

F. C. IELFIELD.
MAIL MARKING MACHINE.
APPLICATION FILED AUG. 2, 1909.

1,019,158.

Patented Mar. 5, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

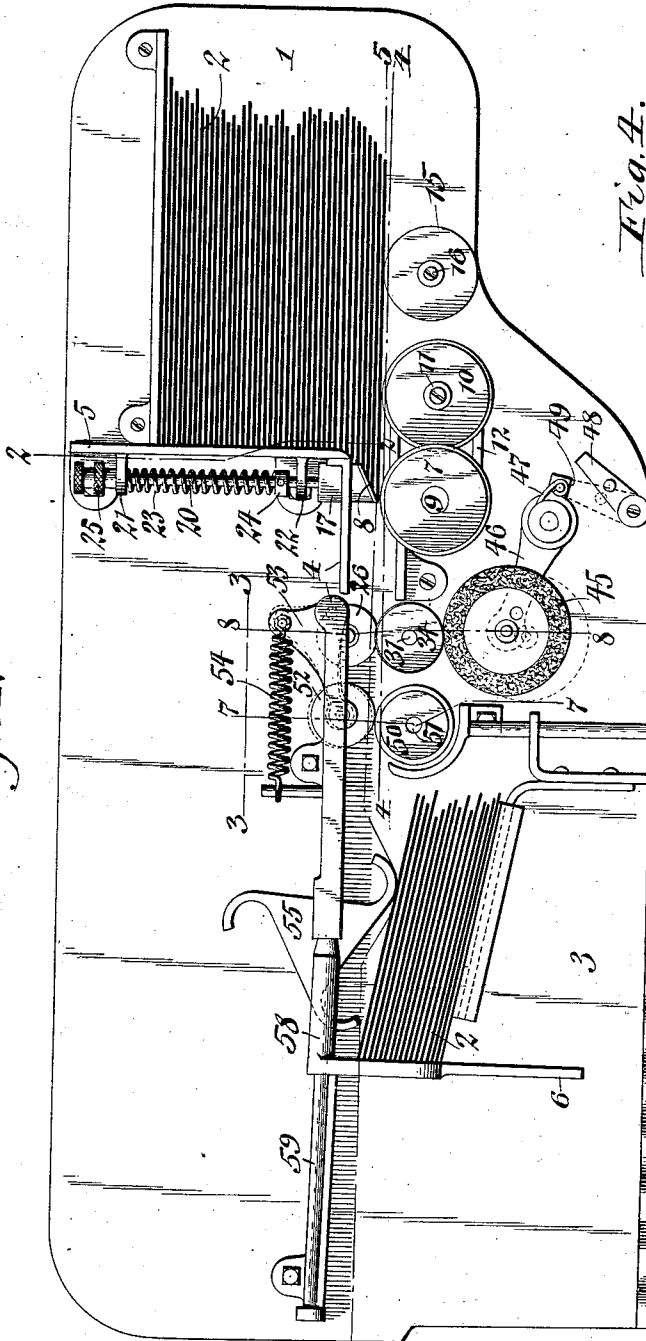


Fig. 4.

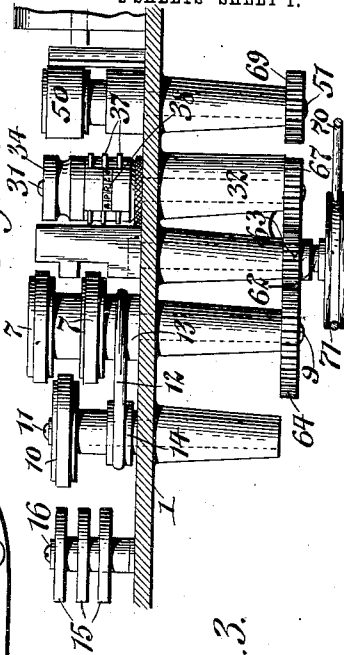


Fig. 3.

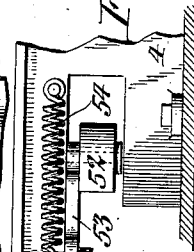
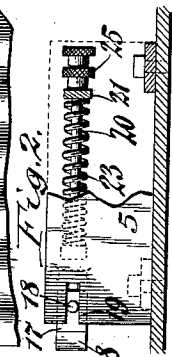


Fig. 2.



