

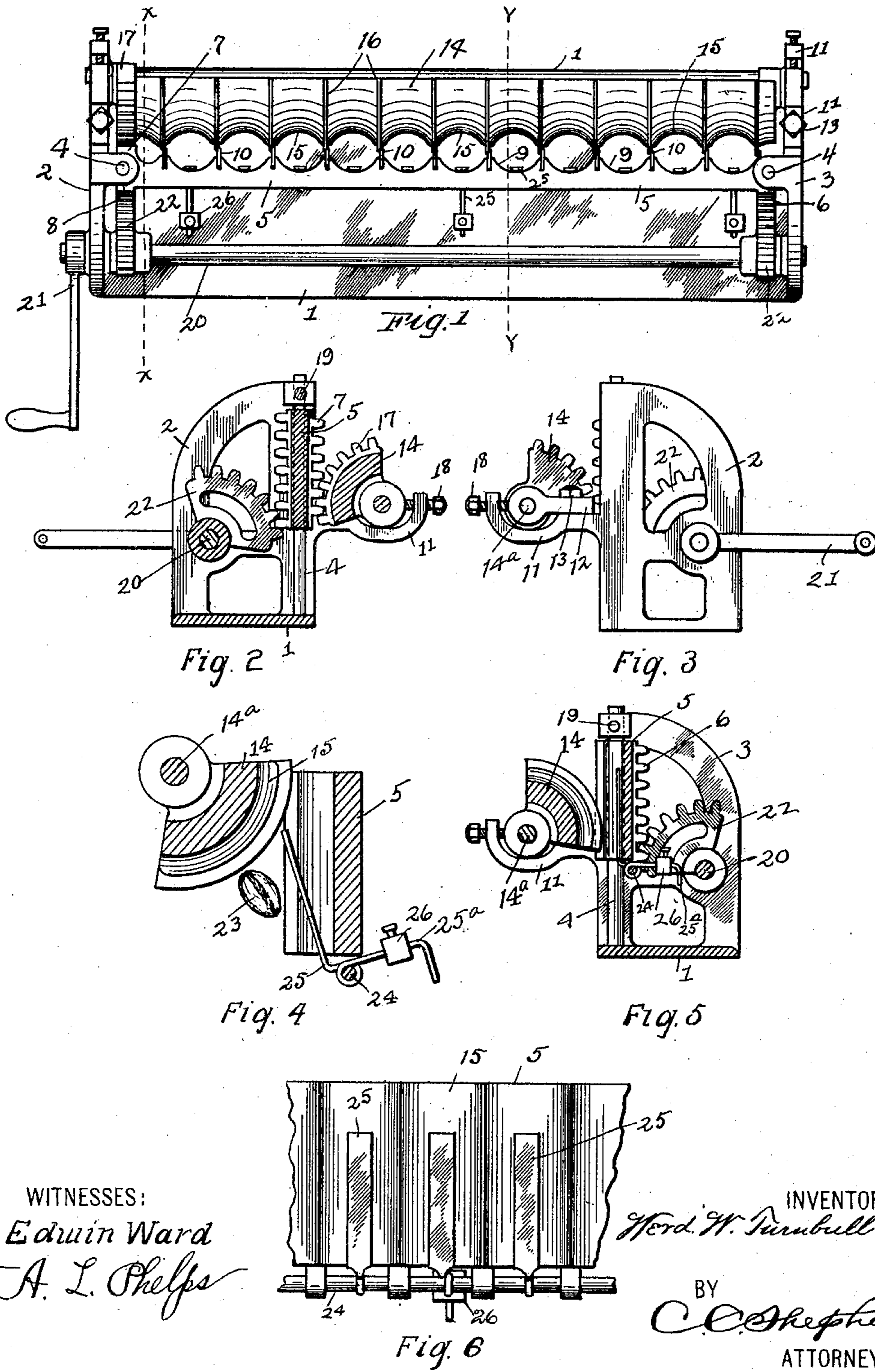
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CANDY CUTTING AND SHAPING MACHINE.

