

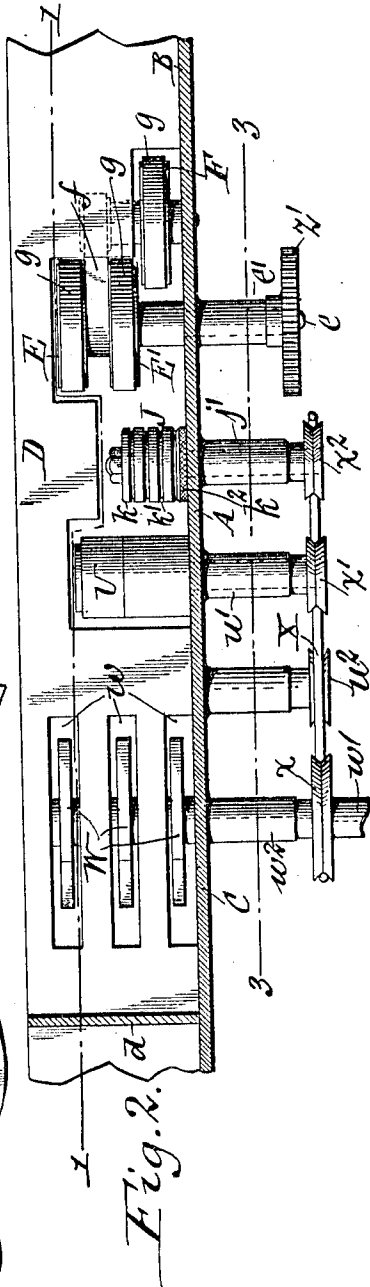
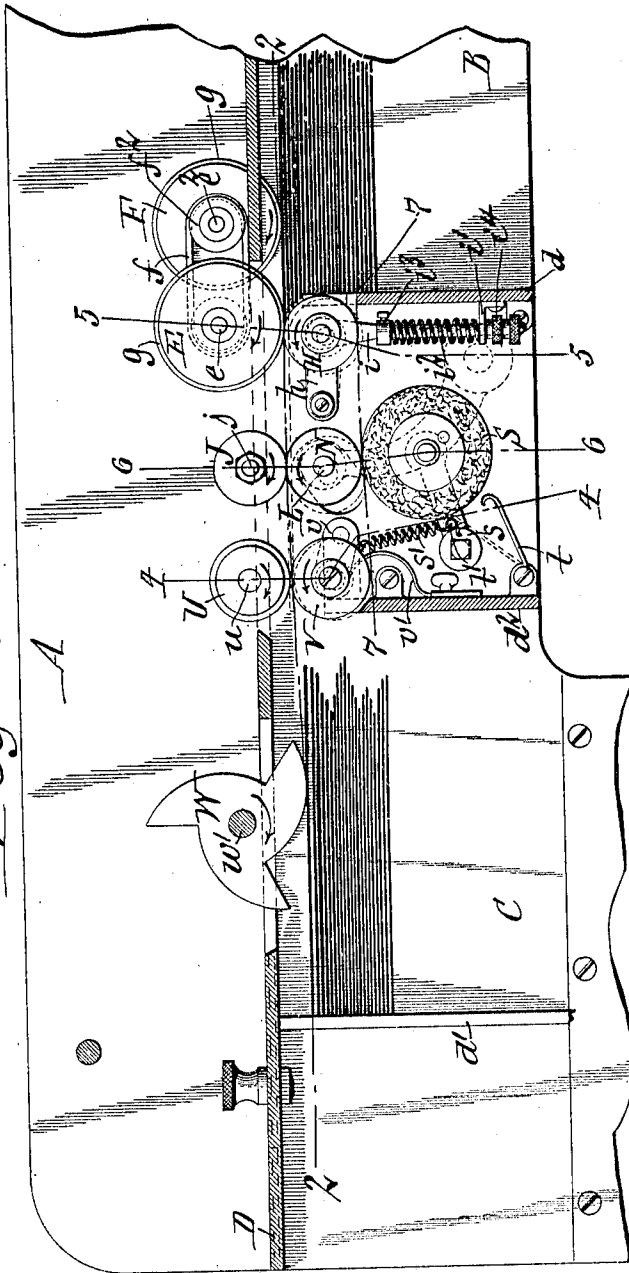
F. C. IELFIELD.
MAIL MARKING MACHINE.
APPLICATION FILED JULY 2, 1908.

Patented Feb. 15, 1910.

2 SHEETS—SHEET 1.

949,275.

Fig. 1.