Witnesses:
Richard Sommer
John D. Shoemaker

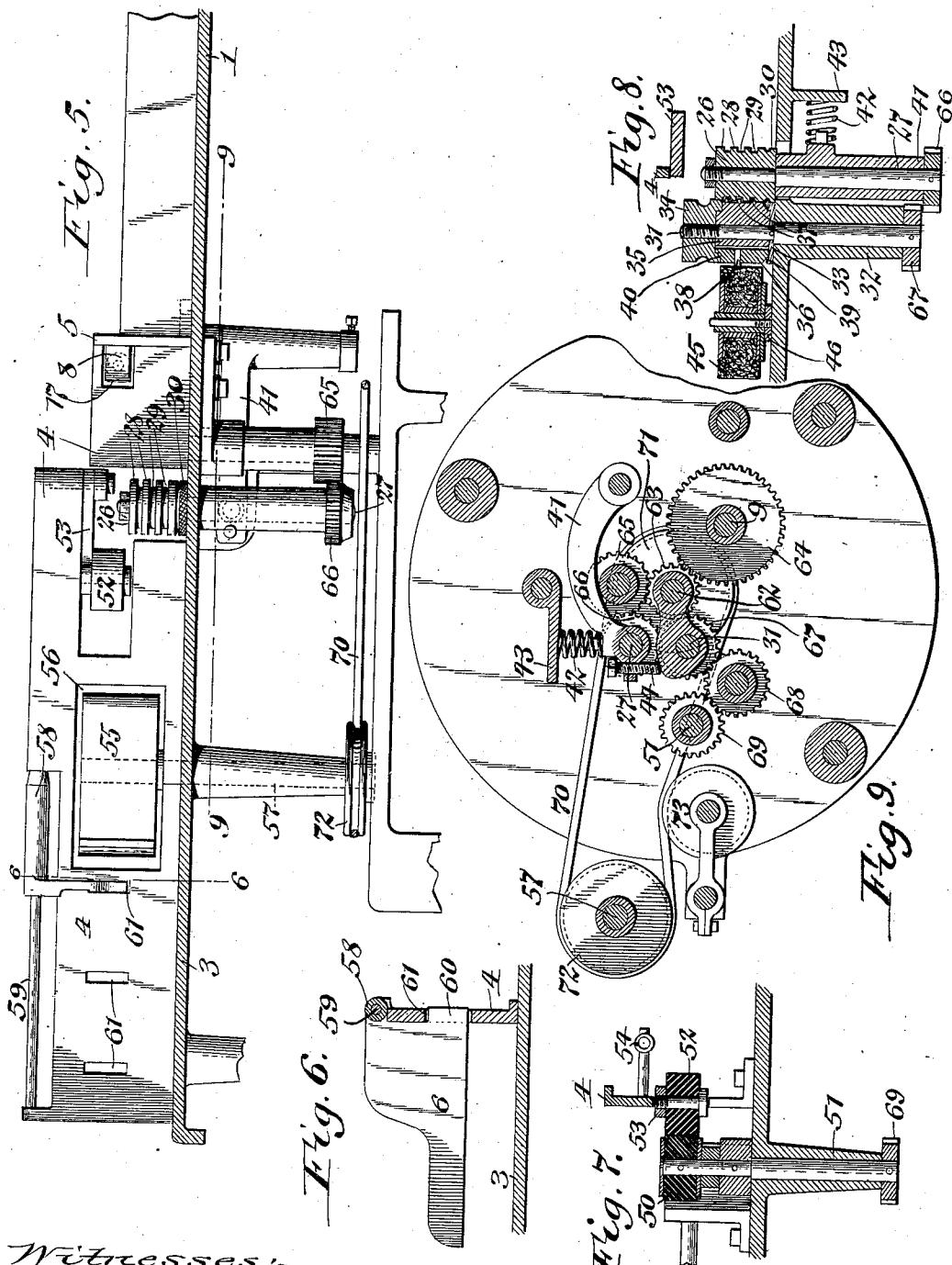
Inventor
Fred C. Ielfield
by *Super Popp*
Attorneys.

F. C. IELFIELD.
MAIL MARKING MACHINE.
APPLICATION FILED AUG. 2, 1909.

1,019,158.

Patented Mar. 5, 1912.

2 SHEETS—SHEET 2.



Witnesses:
Richard Sommer,
John H. Shoemaker.

Inventor
Fred C. Ielfield
by Geyer & 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.

1,019,158.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed August 2, 1909. Serial No. 510,827.

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 a new and useful Improvement in Mail-Marking Machines, of which the following is a specification.

This invention relates to a mail marking machine in which the printing or marking of the letter or cards is effected continuously and a mark is produced on each piece of mail matter the full length thereof for the purpose of insuring cancellation of all the stamps regardless of where they are placed on the mail matter.

