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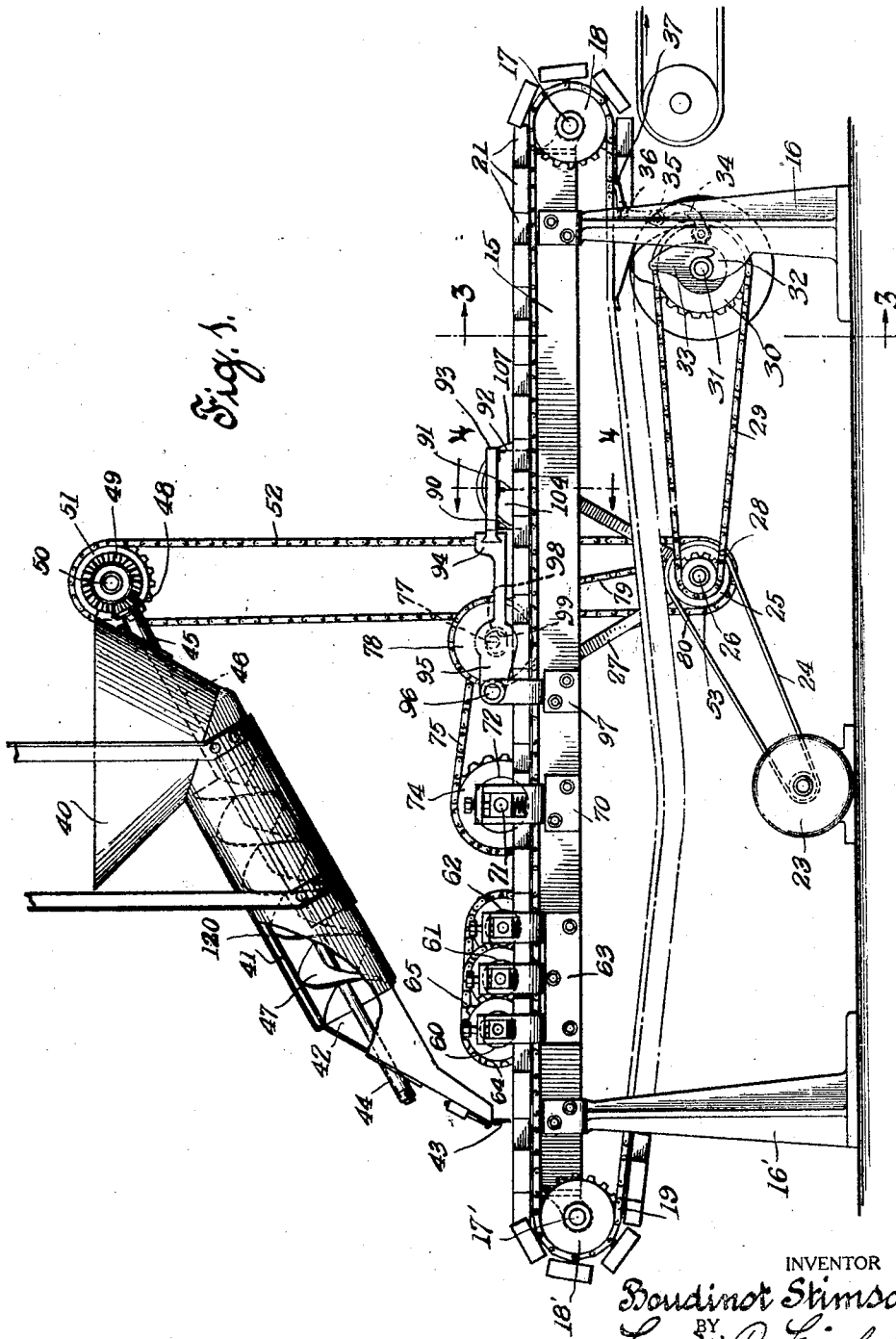
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B. STIMSON

