No. 644,525. Patented Feb. 27, 1900.

J. L. LISTER.

STAMP CANCELING AND POSTMARKING MACHINE.

(Application filed Jan. 21, 1899.)

(No Model.) 3 Sheets—Sheet 1.

Fig. I.

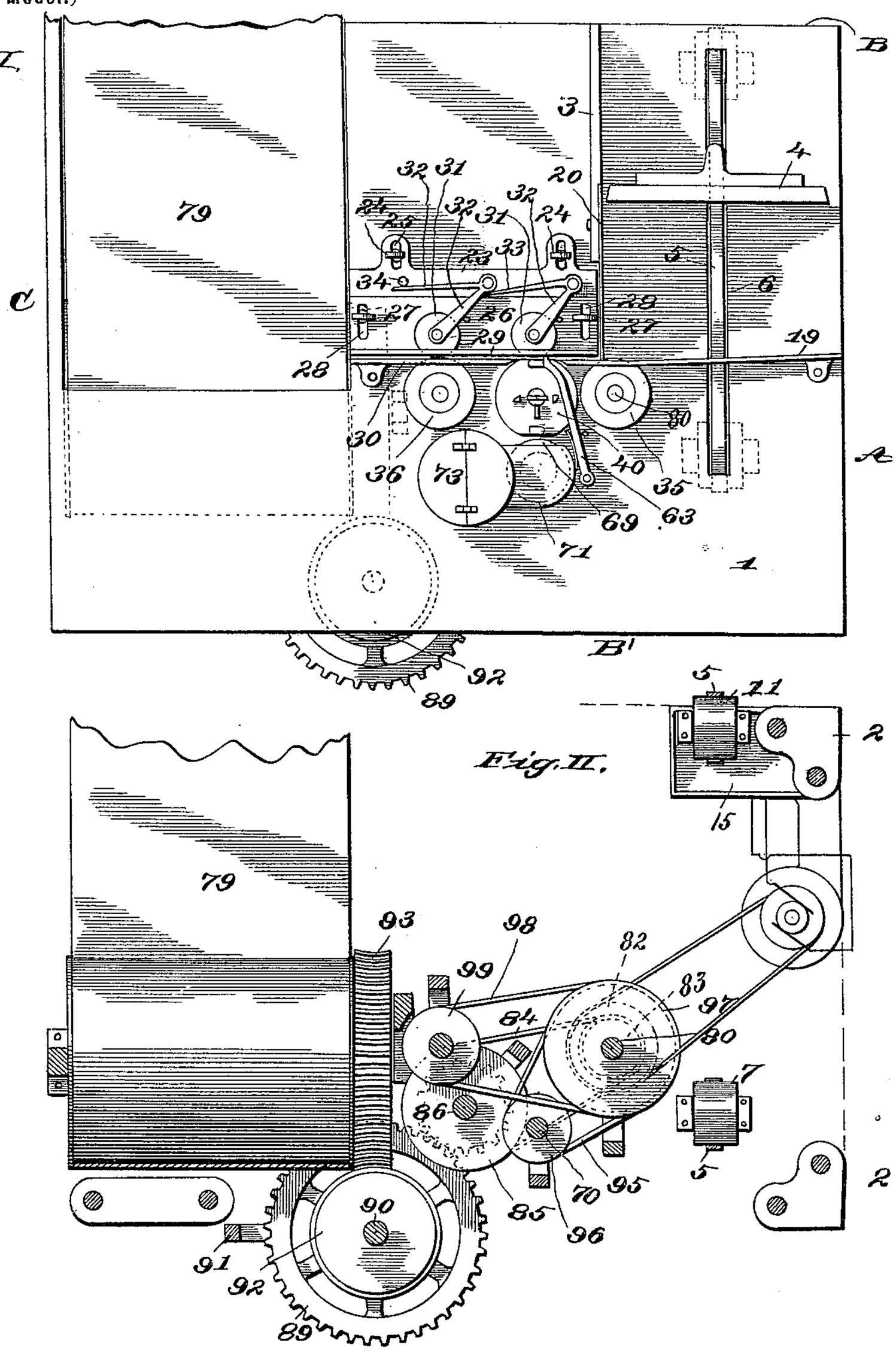
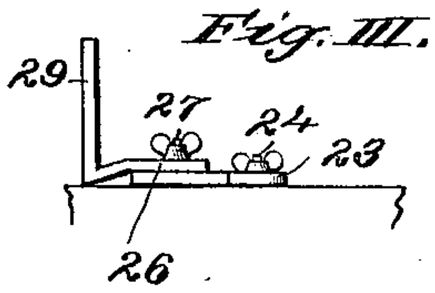


Fig. II.

