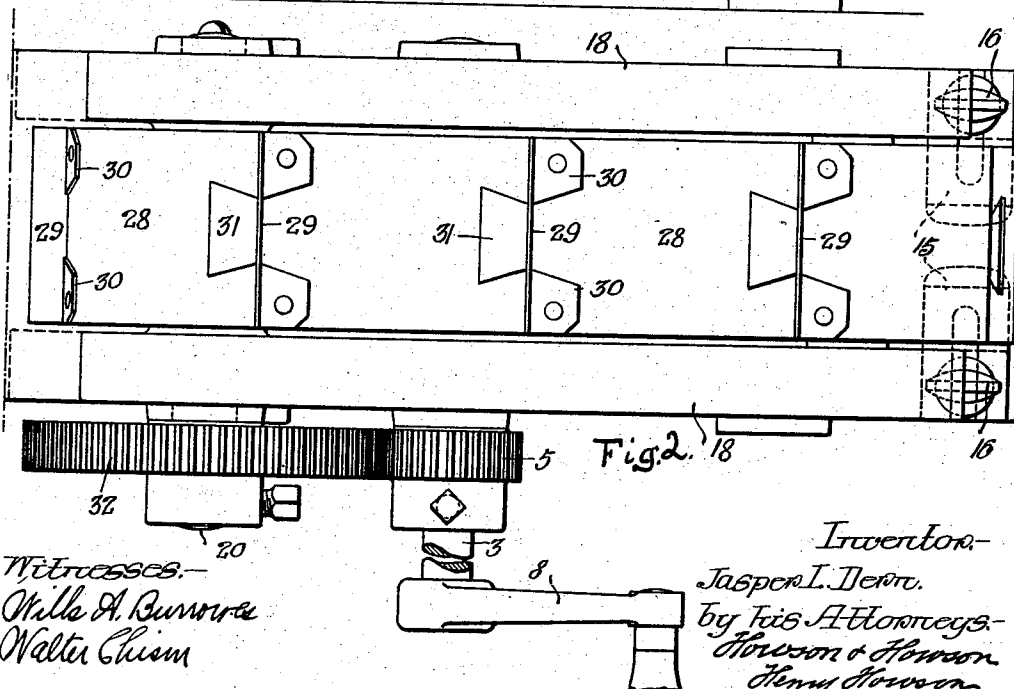
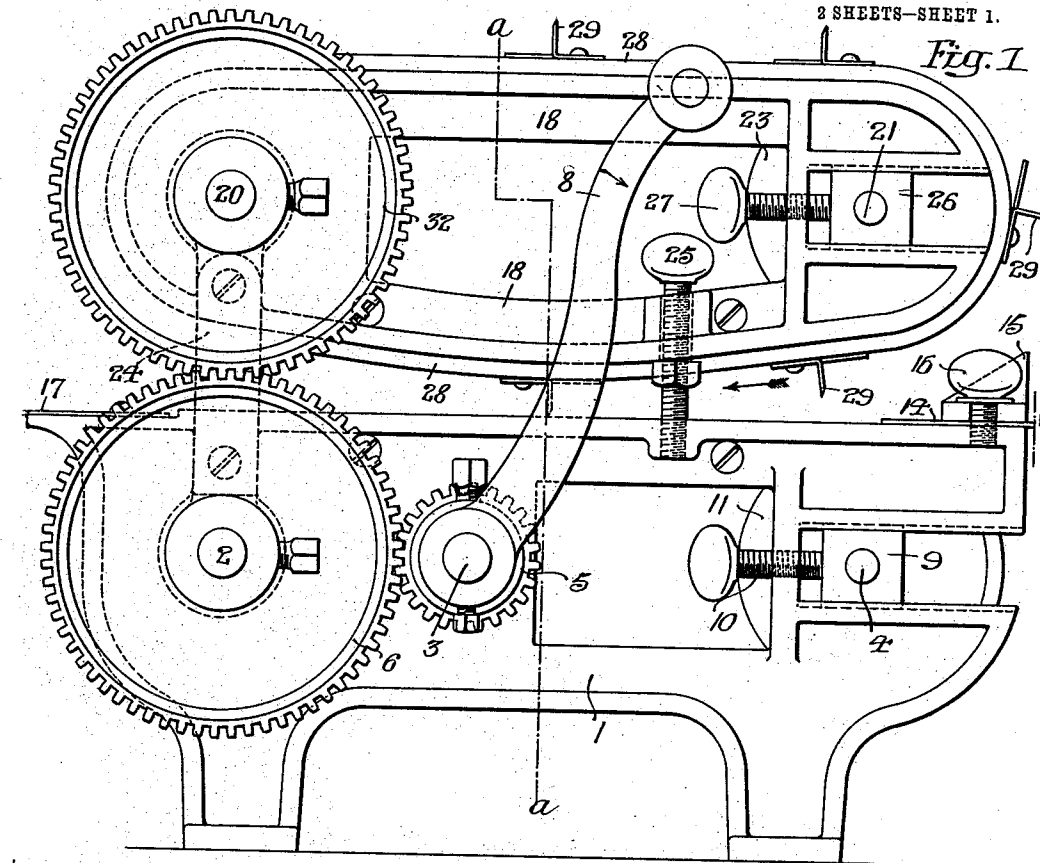


