No. 781,670. PATENTED FEB. 7, 1905.

E. R. MALMBORG.

POSTMARKING AND CANCELING MACHINE.

APPLICATION FILED AUG. 9, 1902.

2 SHEETS—SHEET 1.

Fig. 1

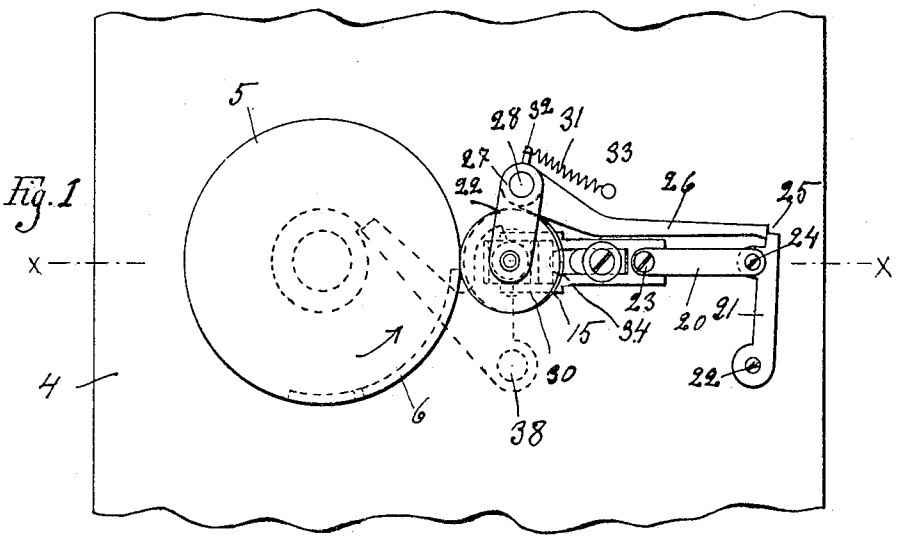
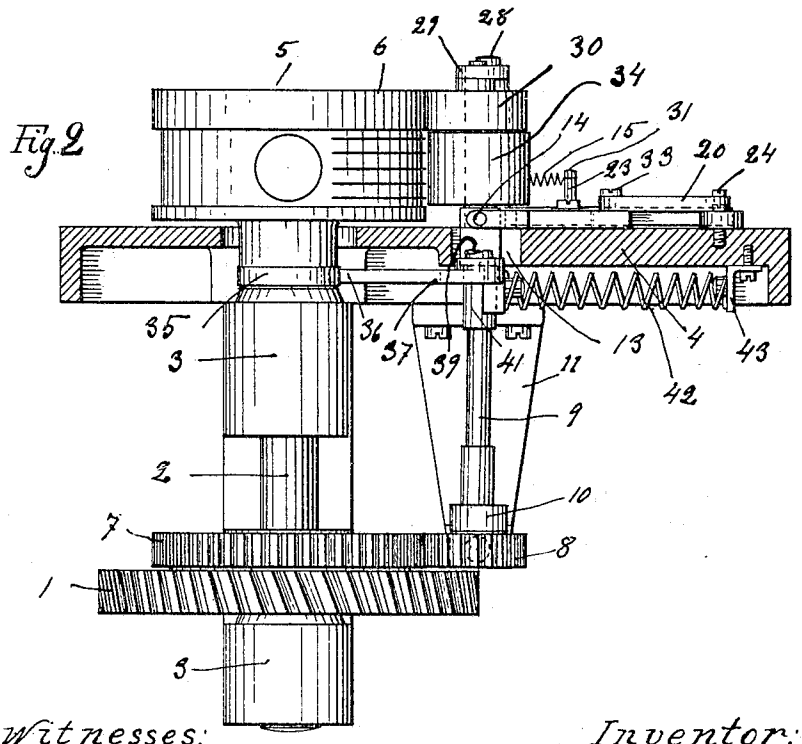


Fig. 2



Witnesses:
David H. Fletcher.
Thurlow F. Lamme

Inventor:
Ernest R. Malmborg
By
W. B. Martindale
Attorney.

