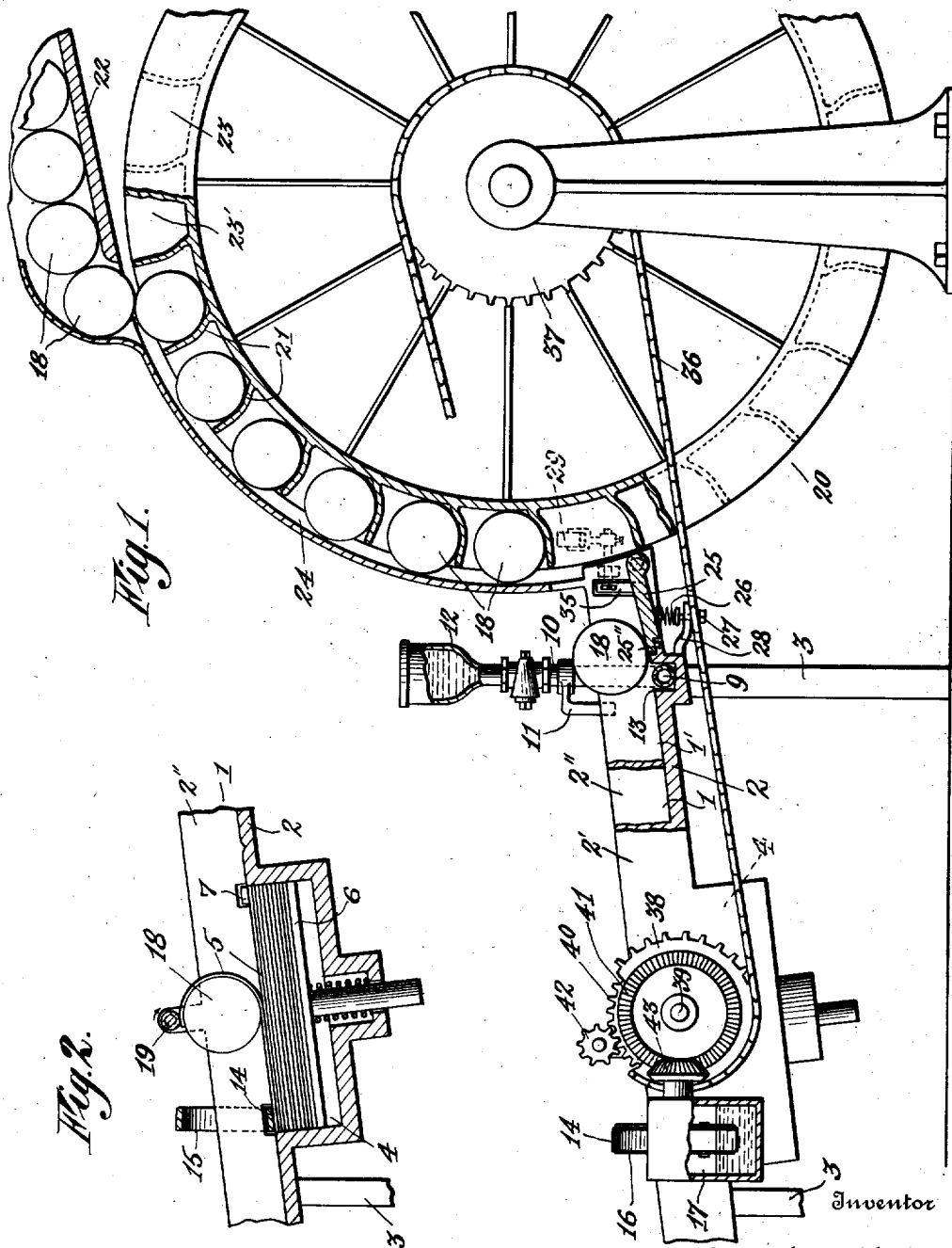


T. NISHIDA.
CAN LABELING MACHINE.
APPLICATION FILED MAR. 28, 1911.

1,018,398.

