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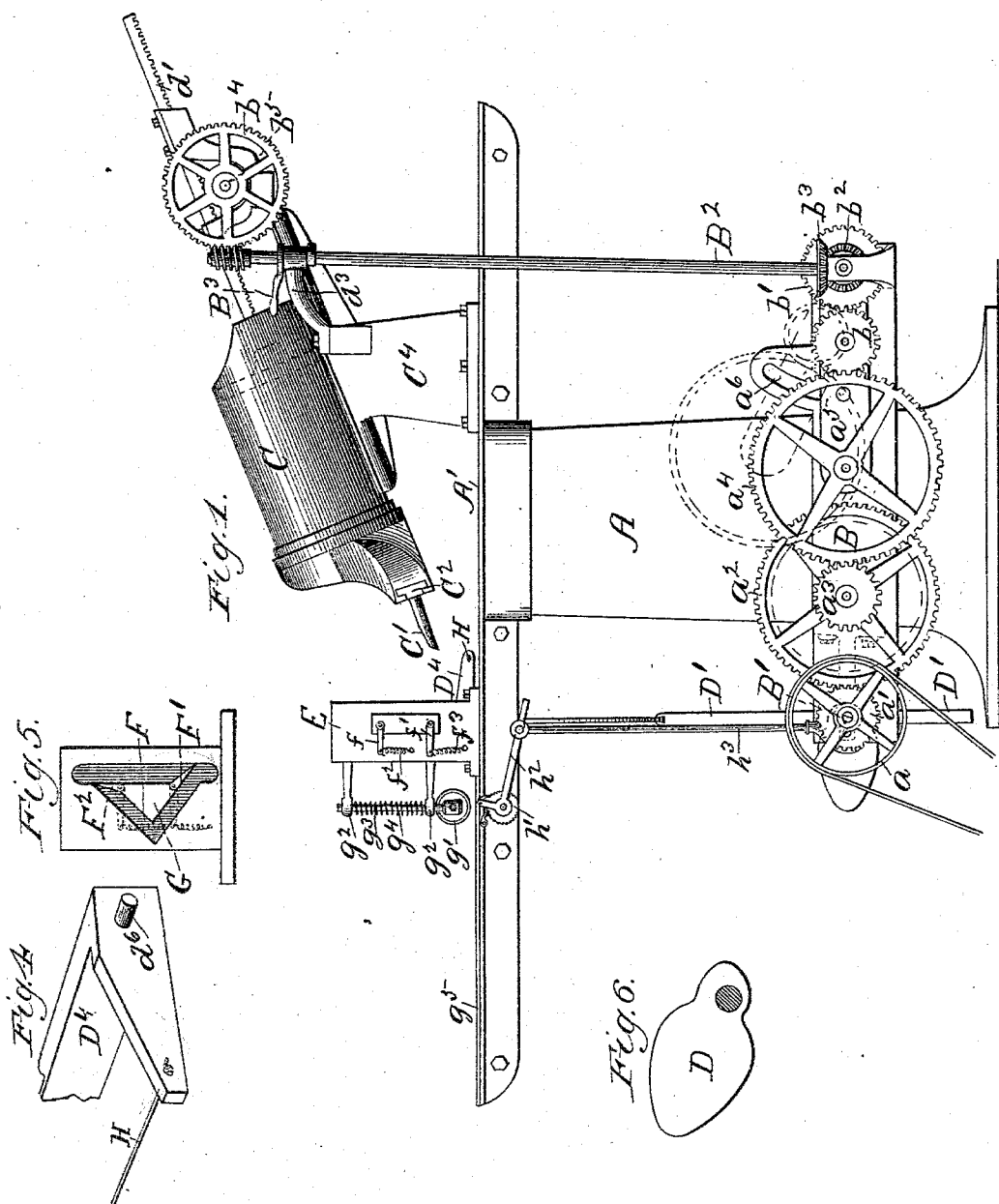
3 Sheets—Sheet 1.