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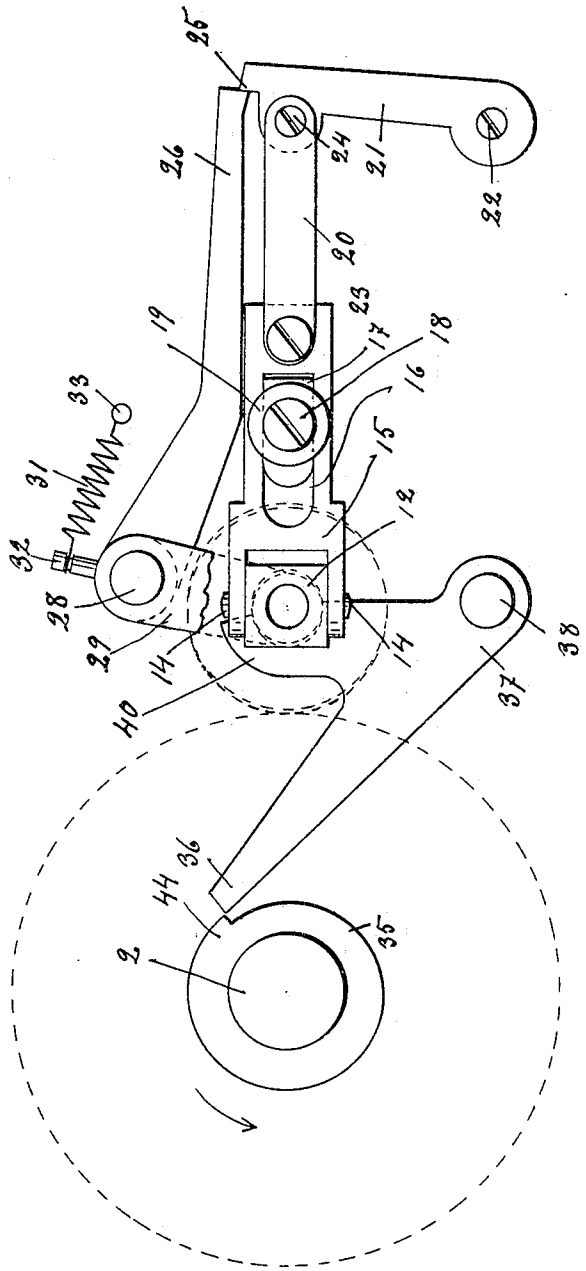


Fig. 3

Witnesses:
David W. Fletcher.
Thurdon F. Lamme

Inventor:
Ernst R. Malmborg
By
W. B. Martindale
Attorney.

No. 781,670. Patented February 7, 1905.

UNITED STATES PATENT OFFICE.

ERNST R. MALMBORG, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO TIME MARKING MACHINE COMPANY, A CORPORATION OF THE DISTRICT OF COLUMBIA.

POSTMARKING AND CANCELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 781,670, dated February 7, 1905.

Application filed August 9, 1902. Serial No. 119,032.

To all whom it may concern:

Be it known that I, ERNST R. MALMBORG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Postmarking and Canceling Machines, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce a simple and effective means for preventing the impression-roller in machines of the class named from becoming inked by contact with the printing-die and thereby smearing the backs of the letters or other mail-matter. I am aware that various constructions have been employed for this purpose, none of which are entirely effective in practical application.

My invention is distinguished from those in which the impression-roller is thrown out of contact with the printing-die merely while the die is passing and which continue to vibrate when the machine is running empty, also from all those in which a finger or trigger is interposed in the pathway of the letters for the purpose of throwing off the impression.

In my construction the impression-roller is held normally out of contact with the printing-cylinder and is released by the passage of a mail-piece between the rollers, so that the impression is never on except while a letter is passing.

