3 Sheets—Sheet 1.

T. LEAVITT.

POSTMARKING AND CANCELING MACHINE.

No. 192,519. Patented June 26, 1877.

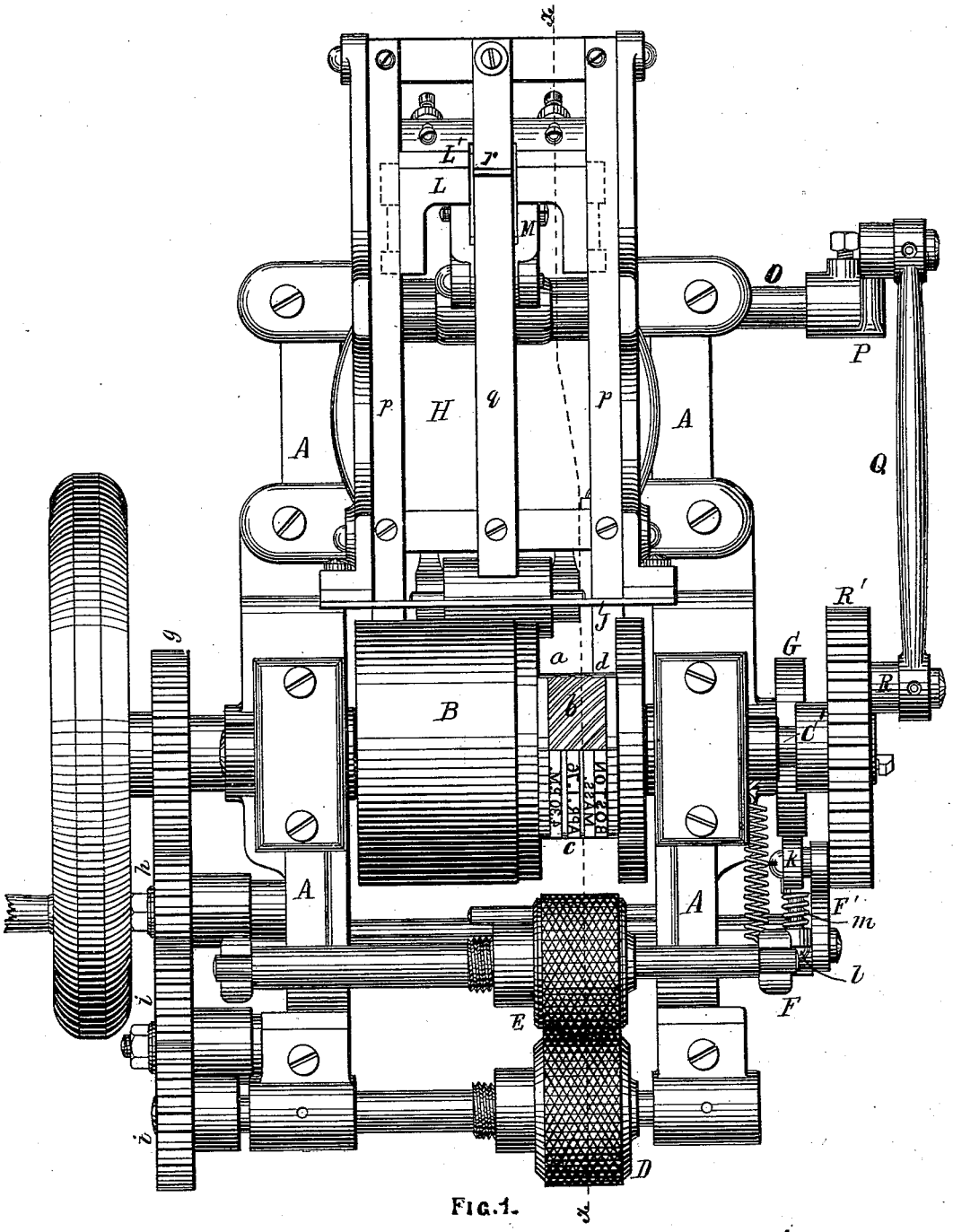

FIG. 1.

WITNESSES.

W. M. P. Edwards

E. A. Hemmenway.

INVENTOR.

