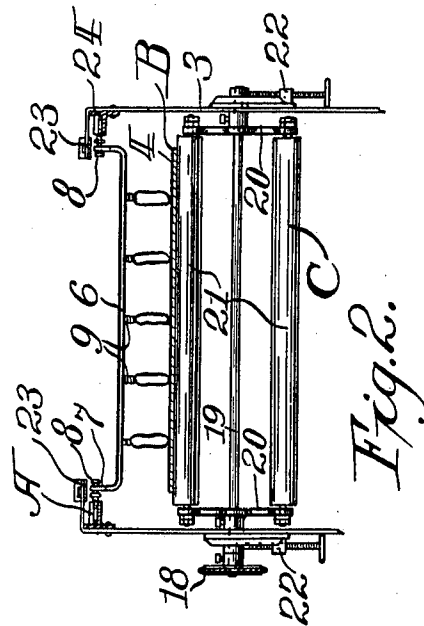
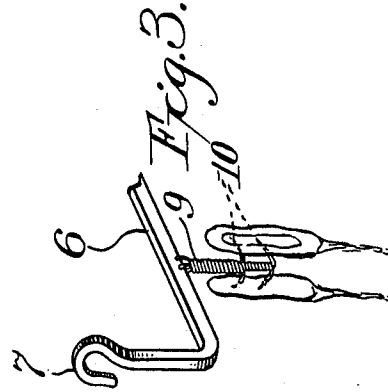
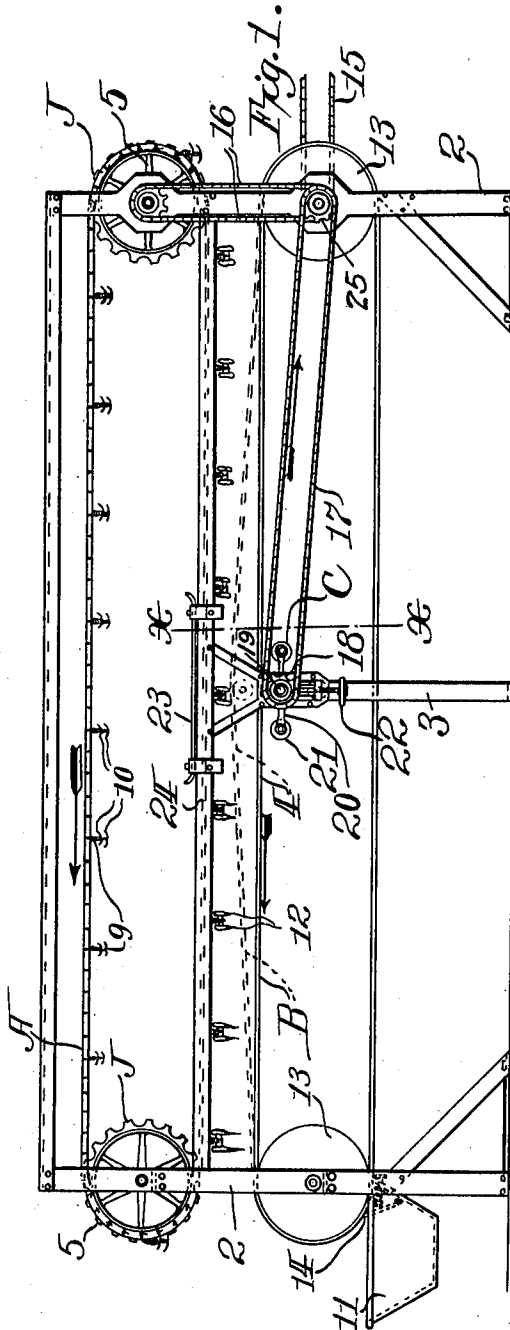


A. S. CAIRNCROSS.
 DRIP REMOVER FOR PASTRY MACHINES.
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Witnesses:
A. H. Stecher,
Paul S. Smith.

Inventor:
Andrew S. Cairncross,
 by: *J. S. Shadbury,*
Attorney.

UNITED STATES PATENT OFFICE.

ANDREW S. CAIRNCROSS, OF ST. PAUL, MINNESOTA.

