

E. GREENFIELD.

Improvement in Lozenge-Machine.

No. 129,277.

Patented July 16, 1872.

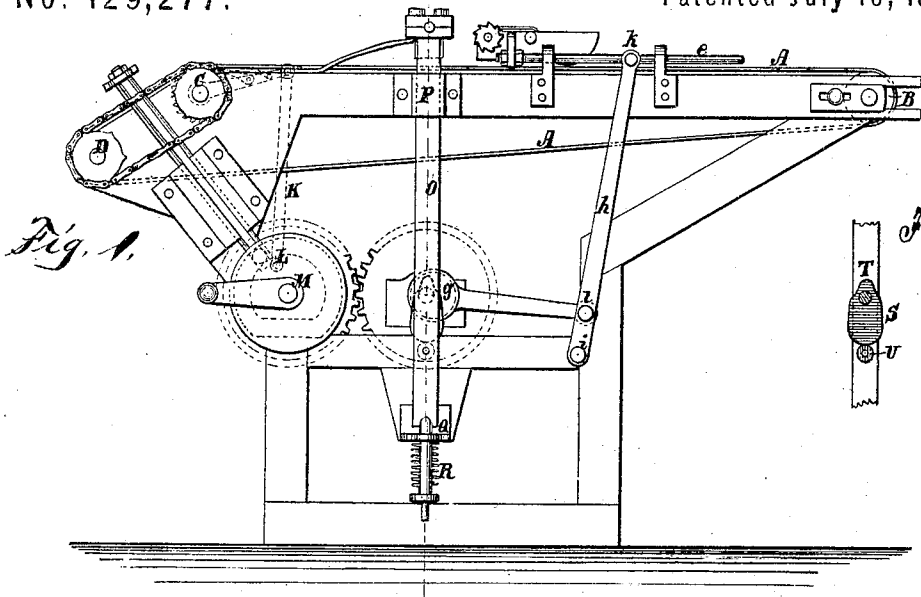


Fig. 1.

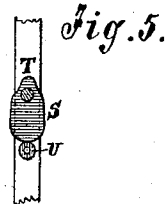


Fig. 5.

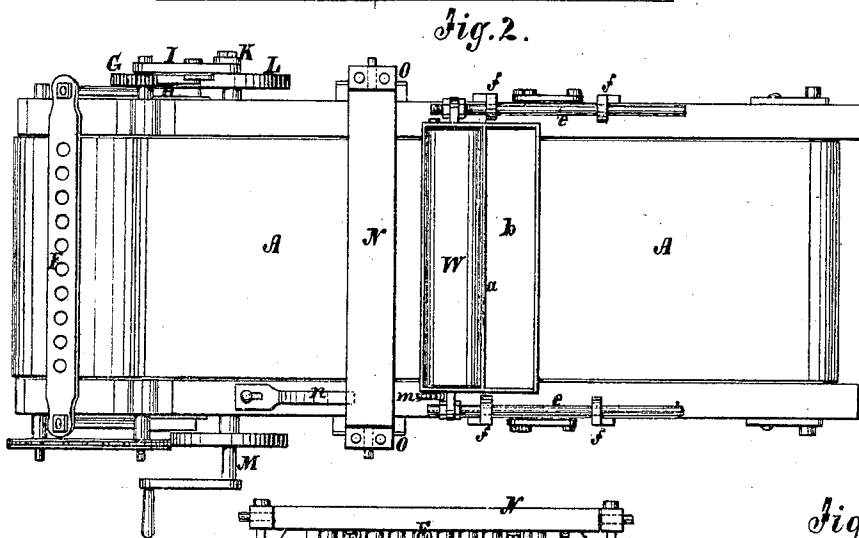


Fig. 2.

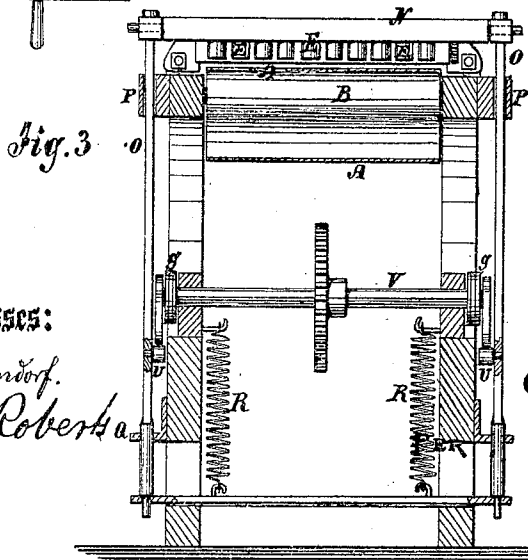


Fig. 3.

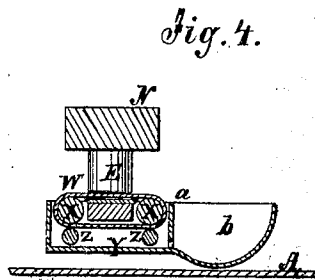


Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

ERNEST GREENFIELD, OF NEW YORK, N. Y.