Fig. III.



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(No Model.) 3 Sheets—Sheet 2.

Fig. IV.

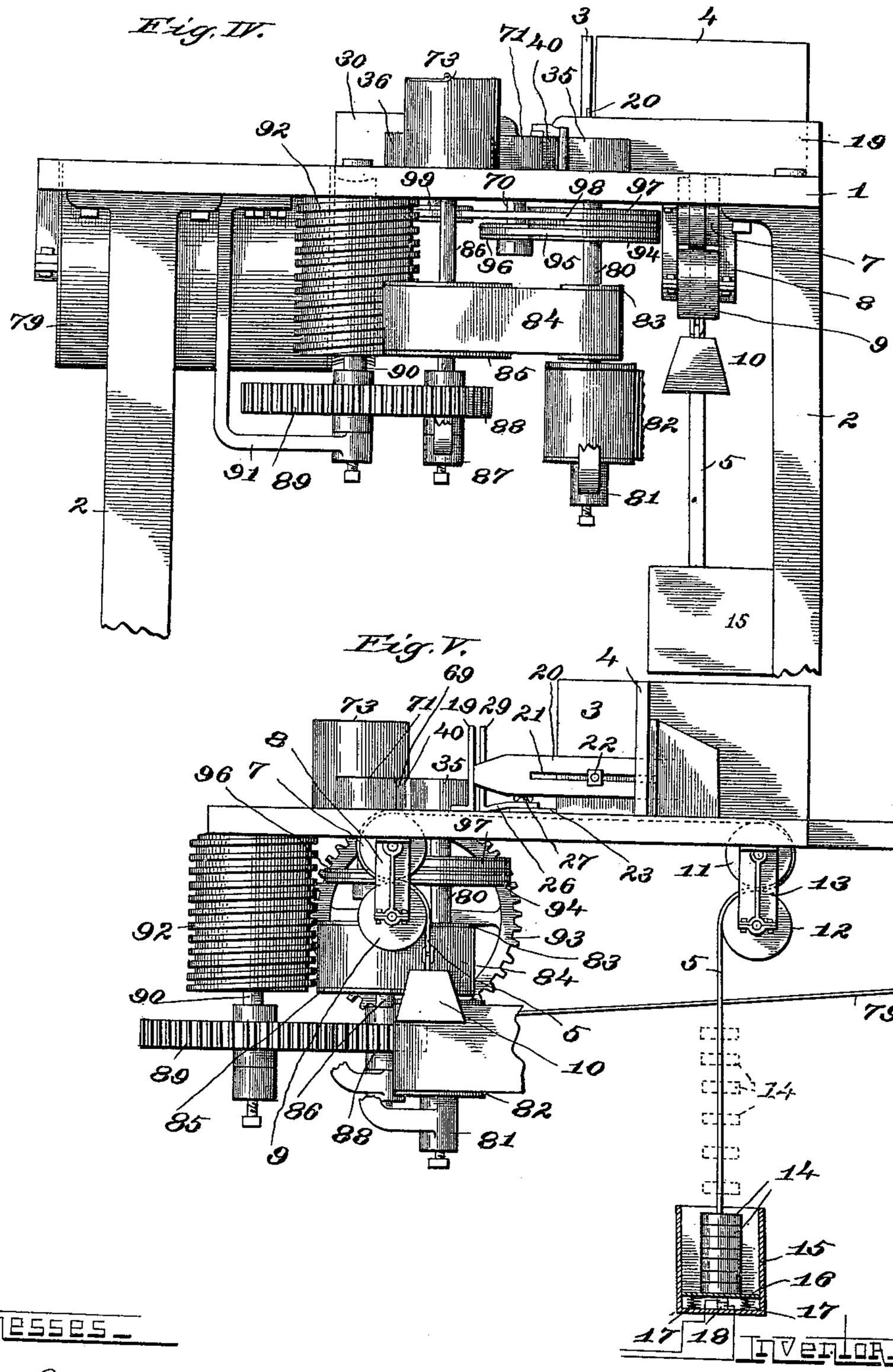

Fig. V.

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(No Model.) 3 Sheets—Sheet 3.

Fig. VII.