J. L. DERN.
CONFECTIONERY CUTTING MACHINE.
APPLICATION FILED NOV. 5, 1910.

1,015,790.

Patented Jan. 30, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

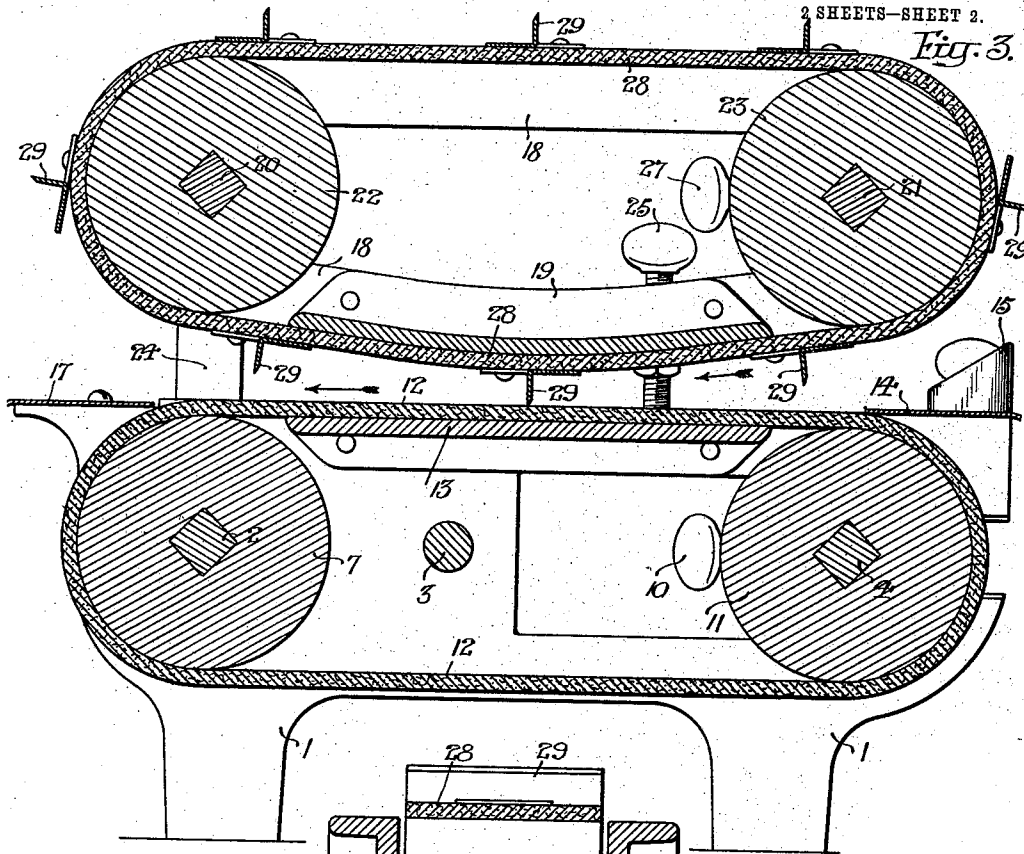
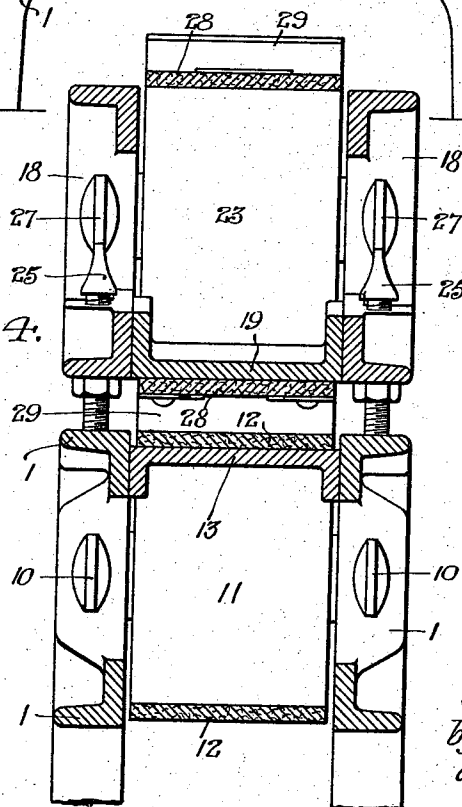


