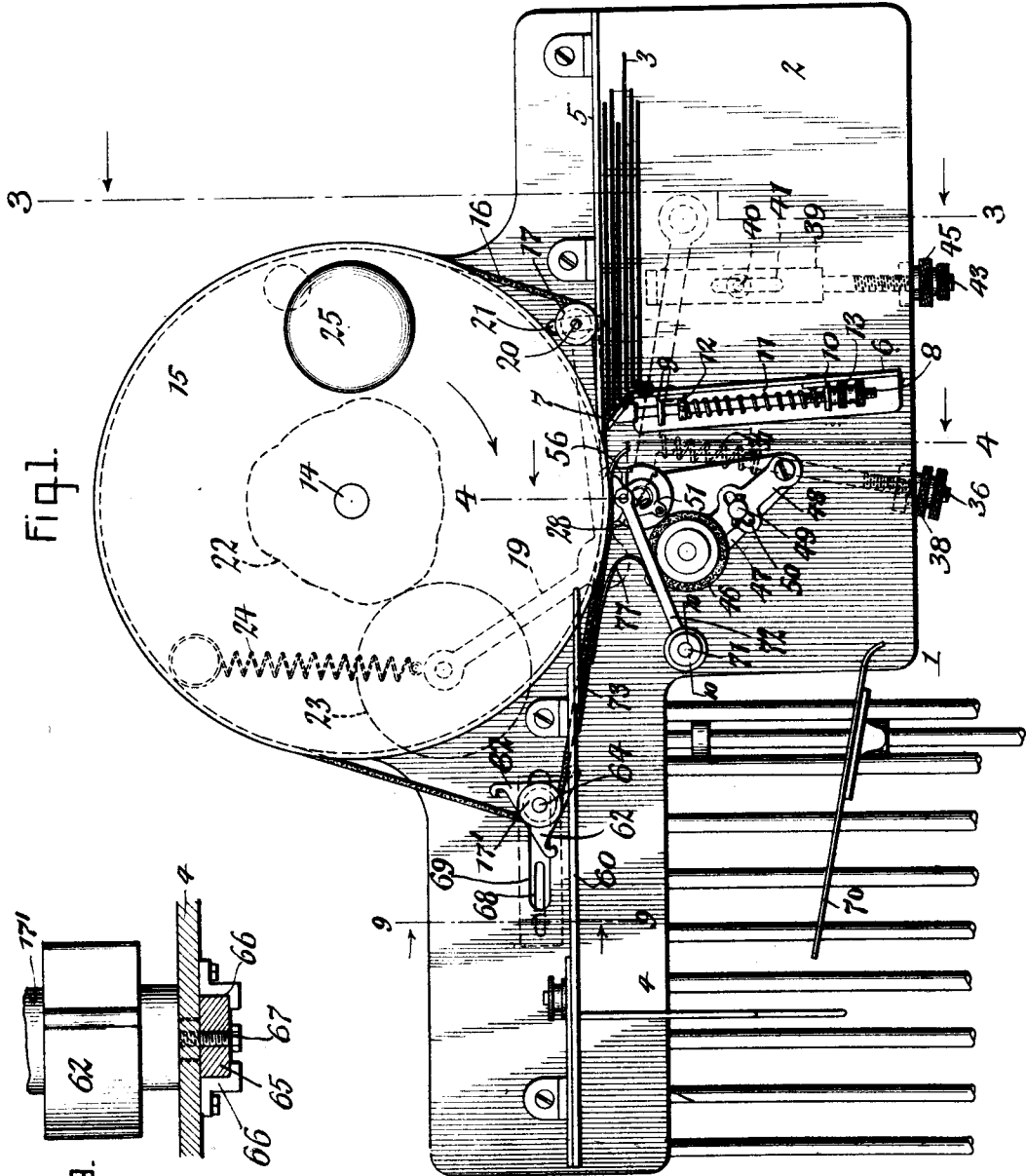


A. IELFIELD.
 MAIL MARKING MACHINE.
 APPLICATION FILED AUG. 9, 1912.

1,079,492.

Patented Nov. 25, 1913.

