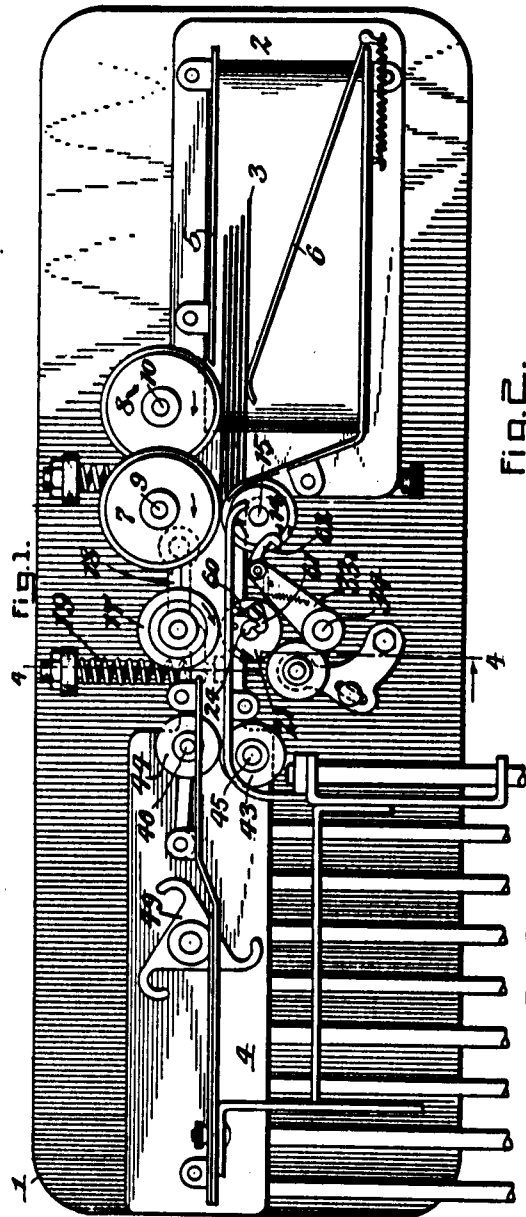


F. C. IELFIELD.
MAIL MARKING MACHINE.
APPLICATION FILED DEC. 26, 1911.

1,038,587.

Patented Sept. 17, 1912.

3 SHEETS—SHEET 1.



WITNESSES:
M. Ray Taylor
Leroy S. Hodges

Fig. 2.

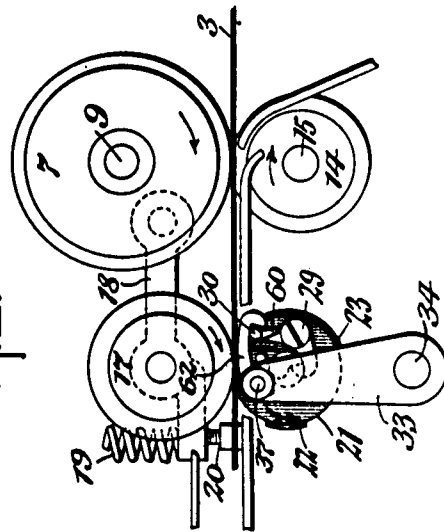
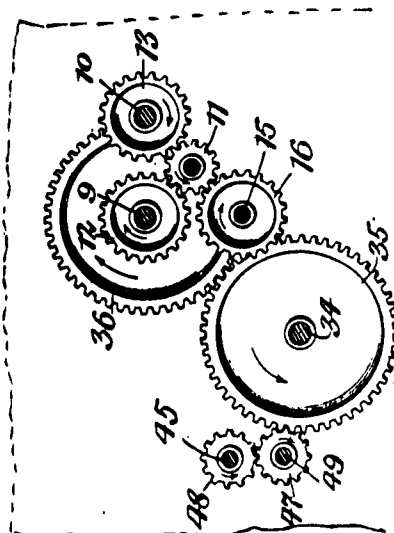


Fig. 3.



INVENTOR
F. C. Ielfield
BY *Leyer & Soble*
ATTORNEYS

F. C. IELFIELD.
MAIL MARKING MACHINE.
APPLICATION FILED DEC. 26, 1911.

1,038,587.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 2.

Fig. 4.