It is the object of this invention to produce a machine of this character which is comparatively simple and durable in construction and reliable in operation, and which has a much greater capacity than the machines heretofore is use for this purpose.

In the accompanying drawings consisting of 2 sheets:—Figure 1 is a top plan view of a mail marking machine embodying my improvements. Fig. 2 is a fragmentary vertical cross section in line 2—2, Fig. 1. Figs. 3 and 4 are fragmentary vertical longitudinal sections in the correspondingly numbered lines in Fig. 1. Fig. 5 is a fragmentary vertical longitudinal section in line 5—5, Fig. 1. Fig. 6 is a fragmentary vertical cross section in line 6—6, Fig. 5. Figs. 7 and 8 are vertical cross sections in lines 7—7 and 8—8, Fig. 1, respectively. Fig. 9 is a horizontal section in line 9—9, Fig. 5.

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

The machine has a horizontal top plate, the front part 1 of which forms the feed table upon which is placed the stack of letters 2 to be canceled while the rear part 3 serves as a stacking table upon which the letters are stacked or piled after being canceled or post marked. Arranged on top of the plate and extending lengthwise from the delivery end of the feed table to the receiving end of the stacking table is an upright longitudinal guide wall or fence 4. On the feed table is also arranged a transverse guide wall 5 which is separated at its inner edge from the longitudinal wall 4 by an intervening space or throat and on the stacking table is arranged a transverse back stop 6.

At the throat is arranged a feed device whereby the letters are successively fed from the stack on the feed table to the printing or canceling mechanism. This feed mechanism is constructed as follows: 7 represents two feed wheels which are arranged one above the other on one side of the letter path and secured to the upper part of an upright feed shaft 9 which is journaled in a bearing on the adjacent part of the top plate. On the same side of the letter path and in rear of the front pair of feed wheels is arranged a rear feed wheel 10 which is also journaled on the adjacent part of the top plate by a pin or shaft 11 and caused to turn in unison with the front feed wheels and in the same direction by a belt 12 passing around a pulley 13 secured to the feed shaft below the front feed wheels and a pulley 14 connected with the lower side of the rear feed wheel. The front and rear feed wheels are preferably provided on their periphery with a facing of rubber or similar material so as to enable the same to obtain a firm grip on the letters and feed them forwardly successively from the stack or pile on the feed table.

In rear of the rear feed wheel a rotatable abutment 15 is arranged for supporting the pack of letters at the back side while the same are being fed to the feed wheels. This abutment preferably comprises vertical tiers of non-driven wheels or rollers mounted on a spindle 16 rising from the table. As the letters are pressed against these abutment rollers while they are being carried away successively by the feed wheels, these abutment rollers form a rolling support for the letters, thereby avoiding the frictional resistance which would retard the movement of the letters as is the case when a stationary abutment is used.

Adjacent to the letter path and opposite the space between the upper and lower front feed wheels 7 is a separator which prevents more than one letter at a time from being fed from the supply stack to the printing mechanism. This separator is preferably constructed in the form of a laterally sliding head 17 having a beveled face 8 which is adapted to be engaged by the front edges of the letters and is prevented from turning by a lug 18 thereon engaging with a slot 19 in the adjacent transverse wall 5 of the feed table. The separator is arranged

adjacent to the periphery of the front feed wheels 7, so as to insure proper engagement of the same with the thinnest letter or card which it is intended to cancel in the machine, and it is yieldingly held in this position so that it may recede from the front feed wheels and permit letters of cards of greater thickness to pass between the front feed wheels and the separator without injuring the letters or the feeding mechanism. The preferred means for thus yieldingly supporting the separator consists of a horizontal tension rod 20 arranged transversely in front of the rear transverse wall 5 and carrying the separator at its inner end while its outer end passes through guide lugs 21, 22 on the front side of said wall, a spring 23 surrounding the tension rod and bearing at its opposite ends against the outer guide lug 21 and a collar 24 on the tension rod, and an adjusting nut 25 arranged on the threaded outer end of the tension rod and adapted to engage with the outer side of the outer guide lug 21.

In the innermost position of the separator there is sufficient space between the same and the separator wheels 7, to permit the passage of letters or cards of normal thickness but when letters or cards of greater thickness are fed from the pile on the feed table the same, by engaging the inclined or beveled face of the separator head, force the same outwardly or laterally so as to clear the letter path and permit the passage of such letters.

