

(No Model.)

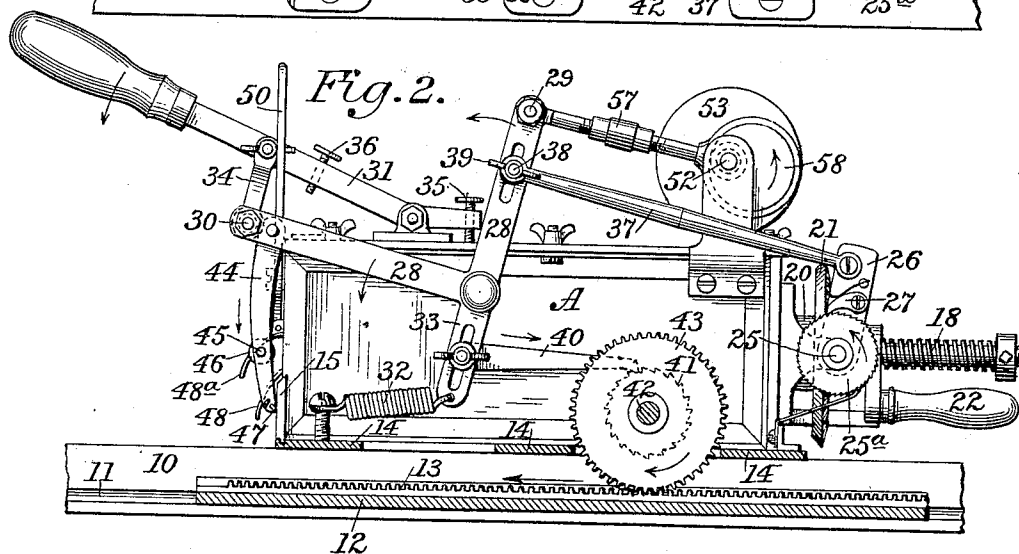
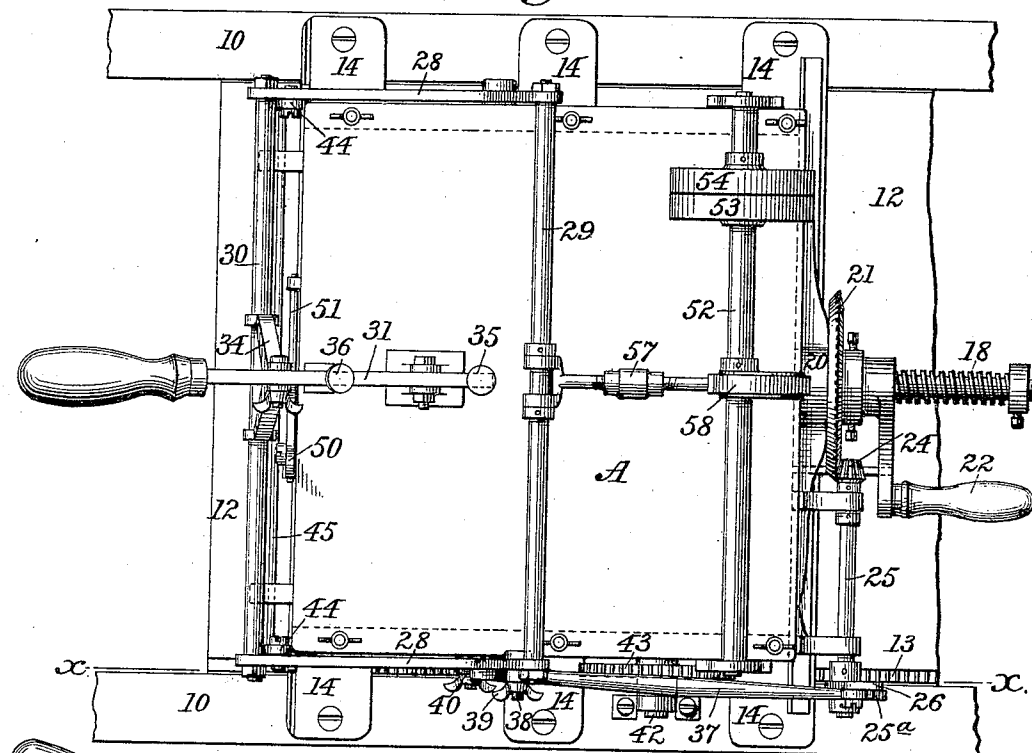
2 Sheets—Sheet 1.