3 SHEETS—SHEET 1.



WITNESSES
M. Ray Taylor
Walter P. Geyer

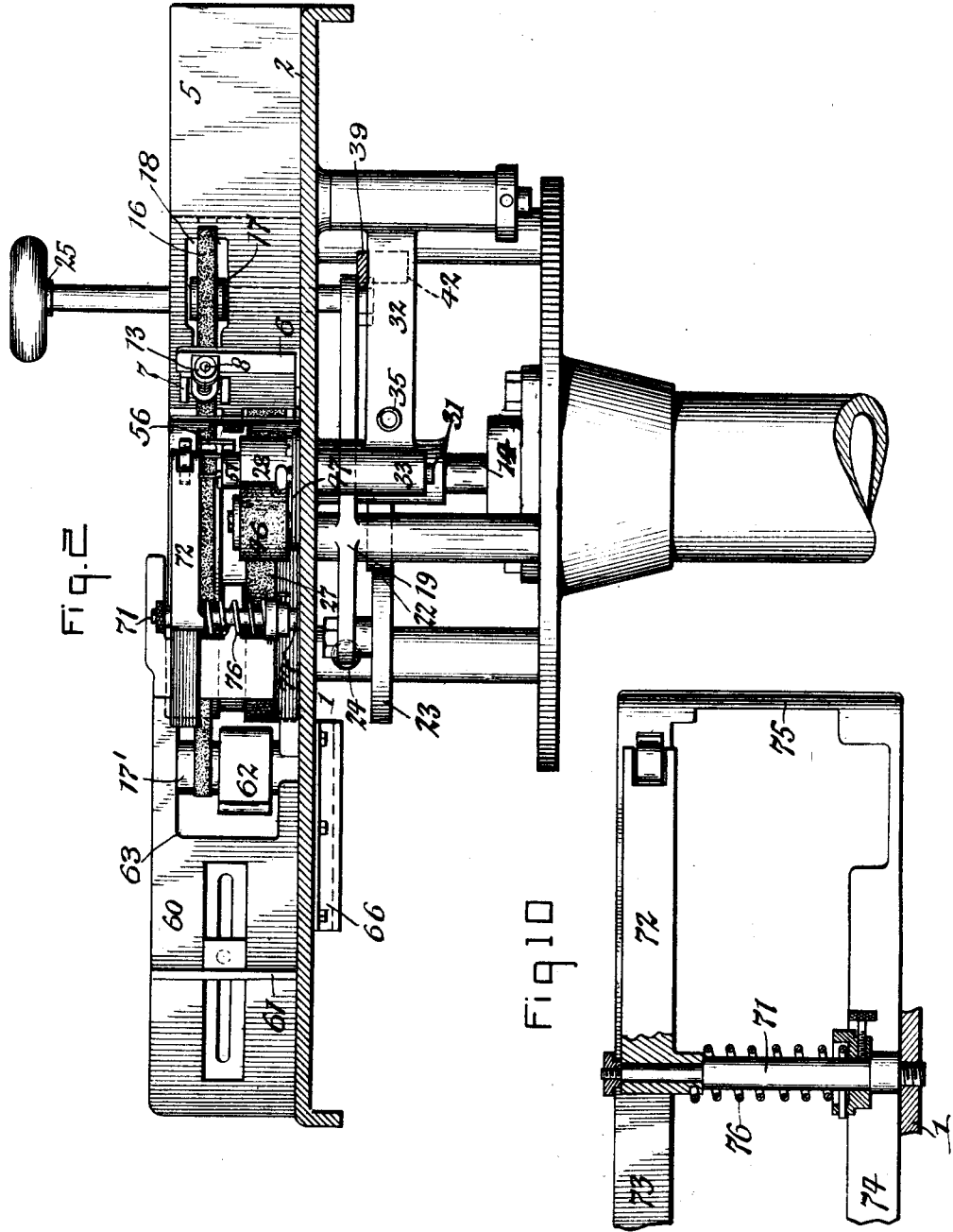
INVENTOR
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3 SHEETS—SHEET 2.