Patented Feb. 20, 1912.

3 SHEETS—SHEET 1.



Witnesses

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3 SHEETS-SHEET 2.

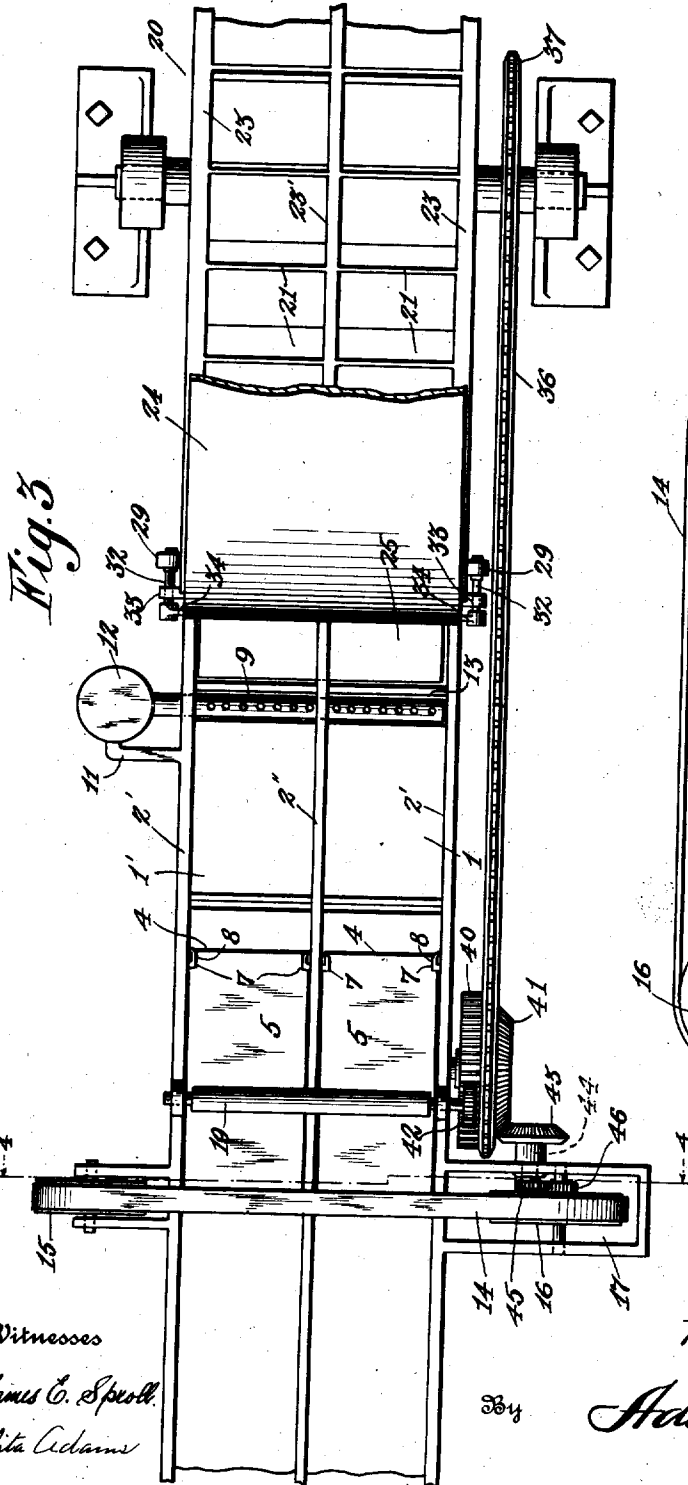


Fig. 3.