G. GEYER.
CONFECTIONERY MACHINE.

No. 461,630.

Patented Oct. 20, 1891.

Fig. 1.



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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

GEORGE GEYER, OF BROOKLYN, NEW YORK.

CONFECTIONERY-MACHINE.

SPECIFICATION forming part of Letters Patent No. 461,630, dated October 20, 1891.

Application filed May 25, 1891. Serial No. 393,940. (No model.)

To all whom it may concern:

Be it known that I, GEORGE GEYER, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Confectionery-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, making a part of this specification.

My invention relates to an improvement in candy-making machinery, and has for its object to provide a machine especially adapted for making cachous, and to so construct the machine that it will be completely under the control of an attendant, and wherein at one movement of a hand-lever or a drive-shaft the candy in paste form will be fed forward in the machine, pressed out through suitable shaping-apertures therein, a number of completed cachous cut from the mass of candy delivered upon a reciprocating table, which will be fed forward to receive them, they being laid in regular rows upon the table.

A further object of the invention is to provide a machine of exceedingly simple and economic construction and capable of being expeditiously and conveniently manipulated.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is had to the accompanying drawings, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the machine. Fig. 2 is a side elevation and partial longitudinal section, the section being taken through the table and the attaching devices of the machine to its support, as indicated by the line *xx* in Fig. 1. Fig. 3 is a front elevation of the machine, and Fig. 4 is an essentially central longitudinal section taken on the line *yy* of Fig. 3.

The support of the machine usually consists of two parallel beams 10, held in a horizontal position in any suitable or approved manner, each of the beams being provided in its inner face with a slideway 11, in which a table 12

is held to travel, and the table has secured to its upper face adjacent to one of said beams a rack 13. The body A of the machine is preferably rectangular in general contour, and is of box-like form, containing, ordinarily, a single chamber A', as shown in Fig. 4. The top of the body is removable for the introduction of material in the chamber and is flanged outward beyond the sides, and at the bottom of the side surfaces horizontal lugs 14 are produced, through the medium of which the body is attached to the side beams 10. An opening *a* is left in the front of the body, as shown in Fig. 4, at the bottom normally closed by a removable plate 15, slid in suitable grooves in the bottom and front side edges, as illustrated in Figs. 3 and 4. This plate is a shaping-plate, as it contains a number of apertures 16, preferably of circular shape, through each of which the candy mass in the chamber A' is pressed in sufficient quantities to produce a complete cachou. This operation is effected through the medium of a piston-follower 17, of any desired construction, held to slide freely in the chamber A' and extending from its top to its bottom and from side to side. (See Fig. 4.) The piston-follower has swiveled in its rear face at or near the center the inner end of a screw 18, which screw near its outer extremity passes through an internally-threaded sleeve 19, loosely mounted in a bearing 20 integral with or attached to the back of the machine-body, the sleeve being prevented from leaving its bearing by a flange 20^a, formed upon its inner end, engaging with the inner surface of the bearing, as illustrated in Fig. 4. The sleeve has secured thereon a bevel-gear 21. A handle 22, preferably of a crank-pattern, is carried by the screw 18 outside of the sleeve, being adapted to return the piston-follower to the back of the chamber A', and to that end the eye of the handle has a key located therein adapted to slide in a key-slot 23, formed longitudinally in the screw. (Likewise best shown in Fig. 4.) When the piston is being pressed forward, the screw 18 remains stationary and the sleeve 19 is turned; but when the piston is returned rearward the screw is turned through the medium of the handle 22, the sleeve remaining stationary. The bevel-