Thomas Leavitt

3 Sheets—Sheet 2.

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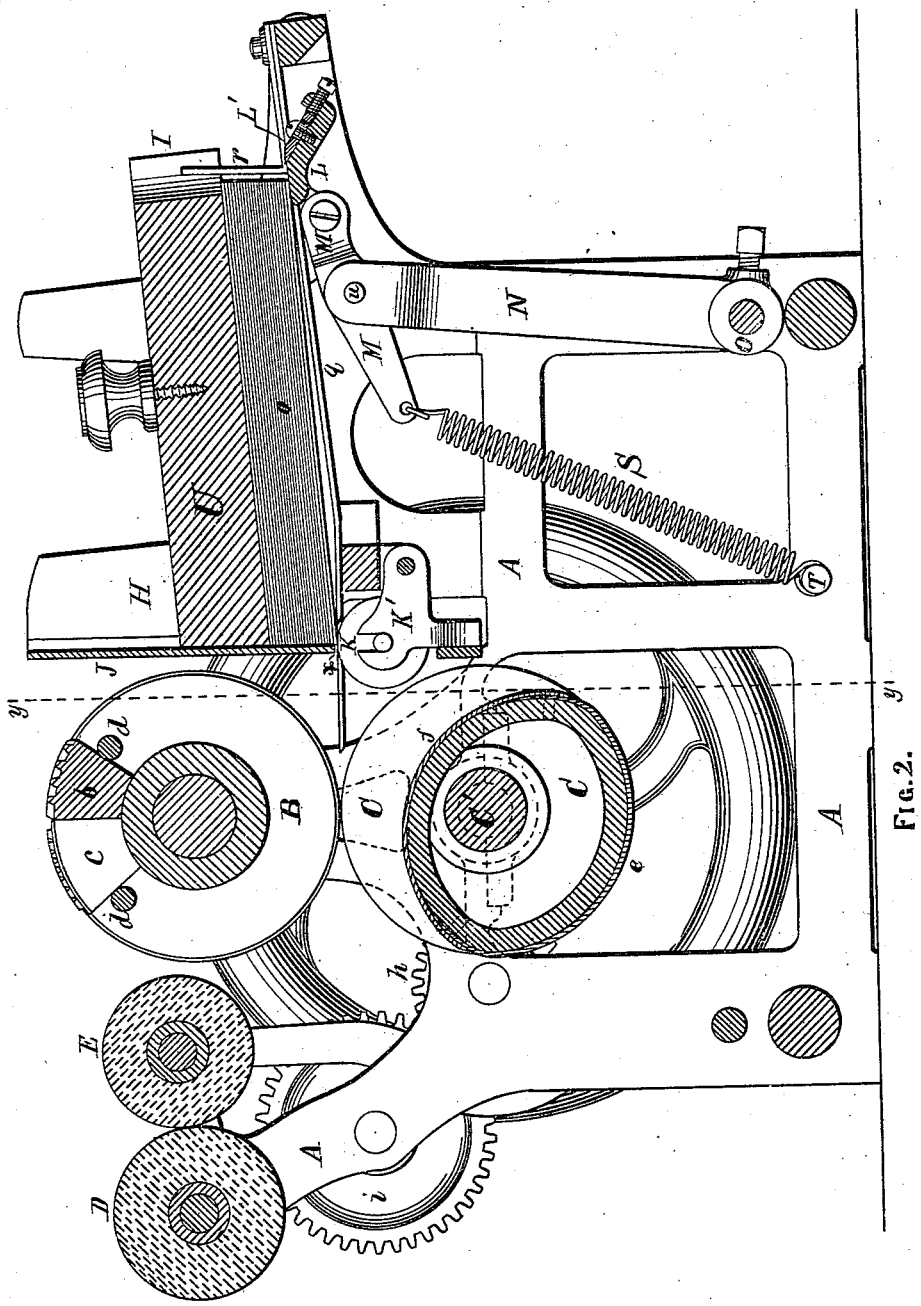

FIG. 2.

WITNESSES.

Wm. C. Edwards

E. A. Hemmenway

INVENTOR.

