2 Sheets—Sheet 1.

W. P. EAYRS.

LOZENGE CUTTING MACHINE.

No. 112,231. Patented Feb. 28, 1871.

Fig. 1.

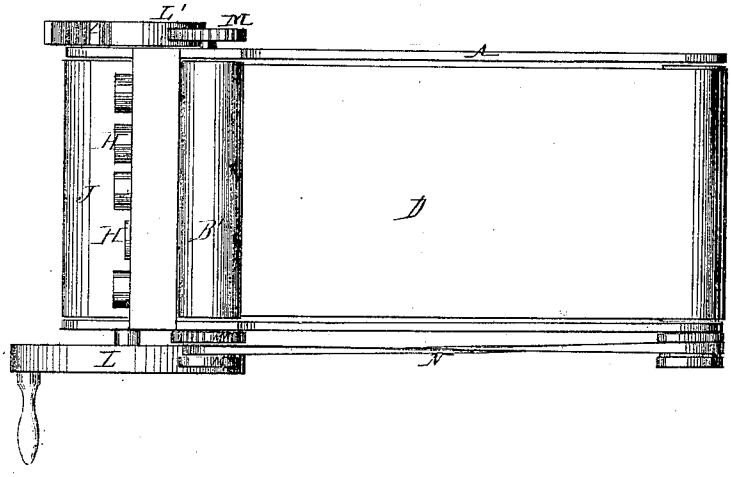
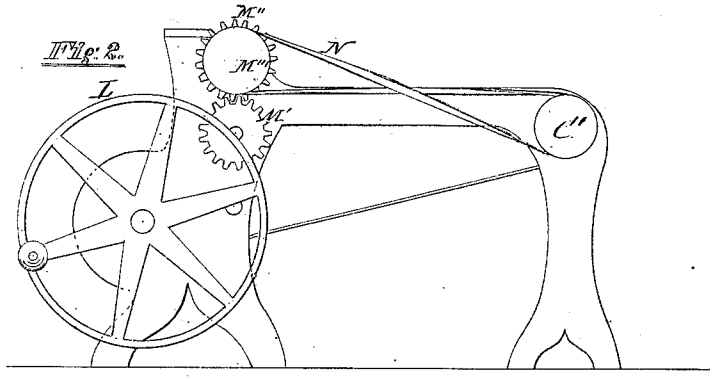


Fig. 2.



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2 Sheets—Sheet 2.

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LOZENGE CUTTING MACHINE.

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Fig. 3.

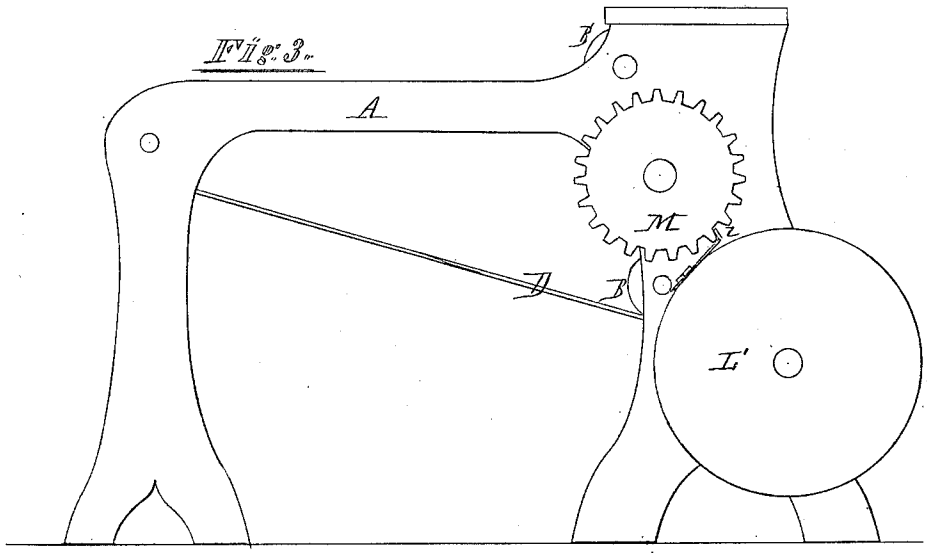
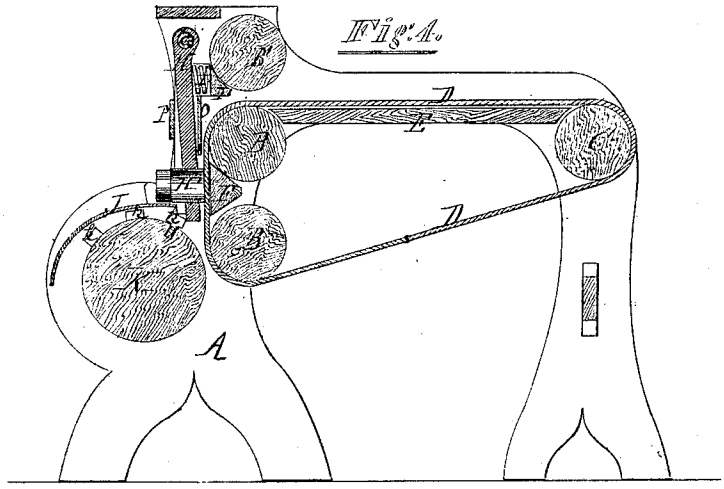


