

(No Model.)

2 Sheets—Sheet 1.

L. HIRSCHFELD.
BONBON DIPPING MACHINE.

No. 543,733.

Patented July 30, 1895.

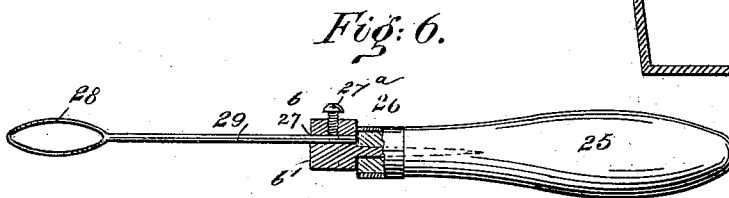
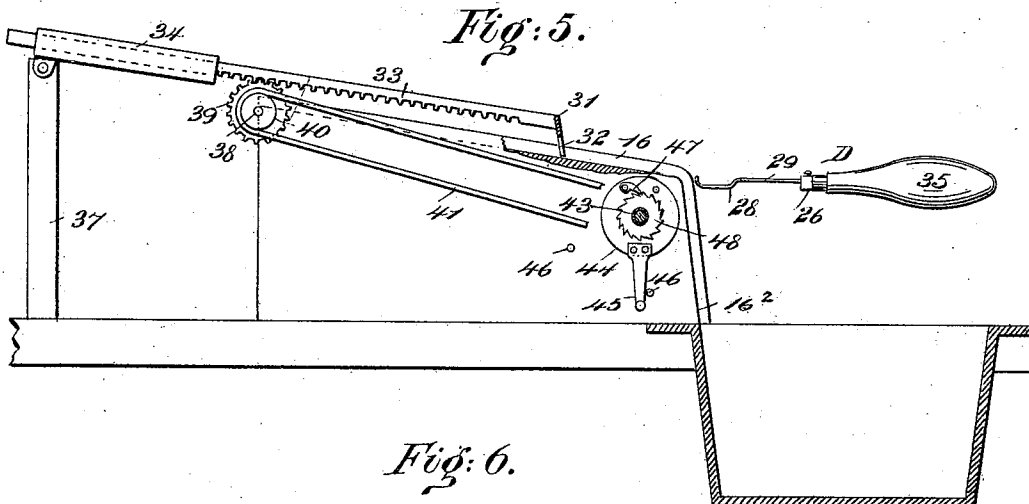
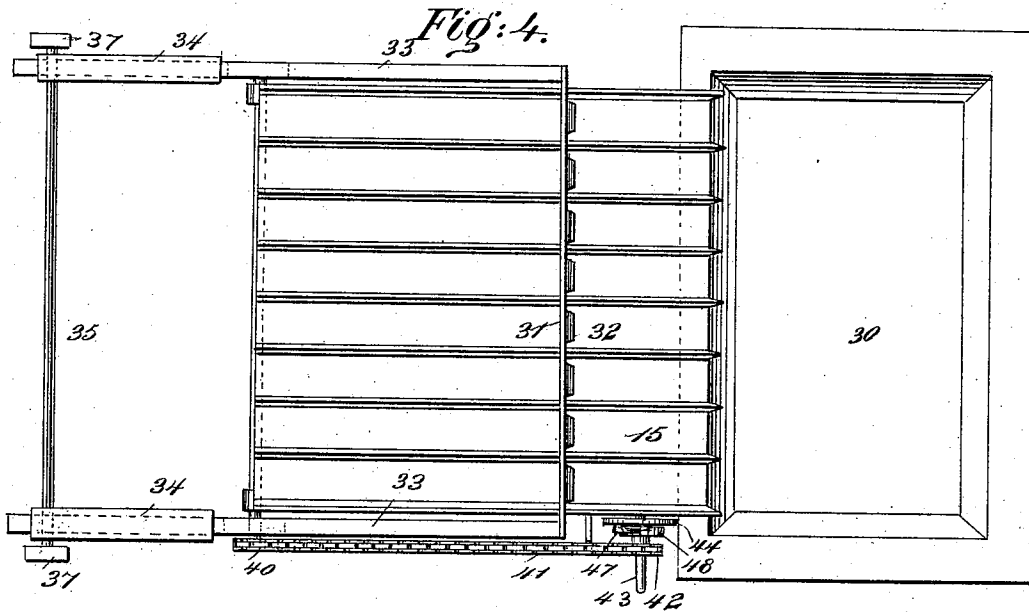


Fig: 7.