APPLICATION FILED JULY 13, 1903.

NO MODEL.



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WERD W. TURNBULL, OF COLUMBUS, OHIO.

CANDY CUTTING AND SHAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,741, dated April 5, 1904.

Application filed July 13, 1903. Serial No. 165,319. (No model.)

To all whom it may concern:

Be it known that I, WERD W. TURNBULL, a citizen of the United States, residing at Columbus, in the county of Franklin and State Ohio, have invented a certain new and useful Improvement in Candy Cutting and Shaping Machines, of which the following is a specification.

My invention relates to the improvement of candy-cutting machines; and the objects of my invention are to provide an improved machine of this class for separating a strip or elongated bar of newly-made candy into sections of desirable shapes and to provide a machine of this class of superior construction and arrangement of parts particularly adapted for the cutting and shaping of substantially oval forms of candies, such as "buttercups." These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my improved machine. Fig. 2 is a sectional view on *xx* looking in the direction of the arrow in Fig. 1. Fig. 3 is an end elevation. Fig. 4 is an enlarged detail sectional view through the cutting portions of the machine, illustrating the manner of ejecting the severed candies or candy-sections from the machine, other parts of the machine being for the sake of clearness omitted in said view. Fig. 5 is a transverse section on line *yy* of Fig. 1, and Fig. 6 is an enlarged inner side elevation of a portion of one of the cutter members.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention I employ a horizontal base-plate 1, from the ends of which rise end frames or standards 2 and 3. On the inner side of each of these standards and adjacent thereto is supported a vertical rod 4, these rods passing loosely through the end portions of a horizontally-disposed cutter bar or member 5. That end of the bar 5 which is adjacent to the standard 3 has formed there-with on its outer face a vertically-disposed rack-bar 6, while the opposite end of the bar or member 5 is provided on its opposite faces with opposing rack-bars 7 and 8. Between the rack-bar terminations of the member 5

the latter has its inner face formed with vertically-disposed and successively-arranged corrugations or parallel grooves 9. Cast or otherwise suitably secured within each of the teeth-like ridges formed between said grooves are vertically-arranged and parallel cutting-blades 10, which project, as shown, from the body of the member 5. Extending outwardly from each of the end standards 3 and 4 is a bracket-arm 11, the outer portion of which is in the nature of an upturned hook, as shown. Adjustably mounted on the upper side of the straight inner portion of each of the brackets 11 is the inner portion of an outwardly-extending shaft-bearing arm 12, this connection being formed by a bolt 13, which passes through a slotted opening in the arm 12 and thence into the bracket 11. The outer and enlarged rounded head of each of the bearing-arms 12 extends within the hook portion of the corresponding bracket 11, said bearing-arms being pierced to form journal-bearings for the spindle or shaft ends 14^a of a horizontally-disposed cutting and forming member 14, which is parallel with the member 5. This cutting member 14 is, as shown more clearly in Fig. 4 of the drawings, in the nature of a roller-segment. The curved face of the segmental body 14 is formed with parallel grooves or corrugations 15, of uniform depth and corresponding with and arranged to oppose the vertical grooves of the member 5. As prescribed for the member 5, the segmental member 14 has suitably secured therein cutting-blades 16, the projecting cutting-edge portions of which are adapted to shear with the cutting edges of the blades 10. At one end the cutting member 14 is formed with a gear-segment 17, the teeth of which are adapted to mesh with the teeth of the rack 7, and in order to move the member 14 inward or outward, as may be desired, I have provided the upturned outer end portions of the brackets 11 with set-screws 18, which pass through threaded openings in said brackets and are adapted to exert a pressure on the ends of the adjustable bearing-arms 12. The upper portions of the standards 2 and 3 are preferably connected by means of a horizontal tie-rod 19. Journaled in the end standards 2 and 3, in the lower and outer por-

tion thereof, is a horizontal shaft 20, which carries on one of its outer ends an operating-crank 21. The shaft 20 also carries adjacent to each end a gear-segment 22, these gear-segments meshing, respectively, with the racks 6 and 8 of the member 5.