gear 21 meshes with a pinion 24 fast upon the inner end of a short shaft 25, journaled at the back of the body and projecting beyond one side, as shown in Figs. 1 and 2. This shaft is provided near its outer end with an upwardly-extending loosely-mounted arm 26, carrying a spring-pressed dog 27, engaging with a ratchet-wheel 25^a, secured upon the outer extremity of the shaft. By movement of the arm 26 the shaft 25 is rotated and motion is communicated to the arm synchronously with the operation of cutting the shaped cachou. The mechanism for so doing being as follows: At each side of the body of the machine in transverse alignment an elbow or bell-crank lever 28 is fulcrumed at the junction of its members. The vertical members of the levers extend beyond the top and the horizontal members beyond the sides of the body. The vertical members are connected by a rod 29 or its equivalent, and the horizontal members are likewise united by a rod 30, as by this means the two levers operate in unison. The levers may be manipulated by hand-power or by a mechanical or electric motor. I will first describe the former, which consists in a hand-lever 31, fulcrumed upon the top of the body near its inner end. That portion of the hand-lever back of its pivot is practically parallel with the top of the body, and the forward portion of the lever from its fulcrum to its outer extremity extends normally upward at an angle to the body, being normally held in this position by a spring 32, secured, preferably, to one of the body-lugs and to an extension 33 of one of the elbow-levers 28, as shown in Fig. 2, which extension is projected downward from the lever at its fulcrum, the hand-lever being pivotally connected by a yoke 34 or otherwise with the forward connecting-rod 30 of the levers. The upward throw of the hand-lever is limited by a set-screw 35, located at one side of its fulcrum, and the reverse movement of the handle is limited by a second screw 36 at the opposite side of the fulcrum, both screws being adapted to engage with the top of the body. A link 37 connects the arm 26 of the screw-propelling shaft 25 with the elbow-lever 28 having the extension, the link being pivoted to the arm at one end and adjustably connected with the member of the lever at its opposite end, and the preferred connection at this point consists in passing a bolt 38 through a slot in the member and through the link, the bolt being provided with a winged nut 39. Thus the throw of the piston at each downward movement of the hand-lever may be regulated. It is necessary that the table should advance the predetermined distance of a row each time the candy is shaped and before it is cut. This movement is preferably effected by adjustably pivoting upon the elbow-lever extension 33 a dog 40, engaging with a ratchet-wheel 41, loosely mounted upon a spud-axle 42, secured to the side of the machine-body, said ratchet-wheel

being fast to a gear-wheel 43, which meshes with the table-rack 13, as is best shown in Fig. 2.

The cutting mechanism is operated directly from the bell-crank or elbow levers, and for convenience hereinafter, owing to the manner in which the levers are connected, I will designate them collectively as a "rocking frame." The cutting mechanism is as follows: An arm 44 is attached to the horizontal member of each elbow-lever near the forward end. These arms extend downward, being slightly curved. Their concave edges face the front of the machine-body and their lower ends normally engage with the shaping-plate. The arms are held in frictional engagement with the elbow-levers by screws or their equivalents and by a connecting-rod 45, threaded at its ends and passed through threaded apertures in the arms, each threaded end of the rod being fitted with a nut 46, having a bearing against the inner faces of the arms. The cutting of the shaped candy is actually effected by a wire 47 or a fine blade secured at its ends in the lower extremities of the arms 44. It will be observed that the connecting-rod 45 has a dual function, as by the manipulation of its lock-nuts the arms are not only pressed to a firm frictional contact with the levers of the rocking frame, but the cutting wire or blade may be kept thereby at all times under proper tension.

When the hand-lever is employed as motive power for the machine, guides are used in connection with the cutting mechanism. These guides consist, preferably, of two sets of downwardly-curved plates, the plates of a set being designated, respectively, as 48 and 48^a. One set is located near each side of the body at the front, and the plates of a set are arranged one above the other, being curved in the same direction, as shown in Figs. 2, 3, and 4. The cutting-wire 47 is located beneath the lower guide-plates and the tension-rod 45 is beneath the upper plates. In the operation of the cutting, when the hand-lever 31 is pressed downward, the wire 47 is carried in the same direction close to the shaping-plate 15, until it has severed the protruding particle of the candy mass held in suspension at the apertures 16 in the shaping-plate. At this time the arms 44 will commence to travel outward, due to the influence of the lower guide-plates upon the tension-rod, which does not leave said guide-plates, and upon the return movement of the hand-lever the cutting-wire will be returned to its normal position, having executed, essentially, an elliptical movement below the lower guide-plates by means of the tension-rod passing under the upper guide-plates.