W. L. YANCEY.

CANDY MACHINE.

No. 286,567.

Patented Oct. 9, 1883.



Witnesses

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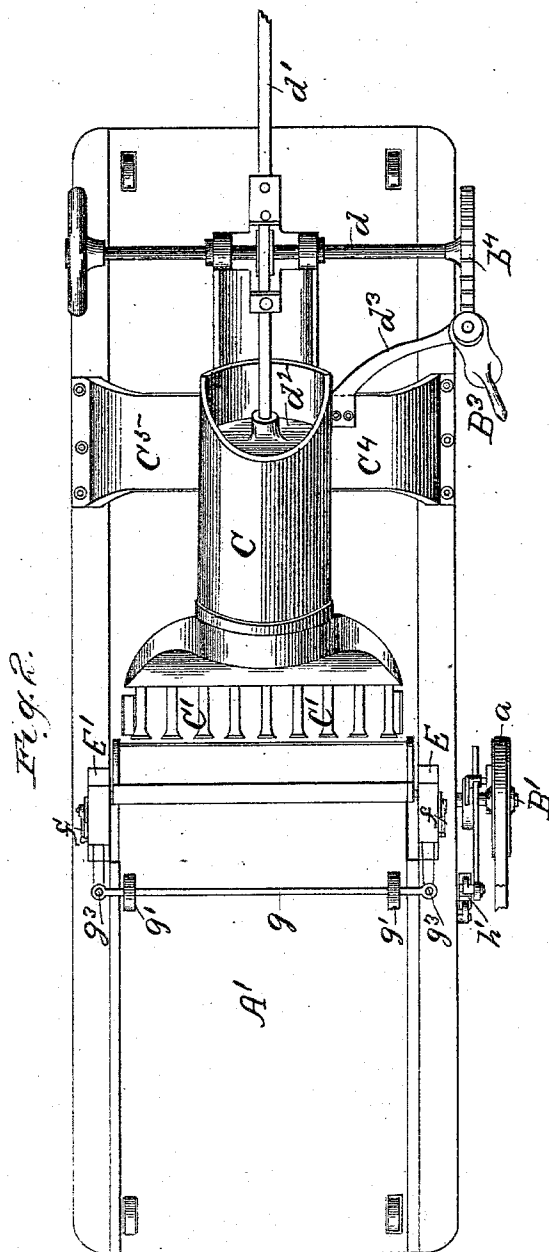
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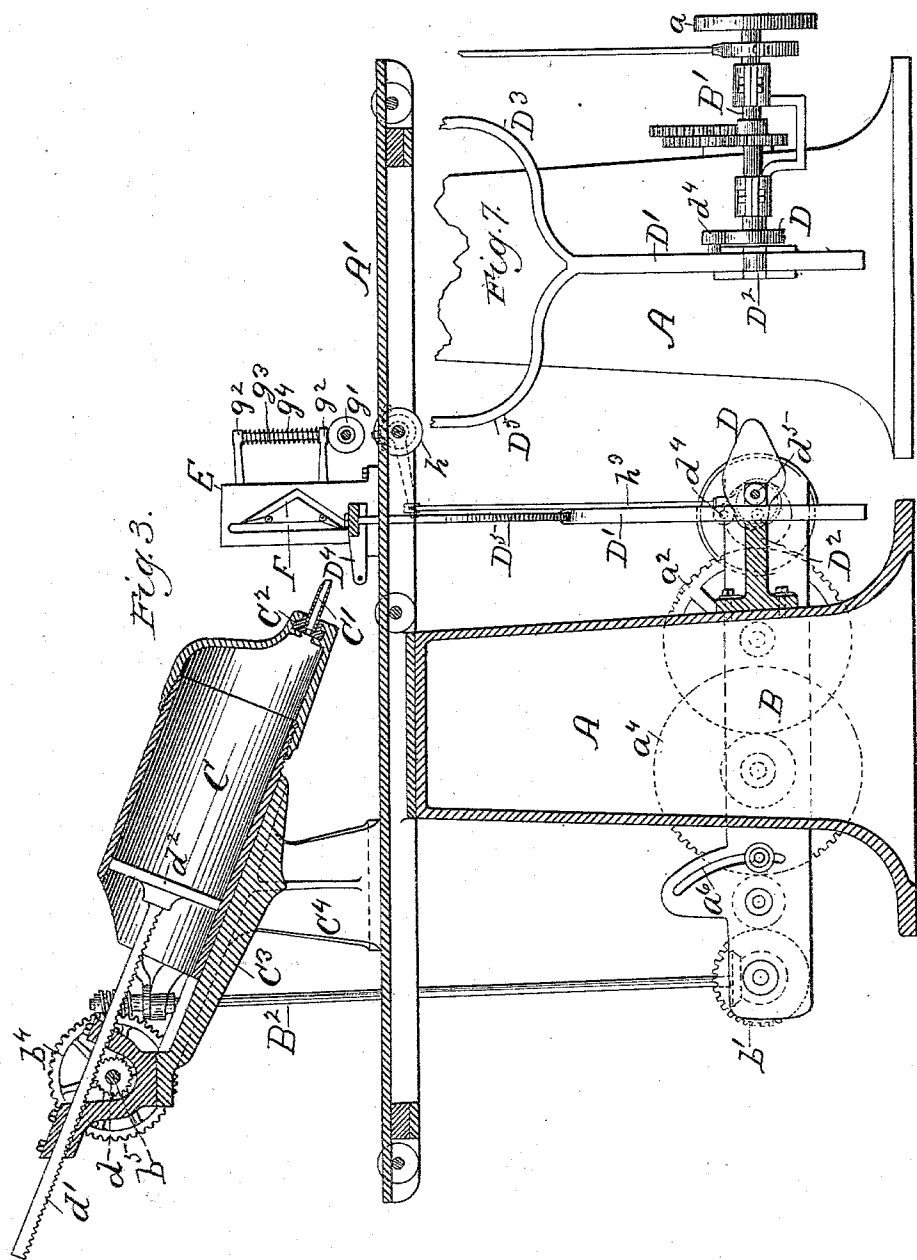
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UNITED STATES PATENT OFFICE.