CANDY MAKING MACHINE

Filed Dec. 6, 1923

2 Sheets-Sheet 1



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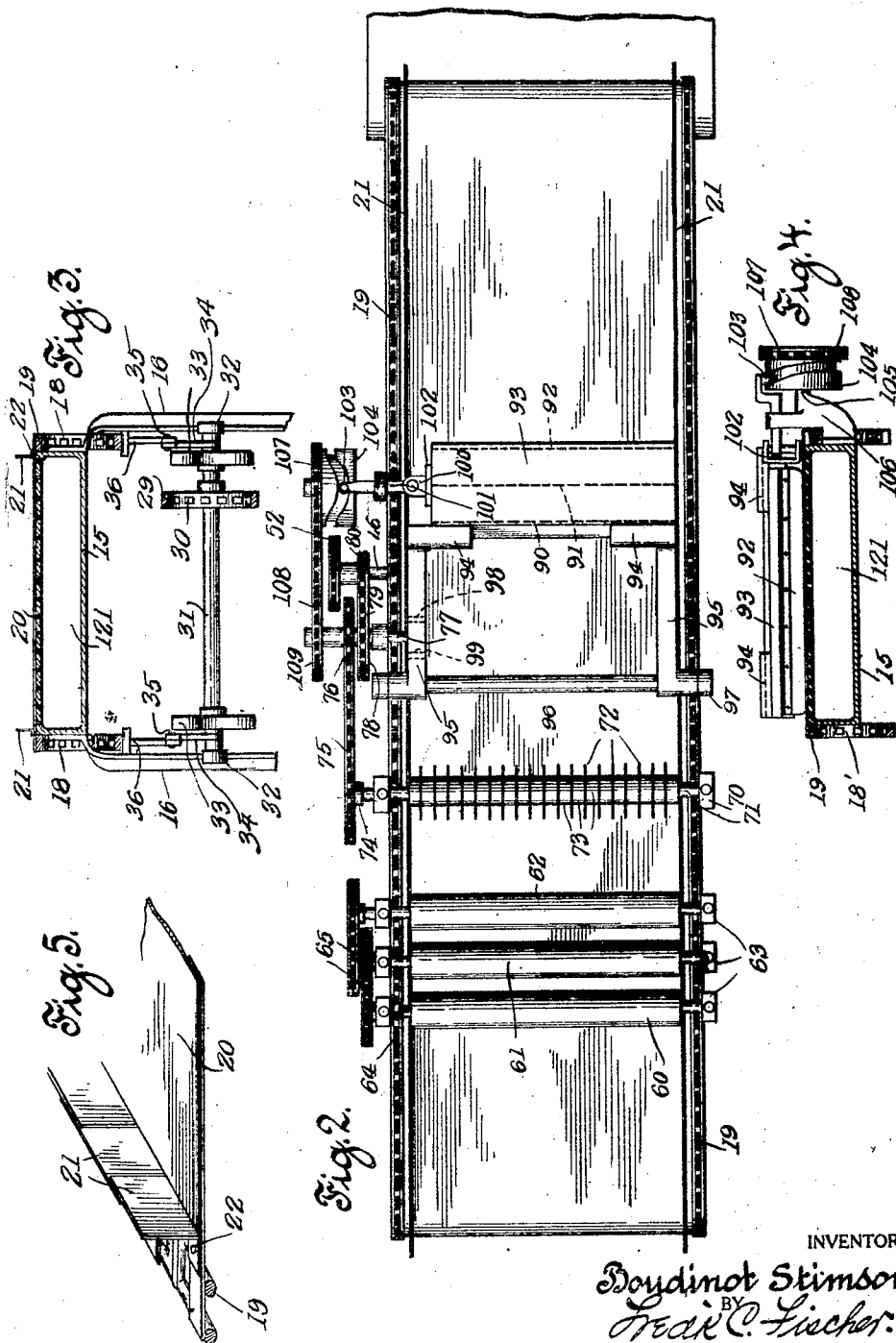
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UNITED STATES PATENT OFFICE.

BOUDINOT STIMSON, OF NEW YORK, N. Y.

CANDY-MAKING MACHINE.

Application filed December 6, 1923. Serial No. 678,838.

To all whom it may concern:

Be it known that I, BOUDINOT STIMSON, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Candy-Making Machines, of which the following is a specification.

This invention relates to improvements in confectioner's machines and particularly to such as are used in the manufacture of that variety of confection known as nut bars.

Such machine includes a receptacle in which the melted ingredients of the confection are mixed with other articles, such as fruits, shredded cocoanut, shelled nuts and like elements, forming a plastic mass, hot, tenacious and adherent, which must be cooled, levelled and cut into bars preparatory to wrapping in waxed paper ready for distribution.