Fig. 4.



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WINSLOW P. EAYRS, OF NASHUA, NEW HAMPSHIRE.

Letters Patent No. 112,231, dated February 28, 1871.

IMPROVEMENT IN LOZENGE-CUTTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WINSLOW P. EAYRS, of Nashua, in the county of Hillsborough and State of New Hampshire, have invented a new and valuable Improvement in Lozenge-Cutters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a plan of lozenge-cutter.

Figure 2 is a side elevation.

Figure 3 is a side elevation.

Figure 4 is a vertical longitudinal section.

My invention relates to certain improvements in the general construction of lozenge-cutters, in which the prepared paste is conveyed by an endless apron to a series of hollow cutters, which cut out and discharge the lozenges through them upon a properly-arranged receiver.

In the accompanying drawing—

A represents the main frame-work of the machine.

B and C are transversely-arranged rollers, situated respectively in the forward and back part of the main frame, and carrying an endless apron, D, upon which is placed the lozenge compound, having first been rolled into a thin sheet.

E represents a horizontal table for supporting the weight of the paste.

B′ is a roller arranged on a vertical line with those marked B, and is designed to feed the paste to the cutters.

F represents a cutter-board extending across the frame A, and intended to support the paste and apron vertically, while the cutters are striking.

G is a transverse bar rigidly secured at both ends to the frame, and supporting the dependent cutter-arms H, which are separately swiveled thereon, so as to vibrate independently of each other, and are provided at their lower ends with hollow cylindrical cutters, H′.

I represents a series of spiral springs set within recesses in a cross-piece, I′, and so arranged as to press each one against the inner side of a single cutter-arm, in order to throw the arm forward after the cutter has performed its work of shaping a lozenge.

J is a convex apron to receive the lozenges as they are discharged from the cutters, and allow them to slide without injury into a suitable receptacle.

K represents a roller, from the periphery of which project teeth or spurs, *k*, arranged in a spiral row and corresponding in number with the cutter-arms, which they are designed to operate alternately as the roller revolves.

The shaft of the roller K supports on one end a driving balance-wheel, L, and on the opposite end a wheel, L′, provided with a spur or projection, *l*, which gives intermittent motion to a gear-wheel, M, rigidly secured to one end of upper roller B.

M′ is a toothed wheel on the other end of roller B above mentioned, gearing with a similar wheel, M″, on the shaft or journal of roller B′.

M‴ is a belt-drum attached to the face of wheel M″ and communicating by belt N with a similar drum, C′, attached to roller C.

O is a plate to prevent the paste from leaving the apron as it descends to the cutters.

P is a strip to keep the cutter-arms even and prevent them from being thrown too far forward by the springs.

The operation of the machine is as follows:

The lozenge-paste is laid on the apron and moved forward intermittently by the rollers operated from the wheel L′ until it reaches the cutters, and then, while it is resting, a horizontal row of lozenges is immediately cut out by the cutters striking the paste in rapid alternate succession.

The paste is then moved forward sufficiently for another row to be cut, and thus the operation continues.

The lozenges meanwhile accumulating within the cutters are gradually discharged therefrom.

The alternate motion of the cutters is created by the spiral row of teeth successively striking and passing the lower ends of the cutter-arms.

The return of the cutter-arms to their positions has been already described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The roller K, provided with the spirally-arranged spur *k*, wheel L, and spur *l*, in combination with the rollers B and C, apron D, cutters H′, arms H, and springs I, when all are constructed and arranged substantially as and for the purpose set forth.

2. In combination with the elements of first claim, the feeding-roller B and inclined apron J, arranged as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WINSLOW P. EAYRS.

Witnesses:

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CHARLES H. KELLOGG.