WILLIAM L. YANCEY, OF CHICAGO, ILLINOIS, ASSIGNOR TO MILTON E. PAGE
AND RUFUS P. PATTISON, OF SAME PLACE.

CANDY-MACHINE.

SPECIFICATION forming part of Letters Patent No. 286,567, dated October 9, 1883.

Application filed August 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. YANCEY, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in a Candy-Machine, of which the following is a full, clear, and exact description, that will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in that class of candy-machines in which the paste is forced through a series of tubes while in a plastic condition, the confection being removed from the ends of the tubes in the form of drops by means of a traveling knife, and deposited on a receiving-tray, where the drops assume a natural formation.

Figure 1 is a side elevation of a machine embodying my improved features; Fig. 2, a plan view; Fig. 3, a vertical longitudinal section, looking from the opposite side from that shown in Fig. 1; Figs. 4, 5, and 6, detached details of construction; and Fig. 7 is a front end view of the lower part of the machine.

Referring to the drawings, A represents a pedestal or base, which supports the table A' and the different parts of the operating mechanism. The bracket B, attached to the lower part of the base, is adapted to support the train of gearing transmitting motion to the feed mechanism. The shaft B', passing through the front end of the bracket B, is provided with the driving-pulley a, having suitable connection with the motive power. On this shaft is placed the pinion a', which engages with the gear-wheel a'; the pinion a'' being located on the same shaft with said gear-wheel, and which in turn engages with the gear-wheel a', having a journal-bearing in the part a'', which is adapted to have an independent adjustment relative to the stationary bracket B, the dotted lines in Fig. 1 indicating the opposite position. The piece a' is secured in place by a clamping-bolt in the segmental slot a'', which permits of the adjustment just described, in order to allow the pinion a' to be removed and replaced by one of a different diameter, whereby the speed of the feed mechanism is increased or diminished as may be required.