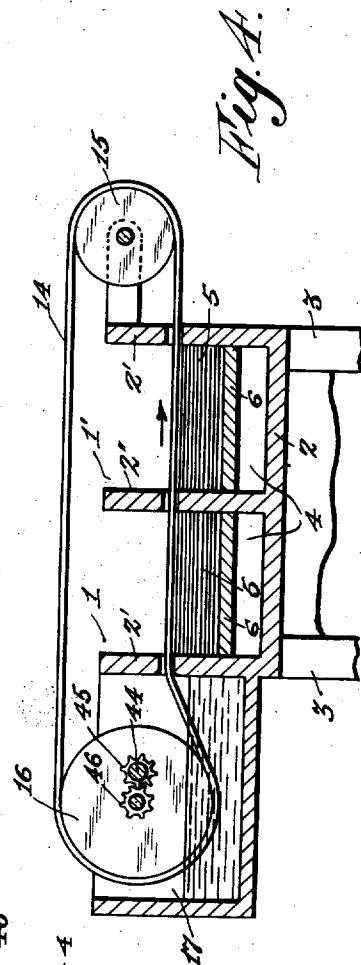


Fig. 4.

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3 SHEETS—SHEET 3.

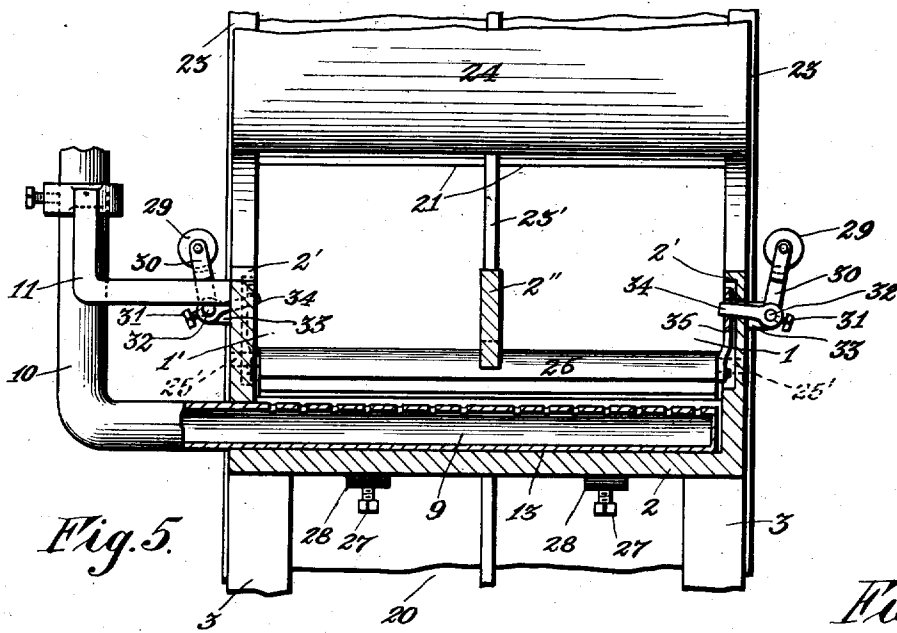


Fig. 9.

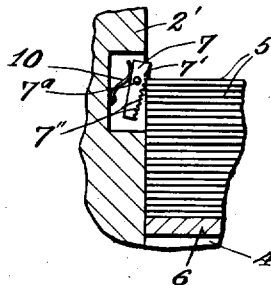
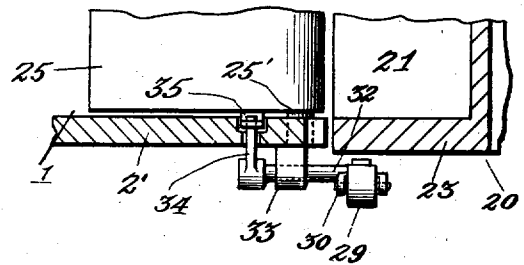
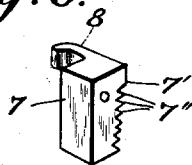


Fig. 8.



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UNITED STATES PATENT OFFICE.

TOKUTARO NISHIDA, OF SEATTLE, WASHINGTON.