In the accompanying drawings, Figure 1 is a plan view of my invention. Fig. 2 is a vertical sectional view taken from line *x x* of Fig. 1. Fig. 3 is a plan view of the mechanism with the supporting-table removed.

Like reference-numerals indicate corresponding parts in each of the figures.

Fig. 1 is the driving element or prime motor, keyed upon a shaft 2, journaled in bearings 3 3, Fig. 2, mounted beneath the table 4. On the upper end of the shaft 2 is keyed or otherwise rigidly attached the printing-roll 5, having a die 6 upon its periphery. That portion of the printing-roll in which the die is formed is of smaller diameter than the outer edges, respectively. Also keyed on the shaft 2 is a spur-gear 7, which meshes with a pinion 8, keyed on the shaft 9, which shaft is mounted in a bearing 10, swiveled upon the lower end of the bracket 11, depending from the table 4. The swiveling of the bearing in the manner described enables the upper end of the shaft 9 to move back and forth for the purpose hereinafter stated. The upper portion of the shaft 9 is supported in a rectangular bearing-block 12, fitted loosely in a slot 13, formed in the table 4. Said block is of sufficient thickness to project above the upper surface of the table and has pivotally connected therewith by screws 14 14 a sliding yoke 15, having a slot 16 therein, into which is loosely inserted a block 17, secured to the table 4 by means of a screw 18, having a washer 19 thereon to hold said yoke in place, while permitting a longitudinal movement thereof. A link 20 serves to connect the yoke 15 with a dog 21, pivoted at 22 upon the table 4, said link being connected to the parts mentioned by means of screws 23 and 24, respectively. The dog 21 is provided with a detent 25 on its outer end which is adapted to be engaged by a trigger 26, forming one arm of an elbow-lever, (generally designated by 27,) which lever is pivoted to a stud 28, projecting upwardly from the table 4. The short arm 29 of the lever is provided with a depending stud on which is loosely mounted an auxiliary roller 30, the periphery of which is in normal engagement with the upper or projecting portion of the printing-roll 5. A spring 31, one end of which is attached to a stud 32 upon the lever 27 and the other to a stationary stud 33 upon the table 4, tends to press the outer end of the trigger into engagement with the detent 25 when the latter is thrown back in proper position, as hereinafter stated.

An impression-roller 34 is rigidly mounted upon the upper end of the shaft 9 and is held normally out of engagement with the printing-roll by the means which I will now proceed to describe.

A cam 35 is rigidly mounted upon the shaft 2, which cam is adapted to engage an arm 36 of an elbow-shaped lever, (generally desig-

nated as 37,) which lever is pivotally attached to the table at 38 by means of a stud 39, depending from the table 4, a portion of which is shown in Fig. 2. The short arm 40 of the lever 37, which arm is better shown in Fig. 3, bears against a sleeve 41 on the shaft 9. A spring 42, Fig. 2, is interposed between the sleeve 41 and a bracket 43, secured beneath the table 4. Said spring tends to push the upper end of the shaft 9 toward the shaft 2, thereby causing the impression-roll 34 to be pressed against the printing-roll 5 when not held back by the action of the dog 21.

The cam 35 is in the form of a volute provided with a step 44. (Better shown in Fig. 3.) As the shaft 2 is rotated in the direction of the arrow shown in Fig. 3 the arm 36 rides out from said cam, thereby causing the short arm 40 of the lever 37 to press against the sleeve 41, thus pushing the upper end of the shaft 9 back against the action of the spring 42 and causing the dog 21 to be moved back sufficiently to enable the trigger 26 to engage the detent 25, thereby holding the dog in normal position and locking the impression-roll out of engagement with the printing-roll. The step 44 is so located with respect to the other mechanism described as to permit of a reverse movement of the shaft 9 and enable the impression and printing rolls to be brought together at a time when the forward end of the die 6 reaches the nearest point of contact with the impression-roll, as clearly indicated in dotted lines in Fig. 1.