DRIP-REMOVER FOR PASTRY-MACHINES.

1,021,236.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDREW S. CAIRNCROSS, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Drip-Removers for Pastry-Machines, of which the following is a specification.

My invention relates to improvements in drip removers and its object is to simplify and render automatic the removal of drainage tails or drip from dipped cookies on pastry machines.

In the manufacture of dipped or iced cookies, the cookies after being removed from the dip are hung on trolley hooks or other similar devices and carried forward while draining and drying and it has been found necessary in applying many of the dips and ices to such cookies to have the strings of dip which drain from the cookies removed by hand to produce a finished appearance in the product. This has entailed additional labor and expense and results in the product coming in contact with the hand of the additional operator. By means of my invention I have rendered unnecessary the additional operation and perform the work done by this operator by mechanical means which is automatic in its operation and in every way cleanly in its results.

In the drawings with which I have illustrated my device and which form part of my specification, Figure 1 illustrates a trolley machine adapted to the handling of dipped cookies together with the application of my device to the same; Fig. 2 is a section on the line X—X, Fig. 1, and Fig. 3 is a detail of the attachment of a dipped cookie to the trolley machine.

In the above drawings I have shown a supporting frame-work 2 on which is mounted a pair of traveling belts or trolleys A carrying the dipped cookies. Below the belts A is mounted a drip belt B operating in the opposite direction. My oscillator C by means of which I secure the removal of drip from the cookies is shown mounted on a frame 3 adjacent to the upper lap 4 of the belt B. The trolley belts A consist of any suitable link belt operating on pairs of large sprocket wheels 5 which are journaled at each end of the frame 2. The pairs of sprocket wheels 5 are spaced apart on the frame and U-shaped hangers 6 are provided having loops 7 in their upturned ends which

are hooked upon suitable pins 8 carried by the belts A. The pins 8 being arranged at intervals on the belt A and opposite each other carry the hangers freely suspended between the belts transversely thereof and hanging in the same relative position at all points of the travel of the belt. Each of the hangers 6 is provided with a plurality of trolley hooks 9 which are suspended at intervals from the hanger longitudinally thereof, and are provided with a pair of piercing points 10 on each side of the hook.

A dip tank 11 is provided on the frame 2 or otherwise conveniently located in which is maintained a supply of the dip or icing to be placed on the cookies. The cookies are passed through the dip by hand and when thoroughly coated with the dip are placed upon the piercing points 10 of the hooks 9 as illustrated in Fig. 3. The cookies are then advanced by the belts A as indicated by the arrows in Fig. 1, the material of the dip gradually draining from the cookies in tails or strings indicated at 12 in Figs. 1 and 3. The strings 12 gradually dry and harden as the cookies advance and are objectionable if not removed before the cookies are completely dry, since they are liable to cause difficulty in packing and imperfect coating of the dip if removed when dry. In Fig. 1 I have illustrated an ordinary drip belt operating directly below the trolleys A, being formed wide enough to receive the drainage from the suspended cookies, preventing the drainage from falling to the floor and returning it to the dip tank 11 as illustrated or any similar suitable receptacle. The belt B is mounted on suitable drums or pulleys 13 journaled in the frame 2 and travels in a direction opposite to that of the belts A. A spring scraper 14 impinging on the face of the belt B, removes the accumulated drainage received from the cookies, allowing it to fall into the dip tank 11.

The belt B is operated by means of a drive belt 15 connecting with any suitable source of power. A sprocket drive 16 operates the sprockets J on which the belts A are mounted driving the belts A and B in the directions indicated by the arrows in Fig. 1. A sprocket 25 operated by the drive belt 15 is connected by a sprocket chain 17 with a sprocket 18 on a shaft 19 which is journaled on the supporting frame 3 and carries my oscillator C.

The oscillator C consists of a pair of arms 20 mounted on the shaft 19 adjacent to the edges of the upper lap 4 of the drip belt B. The arms 20 are fixed parallel to each other and are of equal length on each side of the shaft 19. In the extremities of the arms 20 are journaled two rollers 21 which extend to the full width of the belt B. As the shaft 19 is rotated by the drive chain 17 the rollers 21 are carried about the shaft at a distance from it equal to the length of the arm 20.