When the machine is not in use, it is advantageous to prevent the inclosed candy from finding an exit through the apertures of the shaping-plate, and this is effected through the medium of a gate 49, held to slide within the chamber A' at the front, ca-

pable of being forced downward by a lever 50, pivoted upon the outer front face of the body, said lever engaging with a yoke 51, the side members whereof are attached to the gate and have vertical movement in slots in the body. (See Figs. 3 and 4.)

It will be observed that the machine needs the attention of but a single attendant, as simultaneously with the downward movement of the hand-lever the piston is forced forward to press the candy mass through the apertures in the shaping-plate, the table is carried forward to receive in a row the completed article, and the cutting mechanism is brought into action to release the article from the body of the machine. It is at times desired to operate the machine by a mechanical motor. In this event the guides 48 and 48^a are dispensed with and likewise the hand-lever 31 and spring 32. The arms 44 are carried upwardly, essentially, as shown in Fig. 4, and connected by a rod to a drive-shaft 52, which is at the top rear portion of the body, carrying a fast and a loose pulley 53 and 54. The front connecting-bar of the cutting-arms are united with the drive-shaft by a pitman 55 and eccentric 56, as shown in dotted lines, Fig. 4, the eccentric being upon the drive-shaft, and the inner or rear connecting-bar 29 of the rocking frame is attached also by an eccentric 57 and a pitman 58 with the drive-shaft, as illustrated in Figs. 1 and 2. The pitman, however, is sectional and adjustable lengthwise to change the degree of feed.

I claim as my invention—

1. In a cachou-machine, the combination, with a feed-piston and a cutter located in advance of the same, of a rocking frame composed of levers pivoted to a fixed point, a pawl-and-ratchet mechanism for operating the piston, a link connected to said frame for actuating the pawl, arms carrying the cutter and connected to said frame, and means for oscillating said frame, substantially in the manner and for the purpose herein set forth.

2. In a cachou-machine, the combination, with a chambered body provided at one side with a shaping-plate and a feed-piston located in the chamber of the body, of a rocking frame mounted upon the body, a cutting-frame carried by the rocking frame, a driving connection between the rocking frame and feed-piston, and a driving mechanism

acting upon the rocking frame, substantially in the manner and for the purpose herein set forth.

3. In a cachou-machine, the combination, with a chambered body and its support, a table held to travel in the support, a shaping-plate located at one side of the body, and a feed-piston held to reciprocate in the body to and from the shaping-plate, of a rocking frame composed of levers pivoted to a fixed point, cutters carried by the rocking frame capable of reciprocation upon the shaping-plate, a driving connection between said frame and the table, a driving connection between said frame and the feed-piston, and means for oscillating said frame, substantially in the manner and for the purpose herein set forth.

4. In a cachou-machine, the combination, with a chambered body, a shaping-plate located at one side of said body, guides located over the shaping-plate, and a feed-piston held to reciprocate in the body, of a rocking frame, arms in frictional contact with the frame and projected downward therefrom in front of the shaping-plate, a cutter located at the lower ends of the arms beneath one set of guides, a tension-rod connecting the arms located beneath a second set of guides, and a driving connection between the rocking frame and the feed-piston, substantially in the manner and for the purpose herein set forth.

5. In a cachou-machine, the combination, with a chambered body, a shaping-plate located at one side thereof, and a feed-piston held to slide in the body to and from the shaping-plate, of a rocking frame mounted upon the body, arms in frictional contact with the frame, a cutter carried by the arms engaging with the shaping-plate, a tension-rod connecting the arms, a gate located within the body between the feed-piston and shaping-plate, and a driving connection between the rocking frame and the feed-piston, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE GEYER.

Witnesses:

A. N. JESBERA,
F. A. CURTIS.