WITNESSES:
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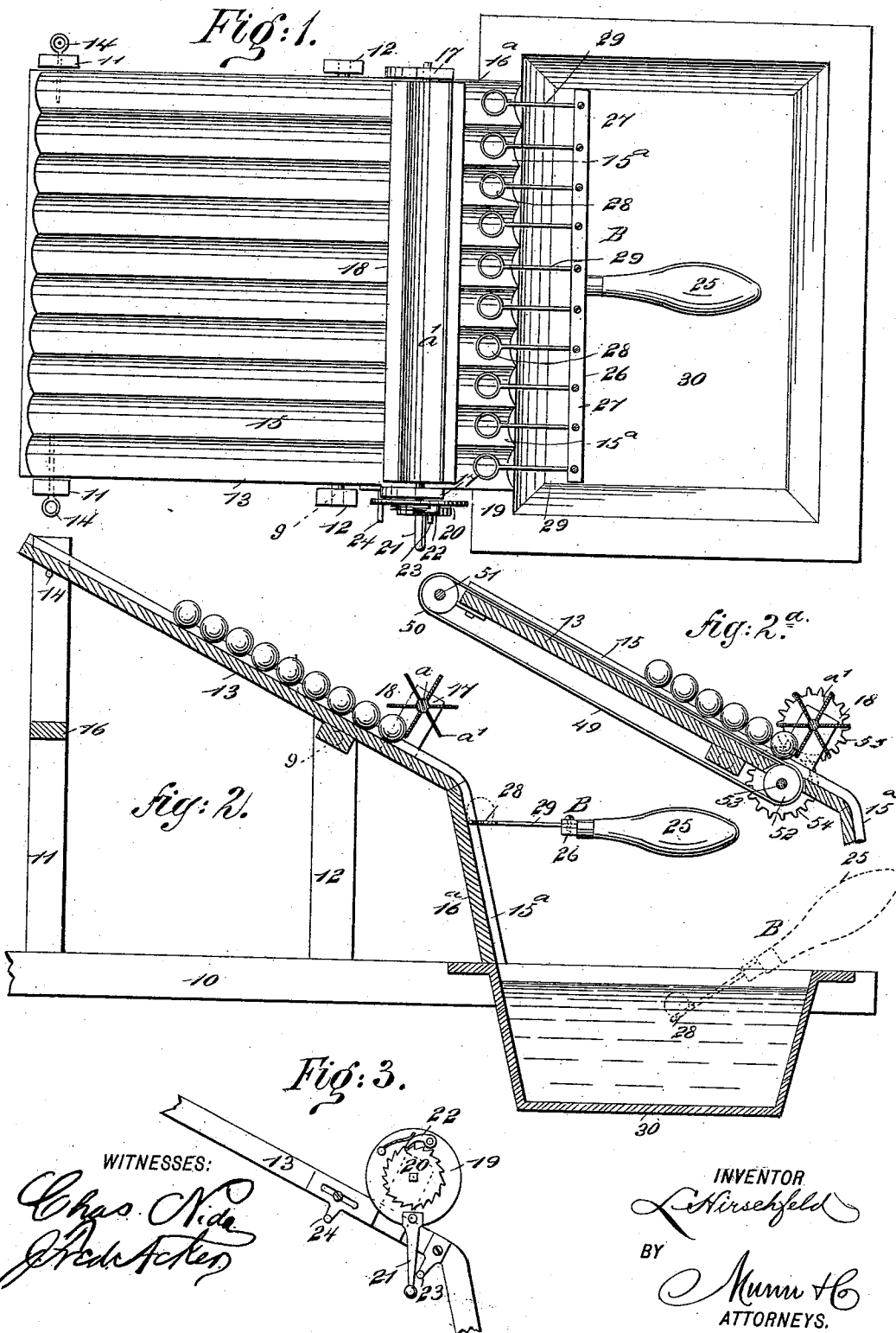
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2 Sheets—Sheet 2..

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UNITED STATES PATENT OFFICE.

LEO HIRSCHFELD, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JULIUS STERN AND JACOB SAALBERG, OF SAME PLACE.

BONBON-DIPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 543,733, dated July 30, 1895.

Application filed November 15, 1894. Serial No. 528,941. (No model.)