The pinion b, engaging with the gear-wheel a', is also supported in the piece a', and engages with the pinion b', having the bevel-pinion b'' on the same shaft, and which engages with the companion bevel-pinion b''' on the lower end of the vertical shaft B'', the upper end of which is provided with a worm-gearing which engages with the gear-wheel b' on the shaft b'. The shaft b' carries the pinion d, placed near its longitudinal center, which engages with the rack bar or rod d', as shown in Fig. 3 of the drawings. The inner end of the rack-bar is provided with the piston d'', adapted to gradually press forward the mass of paste placed in the cylinder C and force the same through the series of tubes C', projecting from the front end of the cylinder. The series of tubes are inserted in the tube-plate C'', which is removable from the cylinder, so that tubes of various sizes may be employed. This end of the cylinder is flattened and widened in order to permit of the arrangement of the tubes in the same plane as shown in Fig. 2 of the drawings.

The cylindrical receptacle C is set on an incline, and is secured to the bed C', supported by the uprights C'' C'', resting upon each side of the table A'. The arm d' projects outward from the upright C'', and provides a bearing for the upper end of the shaft B''. The handle B'' at this point has an eccentric formation and connection relative to the shaft B'', and serves the purpose of throwing the worm in and out of gear, as may be required.

The peculiar heart-shaped cam D is located on the inner end of the horizontal shaft B', and has frictional contact with the roller d', attached to the lower part of the vertical moving rod D', as shown in Fig. 7 of the drawings. By this means the rod is raised and lowered, thus producing the desired movement. The lower part of the rod D' is provided with a slide-bearing in the outer end of the arm D'', projecting from the base A', the roller d' serving to lessen the friction in the slide-bearing. The upper end of the connecting-rod D' is bifurcated, the two parts D'' D''' being widely separated and connected to the ends of the cross-head D'', located above the operating-table A'. This cross-head is adapted to have a verti-

cal movement in an angular plane in the guide-posts $E E'$, projecting upward from each side of the table A' . This movement is accomplished by means of the triangular groove or pathway F , cut on the inner side of the guides $E E'$, as shown in Figs. 3 and 5 of the drawings. Each end of the cross-head is provided with the guide or bearing pin d' , which engages with the triangular pathway in the guide-posts. The locking guide-fingers $F' F''$ close the triangular groove at two different points. As shown in Fig. 5 of the drawings, one end of each of the guide-fingers is pivoted to the two corners of the central triangular block, G , which lies in a vertical plane, while the loose ends extend across the pathway and rest against the inclosing-wall in such a position as to permit the guide-pins of the cross-head to pass in one direction only. The pivot-pins of the guide-fingers $F' F''$ pass through and project beyond the guide-posts, where they are provided with the levers $f f'$, to the outer ends of which are attached the springs $f^2 f^3$, as shown in Fig. 3, by which means the guide-fingers are returned to a normal or locking position at each movement of the cross-head. The cross-head is provided with the knife H , (shown in Fig. 2 of the drawings,) which removes the confection-paste, which is in the form of drops, from the ends of the series of tubes, these drops adhering to the knife until the downstroke is reached, when they are deposited on a receiving-tray which travels along on the table. This receiving-tray is provided with a covering of paper, to which the confection readily adheres, and the knife being usually a round wire, the confection is easily released from the same. The peculiar shape of the cam D is intended to and does allow the cross-head to momentarily come to a dead stop at the lowest point of the stroke, which also facilitates the removal of the confection from the knife in good shape. The soft and plastic condition of the confection when first deposited on the paper surface of the receiving-tray causes it to naturally spread a little and gradually assume a smooth merchantable form while the goods are being dried by exposure to the atmosphere. Supposing the cross-head to be at the lowest point on the downstroke, now, as it moves upward, it is made, by means of the lower locking-finger, to move up the lower part of the V -shaped groove, which movement carries the knife back from the series of tubes, so that it will not come in contact with the drops of confection on the upstroke, and when the guide-pin in the end of the cross-head comes in contact with the upper locking-finger and pushes it aside on its pivot and passes into the vertical part of the pathway the knife performing the required functions on the downstroke, the lower locking-finger is in turn pushed aside for the passage of the cross-head, the locking-fingers being in each instance returned to a locking position by the action of the levers and springs arranged on the outside of the guide-posts.