WITNESSES
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Walter P. Geyer

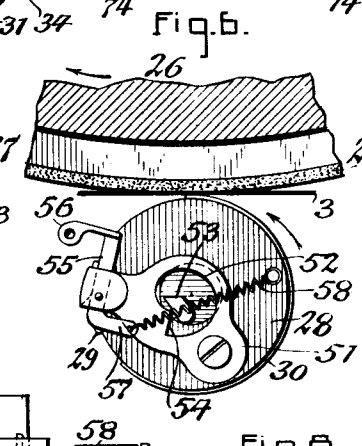
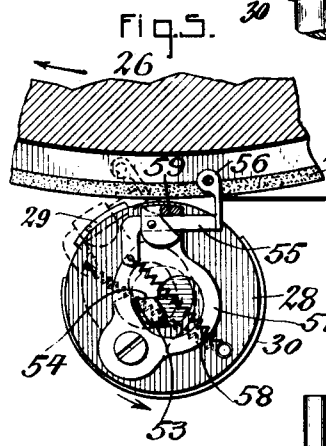
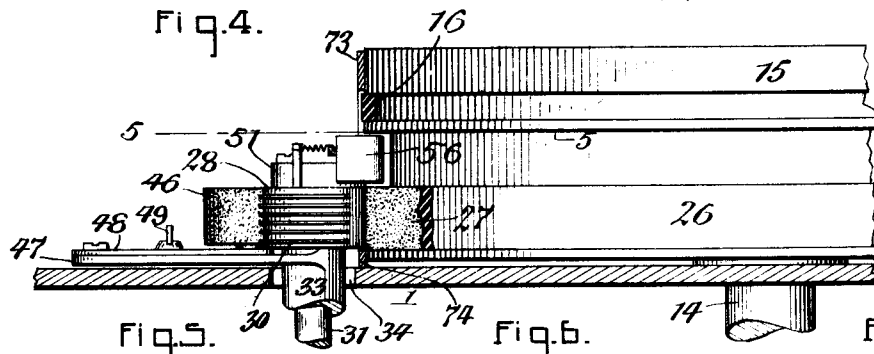
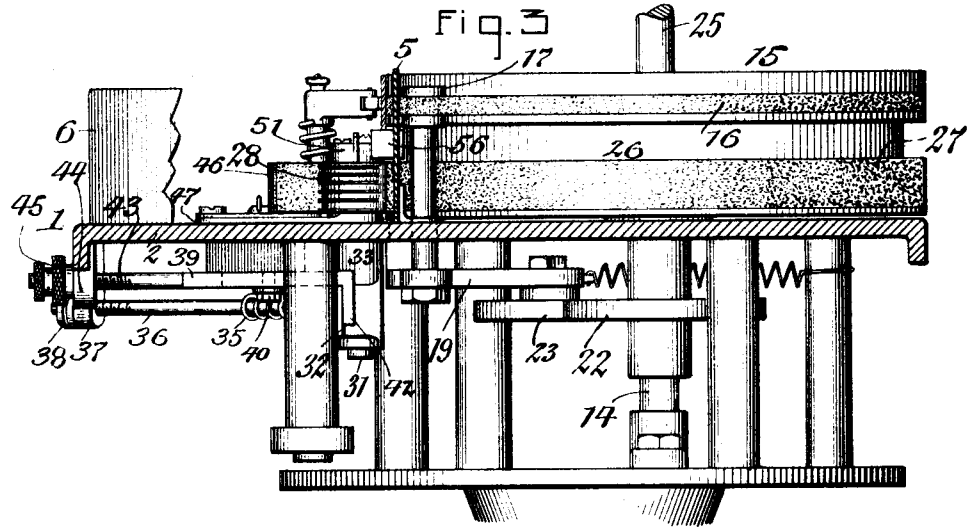
INVENTOR
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 BY *Lewis J. Topp*
 ATTORNEYS

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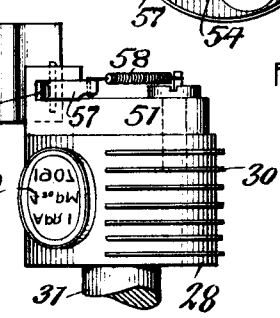
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

AUGUST 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.

1,079,492.

Specification of Letters Patent.

Patented Nov. 25, 1913.

Application filed August 9, 1912. Serial No. 714,192.

To all whom it may concern:

Be it known that I, AUGUST 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 a machine for marking or canceling letters and other pieces of mail matter and has the object to produce a machine for this purpose which is comparatively simple in construction and capable of being produced at low cost, which contains no gearing or similar parts which are liable to become worn and produce noise, which is so organized that the printing wheel is only capable of rotating when a letter is in position to be marked or canceled and thereby prevents inking of the impression wheel and smearing or defacing the backs of the mail matter, which insures the placing of a single mark at the front end of each letter and prevents both short striking or over striking of the canceling die relative to the postage on the letter, and to improve the machine in several details of construction.