The principal object of the invention is to provide a mechanism which will perform all of the several operations above indicated in sequence in a rapid and economical manner, dispensing with hand work and its consequent unsanitary features.

Another purpose is to produce a machine of comprehensive character that is compact, occupies a limited floor space and consumes only a moderate amount of power.

In addition to these general aims and objects, others of more detailed nature will appear as the description progresses, the same being accomplished by the novel design, construction and combination of parts hereinafter described and shown in the accompanying drawings, forming a material part of this disclosure, and in which:—

Figure 1 is a side elevational view of an embodiment of the invention complete.

Figure 2 is a top plan view of the same, the feed supplying device being omitted.

Figure 3 is a transverse sectional view taken on line 3—3 of Fig. 1.

Figure 4 is a similar sectional view taken on line 4—4 of Fig. 2.

Figure 5 is a fragmentary perspective and sectional view of the belt carrier.

Referring more in detail to the drawings, the numeral 1 designates in general a rigid horizontal frame comprised of a pair of

side elements united together and supported by legs 16 and 16' near the ends.

Extending outwardly from the frame ends are bearings in which are mounted rotatable shafts 17 and 17' each having pairs of sprockets 18 and 18' over which are trained chains 19, having between them an endless conveyor belt 20, preferably made of thin, flexible sheet metal, presenting a smooth level unbroken upper surface.

Attached to the edges of this conveyor are a plurality of relatively short upstanding plates 21, arranged in overlapping relation, constituting substantially continuous side barriers, raised to a uniform height and, due to being attached at the centers of their flanged outstanding bases 22, the barriers present no difficulty in passing over the sprockets 18.

A motor 23 drives a belt 24 trained over a pulley 25 fixed on a shaft 26 mounted transversely of the frame in bearings 27, said shaft having fixed on it sprockets 28 driving chains 29 trained over other sprockets 30 fixed on a shaft 31 mounted in brackets 32 on the forward legs 16.

A pair of cams 33 secured to the shaft 31 actuate levers 34, pivoted at 35 on the legs 16, the upper ends of the levers being pivotally connected at 36 with spring pressed pawls or dogs 37 engaging the chains 19 in such manner as to transmit intermittent forward motion to them and consequently to the conveyor 20.

Mounted above the conveyor, by any convenient means, is a hopper 40 into which the candy mass is received in a hot, plastic condition.

Attached to the bottom of the hopper 40 is a cylindrical chute 41 directed diagonally downward and terminating in a flattened and widened spout 42 disposed over the rear of the conveyor, the spout or discharge element being nearly the full width of the conveyor and controlled by an adjustable shutter or damper 43.

Fixed on the upper surface of the spout 42 is a bearing 44 and a corresponding bearing 45 is likewise attached to the outer surface of the hopper 40.

Mounted in these bearings 44 and 45 is a shaft 46, axially of the chute and fixed on the shaft is a helical conveyor 47, adapted

to fill the chute, receive and turn over a portion of the mass from the hopper and forcibly eject it from the spout upon the conveyor 20.

5 Said shaft is driven by a miter pinion 48, meshing with a mating gear 49 fixed on a shaft 50, mounted in bearings (not shown) adjacent the hopper and is driven by a sprocket 51 over which is trained a chain
10 52 engaged by a driving sprocket 53 fixed on the motor driven shaft 26.

The hot candy mass is delivered upon the conveyor 20, between its raised articulated sides 21, passes below a series of rollers, respectively 60, 61 and 62, of uniform diameter but adjustably held at different heights above the platform in bearings 63 fixed on the frame 15.

As the mass passes under the first and
20 highest roller it is levelled and spread over the conveyor, this operation being repeated by the other rollers progressively until the requisite thickness has been attained.

These rollers are driven intermittently by a sprocket 64 on the first roller 60 engaging one of the conveyor chains 19 and are provided at their ends with a gear train 65 arranged to communicate rotary motion from the first roller to the others so that they
30 operate in the same peripheral direction.

Another pair of bearings 70 fixed on the frame 15 have mounted in them a shaft 71 carrying a plurality of disc cutters 72 having spacers 73 intervening, these cutters determining the width of the finished product, severing the sheet mass as it passes.