As the letters issue forwardly from the feeding mechanism they are operated upon by the printing, marking or canceling mechanism which is constructed as follows: An impression roller or wheel 26 is arranged on one side of the letter path in front of the separator and is secured to the upper end of an upright shaft 27. The upper part of this impression roller is provided on its periphery with a plurality of alternating annular or circumferential ribs 28 and grooves 29 while the lowermost end of its periphery is provided with an annular flange 30 which is knurled or roughened on its periphery. On the opposite side of the letter path and transversely in line with the impression roller is the printing wheel or roller which is mounted on the upper end of a printing shaft 31 which is journaled with its lower part in a bearing 32 on the table. This printing wheel preferably consists of a lower clamping jaw or disk 33 which is secured to the printing shaft 31 in any suitable manner but preferably by means of a driving fit, an upper clamping jaw or disk 34 which is preferably constructed in the form of a screw nut or cap and engages with the upper threaded end of the printing shaft, and a circular body composed of two sections 35, 36 arranged between the upper and lower clamping disks. The lower clamping

disk is provided with a knurled periphery, and is arranged opposite the correspondingly knurled lower flange 30 of the impression roller. The fixed or main section 35 of the body of the printing wheel is mounted on the printing shaft and is provided on its periphery with a plurality of annular or circumferential ruling ribs 37 which are adapted to produce canceling lines on the letters or mail matter while the detachable or auxiliary section 36 is arranged at the side of the main section and is provided with type 38 which are adapted to print the date, locality or other matter on the letters in alternation with the canceling lines. The main and auxiliary sections of the body of the printing wheel are held in place on the printing shaft by means of an annular or marginal flange 39 formed on the lower clamping disk 33 and engaging with the exterior of the lower ends of the body sections and an annular or marginal flange 40 formed on the upper clamping disk and engaging with the exterior of the upper ends of the body sections. The printing faces of the ruling ribs and the printing type of the printing wheel are so arranged that each of these parts is horizontally in line with one of the spaces or grooves in the impression roller and the lower clamping disk is arranged with its periphery close to the knurled flange of the impression roller but does not engage therewith, whereby actual contact between the printing wheel and impression roller is avoided and no wear or injury to these parts occurs when no letter is passing between the same. Normally the printing wheel is arranged so close to the impression roller that the thinnest letter or card which is designed to be canceled in this machine will be gripped on its opposite sides between the printing wheel and impression roller and receive a continuous impression of successive canceling lines and type matter on its left side while passing between the printing wheel and impression roller but when a letter or card of greater thickness is fed between these members the impression roller is capable of yielding the required extent to permit thicker letters or cards to pass between the same and be canceled or post marked during their passage. The means for thus supporting the impression roller to permit of adapting itself to varying thicknesses of letters consists of a horizontally swinging rock arm 41 arranged below the top plate and pivoted at one end to the underside of this plate while its opposite end carries the bearing in which the lower end of the impression roller shaft 27 is journaled, a spring 42 interposed between the rock arm 41 and a lug 43 on the underside of the top plate and operating to move its free end inwardly for carrying the impression roller toward the printing wheel and an adjustable

stop device whereby the forward movement of the impression roller toward the printing wheel may be regulated and which preferably consists of a screw 44 arranged on the rock arm 41 and engaging with a suitable stationary part of the machine, as shown in Figs. 5, 8 and 9.

As the letter passes forwardly between the impression roller and printing wheel its lower edge is gripped between the knurled lower flange of the impression roller and the lower clamping disk of these parts and carried positively forward while the upper part of the letter is engaged on its opposite sides in zig-zag fashion by the relatively staggered upper flanges or ribs of the impression roller and the ribs and type of the printing wheel, the combined action of these parts operating to reliably move the letters forwardly between the same.

As the printing wheel rotates the type and ruling ribs of the same are supplied with ink by means of an inking roller 45 engaging with the same at the left hand side thereof. This ink roller is mounted on a horizontally swinging arm 46 pivoted on the upper side of the top plate and is yieldingly held in engagement with the printing wheel by means of a spring 47. A horizontally swinging catch 48 is pivoted on the top plate and adapted to engage with a tail 49 on the arm of the inking roller for the purpose of holding the latter in its retracted position out of engagement with the printing wheel when it is desired to remove the latter from its shaft for changing the type thereon or for other purposes.

As the letters issue forwardly from the printing mechanism they are engaged by a delivery mechanism which advances the same to the mechanism whereby the letters are stacked side by side on the stacking table. This delivery mechanism in its preferred form is constructed as follows: A non-adjustable delivery roller 50 is arranged on one side of the letter path and secured to the upper end of a delivery shaft 51 which is journaled in a bearing on the adjacent part of the top plate. On the opposite side of the letter path transversely in line with said delivery roller and coöperating with the same, is an adjustable delivery roller 52 which is pivoted on the free end of a horizontally swinging arm 53. The adjustable delivery roller is yieldingly held in engagement with the non-adjustable delivery roller or with the letters passing between the same by means of a spring 54 connecting the arm 53 with the wall 4 or other stationary part.