The shaft g is provided at each end with the rollers g' , these parts being supported by the lateral projecting arms g^2 and the vertical rods g^3 , provided with the springs g^4 , which may be adjusted as required, for the purpose of keeping the rollers in contact with the paper, and also for keeping the same smooth on the receiving-tray g^5 . The receiving-tray rests on the series of rollers in the table A' , the roller h being actuated by the ratchet-wheel h' , which has two pawls, one to lock against a backward movement, the other to feed the ratchet in the direction in which the tray is to be moved. The shaft supporting the roller h has attached to it one end of the lever h^2 , the opposite end of which is adjustably connected to the upper end of the eccentric-rod h^3 , the lower end of said rod being connected to a cam on the shaft B' , by which arrangement the required reciprocating movement is imparted to the mechanism which moves the receiving-tray forward.

The essential feature of this machine is the manner of diverting the cross-head carrying the wire knife from a vertical line, thereby carrying the knife back and away from contact with the work on the upstroke. This may be accomplished in various ways, such as causing the receptacle holding the confection-paste to have a reciprocating movement; or by a system of levers or equivalent mechanical devices the cross-head may be diverted from a vertical plane; but, after numerous experiments, I prefer the mechanism herein set forth for the accomplishment of this important and essential feature.

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

1. In a candy-machine, the combination, with the pedestal A , of the bracket B , provided with the segmental slot a^6 , the adjustable part a^5 , and the train of gearing, as described, whereby motion is transmitted to the feed mechanism and the speed of the same thereby varied as may be required, substantially as set forth.

2. The combination, with the vertical shaft B^2 , having a worm-gearing on the upper end thereof, of the gear-wheel b^4 , the shaft b^5 , the pinion d , the rack bar or rod d' , the piston d^2 , and the cylinder C , whereby the mass of material placed in said cylinder is gradually forced out of the same in the form of drops, substantially as set forth.

3. The combination, with the cylindrical body C , having one end open, while the opposite end is flattened and widened, of the tube-plate C^2 and the series of tubes C' , substantially as set forth.

4. The combination, with the operating-shaft B' , of the cam D , the friction-roller d^4 , the bifurcated connecting-rod D' , and the cross-head D^4 , substantially as set forth.

5. The combination, with the cross-head D^4 , provided at each end with the guide or bearing pin d' , of the guide-posts $E E'$, provided

with the triangular groove or pathway F, whereby said cross-head is diverted from a vertical line on the upstroke, substantially as and for the purpose set forth.

5 6. In a candy-machine of the character herein described, the guide-posts E E', provided with the triangular pathway F, substantially as and for the purpose set forth.

10 7. The guide-posts E E', provided with the triangular groove or pathway F, the locking guide-fingers F' F², pivoted to the block G, the levers f f', and the springs f² f³, whereby said guide-fingers are automatically re-

turned to a locking position after each passage of the cross-head, substantially as set forth. 15

8. The combination, with the cross-head D⁴, of the knife H, the guide-posts E E', provided with a triangular pathway, whereby said knife is drawn back from the series of tubes C' on the upstroke and returned in line with the same on the downstroke, substantially as and for the purpose set forth. 20

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Witnesses:

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