In the accompanying drawings consisting of 3 sheets: Figure 1 is a top plan view of a mail marking or canceling machine embodying my improvements. Fig. 2 is a sectional side elevation thereof. Fig. 3 is a vertical transverse section taken in line 3—3, Fig. 1 and showing the front wall on the supply end of the feed table broken away. Fig. 4 is a vertical transverse section, on an enlarged scale, taken in line 4—4, Fig. 1. Fig. 5 is a fragmentary horizontal section taken in line 5—5, Fig. 4 and showing the printing wheel and associated parts in one position. Figs. 6 and 7 are similar views but showing the printing wheel and associated parts in different positions. Fig. 8 is a detached elevation of the printing wheel and associated parts. Fig. 9 is a fragmentary vertical transverse section taken in line 9—9, Fig. 1 and showing the means for adjustably supporting the stacker wheels and associated parts. Fig. 10 is a fragmentary vertical section, on an enlarged scale taken in line 10—10, Fig. 1 and showing the retaining device which holds the letters or other mail matter in engagement with the

feed belt after the letters leave the printing mechanism.

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

1 represents the feed table which has a feed section or delivery portion 2 upon which the letters 3 to be canceled are stacked edgewise and a receiving portion or collecting section 4 upon which the letters are stacked after they have been post marked or canceled. Lengthwise on one side of the delivery portion of the table the latter is provided with an upright longitudinal guide wall 5 against which the rear side of the uncanceled letters are pressed by the hand of the operator or by other suitable means preparatory to feeding the letters away from the feed stack to the printing mechanism. The front ends of the letters engage with a transverse abutment or guide wall 6 which is mounted on the upper side of the feed table and separated at its inner end by an intervening space, throat or passageway from the longitudinal guide wall through which the letters move from the receiving part of the table to the printing mechanism.

In order to prevent more than one letter at a time from being fed off from the delivery part of the table a separator is provided which may be of any suitable construction but which is preferably constructed as shown in the drawings and comprises an inclined head 7 arranged in the passageway between the walls 5, 6 so as to intercept all of the letters excepting the foremost one lying next to the longitudinal wall 5, a horizontal guide rod 8 supporting the separating head at its inner end and guided in suitable brackets 9, 10 on the abutment wall 6, a spring 11 surrounding the guide rod and bearing at one end against a collar 12 thereon and at its opposite end against the bracket 10 and an adjustable thumb screw 13 arranged on the guide rod and adapted to bear against the bracket 10 for limiting the movement of the separating head toward the longitudinal wall 5. The separating head is so adjusted that a normal gap is formed between the same and the longitudinal wall which will permit the passage of but a single letter from the supply stack while the remaining letters are being held back, but if the foremost letter is of unusual thickness

the separator is capable of yielding to permit the passage of the same.

The feed mechanism whereby the letters are fed successively from the supply stack to the printing mechanism is preferably constructed as follows: 14 represents an upright driving shaft which is journaled in a suitable bearing on the main frame on the outer side of the longitudinal guide wall and on a transverse line in front of the transverse guide wall 6. On the upper end of this driving shaft is mounted a driving wheel 15 which forms part of the mechanism for feeding the letters from the supply stack to the printing mechanism and stacking mechanism. This driving wheel is of comparatively large diameter and adapted to make one rotation for every three letters of ordinary length, which are fed from the supply stack to the receiving stack and past the printing mechanism. 16 represents a feed belt which passes around said driving wheel and also around a rear shifting pulley 17 arranged in rear of the driving wheel adjacent to the longitudinal feed wall 5 and a front pulley 17¹ arranged in front of the driving wheel, whereby the feed belt is deflected from the driving wheel in front and in rear of the axis thereof but is permitted to engage with the main wheel on its inner and outer sides transversely in line with the printing mechanism which will be hereinafter fully described. The longitudinal guide wall 5 on the supply section of the table terminates at its front end adjacent to the inner operative part of the driving wheel and is provided with a longitudinal slot 18 which is adapted to receive the adjacent rear part of the operative stretch of the feeding belt and the rear shifting pulley engaging therewith. This rear part of the operative stretch of the feeding belt between the driving wheel and the shifting pulley is moved laterally intermittently so that it is arranged alternately with its face projecting forwardly beyond the inner side of the longitudinal wall 5 and into engagement with the front side of the foremost letter for feeding the same forward and retracted backwardly from the face of the guide wall 5 so as to render the feeding action of this part of the belt ineffective. This lateral reciprocating movement of the rear end of the operative stretch of the feed belt is produced by mounting the shifting pulley 17 on the rear arm of a horizontally swinging rock lever 19 which is pivoted on the underside of the table, the pivotal connection between this roller and the rear arm of this lever being effected by means of a pivot pin 20 arranged in a transverse slot 21 in the table and connected at its lower end with the rock lever while its upper end carries the shifting pulley which is arranged above the table. The shifting pulley 17 is moved out-