Fig. 4.



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UNITED STATES PATENT OFFICE.

JASPER L. DERN, OF PHILADELPHIA, PENNSYLVANIA.

CONFECTIONERY-CUTTING MACHINE.

1,015,790.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed November 5, 1910. Serial No. 590,815.

To all whom it may concern:

Be it known that I, JASPER L. DERN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Confectionery-Cutting Machines, of which the following is a specification.

One object of my invention is to provide a machine for cutting confectionery which is made in long or continuous lengths, into shorter lengths or sections to form "straws" "pillows", "sponge" and the like; it being especially desired that the construction shall be such as to positively draw the material into the machine and at the same time prevent buckling of such material while it is being operated on.

A further object of the invention is to provide a novel form of cutting device for use in a machine of the character above described, which in addition to being capable of performing the desired functions, shall be adjustable to adapt the machine to operate on different kinds and sizes of materials. These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which;—

Figure 1, is a side elevation of a machine constructed according to my invention; Fig. 2, is a plan of the machine shown in Fig. 1; Fig. 3, is a longitudinal vertical section, and Fig. 4, is a transverse vertical section on the line *a—*a**, Fig. 1.

In the above drawings, 1 represents the two side members which together constitute the main frame of the machine and these are provided with bearings for three transversely extending shafts or spindles 2, 3, and 4. The second of these shafts has fixed to it in any suitable manner a crank handle 8 and a pinion 5, being so placed that said pinion meshes with a gear 6 fixed to the shaft 2. This latter shaft has mounted upon it between the side frames a supporting pulley or roll 7. The shaft 4 is mounted in movable bearings 9 carried in horizontally extending guides formed in the side frames 1 and placed to be operated on by adjustable screws 10 whereby the shaft 4 may be moved and held away from the other shafts. This shaft 4 has fixed to it between the side frames a roller or pulley 11 which with the pulley 7 serves to support a continuous belt or apron 12 of fabric, leather or any other suitable material. In

order to maintain the upper horizontal run of this belt in a fixed position I provide a table 13 extending between and connected to the side members 1 immediately under said top 1; there being also provided at the front end of the belt or apron a receiving table 14 which carries two transversely adjustable guides 15 which, as shown in Fig. 2, are held in place by thumb screws 16 mounted in the side frames. There is likewise provided a delivery table 17 at the rear end of the belt or apron 12 for the reception of material after it has been acted on as hereafter noted. Above this belt or apron and substantially parallel with the top run thereof, I mount a second pair of side members 18 rigidly connected by a curved backing plate 19 and providing bearings for two shafts 20 and 21 respectively carrying pulleys 22 and 23. The frame formed by these two side members and their connecting parts has one end pivotally mounted upon a pair of standards 24 rigidly attached to the side members 1 of the main frame and projecting upwardly above and adjacent to the shaft 2, while its opposite end is carried by a pair of thumb screws 25 mounted in suitable lateral projections and engaging the outer top portions of the side members 1 of the main frame. The bearings 26 for the pulley 23, like the bearings 9, are carried in horizontal guideways and are adjustable by thumb screws 27 toward and from the shaft 20.