The shaft 19 is vertically adjustable in the frame 3 by means of adjusting screws 22 or other suitable means and the shaft 19 is adjusted to such a height that the rotating rollers 21 come into contact with the lap 4 of the belt B and raise it into contact with the cookies suspended from the trolley A.

In order to maintain the belts A uniformly in one position while passing the oscillator C and to prevent the accidental removal of the hangers 6 from the pins 8 of the belts a guide 23 is mounted on a frame 24 and extends above the lower lap of the belts A at this point guiding them past the oscillator.

The oscillator is rotated with considerable speed bringing the rollers 21 into contact with the belt several times during the passage of a single hanger past the oscillator. In this way the strings or tails 12 are repeatedly brought into contact with the belt B and are gradually removed, the oscillator being placed at such a distance from the dip tank that the strings are not hardened before reaching the oscillator.

In operating my device the cookies are passed through the dip tank by hand being either attached to the hanger at that time or placed on the hooks subsequently, and the hangers are then attached to the belts A. The oscillator is adjusted to the correct height for the particular kind of cookie which is being dipped. The belts A and B and the oscillator C being operated as described, the cookies suspended upon the belts A are brought into repeated contact with the belt B while passing the oscillator C and are carried forward after this operation for further drying or for a repetition of the dipping process.

The application of my device is illustrated only in connection with a simple return belt but it is evident that both belts A and B may be of any desired length and carried through any convenient path with any desired number of repetitions of the dipping process while being carried forward, an oscillator being placed at a suitable point on the belt beyond each dip.

In this specification and in the subsequent claims the term oscillator is used to designate a device of the form illustrated or of any suitable form operating automatically

to bring a receiving surface in contact with a cookie suspended for drainage after being passed through a dip and remove superfluous coating material leaving the lowermost surface of the cookie smoothly coated. The term cookie is intended to designate any similar food product manufactured for the trade including cakes and candies of all sorts.

It is evident that the form and operation of the belts A and B and the means of suspension of the cookies may be varied without departing from the spirit of this invention.

In accordance with the patent statutes I have described the principles of operation of my invention together with the apparatus which I now consider to represent the best embodiment thereof but I desire to have it understood that the construction shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth within the scope of the following claims.

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

1. A device of the class set forth, comprising in combination, a traveling support, means on said support for the attachment of cookies to drain, a belt beneath said support to receive the drip therefrom, and means for bringing said belt into contact with said cookies to completely remove the drip therefrom.

2. A device of the class set forth, comprising, in combination, a support for a cookie to drain dip therefrom, a receiver below said support to receive said drainage, and means for bringing said receiver into repeated contact with a cookie on said support to remove the drainage strings therefrom.

3. A device of the class set forth, comprising, in combination, a traveling carrier belt, a hook on said belt to secure a cookie thereon for drainage, a drip belt traveling in an opposite direction to said carrier belt, and means for bringing said drip belt repeatedly into contact with the cookies suspended on said carrier belt.

4. In a device of the class set forth, a support for a cookie to drain dip therefrom, a receiver below said support to receive said drainage, an oscillator positioned below said receiver and comprising a rotating shaft, arms fixed to said shaft to rotate therewith, rollers journaled on said arms and adapted to cooperate with said receiver to bring it into repeated contact with said suspended cookie, whereby the dip draining therefrom may be entirely removed.

5. In a device of the class set forth, a support for a cookie to drain dip therefrom, a receiver below said support to receive said drainage, an oscillator positioned below said

receiver and adapted to bring the same into repeated contact with a cooky on said support, and means for adjusting said oscillator vertically to accommodate it to different
5 shapes of cookies on said support.

6. In a device of the class set forth, a support for a cooky to drain dip therefrom, a receiver positioned below said support to receive the drainage from a cooky upon
10 said support, means for moving said support past said receiver, an oscillator adapted to bring said receiver in contact with a

cooky on said support, and a guide cooperating with said oscillator to maintain said support at the proper relative distance from
15 said oscillator.

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

ANDREW S. CAIRNCROSS.

Witnesses:

A. L. FISCHER,
M. C. ADAMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."