C. H. HALL.

LOZENGE MACHINE.

No. 190,754. Patented May 15, 1877.

Fig. 1.

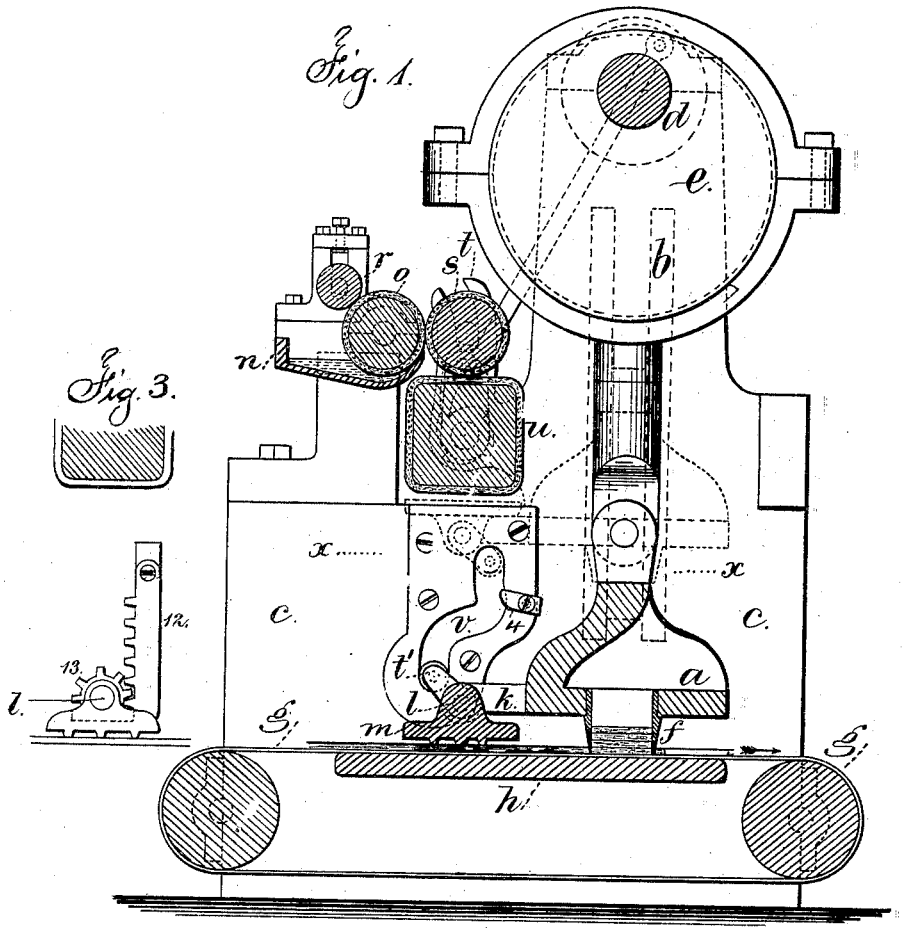
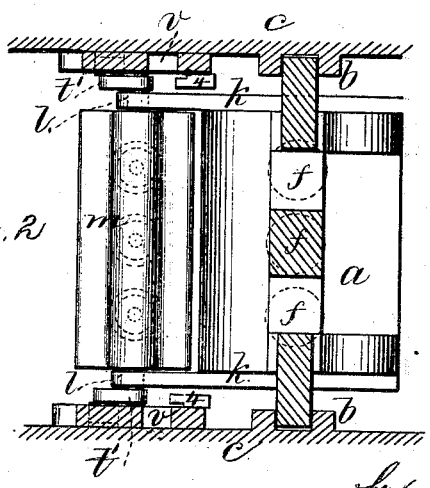


Fig. 3.

Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES H. HALL, OF BROOKLYN, E. D., ASSIGNOR TO HIMSELF AND FRANK P. TARBELL, OF NEW YORK, N. Y.

