arranged to substantially seal the drum so that a fan or exhaust blower 5 beneath the table whose intake pipe 6 opens through the table into the drum may maintain a partial vacuum therein.

Removable dating plates 7 are detachably inserted in the face of the disk at regular intervals, preferably being secured by spring plungers 8 or like means with the printing face projected slightly from the disk. A set of perforations 9 are formed in the disk around each plate and are so disposed in reference to an angle bracket 10 or the like secured on the table whose upright part 11 corresponds to the inner face of the disk against which it bears, that they are opened

simultaneously as they pass upward by this cut-off plate 10 each time they revolve above the bed of the table.

An ink roll 12 is journaled in an upright position under the table in the path of revolution of the printing plates 7 so that they are inked every time they pass it. A presser roll 13 is journaled in an upright spindle 14 whose lower end is pivotally connected to the table the roll being placed normally against the disk 3 by a suitably disposed spring 15. A lifting plate 16 is supported close against the face of the disk 3 just above the path of revolution of the printing plates 8 and the presser roll 13 on a spring arm 17 secured at its lower end to the table top. This plate is in the path of revolution of the outer perforations 9 in the disk and when the latter are not covered the suction of air through them draws the plate against the disk which carries it toward the spindle 14. A wedge 18 on this plate underderruns the spindle during this forward movement and momentarily raises the roll 13 so that the printing plates 7 pass under it without soiling it. A roll 19 in the stripper plate encounters an idler 20 in the disk as the limit of its forward movement is reached thereby raising the lift plate 16 which is then snapped back by its arm 17 to normal position. A letter chute 21 whose discharge end is toward the disk in the path of revolution of the printing plates has a slide block 22 which presses a stack of letters placed on edge in the chute facing the disk toward the latter through the medium of a series of weight blocks 23 carried by a suitable cord or chain 24 over a pulley 25, the weights gradually piling up as the stack lessens and less weight is required to overcome the consequently decreasing friction. A belt 26 is driven transversely across the bottom of the chute next the disk toward a plate 27 which constitutes the back of the chute so as to crowd the letters against the latter. This belt is preferably operated by a friction wheel 28 held against the periphery of the disk 3 by a suitable counterpoise 29. Annular grooves 30 in the face of the disk are engaged by the upper ends of stripper fingers 31 which lift off letters from the disk and deposit them in a suitable receptacle 32 formed by a drop in the table top. Stops 39 or studs are placed on the disk in proper

relation to each set of apertures so that if a letter on the disk over the perforations slips, its edge comes against the stops which arrest further movement. Obviously the disk and
 5 exhaust fan may be driven by any suitable means, the arrangement of the pulleys 33, 34, belt 35 and shaft 36 illustrating one method of doing this.

In operation a stack of letters is placed in
 10 the chute with the slide block pressing against them and carrying them toward the disk; as the latter passes them, the suction of the apertures around each printing block draws a letter against the disk and carries it
 15 under the presser roll so that the printing block, already inked by passing the inking roll, stamps or marks the letters desired, the latter being removed from the disk by the stripping fingers and stacked in the receiving box. If the machine is running with-
 20 out letters in the chute, the lifter plate is drawn with the disk and under-runs the presser roll each time a printing block moves past it so that the roll is not inked
 25 thereby and consequently the letters are not soiled.

The main feature of the machine is the simplicity and accuracy with which it does its work, there being no reciprocating parts
 30 and but very little mechanism to keep in running order. Another feature is the fact that the capacity of the machine is almost unlimited as the disk may be of any size necessary, the number of printing blocks being
 35 increased or decreased as desired. The latter are likewise readily detached so that they may be changed each hour to give the proper mailing record.

Obviously, changes in the details of construction may be made without departing
 40 from the spirit of the invention, and we do not care to limit ourselves to any particular form or arrangement of parts.

What we claim as our invention is:—

45 1. A letter canceling machine comprising a rotatable member provided with stamping plates, pneumatic means for holding letters against the plates, a presser roll normally
 50 contacting with the member adapted to force letters against the plates, and pneumatically operated means for lifting the pressure roll away from the plates when the latter are uncovered.

2. A letter canceling machine comprising
 55 a rotatable disk, stamping plates thereon, means for advancing a stack of letters toward the disk, pneumatic means for drawing a letter from the stack and holding it against a stamping plate, a presser roll normally con-
 60 tacting with the face of the disk adapted to force letters against the plates, and pneumatically operated means adapted to automatically lift the pressure roll out of the path of an uncovered plate.

65 3. A letter canceling machine comprising

a drum, a rotatable disk forming one head thereof, stamping plates in the outer face of the disk surrounded by apertures through the disk, a carrier adapted to advance a stack of letters toward the face of the disk in sub-
 70 stantially parallel relation thereto, a presser roll in yielding contact with the disk and plates, and means for exhausting air from the drum.

4. A letter canceling machine comprising 75 a drum, a rotatable disk forming one head thereof, stamping plates in the outer face of the disk surrounded by apertures through the disk, a carrier adapted to advance a stack of letters toward the face of the disk
 80 in substantially parallel relation thereto, means for uncovering the apertures around each block simultaneously as said block is in register with the delivery end of the carrier, a presser roll in yielding contact with
 85 the disk and plates, and means for exhausting air from the drum.

5. A letter canceling machine comprising a drum, a rotatable disk forming one head thereof, stamping plates in the outer face
 90 of the disk surrounded by apertures through the disk, a carrier adapted to advance a stack of letters toward the face of the disk in substantially parallel relation thereto, a presser roll in yielding contact with the disk and
 95 plates, a lifter plate vibratably supported adjacent the presser roll in close proximity to the disk and adapted to under-run and lift the roll when drawn against the disk by inflow of air through the apertures, and
 100 means for exhausting air from the drum.