Thomas Leavitt

3 Sheets—Sheet 3.

T. LEAVITT.

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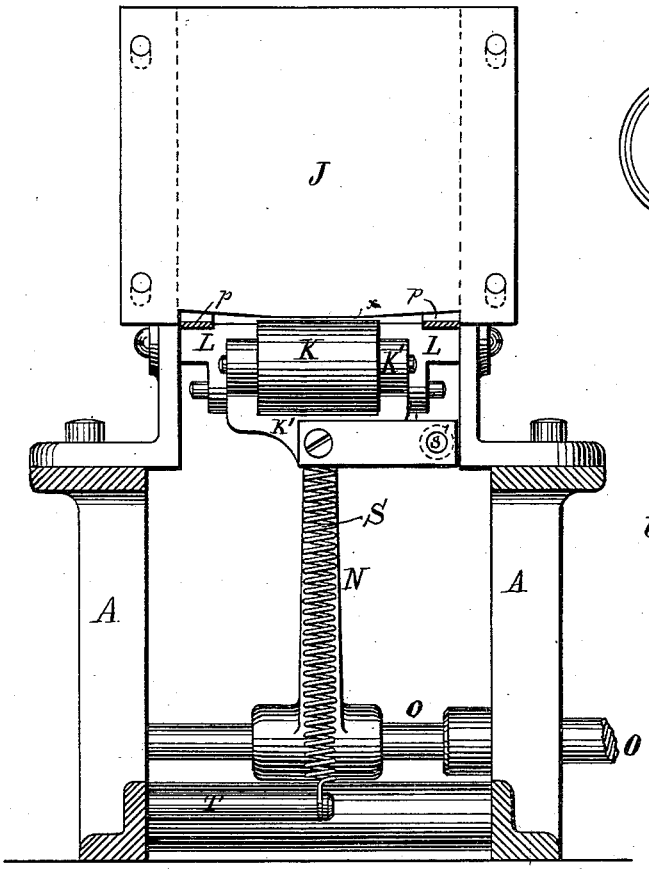

FIG. 3.

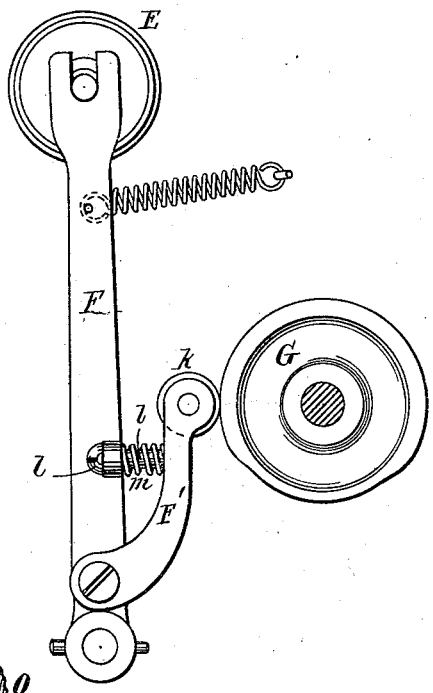

FIG. 4.

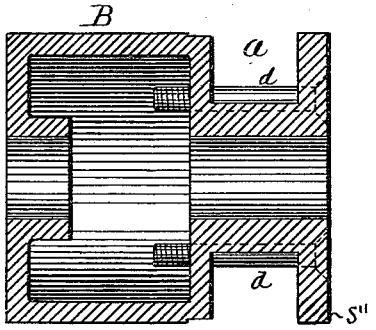

FIG. 6.

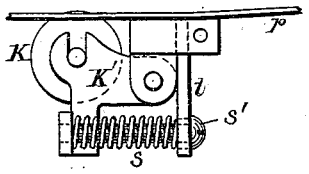

FIG. 5.

WITNESSES.

W. M. B. Edwards

E. A. Hemmenway.

INVENTOR.

Thomas Leavitt.

UNITED STATES PATENT OFFICE.

THOMAS LEAVITT, OF EVERETT, MASSACHUSETTS.

IMPROVEMENT IN POSTMARKING AND CANCELING MACHINES.

Specification forming part of Letters Patent No. **192,519**, dated June 26, 1877; application filed April 17, 1876.

To all whom it may concern:

Be it known that I, THOMAS LEAVITT, of Everett, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Postmarking and Canceling Machines, of which the following, taken in connection with the accompanying drawings, is a specification:

My present invention is an improvement upon the machine described in Letters Patent granted to myself and Martin Leavitt, March 28, 1876, and is designed for, and is more especially applicable to, postmarking and canceling postal cards, though many of its features are equally applicable to postmarking and canceling letters, and for other purposes.