Witnesses:-
Richard Sommer.
Gustav W. Hora.

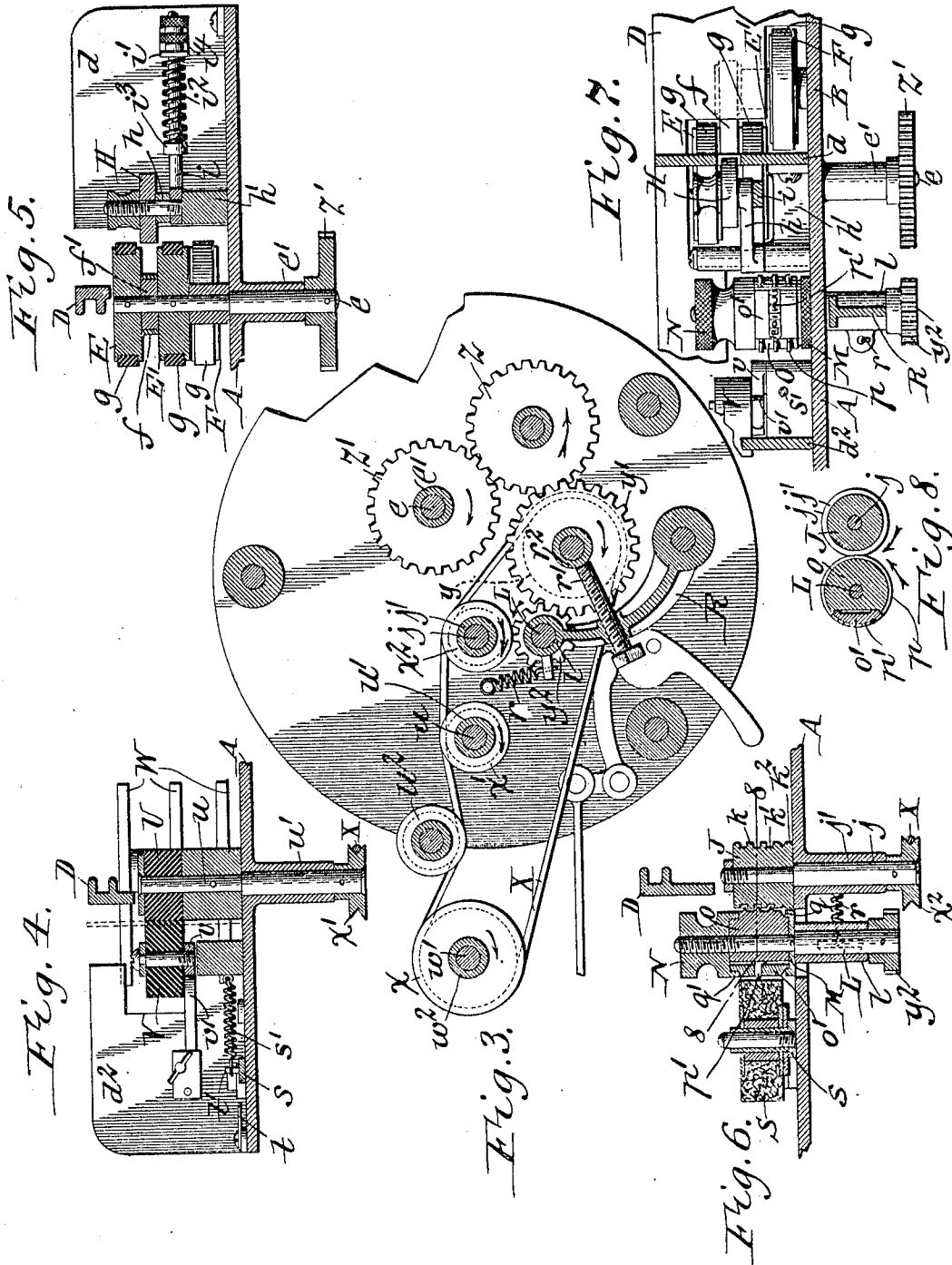
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UNITED STATES PATENT OFFICE.

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.

949,275.

Specification of Letters Patent. Patented Feb. 15, 1910.

Application filed July 2, 1908. Serial No. 441,565.

To all whom it may concern:

Be it known that I, FRED C. IELFIELD, a citizen of the United States, and 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 in use for this purpose.