Inasmuch as the printing-roll has no movement but its axial movement, it follows that any object of sufficient thickness interposed between the printing-roll and the roller 30 would push the latter back, thereby actuating the lever 27 and releasing the trigger 26 from the dog 25. The parts described are so proportioned that a movement of the roller 30 corresponding to the thickness of a postal card would serve to release the dog and leave the spring 43 free to push the impression-roller into contact with the printing-roller. When, therefore, a letter or postal card is inserted between the roller 30 and the printing-roll 5, the impression-roll 34 is released, as described, and presses the letter or card into contact with the die of the printing-roll, thereby producing the requisite marking and cancellation. The pitch of the cam 35 is such that when the printing-roll shall have rotated a distance corresponding to the length of the die the lever 37 will have pushed the shaft 9 back, so that the locking elements described will again be permitted to act so as to hold the impression-roll out of contact with all that portion of the printing-roll exclusive of the printing-die. It is obvious that the impression-roll can only be released upon the introduction of a mail-piece between the roller 30 and the printing-roller. Consequently the impression-roller is only pressed against the printing-roller when an impression is to be taken, thus preventing the impression-roller from becoming inked by contact with the die.

Having fully described my invention, what I claim is—

1. The combination with a revoluble printing-roller, of an impression-roller held normally out of contact with said printing-roller, means for yieldingly pressing the same against said printing-roller and a yieldingly-mounted auxiliary roller in position to be displaced by the passage of a mail-piece to release said impression-roller.

2. The combination with a revoluble printing-roller, of an impression-roller held normally out of contact with said printing-roller, means for yieldingly pressing the same against said printing-roller, an auxiliary roller and means interposed between said auxiliary roller and said impression-roller for releasing said impression-roller upon the passage of a mail-piece.

3. The combination of a marking-roller mounted in fixed bearings, an impression-roller yieldingly mounted in operative proximity to said marking-roller, means for pressing the same against said marking-roller, means for separating said rollers and holding the impression-roller normally out of contact with the marking-roller when no letter is passing, and an auxiliary roller yieldingly mounted for unlocking and releasing said means for separating said rollers, said auxiliary roller being operated by the passage of a mail-piece.

4. In a postmarking and canceling machine the combination with a revoluble marking-cylinder mounted in fixed bearings, of a pressure-roller yieldingly mounted adjacent thereto and normally locked out of contact with said marking-cylinder, an auxiliary roller yieldingly mounted against said marking-cylinder, above said pressure-roller, and means connected therewith for unlocking the impression-roller and causing it to be pressed against a mail-piece passing between said rollers and the marking-cylinder.

5. In a postmarking and canceling machine, the combination of a revoluble marking-die mounted in fixed bearings, said marking-die having an offset thereon of larger diameter than that of the part bearing the die, two juxtaposed rollers yieldingly mounted to move laterally one against said marking-die and the other against said offset, means controlled by one of said rollers for automatically separating the other or companion roller and normally locking it out of contact with said marking-die, and means for releasing said first-named roller to act against said marking-die by the passage of a mail-piece between said impression-roller and the offset of said printing-die.

6. The combination with a continuously-rotating marking-cylinder mounted in fixed bear-

ings, of a positively-driven pressure-roller, yieldingly mounted with respect to the marking-cylinder, means for separating said pressure-roller from the marking-cylinder and locking the same normally out of contact with said cylinder, and an auxiliary roller yieldingly mounted against said marking-cylinder, whereby the movement of said auxiliary roller caused by the passing of a mail-piece between the same and said cylinder will operate to release said pressure-roller from its locking mechanism and cause it to be pressed against said mail-piece.

In witness whereof I have hereunto subscribed my name, at Chicago, in the county of Cook and State of Illinois, this 31st day of July, 1902.

ERNST R. MALMBORG.

In presence of—
B. F. CUMMINS,
J. J. HAZEN.