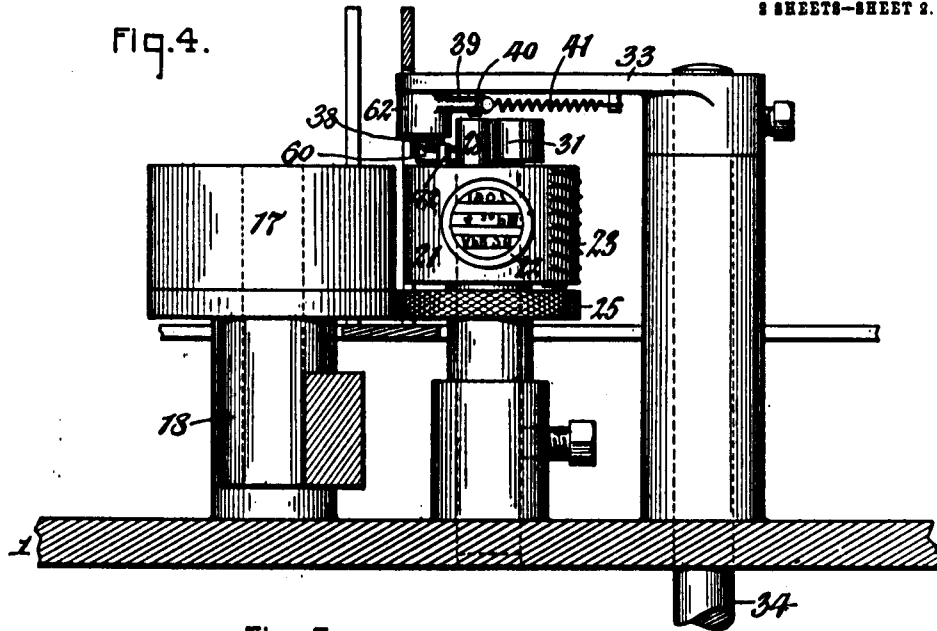


Fig. 5.

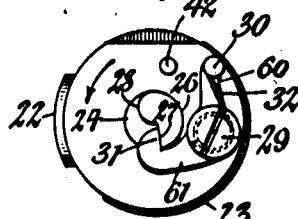


Fig. 6.

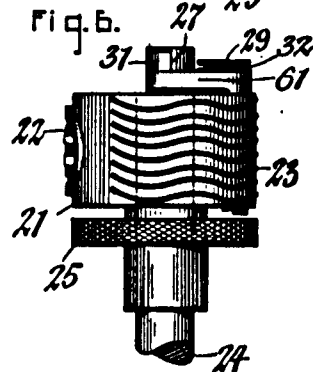


Fig. 7.

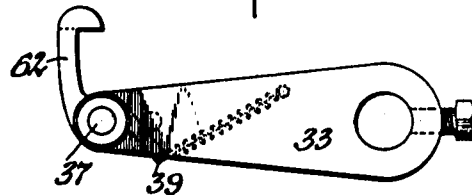
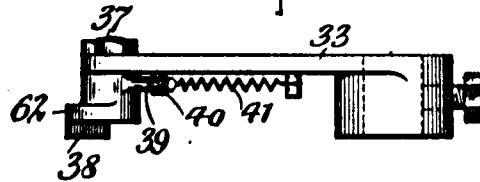


Fig. 8.



WITNESSES:

W. Ray Taylor
Leroy S. Hodges

INVENTOR

Fred C. Ielfield
BY *Super & Popp*

ATTORNEYS

UNITED STATES PATENT OFFICE.

FRED C. IELFIELD, OF SILVER CREEK, NEW YORK, ASSIGNOR TO COLUMBIA POSTAL SUPPLY COMPANY, OF SILVER CREEK, NEW YORK, A CORPORATION OF NEW YORK.

MAIL-MARKING MACHINE.

1,038,587.

Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed December 26, 1911. Serial No. 667,848.

To all whom it may concern:

Be it known that I, FRED C. IELFIELD, a citizen of the United States, residing at Silver Creek, in the county of Chautauqua and State of New York, have invented new and useful Improvements in Mail-Marking Machines, of which the following is a specification.