As each letter issues from between the delivery rollers 50, 52, the front end of the same engages with the back stop 6 of the stacking table and is then moved laterally over the stacking table to clear space for the

following letter by means of a stacking or packing device which preferably consists of a plurality of cam-shaped arms forming a stacking wheel 55 which rotates horizontally through a slot 56 in the longitudinal wall 4 and across the letter path in the same direction in which the letters issue from the delivery wheels and which wheel 55 is secured on the upper end of a stacking shaft 57 which is journaled in a bearing on the adjacent part of the top plate.

The back stop 6 is so mounted that it can be easily and quickly adjusted lengthwise of the direction in which the letters issue endwise from the printing and delivery mechanism for adapting the back stop to different lengths of letters. For this purpose the back stop is pivotally supported by means of a sleeve 58 arranged on its upper rear end and mounted slidably on a horizontal rod 59 arranged lengthwise above the longitudinal wall 4 and a locking lug 60 arranged on the lower rear part of the back stop and adapted to engage with one of a horizontal series of locking openings or recesses 61 in the longitudinal wall 4. When it is desired to adjust the back stop its free front end is raised sufficiently to disengage its locking lug 60 from the locking opening 61 with which it engages after which the back stop and its sleeve 58 may be slid on its supporting rod 59 to the required position and then the back stop is again dropped with its locking lug into engagement with the adjacent locking opening where it is held by gravity. These means of adjusting the back stop are very simple and not liable to get out of order and permit the operator to adapt the stop quickly to different lengths of letters without necessitating the use of any tools for this purpose and without stopping the operation of the machine.

Any suitable driving mechanism may be employed for operating the various rotatable parts of the machine which have been described. The means for this purpose shown in the drawings consists of a driving shaft 62 provided with a pinion 63 meshing with a gear wheel 64 on the shaft of the front feed wheels, an idler gear wheel 65 meshing with the pinion 63 on the driving shaft and a pinion 66 on the impression roller shaft, a gear wheel 67 arranged on the printing wheel shaft and meshing with the pinion 63 on the driving shaft, an idler gear wheel 68 meshing with the gear wheel 67 of the printing wheel shaft and a gear wheel 69 on the shaft of the fixed delivery wheel, and a belt 70 passing around pulleys 71, 72 on the driving shaft and the packing or stacking shaft and around a belt tightening wheel 73, as shown in Figs. 4, 5 and 9.

In the operation of this machine the letters move forwardly from the feeding

mechanism and past the printing and delivering mechanism to the stacking mechanism without interruption, thereby causing the printing to be effected continuously, whereby the capacity of the machine is increased over a machine in which the letters can only pass to the printing mechanism at predetermined times.

I claim as my invention:

1. A mail marking machine comprising a feed table adapted to support a pack of letters to be marked, a guide wall arranged transversely on one side of the letter path and adapted to be engaged by the front ends of the letters, a feed device arranged on the feed table on the opposite side of the letter path, and a separator arranged opposite the feed device and having a laterally movable head provided with an inclined face and provided with a guide pin which moves in a guide slot in said guide wall.

2. A mail marking machine comprising a feed table adapted to support a pack of letters to be marked, a guide wall arranged transversely on one side of the letter path and adapted to be engaged by the front ends of the letters, a feed device arranged on the feed table on the opposite side of the letter path, a separator comprising a beveled head

arranged opposite said feed device and having a guide pin moving in a guide slot in said wall, a rod connected with said head and moving in lugs on said wall, a spring for yieldingly holding said head in its innermost position and bearing at its ends against one of said lugs and a collar on said rod, and a stop screw nut arranged on said rod and bearing against one of said lugs.

3. A mail marking machine comprising a printing mechanism, a guide wall arranged lengthwise on one side of the path of the letters issuing from the printing mechanism and provided with a longitudinal row of locking openings, a supporting rod arranged lengthwise above said guide wall, a back stop arranged transversely in the letter path and provided on its upper rear part with a sleeve which is adapted to slide on said rod and provided on its lower rear part with a locking lug adapted to engage with one or another of said locking openings.

Witness my hand this 29th day of July, 1909.

FRED C. IELFIELD.

Witnesses:

GEORGE H. SHOFNER,
HENRY J. FREESE.

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