IMPROVEMENT IN LOZENGE-MACHINES.

Specification forming part of Letters Patent No. 129,277, dated July 16, 1872.

Specification describing a new and Improved Lozenge-Machine, invented by ERNEST GREENFIELD, of the city, county and State of New York.

In this improved lozenge-machine the type-carrier consists of a vertically-reciprocating gate working over the endless belt, on which the paste to be printed, colored, or otherwise marked, is carried under the type and then to the cutting devices, which said gate is brought down at the proper time to print the paste while the belt is at rest, by cams, and raised immediately afterward by springs, and after it is raised an inking-pad on a carriage above the belt is brought under the type and allowed to rest; the type are then brought down to the pad by other cams and again raised by the springs, after which the pad is moved back. This pad consists of an endless belt, working in a trough, containing ink-over rollers, which are moved forward by a ratchet on the end of one roller striking a pawl as the pad moves under the inking-type; and below the pad are rollers for delivering the ink up to the under side of it. The pad is considerably wider on the surface than the type, to adapt it to be shifted relatively to the type, that they will not come down upon it always in the same places successively. The inking-trough has another compartment beside the one in which the pad works for filling it, from which the ink flows through a perforated partition.

Figure 1 is a side elevation of my improved machine. Fig. 2 is a plan view. Fig. 3 is a transverse section on the line *x x* of Fig. 1. Fig. 4 is a detail, showing the arrangement of cams for forcing down the printing-type, and Fig. 5 is a transverse section of the inking apparatus, the type-carrier, and longitudinal section of a part of the endless belt.

Similar letters of reference indicate corresponding parts.

A is the endless dough or paste-carrying belt, working on the rollers B, C, and D, and having an intermittent motion as in other machines of this character to convey the dough in a wide thin sheet to the printing, coloring, or ornamenting type E, and thence to the cutter F, the said belt being actuated by a ratchet, G, on roller C, pawl H, pawl-lever I, connecting-rod K, and a crank-pin on the wheel

L of the driving-shaft M. I now propose to have the type E mounted on the cross-bar N, on the upper ends of the vertical slides O; mounted in guides P Q on the sides of the machine, to be moved down upon the dough; also, upon the inking-pad by cams I, or any equivalent means, and to be raised by springs R, the said bars O bearing against said cams by friction-wheels U, so that their movements will be governed by the shape of the cams. The said cams are mounted on a shaft, V, geared with the driving-shaft M, and they are so adjusted that cams S bring the type down at the time the belt is at rest, and allow them to be raised off from the belt immediately. W is the inking-pad, consisting of a small endless belt mounted on the rollers X in the trough Y, with other rollers, Z, below, which, being in contact with the belt, are turned by it, and running in the ink carry it up to the pad as it passes under the rollers X. The trough has a partition, *a*, between the part containing the pad, and a part, *b*, in which the ink is supplied from time to time. From this part *b* the ink flows through holes *d* to the part under the pad. This ink-pad and its case are mounted on the sliding rods *e*, arranged in ways or guides *f* on the sides of the top of the frame in such relation to the type-gate as to allow of moving the pad under the type and back again when they are raised up. The said slides and the ink-pad are worked by eccentrics *g* on the shaft V and the levers *h*, said levers being pivoted to the frame at the lower ends *i*, and to the rods at the upper ends *k*, and the eccentric rods are connected to them at *l*.

It is designed in practice to have the connection of levers *h* to the slides *e* at *k* capable of being readily adjustable along said rods, so that the pad may be caused to rest under the type at different points, for not having the said type come down upon it always in the same places in succession, which would wear it out in spots, while the remaining portions would be serviceable, and for this reason the pad is made considerably wider on the top than the width of the type. One of the rollers X has a ratchet-wheel, *m*, on the end projecting through the ink-trough, which comes against a fixed pawl, *n*, just before the pad stops in moving under the type for being

turned to feed the endless pad along, to fetch fresh ink under them at each operation.

The cutting apparatus used in this machine being similar to what has heretofore been used need not be described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The arrangement with the said type-carrying galle of the cams S T, and springs R, substantially as specified.

2. The combination of the reciprocating ink-pad and trough with the type-gate, said ink-pad and trough being arranged for operating in connection therewith in the order described.

3. The endless ink-pad W, rollers X Z, and trough *y b a*, all constructed and arranged substantially as specified.

4. The combination of pawl *n* and ratchet *m*, with a roller, X, of said ink-pad, substantially as specified.

5. The arrangement of the eccentrics *g*, eccentric rods and levers *h* with the driving-shaft V, and the ink-pad slides *e*, all substantially as specified.

6. The ink-trough *y v*, divided by a perforated partition, *a*, substantially as specified.

The above specification of my invention signed by me this 5th day of March, 1872.

ERNEST GREENFIELD.

Witnesses:

ANSON P. THEYER,
T. B. MOSHER.