My invention consists, first, in the combination in a postmarking, canceling, or other printing-machine of a card or letter receiver, a reciprocating carrier adapted to engage with the lower card or letter and move it forward from under the pile a portion of its length, and a pair of rolls adapted to move in contact with each other, and to seize the card or letter when it has been partially fed from the receiver, and carry it to or through the printing-cylinders.

My invention further consists in the use in combination with a fixed throat-plate, the lower edge of which is set on a line with the upper surface of the lower card or letter in the receiver, of a yielding roll, placed directly below said throat-plate and adapted to accommodate itself to variations in the thickness of the cards or letters.

My invention further consists in the use of a carrier for feeding out a single card or letter from a pile, which consists of a bar extending across the under side of the receiver-bottom, and provided with one or more adjustable inclined knife-edges, which project far enough above the top surface of the bars which form the receiver-bottom to engage with the rear end of the lower card in the pile, said carrier-bar being held in contact with the under side of the receiver-bottom bars during its reciprocation by the action of a spring, dispensing with other guides, in combination with a vibratory lever and connecting-rod, for imparting a reciprocating motion thereto.

My invention further consists in the arrangement of a certain yielding device between the ink-roller carrying-lever and its actuating cam, to prevent the injurious consequences of an absolutely positive motion of the lever.

My invention further consists in the use of a follower, resting upon the pile of cards and acting by the force of gravity, and extending beyond the extreme backward motion of the carrier, as will be described.

Figure 1 of the drawings is a plan of a machine embodying my invention. Fig. 2 is a longitudinal section of the same on line *x x* in Fig. 1. Fig. 3 is a transverse section on line *y y* in Fig. 2, looking toward the rear of the machine. Fig. 4 is an elevation of the devices which co-operate to impart motion to the inking-roll, to transfer it from contact with the ink-distributing cylinder to the type, and vice versa. Fig. 5 is an end elevation of the yielding throat-roll, and Fig. 6 is a longitudinal section of the type-cylinder.

A is the frame of the machine; B, the type-cylinder, and C the impression-cylinder, mounted in bearings in the frame A, substantially in the same manner as described in the Letters Patent previously referred to.

The type-cylinder B is provided near one end with a circumferential groove, *a*, of sufficient width and depth to receive the type-blocks *b* and *c*, and also with the two screw-pins *d d* extending across said groove parallel to the axis of the cylinder.

The impression-cylinder C has that portion on which the impression is taken covered with one or more thicknesses of elastic material, *e*, which extends around onto the cut-away portion, and is secured by the metal clamp *f* and suitable screws, as shown in dotted lines in Fig. 2.

The cylinders B and C are so constructed and arranged that they bear upon each other at both ends, or on each side of the type-blocks, and serve the double purpose of feeding the card or letter forward and imparting thereto the postmarking and canceling impression.

D is the ink-distributing cylinder, mounted in bearings in the frame A, and receiving motion from the shaft of the impression-cylinder by means of the gears *g*, *h*, *i*, and *j*. E is the

inking-roll, mounted and operated substantially in the manner described in the Letters Patent to myself and Martin Leavitt, before referred to, except that the carrying-lever F on the side acted upon by the cam has pivoted thereto the secondary lever F′ carrying in its upper end the friction-wheel *k* which is acted upon by the cam G to impart motion to the inking-roll E.

The levers F and F′ are connected together by the rod *b* provided with a head to limit the distance apart which said levers can be separated, and are held apart by the spring *m*, which must be stiff enough to overcome the tension of the spring *n*, which tends to draw the top of the lever F and the inking-roll E toward the type-cylinder.

H is the receiver, in which the cards or letters *o* are placed in a pile, the bottom of which consists of three narrow and thin metal bars *p p* and *q*, the forward portions of which are placed horizontally and the rear portions being inclined upward toward the rear, so that the cards or letters *o*, when placed in the receiver, will rest on the bottom only at the two ends of the pile, the central portion of the bearings being below the said end bearings, as shown in Fig. 2.

The bar *q* extends forward only to the periphery of the roll K, while the two side bars *p p* extend beyond the throat-plate nearly to the impression-cylinder C to guide the cards into a position to be seized by the type and impression cylinders.