To all whom it may concern:

Be it known that I, LEO HIRSCHFELD, of New York city, in the county and State of New York, have invented a new and Improved Bonbon-Dipping Machine, of which the following is a full, clear, and exact description.

My invention relates to a bonbon-dipping machine; and it has for its object to provide an improved machine especially adapted for dipping bonbons and like confectionery, and the main object of the invention is to construct the machine in a manner whereby the candies to be dipped may be fed as desired to a spoon or other receiver, and through the medium of the latter dipped to receive their coating.

Another object of the invention is to provide a machine which may be operated by one individual in an expeditious and convenient manner, and whereby also any form of confectionery may be 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 to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the machine. Fig. 2 is a longitudinal vertical section thereof. Fig. 2^a is a section through the table, illustrating an auxiliary feed applied thereto. Fig. 3 is a side elevation of a portion of the feed mechanism. Fig. 4 is a plan view of a slightly-modified form of the machine. Fig. 5 is a side elevation thereof. Fig. 6 is a section through the fork-handle, illustrating the fork in position therein; and Fig. 7 is a plan view of a modified form of the fork.

In carrying out the invention a frame is employed, which usually consists of a substantially-rectangular base-section 10 and up-rights 11 and 12, which are attached to the side beams of the base, the forward standards 12 being shorter than the rear standards 11. A platform or table 13 is pivoted at 9 between the standards 12 in any suitable or approved manner, and this table, at its rear end, is held above its pivot in order that the table may have

a downward inclination through the medium of pins 14, or their equivalents, which are passed through the upper portions of the standards 11, and the bottom of the table rests thereon, as shown in Figs. 1 and 2. The top of the table is provided with a series of channels 15, which are semicircular in cross-section when the articles to be guided are of globular form, and the said channels are given any contour best adapted to the shape of the confectionery to be treated. The table may be placed in a lower position—that is, substantially horizontal—by causing its rear or elevated end to rest upon a bar 16, connecting the rear standards 11.

When the table or platform is in position for use, it is made to engage with the top of a guide-board 16^a, the said board being provided with channels 15^a, corresponding in number and position to the channels in the table or platform 13. In fact, the grooves or channels 15^a of the guide-board meet those in the table and virtually form continuations of the same.

At each side of the table or platform, near its lower or forward end, a bracket 17 is secured, and in these brackets the trunnions of a feed-wheel 18 are journaled, the said wheel being preferably adjustable and made in the shape shown in Figs. 1 and 2, in which it consists of a body-section *a* and blades or paddles *a'*, radiating from the body and located at predetermined distances apart.

Upon the outer end of one of the feed-wheel trunnions a disk 19 is loosely mounted, and upon the trunnion adjacent to the disk a ratchet-wheel 20 is secured. The disk is provided with a handle 21 near its edge, whereby it may be rotated, and a spring-pressed dog 22 is pivoted to the upper portion of the disk, engaging with the said ratchet-wheel 20. The movement of the disk in the forward direction is limited by its handle striking an arm 23 projected from the platform, while movement in a rearward direction is limited by engaging a similar arm 24, attached to the platform in an adjustable manner, as shown in Fig. 3.

In connection with the machine a fork B is employed. The body of the fork comprises a handle 25 and a head 26, the central portion

whereof is provided with a shank which enters the handle. The receiving-section of the fork consists of a series of rings 28, cups or their equivalents, preferably rings, and each ring is provided with a shank 29, and the shanks are made to enter apertures 27 in the head, being held firmly in position by set-screws 27^a entering the apertures and bearing upon the shanks. Thus it will be observed that the head of the fork will carry a number of receivers, and preferably the number of receivers will correspond to the number of channels 15 in the table or platform 13.

At the bottom of the guide-board 16^a and in front of the same a tray or dish is supported in any approved manner adapted to contain the sirup or other material in which the confectionery is to be dipped.

In the operation of this form of the machine the articles to be dipped are placed upon the table, preferably when it is in its horizontal position. The table is then elevated at its rear end, as shown in Fig. 2, and the lowermost articles in the several grooves or channels will engage with the lowermost paddle in the feed-wheel 18. The operator may now place the receiving members of the spoon in engagement with the walls of the various channels 15^a in the guide-board, as shown in Fig. 2, and by moving the handle 21 of the disk 19 forwardly until it strikes the arm 23, the dog carried thereby, and by means of the ratchet-wheel 20 will turn the feed-wheel sufficiently to cause it to carry forward the lowermost article from each series of the same in a channel, and these articles will drop downward and will be deposited in the receiving members of the spoon, whereupon the spoon is then dipped into the sirup, and all of the articles will receive a proper coating.