This invention relates to that class of marking machines for canceling letters and other mail matter in which the printing wheel remains at rest when no letter is in position to be marked, stamped or canceled but which is released and caused to rotate for bringing its printing dies or types into engagement with a letter when one is in the proper position to receive an impression of the printing wheel. One of the chief difficulties heretofore experienced in mail marking machines of this character has been the tendency of the printing wheel to smear the letters upon engaging the same instead of leaving a clear and clean impression of the dating stamp canceling lines thereon. This is due to the fact that the initial speed of the printing wheel when starting to turn from a condition of rest would not equal the speed of the forwardly moving letter, although the last part of the rotary movement of the printing wheel would be the same as the lineal movement of the letter. Furthermore, the stop devices heretofore employed for arresting the rotary movement of the printing wheel after each canceling operation were not positive and certain in their action which frequently resulted in the printing wheel making a number of unnecessary or idle turns and thus cause an undue amount of ink to be applied to the printing dies which would produce an imperfect or blurred impression on the letters or other mail matter.

It is the object of this invention to provide a mail marking machine of this character in which the printing wheel will start from a state of rest at full speed and move at the same rate as the letter which is being canceled or marked and which will be positively arrested in its rotary movement after each canceling operation so as to avoid the objections above referred to.

In the accompanying drawings consisting of two sheets: Figure 1 is a top plan view of a mail marking machine embodying my improvements and showing the parts in the

position which they occupy when no letter is in position to be marked or canceled. Fig. 2 is a top plan view of one of the letter feeding wheels, the separating roller, the impression roller, the printing wheel and adjacent parts in a position which they occupy when a letter is being marked or canceled. Fig. 3 is a horizontal section showing the train of gearing for operating the various parts of the mail marking machine related to my improvements. Fig. 4 is a vertical transverse section, on an enlarged scale, taken in line 4—4, Fig. 1, but showing the printing wheel and adjacent parts in the position corresponding to Fig. 2. Fig. 5 is a detached top plan view of the printing wheel and adjacent parts. Fig. 6 is a side elevation thereof. Fig. 7 is a detached top plan view of the shifting arm and associated parts whereby the printing wheel is unlocked and started in its rotary movement. Fig. 8 is a side elevation of the same.

Similar characters of reference indicate corresponding parts throughout the several views.

Above the frame or base 1 of the machine which may be of any suitable construction is arranged a horizontal table having a feed end or supply portion 2 which is adapted to hold a supply of letters 3 or other mail matter to be canceled and a receiving end or stacking portion 4 upon which said letters are adapted to be stacked after the same have been canceled or post marked. While on the feed part of the table the letters stand on edge and one side of the stack engages with a fixed wall or abutment 5 while the opposite side of the stack is engaged by a spring pressed follower 6. On that side of the stack of letters adjacent to the fixed wall the letters are fed off one at a time from the stack by means of a feeding device which may be of any suitable construction, that shown in the drawings being preferred and consisting of two feed rollers 7, 8 arranged one in advance of the other and adapted to engage their peripheries with the sides of the letters so as to feed them forwardly from the stack on the feed end of the table. These feed rollers are mounted upon the upper ends of two shafts 9, 10 which are journaled in suitable bearings and are caused to turn in unison by means of an intermediate idle gear wheel 11 meshing with two like gear wheels 12, 13 on the shafts of these

feed rollers, as shown in Fig. 3. On that side of the letter path opposite the foremost feed roller 7 is arranged a separator which is adapted to prevent more than one letter at a time from being fed forwardly from the supply stack. Although various kinds of separators may be employed that shown in Figs. 1 and 2 is suitable for the purpose and consists of a rubber-faced roller or wheel 14 arranged transversely in line with the foremost feed roller 7 and mounted on the upper end of a shaft 15, which turns in a direction for causing that side of the periphery of the separating roller which faces the periphery of the front feed roller 7 to turn in a direction opposite to the forward movement of the letter in the letter path, whereby any letters in excess of one will be brushed back and held against forward movement, thereby insuring the passage of but one letter at a time to the printing mechanism. The shaft of the separating roller is journaled in a suitable bearing and the same is turned by means of a gear wheel 10 secured thereto and meshing with the idler pinion or gear wheel 11, as shown in Fig. 3.