The rear end of the receiver is left open, there being only a narrow gage or stop, *r*, secured to the middle bottom bar *q* to prevent the lower card or letter from being carried backward from under the pile by the backward motion of the feed-plunger.

The front end of the receiver is closed by a sheet-metal throat-plate J, adjustably connected to the frame of the machine, the central portion of the lower edge of which is horizontal or parallel to the upper surface of the receiver-bottom, and placed a distance above said bottom about equal to the thickness average card or letter to be fed from the receiver, and the two side portions inclined upward toward the two sides of the receiver to allow a free passage of the cards or letters if their corners should be slightly bent or curled upward.

K is a roll, placed just beneath the throat-plate J, with its bearings in about the same vertical plane, and mounted in a pivoted frame, K′, so that it may be moved up or down to adjust the width of the throat, and is forced upward by the spring *s*, and limited in its upward motion by the headed pin *s′*, adjustably connected to the frame K′, and playing freely through the arm *b* secured to the frame of the machine, as shown in Fig. 5.

This construction and arrangement of the roll K limits the throat *x* generally to about the thickness of a card, but capable of expansion, to adapt it to the varying thicknesses of the card or letters.

L is the carrier or feed-plunger, extending across the receiver below its bottom bars, and having two bearings at each end against the under surface of the bottom bars *p p*, as shown in dotted lines in Fig. 1.

This carrier L has fitted and adjustably secured to its rear inclined surface the chisel-edged bar L′, cut away where it passes under the bar *q*, so that its upper edge may be adjusted so as to project sufficiently above the upper surface of the bars *p p* and *q* to engage with and carry forward the bottom card or letter when it is moved toward the throat-plate-end of the receiver.

M is a connecting-link, pivoted at its rear end to the carrier-bar L at a point about central between said bar's four points of bearing against the under side of the bars *p p*, and at *u* to the upper end of the lever N, secured to the rocker-shaft O, upon the outer end of which is secured the lever P, through which and the connecting-rod Q and crank-pin R, set in the side of the gear-wheel R′ on the end of the impression-cylinder shaft C′, motion is imparted to the carrier L.

The link M extends some distance forward of the point *u*, and has attached thereto one end of the spring S, the opposite end of which is secured to the stud T set in the frame A.

By this arrangement of the carrier and its operating parts it is always kept in contact with the under side of the bars *p p* in whatever position the lever N may be, and always at the proper height to engage with and feed out the lower card or letter, and operating without noise or excessive friction.

U is a weight or follower, placed upon the pile of cards or letters, with its rear end extending back beyond the extreme backward position of the edge of the carrier-knife-bar L′, so that if the machine should run after the cards or letters have all left the receiver the carrier cannot engage with the rear end of the weight and break the machine.

The carrier L L′ has a forward movement sufficient only to present the forward end of the card or letter in position to be seized by the type and impression cylinders, which feed it forward the balance of the distance, and at the same time impress upon it the necessary letters and marks.

I do not here make any claim to the construction of the type-roll with its annular recess and axial bolts; but

What I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination of the plate J and the yielding roll K, arranged opposite the edge of the plate J, with its bearings in the same plane, and forming therewith a contracted but expansible throat, *x*, for the outward passage of the cards, as specified.

2. The combination of the card-receiver,

the bearings *q* below the same, the reciprocating carrier L, and a spring, whereby the carrier is maintained in contact with the lower faces of said bearings, substantially as and for the purpose set forth.

3. The carrier L L′, link M, lever N, and spring S are constructed, combined, and arranged relatively to the receiver, substantially as and for the purpose set forth.

4. The combination, with the roll-carrying lever F and actuating cam of the lever F′, spring *m*, and adjustable pin *l* for limiting the outward throw of the lever F′, as set forth.

5. In combination with the receiver H and a reciprocating feed-plunger, adapted to engage with the rear end of the lower card or letter in the receiver, the follower U having a portion of its width extended beyond the limit of the rearward motion of the carrier, and its under surface in the same plane with the extension, as and for the purposes described.

Executed at Boston, Massachusetts, this 14th day of April, 1876.

THOMAS LEAVITT.

Witnesses:

WM. P. EDWARDS,

E. A. HEMMENWAY.

2,250 words.