In the accompanying drawings consisting of 2 sheets: Figure 1 is a fragmentary horizontal section of a mail marking machine embodying my invention taken in line 1—1, Fig. 2. Fig. 2 is a vertical longitudinal section of the same taken in line 2—2, Fig. 1. Fig. 3 is a horizontal section taken in line 3—3, Fig. 2. Figs. 4, 5 and 6 are vertical transverse sections taken in the correspondingly numbered lines in Fig. 1. Fig. 7 is a fragmentary vertical longitudinal section taken in line 7—7, Fig. 1. Fig. 8 is a horizontal section taken in line 8—8, Fig. 6.

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

A represents the horizontal top plate of the machine the front part of which forms the feed table B upon which is placed the stack of letters which is to be canceled while the rear part serves as a stacking table C upon which the letters are stacked or piled after being canceled or post marked. Arranged on top of the plate A and extending lengthwise from the delivery end of the feed table to the receiving end of the stacking table is an upright guide wall or fence D. At the front side of the feed table is arranged a transverse guide wall d which is separated at its inner edge from the longitudinal wall by an intervening space or throat and on the front part of the stacking table is arranged a transverse guide

wall d^1 which has its inner edge engaging with or arranged close to the longitudinal wall, as shown in Fig. 1.

At the throat between the transverse wall d and the longitudinal wall D 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 best shown in Figs. 1, 2, 5 and 7 and is constructed as follows: E, E¹ represent two feed wheels arranged one above the other on the right side of the letter path and secured to the upper part of an upright feed shaft e which is journaled in a bearing e^1 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 F which is also pivoted on the adjacent part of the top plate by a pin or shaft e^2 and caused to turn in unison with the front feed wheels and in the same direction by a belt f passing around a pulley f^1 secured to the feed shaft e between the front feed wheels and a pulley f^2 connected with the upper side of the rear feed wheel F. The latter is preferably arranged close to the top of the feed table so as to engage the right side of the letter near the lower edge thereof while the front feed wheels are arranged successively higher than the rear feed wheel and engage with the same side of the letters at different distances from the lower edge thereof. The front and rear feed wheels are preferably provided on their periphery with a facing g 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. On the left side of the letter path and opposite the space between the upper and lower front feed wheels is a separating wheel H which operates in conjunction with the front feed wheels to feed the letters forwardly but prevents more than one letter at a time from being fed from the supply stack to the printing mechanism. This separating wheel is preferably constructed of emery or similar abrasive material so as to enable the same to obtain a firm grip on the left side of the letter. The separating wheel is normally arranged with its periphery vertically in line with the periphery of the front feed wheel, 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 or cards of greater thickness to pass between the front feed wheels and the separating wheel without injuring the letters or the feeding mechanism. The preferred means for thus yieldingly supporting the separating wheel consists of a horizontally swinging rock arm h pivoted at its front end on a bracket h^1 above the top plate while its rear end has the separating wheel pivoted thereto, a horizontal tension rod i arranged transversely in front of the transverse wall d and pivotally connected at its right or inner end with the free end of the rock arm h while its outer or left end passes through a lug i^1 on the front side of the wall d , a spring i^2 surrounding the tension rod and bearing at its opposite ends against the lug i^1 and a collar i^3 on the tension rod, and an adjusting nut i^4 arranged on the threaded left end of the tension rod and adapted to engage with the outer or left side of the lug h^1 . By turning the screw i^4 in one direction or the other the position of the separating wheel relatively to the front pair of feeding wheels may be adjusted and by adjusting the collar i^3 on the tension rod the resistance which the spring i^2 offers to the passage of the letters between the same and the front feed wheels may be regulated.

As the letters issue forwardly from the feeding mechanism they are operated upon by the printing, marking or canceling mechanism which is best shown in Figs. 1, 2, 6 and 8, and which is constructed as follows: J represents an impression or abutment roller or wheel which is arranged on the right side of the letter path in front of the feed wheels E , E^1 and which is secured to the upper end of an upright shaft j which is journaled in a bearing j^1 on the adjacent part of the top plate. The upper part of this impression roller is provided on its periphery with a plurality of alternating annular or circumferential ribs and grooves k , k^1 while the lowermost end of its periphery is provided with an annular flange k^2 which is knurled or roughened on its periphery, as shown in Fig. 2. On the left 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 L which is journaled with its lower part in a bearing l . This printing wheel preferably consists of a lower clamping jaw or disk M which is secured to the printing shaft in any suitable manner but preferably by means of a driving fit, an upper clamping jaw or disk N 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 o , o^1 arranged between the upper and lower clamping disks. The lower clamping disk is provided with a knurled periphery, as shown in Fig. 7, and is arranged opposite the correspondingly knurled lower flange of the impression roller, as shown in Fig. 6. The fixed or main section O 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 p which are adapted to produce canceling lines on the letters or mail matter while the detachable or auxiliary section o^1 is arranged at the side of the main section and is provided with type p^1 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 are held in place on the printing shaft by means of an annular or marginal flange q formed on the lower clamping disk and engaging with the exterior of the lower ends of the body sections and an annular or marginal flange q^1 formed on the upper clamping disk and engaging with the exterior of the upper ends of the body sections, as shown in Fig. 6. 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 printing wheel 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 printing wheel to permit of adapting itself to varying thicknesses of letters consists of a horizontally swinging rock arm R arranged below the top plate and pivoted at one end to the underside of this plate while its opposite end carries the bearing l in which the lower end of the printing shaft is journaled, a spring r