The form of the device shown in Figs. 4, 5, and 6 differs but slightly from that shown in Figs. 1 and 2, and in the modified form the table 13 need not be given any inclination unless desired, and the channels are formed so as to accommodate articles of a square or polygonal form, and the feed-wheel is dispensed with, being substituted by a feed-bar 31, having tongues extending downward, one into each channel. This feed-bar is connected at each end with a rack-bar 33, the teeth of the rack-bars being upon their under sides, and each rack-bar has sliding movement in a sleeve 34, fulcrumed upon two standards at the rear of the table, since in this case the table may be made stationary and in one piece with the feed-board 16^a. Usually the two sleeves 34 are located upon one shaft 35, which in its turn is located in the standards designated on the drawings as 37. At the rear of the table 13, below the rack-bars 33, a shaft 38 is journaled in suitable bearings, and this shaft carries two pinions 39, the pinions engaging with the teeth of the said rack-bars. At one end of the shaft 38 a pulley 40 is secured, and this pulley is connected by a belt 41 with a pulley 42 located upon a short

shaft 43, and this shaft is turned through the medium of a disk 44 loosely mounted upon it operated by a handle 45, having movement between guides 46, the said disk being provided with a dog 47 operating upon a ratchet-wheel 48 secured firmly to the shaft, the disk 44 operating in the same manner as the disk 19 in the form of the device shown in Figs. 1 and 2.

When the channels in the table are to receive square objects, the receiving members 28 of the fork are somewhat rectangular in form and depressed at the center, as shown in the side elevation in Fig. 5 and in the plan view, Fig. 7. Thus it will be observed that by rotating the shaft 43 the pinion-carrying shaft 38 will be likewise turned, and the racks 33 will be moved forwardly and will cause the feed-bar to advance and feed the material to the receiving-sections of the forks. After the rack-bars have been fed forwardly as far as possible they are pushed to their rearward position, being at the time raised slightly upward.

In Fig. 2^a I have illustrated an auxiliary feed applied to the table 13 to provide against the bonbons sticking or remaining fast in the channels 15. The auxiliary feed consists of an endless belt 49 passing longitudinally over the bottom of each channel and then beneath the table. These belts are likewise passed over pulleys 50 mounted upon a shaft 51 at the top of the table and over pulleys 52 secured upon a shaft 53 below the feed-wheel and the plane of the upper face of the table. The belts move simultaneously with the feed-wheel, since the lower shaft is connected by a gear 54 with a gear 55 upon the feed-wheel shaft or trunnion. As the material to be dipped is placed upon the belts it must move downward at each movement of the wheel in that direction.

It will be understood that the journals of the feed-wheel may be mounted in adjustable boxes in order that the wheel may be raised or lowered to suit different sizes of material.

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

1. In a machine of the character described, the combination with a frame, and a grooved table carried thereby, of a feed device above the table, a feed device operating shaft, a disk loosely mounted on the shaft and provided with a handle, a ratchet wheel secured to the said shaft, and a pawl carried by the disk and engaging the ratchet wheel, substantially as described.

2. In a machine of the character described, the combination with a frame, and an inclined table carried thereby and provided with longitudinal channels to receive the material to be dipped, of a feed device above the table, a feed device operating shaft, a disk loosely mounted on the shaft, a ratchet wheel secured to said shaft, a pawl carried by the disk and engaging the ratchet wheel, a handle project-

ing from the disk, and stops on opposite sides of the handle, substantially as described.

3. In a machine for dipping bon-bons or like articles, the combination, with a frame, a table pivotally mounted upon the frame and provided with channels upon one of its faces to receive the material to be dipped, and means substantially as described for holding one end of the table elevated, of a feed wheel consisting of a hub and a series of radiating blades, the said feed wheel being located over

the channeled portion of the board, a ratchet and pawl mechanism connected with the feed wheel, and means, substantially as described, for limiting the movement of the ratchet and pawl mechanism, as and for the purpose set forth.

LEO HIRSCHFELD.

Witnesses:

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A. ARNS, Jr.