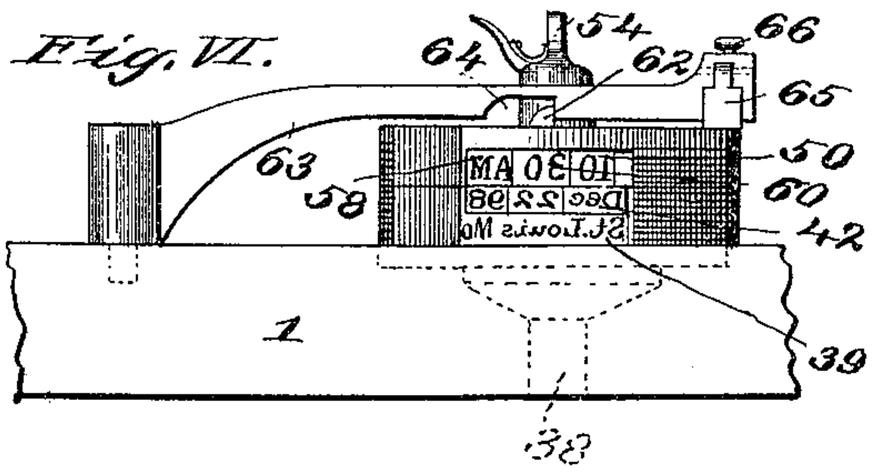
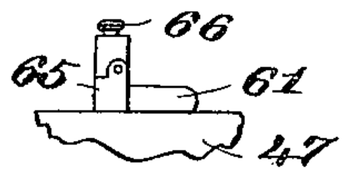


Fig. VIII.



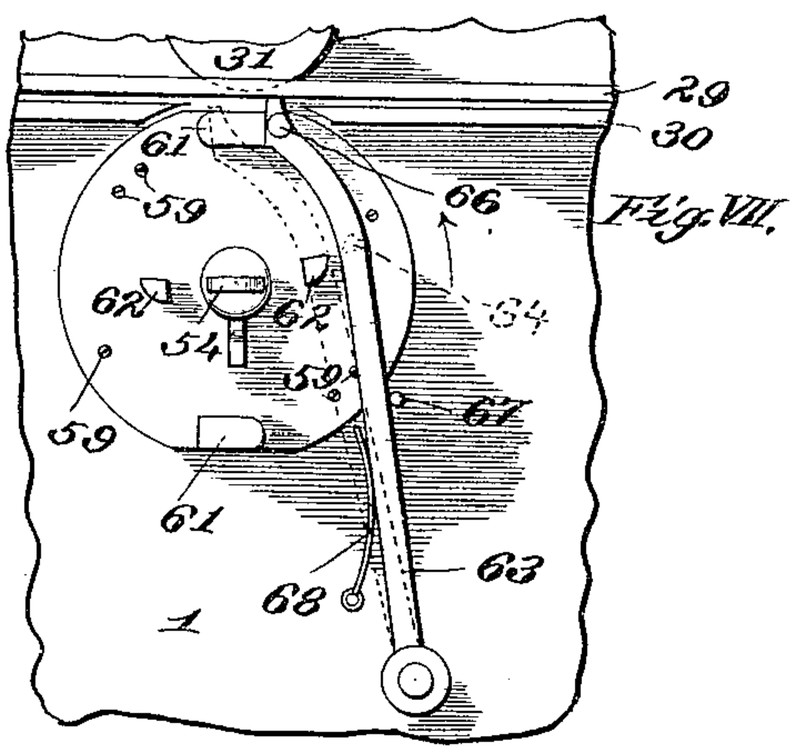


Fig. IX.

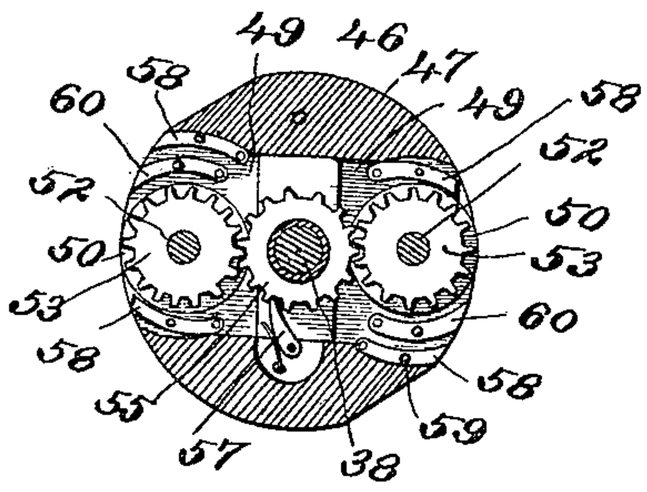


Fig. X.