wardly or into its retracted position in which the rear end of the operative stretch of the feed belt does not engage the letters by means of a rotatable cam 22 mounted on the main shaft so as to turn with the driving wheel and engaging with an anti-friction roller 23 on the front arm of the rock lever 19. This lever is moved in the opposite direction by a spring 24 connecting the front arm thereof with a stationary part of the frame so as to yieldingly press the rear end of the operative stretch of the feeding belt against the outer face of the foremost letter on the supply stack. The feeding belt is constructed of rubber or other elastic material so as to permit the same to readily adapt itself to this shifting movement of the pulley 17. By this means the feeding belt is caused to engage intermittently and periodically at regular intervals with the foremost letters of the stack as they are brought successively into engagement with the longitudinal guide wall and thereby fed one at a time off the supply stack. The cam 22 is preferably provided with a plurality of high faces and a corresponding number of low faces so that during each rotation thereof the feeding belt is caused to operatively engage the letters a number of times, three of such alternating pairs of high and low faces being shown in the drawings so that three feeding actions of the feeding belt are produced during each rotation of the driving wheel and shaft. The latter may be rotated either by power or by hand but as shown in the drawings the same is provided on its upper side with a crank or handle 25 for turning the same manually.

As the letters are fed off from the supply stack the same are marked or canceled by a printing mechanism which is constructed as follows: 26 represents an impression wheel or roller mounted on the driving shaft below the driving wheel and preferably formed integrally therewith. The periphery of the impression wheel is preferably provided with a facing 27 of rubber or similar elastic material so as to provide a yielding bearing surface for engagement with the letters. Transversely in line with the axis of the driving wheel and between the front and rear pulleys 17, 17¹ a printing wheel 28 is arranged with its periphery opposite to the impression wheel. The face of this printing wheel is provided with the usual dies or type 29, 30 for producing canceling lines, dates and localities on the letter or other mail matter which is to be marked or canceled. This printing wheel is pivoted on a normally stationary arbor 31 which is mounted on the front end of a horizontally swinging rock arm 32 arranged below the table and pivoted thereto at its rear end. The front end of this arm is provided with a vertical boss 33 projecting upwardly

through a transverse slot 34 in the table so as to support the printing wheel which is arranged above the table. The rock arm supporting the printing wheel is yieldingly held in its innermost position by means of a spring 35 bearing at one end against the printing wheel rock arm and at its other end against an adjusting rod 36 which is adjustably supported for the purpose of varying the tension of this spring, this being preferably effected by engaging the outer screw threaded end of this rod with a threaded opening formed in a bracket 37 depending from the table and clamping nuts 38 mounted on this rod and engaging with the bracket 37 for holding the rod in its adjusted position. The movement of the printing wheel toward the impression wheel is limited, the preferred form of stop device for this purpose shown in the drawings comprising a stop bar 39 arranged transversely below the table and guided thereon by means of a screw and slot connection 40, 41 and provided at its inner end with a stop lug 42 which is adapted to be engaged by the rock arm 32 while its outer end is provided with a screw threaded shank 43 passing through a lug 44 depending from the table and provided with adjusting screw nuts 45 engaging with the outer side of the lug 44. By thus yieldingly supporting the printing wheel the same is able to adapt itself to letters of various thicknesses which are being canceled or mail marked. The inking of the dies or type faces on the periphery of the printing wheel is effected by means of an inking roller 46 engaging with the same. In order to maintain this inking roller in a definite relation to the printing wheel regardless of the lateral movement of the same relatively to the impression wheel the supporting arm 32 which carries the printing wheel is provided at its front end above the table with a laterally projecting bracket 47 upon which is mounted a horizontally adjustable arm 48 which carries the inking roller. The ink roller arm 48 is pivoted on the bracket to swing horizontally and is held in its adjusted position by means of a clamping screw 49 connected with the bracket 47 and passing through a segmental slot 50 in the ink roller arm, as shown in Fig. 1. When no letter is in a position relatively to the printing wheel and impression face to receive a post mark the printing wheel is at rest and presents to the impression wheel a receding part of its periphery which is unprovided with a die or type face. When, however, a letter is fed forwardly to the printing mechanism in position to be engaged thereby the printing wheel is unlocked or released to permit the same to rotate forwardly with the impression wheel by reason of the letter passing between the type face of the printing