6. A letter canceling machine comprising a drum, a rotatable disk forming one head thereof, stamping plates in the outer face of the disk surrounded by apertures through
 105 the disk, a carrier adapted to advance a stack of letters toward the face of the disk in substantially parallel relation thereto, means for uncovering the apertures around each plate simultaneously as said plate is in
 110 register with the delivery end of the carrier, a presser roll in yielding contact with the disk and plates, a lifter plate rotatably supported adjacent the presser roll in close proximity to the disk and adapted to under-
 115 run and lift the roll when drawn against the disk by inflow of air through the apertures, and means for exhausting air from the drum.

7. A letter canceling machine comprising 120 a drum, a rotatable disk forming one head thereof, stamping plates in the outer face of the disk surrounded by apertures through the disk, a letter chute transverse to the disk whose delivery mouth is swept by the plates,
 125 a slide plate therein, a weight for moving the block toward the delivery mouth, means for uncovering the apertures around each plate simultaneously as said plate is in register with the delivery end of the chute, a presser
 130

roll in yielding contact with the disk and plates, and means for exhausting air from the drum.

8. A letter canceling machine comprising
5 a drum, a rotatable disk forming one head thereof, stamping plates in the outer face of the disk surrounded by apertures through the disk, a letter chute transverse to the disk whose delivery mouth is swept by the
10 plates, a slide plate therein, a series of weights suspended at regular intervals on a cord leading from the block over a pulley near the chute mouth, means for arresting the descending weights one by one, means
15 for uncovering the apertures around each plate simultaneously as said block is in register with the delivery end of the carrier, a presser roll in yielding contact with the disk and plates, and means for exhausting air
20 from the drum.

9. A letter canceling machine comprising a table, a hollow chamber thereon, a rotatable disk forming one end of the chamber, a delivery chute on the table whose discharge
25 end is proximate the disk, stamping blocks in the disk passing the chute mouth, surrounded by apertures through the disk, means for forcing a stack of letters in the chute toward the disk in parallel relation
30 thereto, a cut-off plate adapted to uncover the apertures around each plate simultaneously as the plate registers with the chute mouth, an inking roll swept by the plates, a pressure roll yieldingly contacting with the
35 disks and plates, means for raising the pressure roll out of contact with an uncovered plate, and an exhaust blower connected to the chamber.

10. A letter canceling machine comprising
40 a table, a vacuum drum thereon, a disk rotating in a plane transverse to the table top and forming one head of the drum, an exhaust fan for the drum, a delivery chute on the table transverse to the disk whose mouth
45 is proximate the disk, stamping blocks detachably secured in the outer face of the disk, passing the chute mouth, and surrounded by apertures, a cut-off plate on the table adapted to uncover the apertures
50 around each block simultaneously as the block is in register with the chute mouth, a block movable longitudinally in the chute, a flexible cord connected to the block leading over a pulley near the chute mouth, a series
55 of weights attached to the cord in spaced relation, and a belt traversing the chute bottom near its mouth adapted to crowd the chute contents toward the inner wall thereof.

11. A letter canceling machine comprising
60 a table, a vacuum drum thereon, a disk rotating in a plane transverse to the table top and forming one head of the drum, an exhaust fan for the drum, a delivery chute on the table transverse to the disk whose mouth

is proximate the disk, stamping blocks de- 65
tachably secured in the outer face of the disk passing the chute mouth, and surrounded by apertures, a cut-off plate on the table adapted to uncover the apertures around each block simultaneously as the block is in 70
register with the chute mouth, a block movable longitudinally in the chute, a flexible cord connected to the block leading over a pulley near the chute mouth, a series of 75
weights attached to the cord in spaced relation, and a belt traversing the chute bottom near its mouth adapted to crowd the chute contents toward the inner wall thereof, an inking roll contacting periodically with the stamping blocks, and a presser roll adapted 80
to positively press a letter adhering to a stamp block against the latter.

12. A letter canceling machine comprising a rotatable disk, a letter chute adapted to deliver letters flat against the disk, stamping 85
blocks in the disk, pneumatic means for drawing a letter from the chute against a passing block, an inking roll contacting with each block before it reaches the chute, a presser roll yieldingly contacting with the 90
disk adapted to press a letter adhering to a block positively against it, a lifting plate parallel to the disk ahead of the presser roll and adapted to be drawn into contact with the disk by the pneumatic letter lifting 95
means when an uncovered block is passing the plate, means on the plate underrunning and raising the presser roll when the plate is moved forward by the disk, and a yielding support for the plate adapted to permit the 100
latter to momentarily advance with the disk by the presser roll when adhering to the disk and to return the plate thereafter to initial position.

13. A letter canceling machine comprising 105
a drum, a rotatable disk forming one head thereof, stamping plates in the outer face of the disk surrounded by apertures through the disk, a carrier adapted to advance a stack of letters toward the face of the disk 100
in substantially parallel relation thereto, a presser roll in yielding contact with the disk and plates, a lifter plate vibratably supported adjacent the presser roll in close proximity to the disk and adapted to un- 115
derrun and lift the roll when drawn against the disk by inflow of air through the apertures, stops on the disk adjacent the stamping plates for holding letters in register, and means for exhausting air from the drum. 120

In testimony whereof we affix our signatures in presence of two witnesses.

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MERRITT L. ATEN.
GEORGE H. POIRIER.

Witnesses:

FRANK H. NEWKIRK,
RALPH B. STANLEY.