The operation of those parts of the invention heretofore described is as follows: The parts being in the position indicated in Fig. 3 of the drawings—that is, with the segmental cutting member 14 thrown upward and outward and the member 5 elevated on the pins 4—the candy, which is previously formed into an elongated bar of proper thickness, is inserted between the cutting members 5 and 14. The crank-handle is now turned, resulting through the gearing heretofore described in the vertical downward movement of the member 5 and in the swinging downward movement of the cutting member 14, the projecting portions of the cutting-blades acting to sever the candy into a plurality of sections, one of which is indicated at 23 in Fig. 4 of the drawings. In the operation it is obvious that the pliable candy-bodies will be compressed between the grooved portions of the bodies of the cutting members, and thereby rounded or oveled on opposite sides.

In order to insure the dropping of the severed candies from the machine, I journal from and beneath the cutting member 5 a shaft 24, the latter being disclosed more clearly in Figs. 4 and 6, and with this shaft I connect, as shown in Fig. 4, a plurality of angular ejecting wires or blades 25, the longer and upwardly-extending arms of which normally lie vertically within the grooves 9 of the member 5. In order to insure this normal position of the ejector members, I provide the outwardly and downwardly bent members 25^a of one or more of the ejectors with a suitable weight 26. When, however the cutting member 5 is sufficiently lowered on the pins 4, the downturned outer ends of the ejectors 25 come into contact with the base-plate 1 and cause the upwardly-extending ejector members to move outward in the manner indicated in Fig. 4 of the drawings and to thereby discharge the candy-bodies from the grooves. It is obvious that when the cutting members 5 are again raised the weights 26 will serve to return the ejectors to their normal positions.

From the construction and operation described it will be seen that a simple and reliable form of candy cutting and shaping device is produced which will be of great utility to the manufacturers of candies, and particularly that class of such goods known as "buttercups."

Having now fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

1. In a candy cutting and shaping machine, the combination with the supporting-framework, and a vertically-movable cutting member having a plurality of projecting cutting-blades, of an opposing swinging cutting member having a plurality of projecting cutting-blades and means for simultaneously swinging one of said cutting members and moving the other vertically.

2. In a candy cutting and shaping machine, the combination with a supporting-frame-work, a vertically-movable cutting and shaping member mounted in said frame and having grooves formed vertically in its inner face and cutter-blade projections between said grooves, of a cutting member 14 mounted to swing in said frame and of a roller-segment form, the curved face of said cutting member 14 having grooves therein, curved cutting-blades projecting from between said grooves and means for simultaneously moving the member 5 vertically and swinging the member 14, substantially as specified.

3. In a candy cutting and shaping machine, the combination with a framework, a vertically-movable cutting member 5 mounted therein and having parallel vertical grooves on its inner face, cutting-blades projecting from between said grooves and racks on the opposite sides of said cutting member, of an opposing cutting member 14 having the form of a roller-segment provided with grooves on its grooved face and cutting-blades projecting from between said grooves, an operating-shaft, gear connections between said shaft and the racks of said cutting member 5 and gear connections between said cutting member 5 and member 14 whereby the rotation of said shaft results in a swinging movement of one of said cutting members and a vertical movement of the other, substantially as specified.

4. In a candy cutting and shaping machine, the combination with a framework, a vertically-moving cutter, an opposing swinging cutter, said cutters having opposing grooves and means for operating said cutters, of angular candy-ejectors fulcrumed beneath said vertically-movable cutter and having their upper arms normally retained in the grooves of said cutter and their lower arms adapted to contact with the supporting-base of the machine when said cutter is lowered, substantially as specified.

WERD W. TURNBULL.

In presence of—

C. C. SHEPHERD,
W. L. MORROW.