wheel and the impression wheel. In its preferred form this letter operated lock which controls the rotation of the printing wheel is constructed as follows: 51 represents a stop lever pivoted on the upper side of the printing wheel on one side of its axis so as to swing horizontally and provided with an opening 52 which receives a stop lug 53 projecting upwardly from the upper end of the normally stationary arbor. In the bore or opening of the stop lever the same is provided with a catch or stop shoulder 54 which is adapted to engage with the stop lug upon swinging the stop lever inwardly and thereby hold the printing wheel against rotation. At the free end of the stop lever the same has pivoted thereto a horizontally swinging trip lever 55 which is provided on its outer arm with a laterally projecting nose 56 adapted to project beyond the periphery of the printing wheel into the path of the letters while its opposite inner end is provided with an inwardly projecting tail 57 which is connected by means of a spring 58 with the upper side of said printing wheel. The outward movement of the trip lever relatively to the stop lever is limited by the outer arm of the trip lever engaging with a shoulder 59 on the stop lever. The arrangement of the spring 58 is such that it serves the double purpose of holding the trip lever in its outermost or operative position and also holds the stop shoulder or catch of the stop lever in engagement with the stop lug of the arbor, in which position of the parts the nose of the trip lever projects laterally across the letter path between the driving wheel and impression wheel and immediately in rear of the path between the printing wheel and impression wheel, as shown in Figs. 4 and 5. Whenever a letter is fed from the supply stack forwardly against the nose of the trip lever the latter together with the stop lever are turned as one piece about the axis of the stop lever in a forward direction thereby disengaging the stop shoulder of the stop lever from the stop lug of the arbor and releasing the printing wheel, as shown by dotted lines in Fig. 5. Immediately thereafter the front end of the letter enters between and is gripped on its opposite sides by the types or dies on the periphery of the printing wheel and the impression wheel, as shown in Fig. 6. The instant this occurs the forward movement of the letter is continued by the frictional engagement of the printing wheel and impression wheel against opposite sides of the letter. The initial turn is imparted to the wheel after being released by the impact of the letter against the trip lever 55 and also by the grip of the rotating impression wheel or roller 20 which is transmitted to the printing wheel through the medium of the letter which is fed between

the same. At the end of one rotation of the printing wheel the shoulder of the stop lever again engages the stop lug of the arbor and arrests the printing wheel in a position in which it again presents a receding non-type bearing portion of its periphery to the impression wheel. If at the end of this one rotation the rear end of the letter which has just been canceled has passed beyond the printing mechanism the trip lever will again carry its nose across the letter path, this being the case when a letter of ordinary length is being canceled, but if a letter of unusual length is being canceled and the rear end of the same has not yet cleared the printing mechanism at the end of one rotation of the printing wheel the nose of the trip lever upon engaging with the letter being canceled, is retracted and held out of the letter path, as shown in Fig. 7 and remains in this position until the rear end of the letter does clear the nose after which the latter is swung across the letter path by the action of the spring 58 on the trip lever. This construction of controlling device is very strong and durable and not liable to get out of order and positively insures the production of but one canceling mark or impression on each letter and also causes this mark or impression to be produced fully upon the front end of each letter where the postage stamps are usually applied, thereby avoiding improper cancellation such as frequently occurs when the post mark is applied to the letter either too early or too late and produces what is commonly known as short striking or over striking as well as avoiding the production of two successive canceling marks on the same letter which is commonly known as double striking.