CAN-LABELING MACHINE.

1,018,398.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed March 28, 1911. Serial No. 617,485.

To all whom it may concern:

Be it known that I, TOKUTARO NISHIDA, a subject of the Emperor of Japan, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Can-Labeling Machines, of which the following is a specification.

My invention relates to machines for applying labels to cans and has for a fundamental object the provision of a machine of this type, which is simple in construction, embracing comparatively few parts, and capable of operating in an efficient manner.

A further object is to provide novel mechanism for feeding the cans to be labeled.

Further the invention resides in the provision of novel mechanism for applying an adhesive to the can, and further, in means under control of an approaching can, for releasing a label.

With the above and other objects in view, to be referred to as my description progresses, my invention resides in the structural features, arrangements and combinations of parts hereinafter described and succinctly defined in my annexed claims.

Referring to the accompanying drawings, wherein like numerals of reference indicate like parts throughout the several views: Figure 1 is a fragmentary side elevation of a machine constructed in accordance with my invention, parts being broken away. Fig. 2 is a fragmentary longitudinal section of the can run-way, illustrating more particularly the label receptacle and holding device. Fig. 3 is a top plan, with portions broken away. Fig. 4 is a section taken on line 4-4 of Fig. 3. Fig. 5 is a transverse section through the can run-way. Fig. 6 is a fragmentary horizontal section taken through one side of the forward end portion of the can run-way and the adjacent portion of the can feeding mechanism, illustrating more particularly the braking mechanism. Fig. 7 is a detail view of the movable can actuated platform and the brake mechanism controlled for operation thereby. Fig. 8 is a detail perspective of one of the label catches, and Fig. 9 is a fragmentary transverse section taken through one side portion of a label receptacle.

In this my preferred construction, I have disclosed run-ways 1, 1' for the cans these

being inclined downwardly in a rearward direction and provided on a suitable base 2, supported by legs 3, by the longitudinal side walls 2' and intermediate partition 2''. For each runway I provide a label receptacle or chamber, as 4, in which the labels 5 are arranged, in a pile on a spring pressed follower, as 6, which serves to feed said labels upwardly and expose the same through an opening in base 2, see Fig. 2. The forward end portion of the uppermost label is held down by catches 7, pivotally mounted in suitable cut outs of the adjacent wall 2' and partition 2''.

Catches 7 being identical in form, a description of one will suffice. This comprises an elongated body provided on its inner side face with a lip 7' and with a plurality of teeth or serrations 7'', and from said lip a cam extension 8 projects forwardly so as to normally lie in the path of the cans forwarded from a paste applying means 9.

A spring 10 tends to hold catch 7, as shown in Fig. 9, in which position lip 7' engages over the uppermost label to hold the same flush or substantially flush with the can runway while teeth 7'' are held in proximity to the adjacent underlying labels for movement into firm engagement with the latter upon swinging of the catch on its pivot 7^a by a can, as will be hereinafter more fully set forth.

Paste applying means 9 comprises a discharge head, conveniently of tubular form, which is seated in a groove 13 extending transversely of runways 1, 1' and formed in its upper face with a plurality of discharge apertures spaced in the direction of its length. One end portion of head 9 is connected by an angular extension 10, held in a suitable bracket 11, with an elevated paste receptacle 12.

Reference numeral 14 indicates a second paste applying means, this as now considered, comprising an endless belt whose lower run travels across the rear end portion of label chambers 4 in engagement with the uppermost labels therein, to thereby apply paste thereto and also hold the same in proper position for application to the cans. This endless belt 14 takes over pulleys 15 and 16 arranged on opposite sides of base 2, and the last named thereof, is mounted in a paste tank or chamber 17.