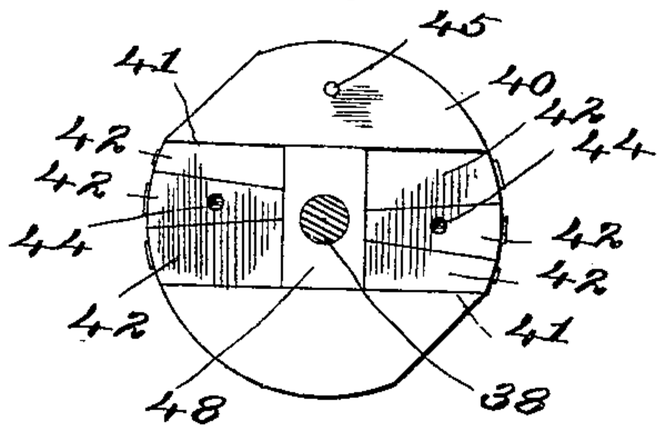


Fig. XI.

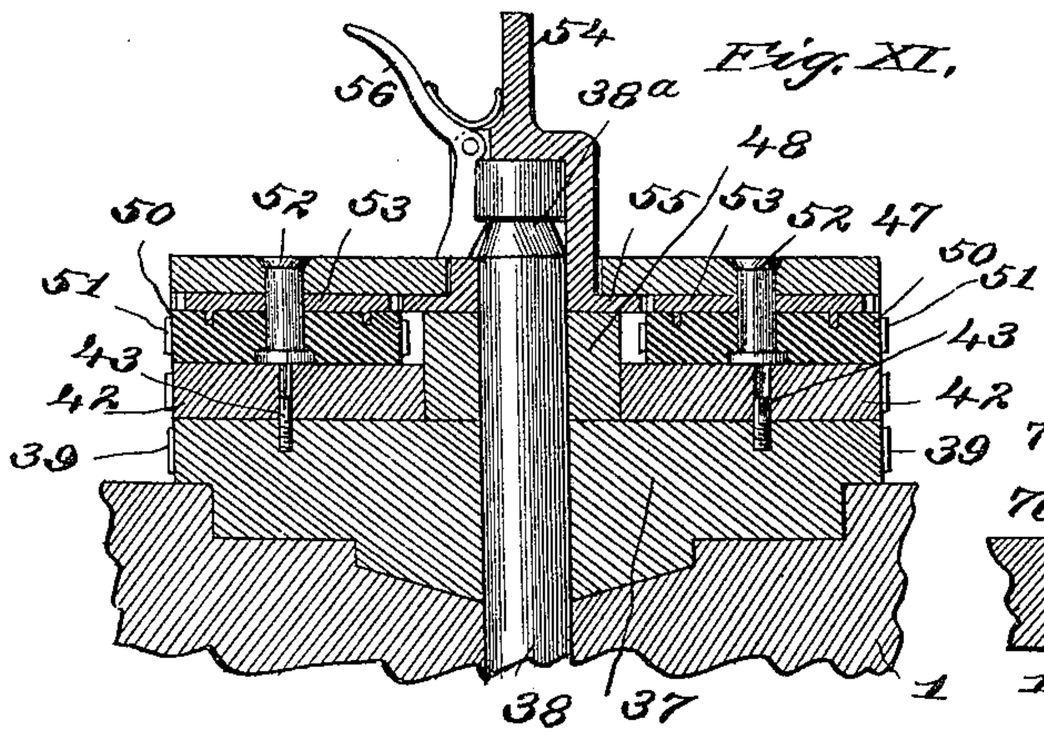
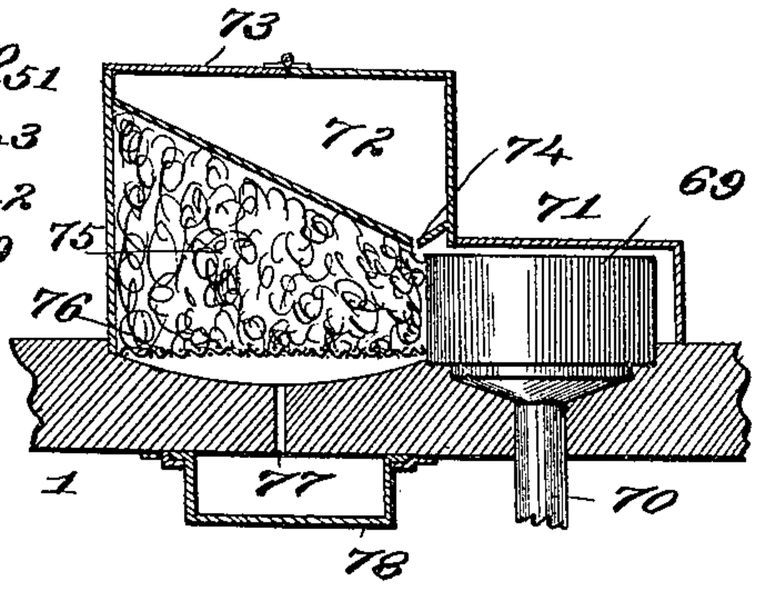


Fig. XII.