As the letters issue from the printing mechanism the same are carried forwardly by the front end of the operative stretch of the feeding belt along a front longitudinal guide wall 60 and against a front stop wall 61 which are mounted on the receiving part of the table. As the letters are successively delivered to this part of the table they are pushed laterally away from the longitudinal front guide wall 60 by means of a stacker wheel having a plurality of cam-shaped stacking arms 62 which sweep through a longitudinal slot 63 in the front longitudinal wall and keep the path open for the letters issuing from the printing mechanism. The stacker wheel and the front guide pulley 17 of the feeding belt are preferably mounted on the same pivot pin or spindle 64 which latter is capable of longitudinal adjustment for keeping the feeding belt tight, this is preferably effected by mounting the lower end of the pivot pin 64 on a longitudinally adjustable block or slide 65 mounted in ways 66 on the underside of the feed table and held in place by

a clamping screw 67 secured to the table and passing through a longitudinal slot 68 in the slide, as shown in Fig. 9. The pivot pin 64 projects upwardly through a longitudinal slot 69 in the table for supporting the front belt pulley and the stacker wheel which are arranged above the table. As the letters are successively deflected laterally by means of the stacker wheel the same are packed against a laterally movable follower 70 of usual construction.

In order to hold the letters against the delivery portion of the feeding belt and insure proper delivery of the same from the printing mechanism to the stacking mechanism a retaining device is provided which is preferably constructed as follows: 71 represents a stationary upright arbor or post mounted on the table in front of the printing mechanism and 72 is a horizontally swinging arm pivoted on the upper end of this post. On the free inner end of this arm is pivoted a guide frame consisting of upper and lower longitudinal bars 73, 74 arranged respectively above the feed belt and below the face of the impression wheel and an upright laterally curved rear bar 75 connecting the front ends of the longitudinal guide bars. This guide frame is yieldingly pressed against the driving and impression wheels by means of a spring 76 surrounding the post 71 and connected at one end with the post and at its opposite end with the presser arm 72 and also by a supplemental leaf spring 77 interposed between the presser arm and the upper guide bar and preferably secured to said arm, as shown in Figs. 1, 2 and 10. This retaining device is capable of yielding and adapting itself to various thicknesses of letters but always holds the letters, regardless of their thickness, against the driving wheel and impression wheel and also against the operative stretch of the feeding belt so as to insure proper delivery of the letters from the printing mechanism to the stacking mechanism.

I claim as my invention:

1. A mail marking machine comprising a table adapted to support the pieces of mail matter, a printing mechanism, and means for feeding the pieces of mail matter successively past said printing mechanism comprising a driving wheel arranged adjacent to said printing mechanism, front and rear pulleys arranged in front and in rear of said printing mechanism and driving wheel, a feeding belt passing around said pulleys and also engaging its operative part with one side of said driving wheel and its inoperative part with the other side of said wheel and means for moving said rear pulley intermittently toward and from the pieces of mail matter.

2. A mail marking machine comprising a

printing wheel, a normally stationary arbor on which said wheel is journaled and which is provided with a stop lug, and a letter controlled stop lever pivoted on said wheel and
 5 provided with an opening which receives said lug and with a shoulder in said opening which is adapted to engage said stop lug.

3. A mail marking machine comprising a printing wheel, a normally stationary arbor
 10 on which said wheel is journaled and which is provided with a stop lug, a stop lever pivoted on said printing wheel and provided with an opening which receives said stop
 15 lug and a stop shoulder in said opening which is adapted to engage said stop lug, and a trip lever mounted on said stop lever and adapted to be engaged by the pieces of mail matter.

4. A mail marking machine comprising a
 20 printing wheel, a normally stationary arbor on which said wheel is journaled and which is provided with a stop lug, a stop lever pivoted on said printing wheel and provided with an opening which receives said stop
 25 lug and a stop shoulder in said opening which is adapted to engage said stop lug,

a trip lever mounted on said stop lever and adapted to be engaged by the pieces of mail matter and a spring connected with said trip lever and operating to hold the same
 30 and said stop lever yieldingly in an operative position.

5. A mail marking machine comprising a printing mechanism, a feed mechanism for moving the pieces of mail matter past said
 35 printing mechanism and having a feed belt extending past said printing mechanism, and a retaining device for holding the mail matter in engagement with said belt in front of the printing mechanism comprising a
 40 guide having upper and lower longitudinal guide bars and a vertical bar connecting the rear ends of the longitudinal bars, a rock arm to the free end of which said guide is pivoted, and a spring for moving said arm
 45 and guide toward said belt.

Witness my hand this 2 day of August, 1912.

AUGUST IELFIELD.

Witnesses:

V. T. STEWART,
 R. N. ERDLE.