Upon the pulleys 22 and 23 is mounted a cutter belt or apron 28 which, like the belt 12, may be of fabric, metal sections, leather, or other flexible material or flexibly connected structures; this passing under the curved surface of the plate 19 which is so formed that it is nearest the top surface of the belt or apron 12 at points about midway between the two pairs of shafts. To this belt 28 I fix a series of cutters 29, forming these in the present instance of sufficiently rigid sheet material so cut as to provide three tongues, of which two, indicated at 30, extend in one direction at right angles to the main cutting edge while a third and intermediate tongue 31 extends in the same plane as the tongues 30, but on the other side of the plane of the main cutting edge. By means of rivets or other suitable holding devices, I connect the various cutters to the belt 28, extending such rivets through the tongues

30 and leaving the tongues 31 to lie loose upon the surface of the belt 28. This construction serves to maintain the main cutting edge at all times substantially perpendicular to the adjacent surface of the belt on which it is mounted, while leaving the latter free to pass around the comparatively abrupt curve of the pulleys 22 and 23.

Under operating conditions if it be assumed that the particular machine illustrated is intended for use in cutting "straws," power is applied to the shaft 3 by means of the crank handle 8 or from any other source and through the pinion 5 and the gear 6 the shaft 2 is thereby turned. As a result the belt or apron 12 is moved in the direction of the arrow, Fig. 3, and through a gear 32 mounted on the shaft 20 and meshing with the gear 6, this latter shaft is likewise driven, thereby moving the cutter belt 28 so that its under run moves in the same general direction as the top run of the belt 12. By means of the thumb screws 25 the distance of the upper frame in which the cutter belt is carried, is adjusted so that the cutters 29 nearest the top surface of the belt 12 barely engage the same. The material to be cut is now fed in a continuous length between the two guides 15 which are placed to suitably direct it and as its advancing end is pushed into the machine, it is shortly engaged by one of the cutters 29. By reason of the peculiar curved form of the plate 19, this cutter, while moving forward, gradually approaches the substantially level top surface of the belt 12 so that it is forced into the piece of material and at the same time draws it forward into the machine. By the time the cutter has reached the point at which it is closest to the belt 12, it has completely cut through the material, but in the meantime a second cutter has engaged the latter and continues to draw it into the machine. Thereafter continued movement of the belt 28 causes successive cut off lengths of material to be pushed out of the machine as they are cut by the knives until they are placed upon the delivery platform 17 from which they may be removed by hand or by a suitable conveyer apron.

It is obvious that if it is desired to merely

score or nick the material, the thumb screws 25 are so adjusted that the cutters, even at their point of nearest approach to the apron 12, are at some distance away from the same. The two belts are kept at a suitable tension by means of the thumb screws 10 and 27 and the guides 15 are adjusted to suitably direct the material operated on by the machine.

I claim:—

1. The combination in a confectionery cutting machine of a supporting structure for material to be cut; a belt mounted adjacent thereto; means for driving the belt; a series of widely separated cutter structures independently mounted on the belt so as to be at all times disengaged from each other and placed to cooperate with the supporting structure in dividing a length of material into pieces; each of said cutter structures consisting of a cutting edge substantially at right angles to the adjacent surface of the belt and a portion projecting parallel with the belt in direct engagement therewith; and means for connecting said latter portion of each cutter structure to the belt.

2. The combination in a confectionery cutting machine of a supporting structure; pulleys mounted on said structure; smooth surface belt mounted on said pulleys; a shaft concentric with one of said pulleys; a gear wheel on said shaft; a second shaft also mounted on the supporting structure; a gear fixed thereon and meshing with said first gear; a frame loosely mounted on said second shaft and overhanging the belt; two pulleys on said frame, of which one is mounted on the second shaft; an endless belt on the pulleys; cutters mounted on said belt to cooperate with the smooth surface belt to cut confectionery; and a device for swinging the frame on its supporting shaft to vary the distance of the cutters from the smooth belt.

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

JASPER L. DERN.

Witnesses:

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WM. A. BARR.