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UNITED STATES PATENT OFFICE.

JOHN L. LISTER, OF ST. LOUIS, MISSOURI.

STAMP-CANCELING AND POSTMARKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 644,525, dated February 27, 1900.

Application filed January 21, 1899. Serial No. 702,924. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. LISTER, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Stamp-Canceling and Postmarking Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of machines used in postal service for effecting the canceling of postage-stamps upon mail-matter, particularly letters, and also effecting the postmarking of such mail-matter, the object of my invention being to provide a machine of the character referred to that is substantially automatic in all of its operations in effecting the cancellation and postmarking.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of my machine. Fig. II is a top view of the mechanism under the table of the machine and showing parts of the mechanism in horizontal section. Fig. III is a detail end view of the adjustable guide on which the pressure-rollers are mounted and against which the mail-matter travels during the time that it is being acted upon by the marker-head. Fig. IV is a view in side elevation of the machine. Fig. V is a view in front elevation of the machine. Fig. VI is an enlarged detail face view of the marker-head and the lever by which said head is controlled. Fig. VII is a top view of the marker-head and its lever. Fig. VIII is a detail end view of the marker-head-controlling lever shown in connection with a fragment of the marker-head. Fig. IX is a detail sectional view of the top disk of the marker-head, the shafts of the hour-wheels being shown in cross-section. Fig. X is a top view of the date-disk of the marker-head. Fig. XI is an enlarged vertical sectional view taken on a central line through the marker-head. Fig. XII is an enlarged vertical sectional view taken centrally through the ink-well of the machine and showing the inking-roller in elevation.

A designates the front of the machine, B and B′ the sides thereof, and C the rear.

1 designates the machine-table, mounted upon suitable supporting-legs 2.

3 designates a partition located at a distance from the front A of the table to confine the mail-matter placed upon the table between said partition and the front of the table.

4 designates a follower that is designed to carry the mail-matter forward to be fed into the passage-way between the marker-head and the pressure-rollers. This follower travels on the surface of the table 1 and is connected to a strap 5, that is seated in a groove 6 in the table, so as to be flush with the surface of the table. One end of the strap 5 passes over a sheave 7, mounted in hangers 8, suspended beneath the table 1, and from the sheave 7 the strap passes onto a sheave 9 in a reverse direction, the sheave 9 being also mounted in the hangers 8. The purpose of passing the strap between the sheaves 7 and 9 is to afford a brake for said strap, which is drawn along the table by the weight 10, suspended upon one end of the strap. This weight drawing upon the strap 5 causes the follower 4 to be pulled inwardly from the side B of the machine, thereby carrying the mail-matter ahead of said follower as fast as it is fed through the machine and operated upon.

The opposite end of the strap 5 from that provided with the weight 10 passes over a sheave 11 and thence in a reverse direction over a sheave 12, both of which sheaves are mounted in hangers 13. This arrangement of the strap passing through between the sheaves 11 and 12 provides a similar brake for said strap to that formed between the sheaves 7 and 9.

The end of the strap 5 beyond the sheaves 11 and 12 has attached to it a series of weights 14, that are connected at intervals along the strap. These weights are designed to descend into a box 15, mounted on one of the supporting-legs 2, and rest upon a false bottom 16, located in said box when the weight 10 is in its uppermost position and the follower 4 is in its outermost position. The object of connecting the weights 14 to the strap 5 at intervals is to provide for such weights being raised in succession, one after another, as the follower 4 is moved across the machine-table. When the follower 4 is in its outermost position, the amount of mail-matter

ahead of it is the greatest, and therefore such mail-matter affords a maximum of resistance in carrying it across the table, and the full effect of the weight 10 is requisite to draw the follower forward. When, however, part of the mail-matter has been disposed of by being fed into the machine, as will hereinafter appear, the resistance to the forward movement becomes less and it is necessary to effect a counteraction against the pull of the weight 10 upon the strap 5 and the follower connected thereto. At this time the weights 14 are successively elevated on the movement of the strap 5, and as the amount of mail-matter before the follower decreases one after another of the weights 14 are lifted from their nested position in the box 15, thereby increasing the resistance to the downward movement of the weight 10 at the opposite end of the strap and regulating the pressure of the follower upon the mail-matter in carrying it forward. When the mail-matter has all been removed from in front of the follower, the said follower is drawn back for a fresh supply, thereby elevating the weight 10 into the position seen in Fig. V and again lowering the weights 14 into a nested condition in the box 15 on the false bottom contained thereby. Beneath the false bottom 16 are supporting-springs 17 and also electrical conductor-contacts 18. One of these contacts 18 is in communication with a suitable motor, (see Fig. II,) by which the mechanism of the machine is driven, and when the weights 14 are all withdrawn from the box 15 the said contacts are separated and the electrical circuit between them is broken, so as to cut off the supply of current to the motor. This action is designed to occur when the mail-matter has been entirely exhausted from in front of the follower 4, at which time, as will be understood from the foregoing description, the weights 14 have all been elevated from the box 15 that receives them. The breaking of the circuit through the contacts 18 causes the motor by which the machine is operated to stop automatically as soon as the mail-matter being acted upon has become exhausted. When the follower 4 is again drawn outwardly and the weights 14 again descend onto the false bottom 16, the contacts 18 are brought together and the circuit to the motor is again completed to put the machine mechanism into operation.