As each letter issues from between the feeding off mechanism and the separating device the same is presented to the printing mechanism which embodies my invention and which is constructed as follows: 17 represents an impression roller which is arranged on one side of the letter path and which is yieldingly held in its operative position by mounting the same on the horizontally swinging rock arm 18 pivoted to the frame, this rock arm being yieldingly moved toward the letter path by means of a spring 19 interposed between this arm and an abutment on the frame, the movement of the arm in this direction being limited by means of a stop 20 on the frame. 21 represents a rotatable printing wheel which is arranged on the opposite side of the letter path transversely in line with the impression roller and which is provided on its periphery with suitable dies, types or printing surfaces 22, 23 for producing or stamping a date, canceling lines or other marks on the letters or other mail matter. This printing wheel is journaled upon the upper part of a fixed stationary arbor 24 which is secured at its lower end to the frame of the machine. Below the printing wheel a driving disk 25 is mounted to turn loosely on the arbor and engage its upper side frictionally with the lower end of the printing wheel and also engages its periphery with the lower part of the periphery of the impression roller. As a letter is passing forwardly between the upper part of the impression roller and the printing wheel the lower edge of the same is gripped between the lower part of the impression

roller and the driving disk causing both the roller and wheel to be turned by the movement of the letter.

At its upper end the arbor is constructed to provide a curved face 26 which is concentric with the axis of the printing wheel, a radial or abrupt stop face 27 arranged at the rear end of the concentric face, and a cam face 28 extending from the front end of the concentric face to the inner end of the stop face, as best shown in Fig. 5. On the upper side of the printing wheel and on one side of the axis thereof there is pivoted thereto by means of a vertical screw 29 a horizontally swinging latch which has a front coupling arm 30 and a rear locking arm 31. The coupling arm is provided at its outer end with an upwardly projecting coupling jaw, pin or shoulder 30 and the rear end of the locking arm is provided with an inwardly projecting locking jaw, hook or nose 31 which is adapted to engage with the locking shoulder or stop face of the arbor. The latch is yieldingly held in a position in which the shoulder of its locking arm is engaged in a shoulder or stop face of the arbor by means of a spring 32 surrounding the pivot of the latch and connected at one end with this pivot while its opposite end engages with the latch.

33 represents a horizontally rotatable shifting arm which is mounted upon the upper end of a continuously rotating shaft 34 arranged adjacent to the outer side of the printing wheel and preferably transversely in line therewith and journaled in a bearing on the adjacent part of the machine. This shaft may constitute the main or driving shaft of the machine and power may be transmitted to the same in any suitable manner. The lower parts of this shaft and the shaft of the foremost letter feeding wheel 7 are provided with intermeshing gear wheels 35, 36, as shown in Fig. 3, whereby motion is transmitted from the main shaft to the letter feeding and separating mechanism heretofore described.

At its free end the shifting arm has pivoted thereto by means of a vertical pivot 37 a horizontally swinging and laterally projecting coupling finger 38 which is provided at its outer end with a depending coupling jaw, pin or shoulder 38 and at its inner end with an inwardly projecting tail 39 which is yieldingly held in engagement with a stop or shoulder 40 on the shifting arm by means of a spring 41 connecting this tail with the shifting arm. This coupling finger is yieldingly held by its spring in its outer position in which it sweeps across the letter path when no letter is in the same, so that the jaw of the coupling finger does not engage the coupling jaw on the coupling arm of the latch and the printing wheel remains locked in its resting position. If,

however, a letter is in the letter way and in position to be post marked the coupling finger upon engaging the side of the letter will be pushed inwardly or toward the pivot of the rotatable shifting arm whereby the jaw of this finger will be caused to engage with the coupling jaw of the latch, thereby not only turning the latter on the printing wheel so as to disengage the same from the stop shoulder of the stationary arbor and unlocking the printing wheel, but also pulling on said latch so as to positively start the printing wheel in its rotary movement. If the letter were depended upon to frictionally start the printing wheel the action would be much slower and the type would be liable to drag and smear the letter, thereby not only reducing the capacity of the machine but also producing imperfect work. After the printing wheel has been started in its rotary movement this is continued by the frictional contact of the wheel and impression roller against opposite sides of the letter and the friction of the driving disk against the lower end of the printing wheel. After the coupling finger clears the coupling jaw of the latch the latter is free to swing into the position in which its stop or locking jaw will engage the stop shoulder of the stationary arbor and thereby arrest the printing wheel after it has made one complete revolution. The printing wheel remains in this position until another letter is fed forward to the printing position. The latch is prevented from being turned too far when engaged by the coupling hook of the shifting arm by means of a stop arranged on the upper side of the printing wheel in position to be engaged by the coupling arm of the latch. As the letters issue from between the impression roller and printing wheel the same are received between two delivery rollers 43, 44 which discharge the same upon the receiving end of the table. The delivery rollers are mounted on the upper ends of two shafts 45, 46 which are journaled in suitable bearings. The roller 44 is turned by frictional contact with the letters and the roller 43 turned by a gear pinion 48 mounted on the lower part of the shaft 45 and a gear pinion 47 mounted on a pivot 49 and meshing with the gear wheel 35, and the pinion 48, as shown in Fig. 3. Upon reaching the receiving end of the table each letter is pushed laterally by a rotatable stacking wheel 49 and stacked with the previously marked letters preparatory to being removed from the machine.