The shaft 71 is driven by a sprocket 74 over which is trained a chain 75 engaged with a sprocket 76 on a shaft 77, in turn
40 having a sprocket 78 driven by a chain 79 trained over the sprocket 80 fixed on the shaft 26.

In order to cut the product to length, a set of three thin knives 90, 91 and 92, arranged at different relative heights, the latter being the lowermost, are fixed in a holder 93 arranged transversely above the conveyor.

The holder is slidably mounted in guides 94 formed in the forward ends of levers 95 pivoted at 96 in brackets 97 secured on the frame 15.

Said levers contain openings 98 in which operate cams 99 fixed on the shaft 77, the arrangement being such that the cutter blades are raised during the forward movement of the conveyor and pressed into the mass during its momentary cessation of movement, each of the blades doing its proportionate cutting.

60 In order to assist in the cutting of the material, the knives as held in the holder 93 are given an oscillating movement at properly timed intervals.

This is accomplished by securing to one
65 end of the holder 93 a bracket 100 having

a spindle 101, engaged by a universal joint 102 therein, said spindle being angularly turned at its end and provided with a roller 103 operating in the groove of a cam 104.

Said cam is fixed on a shaft 105 mounted
70 in a bracket 106 on the frame 15 and driven by a sprocket 107 actuated by a chain 108 trained over a sprocket 109 fixed on a spindle 77, said spindle being driven by sprocket 78, chain 79 and sprocket 80 fixed on the shaft
75 26.

In order to cool the mass of material, the chute 41 may be enveloped in a water jacket 120 and to further cool the mass after disposal on the conveyor there is disposed
80 below the same, between the frame elements, continuous chambers 121 into which a jet of air or current of cold water is entered, the upper wall of the chamber being in close proximity with the conveyor 20.

It is to be noticed that chains and sprockets are used throughout so that all motions are positive and accurately timed and, as shown in Fig. 1, the finished product is delivered directly in such shapes as
90 may be desired to another conveyor leading to wrapping and packing devices as will be understood.

The foregoing disclosure is to be regarded as descriptive and illustrative only, and not as restrictive or limitative of the invention, of which obviously an embodiment may be constructed including many modifications without departing from the general scope herein indicated and denoted in the appended claims.

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

1. A candy making machine comprising
105 a frame having a hollow bed, through which a cooling medium may be passed, an endless conveyor movable over said bed in close proximity thereto, means for delivering a plastic candy mass upon said conveyor, said
110 conveyor having raised edge elements, sprocket chains at the edges of the conveyor, a plurality of rollers arranged at variable distances transversely above said conveyor, said rollers progressively decreasing
115 in distance from the first to last, means associated with said rollers by which rotary motion is communicated to them from said chains, means for slitting the mass into bars, and means for cutting the bars into uniform
120 length.

2. A candy making machine comprising a frame having a level bed, an endless conveyor movable over said bed, means for delivering the candy mass on said conveyor,
125 means for progressively reducing the mass to a definite uniform thickness, means for slicing the mass into strips of uniform width, reciprocating knives arranged transversely over said conveyor at varying dis-
130

tances therefrom, a plurality of means for raising and lowering said reciprocating knives, and means for intermittently advancing said conveyor when said transverse knives are raised.

3. A candy making machine comprising a frame having a level bed, an endless conveyor movable over said bed, means for delivering the candy mass on said conveyor, means for reducing the mass to a definite uniform thickness, means for slicing the mass into strips of uniform width, a series of knife blades slidably mounted transversely over the conveyor, means for reciprocating the knives, means for intermittently actuating said conveyor, and means operative during cessation of motion of the conveyor to force said knives into the strips.

4. A candy making machine comprising a frame, a conveyor operable thereover, a re-

ceptacle for the candy mass supported over said frame, a chute leading from the receptacle to said conveyor, means in said chute for forcing the mass therethrough, means for dispensing the mass in an adjustable stream upon said conveyor, means for partially cooling the mass in its passage through the chute, means for progressively cooling the mass in its passage on said conveyor, means for levelling the mass to a predetermined thickness, means for slitting the mass on said conveyor into strips, and means for cutting the strips into bars of predetermined length, all of said means being synchronized and power driven from a single source.

This specification signed and witnessed this thirtieth day of November, 1923.

BOUDINOT STIMSON.