19 designates a guide located on the table 1. This guide also forms a stop for the mail-matter in its forward movement under the action of the follower 4, and it is inclined from its outer end inwardly, as seen in Fig. I, for the purpose of causing the mail-matter to be forced inwardly along the guide as it is pressed thereagainst by the said follower, thereby causing the mail-matter to be more readily fed into the postmarking and canceling mechanism to be described.

On the partition 3 is an adjustable flexible strap 20, that is provided with a longitudinal slot 21, (see Fig. V,) in which an adjustable bolt 22 is seated that passes through the partition 3 to secure the flexible strap thereto. The purpose of this flexible strap will hereinafter appear.

23 designates a frame mounted on the table 1 and adjustably secured thereto by set-screws 24, fitting in elongated openings 25 in said frame and passing into the table 1.

26 designates a guide-plate adjustably mounted on the frame 23 and secured thereto by set-screws 27, seated in elongated openings 28 in the guide-plate. The guide-plate 26 is provided with an upturned flange 29, that forms a guide against which the mail-matter travels after leaving the guide 19, the said mail-matter passing between said upturned flange 29 and a guide 30, disposed opposite to the flange 29, (see Fig. I,) so as to form a passage-way between such parts through which the mail-matter is conducted.

31 designates pressure-rollers mounted in rocking arms 32, pivoted to the frame 23, which pressure-rollers are arranged to project through openings in the flange 29 into the path of the mail-matter in its travel between the flange 29 and the guide 30. The rocking arms 32 are formed with spring-fingers 33, one of which bears against a stud 34 and the second of which bears against the first rocking arm at its pivot.

The object of adjustably mounting the frame 23 on the machine-table is to provide for its adjustment to or from the oppositely-disposed guides 19 and 30, so as to present the pressure-rollers 31 in proper position to bear against the mail-matter being operated upon relative to the thickness or character of such mail-matter. It will be understood that the mail-matter is placed on edge between the follower 4 and guide 19 and is fed in this position between the guide 30 and flange 29 of the guide-plate 26. The guide-plate 26 is adjustably secured to the frame 23 for the purpose of allowing the adjustment of said guide-plate without disturbing the frame 23 when, for instance, it is desired to feed into the machine a few articles of mail-matter of varying thickness from those for which the frame 23 was originally set.

35 designates a feed-roller mounted on the table 1, arranged to project through an opening in the guide 19 at a location approximately in line with the partition 3 and the flexible strap attached to said partition. This feed-roller is adapted to operate by frictional contact against each article of mail-matter pressed forward to the guide 19 and carry each article singly inwardly to be acted upon by the marker-head. The flexible strap 20 extends into contact with the guide 19 and lies against the adjacent end of the flange 29 on the guide-plate 26. As the feed-roller 35 draws upon each article of mail-matter the extreme end of the flexible strap 20 is forced inwardly by the article, allowing but the single article to be carried inwardly by the action of the

pressure-roller. 36 designates a second feed-roller that projects through an opening in the guide 30 and is adapted to bear against the opposite one of the pressure-rollers 31 and conduct the mail-matter along through the passage-way between the guide 30 and flange 29 as the said mail-matter reaches such position.

I now come to the description of the marker-head, which is shown in detail in Figs. VI to XI, inclusive.

37 designates the bed-disk of the marker-head, which is rigidly mounted on the shaft 38, seated in a suitable bearing supported by the table. The bed-disk 37 is provided at its periphery with the characters 39, (see Fig. XI,) designating the name of the postal office at which the postal marking is effected. Mounted on the bed-disk is a second disk 40, which I will for convenience term the "date-disk." This date-disk is recessed at 41 to receive dating-type 42. The type 42 bear characters designating the date, as is seen in the intermediate line of characters illustrated in Fig. VI. The outer type 42 have their inner or facing edges formed obliquely to their outer edges, and they are held in place by the central type 42, which is of wedge form (see Fig. X) and fits snugly between the oblique edges of the outer type. The central type 42 is held in place by pins 43, projecting upwardly from the bed-disk 37 and entering apertures 44 in said central type. The date-disk 40 is provided at top with a pin 45, that enters an aperture 46 in the top disk 47, mounted on the date-disk, said pin serving to hold the top disk from turning on the date-disk.