IMPROVEMENT IN LOZENGE-MACHINES.

Specification forming part of Letters Patent No. **190,754**, dated May 15, 1877; application filed October 27, 1876.

To all whom it may concern:

Be it known that I, CHARLES H. HALL, of Brooklyn, E. D., in the county of Kings and State of New York, have invented an Improvement in Machines for Printing Lozenges, of which the following is a specification:

I make use of a type-carrier set upon a horizontal axis, that is provided with a crank-arm moving in a cam-slot, and there is a vertical movement communicated to the type-carrier, so that the carrier receives a half-rotation as it is moved up and down, in order that the type may be brought up against the under side of an inking-prism to receive the ink, and then turned with the inked face downward to impress the lozenge. I combine with the inking-prism a fountain and distributing-roller.

In the drawing, Figure 1 is a vertical section of the printing mechanism, and Fig. 2 is a sectional plan at the line *x x*.

The platen *a* is set to slide vertically in the ways or slides *b*, upon the frame *c* of the machine, and the shaft *d* and eccentric *e* are made use of to give the required motion.

Upon the platen *a* are the cutters *f*, for cutting out the lozenges, said lozenges being upon an apron, *g*, above the bed *h*, as usual in lozenge-machines.

The arms *k* extend longitudinally of the machine from the platen *a*, and receive the horizontal axis *l* of the type-carrier *m*, to which the types are attached. I remark that these types are to be attached in the proper position for printing upon the surface of the lozenge material the motto or design at the places where the lozenges are subsequently removed by the cutters.

The ink or coloring material is supplied by the trough *n*, roller *o*, and regulating-roller *r*, that is pressed to the roller *o* with the proper adjustable force to allow only the proper supply to pass between *o* and *r*; and the roller *o* transfers its ink to the roller *s*, that is set in segmental bearings *t*, so that it may rise and fall as the prism *u* is turned beneath it with a step-by-step motion. At the same time the rollers *o* and *s* remain in contact, so that the ink is transferred to and evenly spread upon the surface of the prismatic roller *u*.

The platen *a*, as it is moved up and down, carries the crank-arm *t'* of the axis *l* in the slot *v*, and this slot crosses the vertical plane of the axis *l*, so that as the type-carrier is moved up and down there is a half-revolution given to the same to bring the types up against the under surface of the prism *u* to receive the ink, or to turn them down upon the surface of the lozenge material to print the same, the crank-arm *t'* being turned by the cam-slot from one position to the other, and to aid in effecting the entire movement required, I make use of a stop-finger, 4, with which the crank-arm comes into contact and is detained as the platen completes its upward movement.

This finger 4 may be adjustable, so as to accurately revolve the type-holder to bring the types against the surface of the inking-prism.

The inking-prism may be turned by a ratchet and pawl receiving motion from the shaft *d*.

In cases where the reciprocating platen, the reversible type-carrier, and the prismatic inker are combined with the lozenge-cutter, the means for giving a half-rotation to the type-holder might be varied, and a pinion and rack substituted for the crank and slot.

In Fig. 3 the rack 12 is a fixture, and the pinion 13 is upon the horizontal axis *l* of the type-carrier, and the pinion 13 is of a size to give a half-revolution to the type-carrier during the rising and falling movement of the reciprocating platen, to bring the type alternately into contact with the inking-prism and the surface to be printed.

I claim as my invention—

1. The type-carrier *m*, set upon a horizontal axis, *l*, in combination with the crank *t'*, slotted plate *v*, punch *f*, and reciprocating platen *a*, substantially as set forth.

2. The combination, with the reciprocating lozenge-cutter, platen, type-holder, and reversing mechanism, of the prismatic inking-roller *u*, fountain *n*, and supply-rollers, substantially as set forth.

Signed by me this 23d day of October, A. D. 1876.

CHAS. H. HALL.

Witnesses:

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CHAS. H. SMITH.