I claim as my invention:

1. A mail marking machine comprising a rotatable printing wheel, a stationary stop arranged adjacent to said wheel, a latch mounted on said wheel and adapted to engage said stop for holding said wheel against turning, and a movable shifting

member having means for engaging a letter to be marked and coupling said shifting member with said latch.

2. A mail marking machine comprising a rotatable printing wheel, a stationary stop arranged adjacent to said wheel, a latch mounted on said wheel and adapted to engage said stop for holding said wheel against turning, a rotatable shifting arm, and a coupling member movably mounted on said arm and adapted to engage a letter to be marked and connect said arm with said latch.

3. A mail marking machine comprising a rotatable printing wheel, a stationary stop arranged adjacent to said wheel, a latch mounted on said wheel and adapted to engage said stop for holding said wheel against turning, a rotatable shifting arm, a coupling member pivoted on said arm and adapted to engage a letter to be marked to connect said arm with said latch, a spring for yieldingly moving said coupling member in the direction in which the same sweeps across the letter path, and a stop which limits the movement of said coupling member under the action of said spring.

4. A mail marking machine comprising a rotatable printing wheel, a fixed arbor on which said wheel is journaled and which is provided with a stop shoulder, a latch pivoted on said wheel on one side of its axis and provided with a jaw adapted to engage with said stop shoulder, and a rotatable shifting arm having means for engaging a letter to be marked and connecting said arm with said latch.

5. A mail marking machine comprising a rotatable printing wheel, a fixed arbor on which said wheel is journaled and which is provided with a stop shoulder, a latch pivoted on said wheel on one side of its axis and provided with a front coupling arm and a rear locking arm adapted to engage with said stop shoulder, and a rotatable shifting arm provided with means for engaging with a letter to be marked and connecting said shifting arm with said coupling arm of the latch.

6. A mail marking machine comprising a rotatable printing wheel, a fixed arbor on which said wheel is journaled and which is provided with a stop shoulder, a latch pivoted on said wheel on one side of its axis and provided with a front coupling arm and a rear locking arm adapted to engage with said stop shoulder, a spring for turning said latch and holding the locking jaw thereof yieldingly in engagement with the stop shoulder of said arbor, and a rotatable shifting arm provided with means for engaging with a letter to be marked and connecting said shifting arm with said coupling arm of the latch.

7. A mail marking machine comprising a

rotatable printing wheel, a stationary arbor upon which said wheel is journaled and which is provided with a stop shoulder, a latch pivoted on said wheel on one side of its axis and provided with a front coupling arm having an upwardly projecting coupling jaw and a rear locking arm having a locking jaw adapted to engage the stop shoulder of said arbor, a spring for turning said latch and holding its jaw yieldingly in engagement with said stop shoulder, a rotatable shifting arm pivoted on one side of said printing wheel, a coupling finger pivoted on said shifting arm and adapted to engage with a letter to be marked and provided with a depending coupling jaw adapted to engage with the coupling jaw of said latch and with a tail, and a spring connecting said coupling arm and tail and operating to hold the coupling finger yieldingly

in a position in which the same sweeps across the letter path.

8. A mail marking machine comprising a rotatable printing wheel, a fixed arbor on which said wheel turns and which is provided with a concentric face, a radial stop shoulder at the rear end of the concentric face and a cam face between the front end of said concentric face and said stop shoulder, a latch pivoted on the wheel and adapted to engage said stop shoulder and a shifting arm having means for engaging a letter to be marked and coupling said arm with said latch.

Witness my hand this 11th day of December, 1911.

FRED C. IELFIELD.

Witnesses:

GEO. H. SHOFNER,
THEO. STEWART.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."