48 is a sleeve surrounding the shaft 38, resting on the bed-disk 37 and extending through the date-disk 40 and up into the top disk 47. The disk 47 is provided with recesses 49, (see Fig. IX,) that receive wheels 50, provided at their peripheries with characters 51, designating the hours of the day, which wheels are arranged to be turned to bring the desired characters to the periphery of the marker-head. The rollers 50 are mounted on shafts 52, seated in the disk 46, and on each roller is a pinion 53, that is fixed to the roller, so that the roller may be turned therewith.

54 designates a knob designed to be grasped by the fingers and which has a sleeve portion fitting over the upper end of the shaft 38 and extending down through the top disk 47. Carried by the sleeve of the knob 54 is a toothed flange 55, the teeth of which are adapted to mesh with the teeth of the pinions 53, so that the turning of said knob 54 will cause the movement of said pinions and the consequent turning of the hour-wheels 50 to bring the desired characters thereon to the periphery of the marker-head. The knob 54 is held to the shaft 38 by a spring-controlled catch 56, having a hook designed to engage an annular notch 38^a in the upper end of the shaft 38. (See Fig. XI.) This spring-catch 56 holds the knob 54 securely to the shaft 38 and maintains all of the parts of the marker-head securely in position; but when it is desired to change the date-type 42, which is necessary each day, the catch 56 is disengaged from the shaft 38 and the top disk 47 is removed, thereby permitting the alteration of the date-type. The toothed flange 55 is held from retrograde movement by a spring-controlled detent 57.

58 designates type pivoted in the recessed portion 49 of the top disk 47, which bear characters "A. M." and "P. M." denoting the portion of the day. These pivoted type are movable within the recess 49, so that either one of them, as may be desired to suit the portion of the day, may be turned to bring its outer free end to the periphery of the marker-head, while when either is out of use it is thrown inwardly, so that its free end will lie within the peripheral surface of the marker-head and be inoperative. The said type 58 are held in either desired position by set pins or screws 59, extending through the top disk 47 from its upper surface. (See Figs. VII and IX.)

60 are pivoted type similar to those 58, that bear characters designating the fractions of hours. These type are similarly arranged to those 58, so that when it is not desired to imprint the fractional part of an hour on the mail-matter the said type 60 may be thrown inwardly to remove its free end from the peripheral surface of the marker-head. On the upper surface of the marker-head are bosses 61, located at the periphery of the marker-head, and nearer the axis of the marker-head are studs 62.

63 designates a rocking lever pivoted to the table 1 and provided with a notch 64, that is adapted to engage the studs 62. The free end of this rocking lever extends across the top of the marker-head, so as to be capable of impinging against the bosses 61 in their travel. In the end of the rocking lever is a pivoted dog 65, (see Fig. VI,) which is capable of rising and falling at one side only of the lever. On the outer end of the rocking lever is a knob 66 by which the lever may be grasped. The rocking lever is limited in its outward movement by a stop 67, and its movement in the opposite direction is controlled by a spring 68. The free end of this rocking lever is arranged in the path of the mail-matter in its travel between the guide-flange 29 and guide 30. The entire marker-head is provided at opposite positions of its periphery with flat portions coincident with the bosses 61 on top of the marker-head. As the mail-matter is fed inwardly each piece of it strikes against the rocking lever 63, forcing said lever inwardly against the action of the spring 68 and causing the said lever to push against the opposing boss 61, and thereby start the marker-head in its operative movement. The turning of the marker-head by the movement of the rocking lever 63 causes the flat portion of said head previously opposing the inking-roller 69, as the parts appear in Fig. I, to be