connecting the rock arm R with the under-
side of the top plate and operating to move
its free end inwardly for carrying the print-
ing wheel toward the impression roller and
an adjustable stop device whereby the forward
movement of the printing wheel toward
the impression roller may be regulated and
which preferably consists of a screw r^1 arranged
on the rock arm and engaging with a bearing
 r^2 on the top plate, as shown in Fig. 3, or
other suitable stationary part of the machine.

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 S engaging with
the same at the left hand or outer side thereof.
This ink roller is mounted on a horizontally
swinging arm s pivoted on the upper side of
the top plate and is yieldingly held in engage-
ment with the printing wheel by means of a
spring s^1 connecting the rock arm s with the
top plate, as shown in Figs. 1, 4 and 6.

t represents a catch pivoted on the top
plate and adapted to engage with a pin t^1
on the arm of the inking roller for the purpose
of holding the latter in its retracted position
out of engagement from 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 shown in Figs. 1, 2 and 4 and is constructed
as follows: U represents a non-adjustable
delivery roller arranged on the right hand side
of the letter path in rear of the impression
roller and secured to the upper end of a
delivery shaft u which is journaled in a
bearing u^1 on the adjacent part of the top
plate. At the left hand side of the letter path
transversely in line with the right hand
delivery roller and cooperating with the same,
is an adjustable delivery roller V which is
pivoted on the free end of a horizontally
swinging arm v mounted on the upper side of
the top plate. 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 v^1 secured to an
adjacent stationary part or wall d^2 on the top
plate and engaging with the outer side of the
rock arm v .

As each letter issues from between the
delivery rollers the front end of the same
engages with the transverse wall d 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 device
which preferably consists of a plurality of
cam-shaped wheels W which rotate horizontally
through slots w in the longitudinal wall D
and across the letter path in the same direction
in which the letters issue from the delivery
wheels and which are secured one above the
other on the upper end of a stacking shaft
 w^1 which is journaled in a bearing w^2 on
the adjacent part of the top plate.

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 consist of a belt X passing around
pulleys x, x^1, x^2 on the stacking shaft, the
non-adjustable delivery roller and the
impression roller and also around idle pulleys
 y, y^2 pivoted on the underside of the top
plate, an idle gear wheel y^1 connected with the
idle pulley y and meshing with a gear pinion
 y^2 on the lower end of the printing shaft,
and an intermediate gear wheel z pivoted on
the underside of the top plate and meshing
with the idle gear wheel y^1 and a gear wheel
 z^1 at the lower end of the feed shaft e .
The teeth of the cooperating pinion y^2 and
idle gear wheel y^1 are preferably of such
length that this pinion is free to move laterally
the required extent together with the printing
wheel without disturbing its driving connection
with the gear wheel y^1 . Power may be applied
to this driving mechanism at any suitable point
but preferably to the stacker shaft w^1 which
for this purpose may be regarded as the driving
shaft of this portion of the machine.

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:

A mail marking machine comprising a feed
mechanism and a printing mechanism to which
the letters are delivered by said feed mechanism
and which comprises an impression roller
arranged on one side of the letter path and
having its periphery pro-

vided with a plurality of alternating annular ribs and grooves, and a printing wheel arranged on the opposite side of the letter path and having a main body section provided with circumferential ruling ribs and an auxiliary body section having type, said ruling ribs and type being arranged in line with the grooves between the ribs of the impression roller, a shaft upon which said main body section is arranged, a lower clamping disk arranged on said shaft and provided with a flange which engages with

the exterior of said body sections at the lower ends thereof, and an upper clamping disk or jaw having a screw connection with said shaft and provided with a flange which engages with the exterior of said body sections at the upper ends thereof. 15

Witness my hand this 29th day of June, 1908.

FRED C. IELFIELD.

Witnesses:

GEO. H. SHOFNER,
H. W. STEWART.