carried away from the said inking-roller and brings the adjacent rounding portion of the marker-head against the inking-roller, so that the said roller will turn the marker-head while inking its periphery. The flat portions of the marker-head are provided for the purpose of accomplishing a stoppage of the marker-head after each article of mail-matter has been marked thereby, so that an interval will occur between the marking of each succeeding article to allow for the preceding article to have passed out of the way and the next succeeding article to have been carried into position to be marked, and the rocking lever starts the marker-head each time after its stoppage, as will be understood from the foregoing. The rounding portions of the marker-head are provided with ribs or any other desirable configurations that are designed to be inked and effect their imprint on the mail-matter over the stamps to effect the cancellation of the stamps. The pivoted dog 65 bears against the bosses 61 in the forward movement of the rocking lever 63, and as the succeeding boss 61 reaches the said dog it passes thereunder, permitting the dog to fall behind it ready to act against the boss on the next movement of the rocking lever. As the marker-head travels around and the mail-matter is passing through between its guides the rocking lever is held inwardly in the position seen in dotted lines, Fig. VII, and at the end of each marking operation the studs 62 move into the notches 64, contained by the rocking arm, and are brought to a standstill to stop the movement of the marker-head momentarily and cause a sufficient stoppage of the parts to permit the rocking arm to be returned to the position shown in full lines, Fig. VII, by its spring 68. The inking-roller is mounted on a shaft 70 and is inclosed by a casing 71, except at is surface, which opposes the marker-head. Alongside of the inking-roller is an ink-well 72, provided with a door 73 and having an outlet 74 leading into a receptacle below the ink-well that contains an absorbent 75, such as a sponge, adapted to supply the ink to the inking-roller in a gradual manner. The absorbent 75 is supported on a perforated false bottom 76, beneath which is a duct 77, through which drip from the absorbent may find egress into a pan 78 or similar receptacle. After its passage through the guideways and being marked the mail-matter passes onto an endless conveyer 79, traveling on suitable rollers supported from the table of the machine. This conveyer carries the mail-matter to any convenient location, such as an assorting-table.

The parts of the machine are driven by the following mechanism:

80 designates the drive-shaft, vertically mounted beneath the table in a hanger 81 and provided with a drive-pulley 82. On the drive-shaft is a pulley 83, that receives a belt 84, leading to the pulley 85 on a shaft 86, mounted in a hanger 87. The shaft 86 carries a pinion 88, that meshes with a gear-wheel 89 on a shaft 90, mounted in a hanger 91. On the shaft 90 is a worm 92, that meshes with a worm-wheel 93, carried by the roller on which the conveyer 79 is mounted, so that by the operation of these parts the said conveyer is driven. On the shaft 80 is a pulley 94, that receives a belt 95, that leads to a pulley 96, carried by the shaft 70 of the inking-roller 69. Above the pulley 94 and also on the drive-shaft is a pulley 97, that receives a belt 98, that leads to a pulley 99 on the shaft of the feed-roller 36. The feed-roller 35 is carried by the drive-shaft 80, so that it receives its motion from said shaft.

I claim as my invention—

1. In a postmarking and stamp-canceling machine, the combination of a table, a marker-head, feeding mechanism, a follower arranged to carry the mail-matter to said feeding mechanism, a strap by which said follower is carried, a weight on said strap, a series of counterbalance-weights carried by said strap, a box into which said counterbalance-weights are adapted to move, a spring-supported false bottom in said box, electrical conductor-contacts arranged between the body of said box and said false bottom, a motor and connections between said motor and said contacts, substantially as described and for the purpose set forth.

2. In a postmarking and stamp-canceling machine, the combination of a table, a marker-head, feeding mechanism, a follower arranged to carry the mail-matter to said feeding mechanism, a strap by which said follower is carried, a weight on said strap, a series of counterbalance-weights carried by said strap, and sheaves arranged in pairs on which said strap travels in reverse directions, substantially as described.

3. In a postmarking and stamp-canceling machine, the combination of a table, a marker-head, guides against which the mail-matter bears in its travel past said marker-head, an adjustable frame on said table, an adjustable guide-plate mounted on said frame, and pressure-rollers mounted on said frame adapted to bear against the mail-matter, substantially as described.

4. In a postmarking and stamp-canceling machine, the combination of feeding mechanism, a marker-head, a rocking lever having its free end arranged in the path of travel of the mail-matter through said feeding mechanism, said lever being adapted to engage said marker-head to move it, an inking-roller and means arranged to impart motion to said inking-roller and marker-head, substantially as described.

5. In a postmarking and stamp-canceling machine, the combination of feeding mechanism, a marker-head, a rocking lever, studs on said marker-head with which said rocking lever is adapted to engage, said lever having its free end arranged in the path of travel of the mail-matter through said feeding mech-

anism, an inking-roller and means arranged to impart motion to said inking-roller and marker-head, substantially as described.

6. In a marker-head for postmarking and stamp-canceling machines, the combination of a disk bearing characters designating the postal station; a disk containing type designating the date; and a disk containing rollers bearing characters designating the hours, and pivoted type bearing characters designating a fraction of an hour and the periods of a day, substantially as described.

7. In a marker-head for postmarking and stamp-canceling machines, the combination of disks bearing characters designed to be imprinted on the mail-matter, a shaft on which said disks are mounted, a knob by which the parts of the marker-head may be manipulated, and a spring-catch carried by said knob adapted to connect it to said shaft, substantially as described.

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In presence of—
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