Paste applying means 9 is arranged sufficiently in advance of label receptacles 4

to permit of a can completing practically an entire revolution by the time it reaches the label, and paste applying means 14 is arranged a corresponding distance or substantially so rearwardly of the forward end portions of said label receptacles 4, it being understood that labels 5 are ordinarily of such length as to permit of the lapping of their rear end portions on the forward or that end portion first attached to the can.

In the operation of the mechanism thus far described, a can, as 18, deposited in either of the runways 1, 1' at the forward or elevated end portions thereof, rolls by gravity, traveling first over paste applying means 9, thereby receiving an application of paste for its entire length. In its further travel, the can encounters cams 8 and through engagement therewith forces outwardly the upper end portions of catches 7 thereby disengaging the upper label 5 from catch lips 7' and thus freeing this label so that it can be picked up by the can. While freeing the uppermost label 5, as just described, the underlying labels are held, against upward movement by follower 6, by teeth 7'' which are forced into the sides of the adjacent labels to be withdrawn when springs 10 are again permitted to return catches 7 to their normal positions. In traveling across chamber 4, the can passes under a roller 19, see Fig. 2, which through its engagement serves to smooth and press the label on the can, and further, to roll the latter between the upper and lower runs of endless belt 14, at which time the rear end of the label is withdrawn and subsequently pressed firmly to the can as the latter rolls down the delivery end portion of the runway.

In conjunction with runways 1, 1' I provide novel mechanism for feeding the cans thereto intermittently, the same comprising a wheel 20 interposed between base 2 and a source of supply, as for example a chute 22. Wheel 20 is formed in its periphery with can receiving pockets, these being provided by transversely disposed partitions 21 connecting edge and intermediate longitudinal flanges 23, 23' respectively.

Reference numeral 24 indicates a fixed guard for the cans in their conveyance on wheel 20, the same extending from chute 22 in outwardly spaced relation to said wheel, to a point in proximity to an inclined platform 25 onto which the cans discharge. Platform 25 which is pivoted at its forward end portion by studs 25', normally has its rear end portion slightly elevated by springs 26, whose tension can be regulated by suitable adjusting screws 27, having threaded engagement in lugs 28 of base 2.

Reference numeral 29 indicates brake shoes, in the form of rollers, which oppose respective flanges 23 of wheel 20, the same

being journaled in arms 30, adjustably held by set screws 31, on respective rock shafts 32, journaled in suitable bearings 33 of side walls 2', and having fixed arms 34 connected by links 35 with platform 25. This construction and arrangement of parts enables me to prevent "racing" of wheel 20 and thereby obtain a desired spacing of the cans as fed to base 2, inasmuch as the cans in traveling across platform 25 depress the rear end portion of the latter and thereby apply brake shoes 29 to the wheel 20 and thereby serve to retard the movement thereof, as will be readily understood. This braking action can be regulated by setting arms 30 on their shafts 32, as desired, upon first loosening set screws 31, or it can be eliminated entirely. In the latter instance, the rear end portion of platform 25 is permitted to seat on its stop 25'' through proper manipulation of screws 27, and arms 30 are disengaged from shafts 32. As now considered, wheel 20 is driven through the weight of the cans conveyed, the latter falling from chute 22 into respective pockets of said wheel, as more clearly illustrated in Fig. 1.

Reference numeral 36 indicates a chain taking over a sprocket wheel 37, of wheel 20, and over a sprocket wheel 38, for communicating movement to the latter. Sprocket wheel 38 is journaled on a fixed stud shaft 39, of base 2, and has fixed thereto spur and bevel gears 40, 41 respectively, the former meshing with a pinion 42 of roller 19, and the latter meshing with a bevel gear 43, fixed to a shaft 44, journaled in the wall of tank or chamber 17 and provided on its inner end portion with a pinion 45, meshing with a similar gear 46 on the shaft of pulley 16.

Various changes can be made in the minor details of construction, without departing from the spirit of the invention defined in my annexed claims, and further, it will be understood that my invention is not restricted to the feature of simultaneously operating on two independent series of cans.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is:

1. In a can labeling machine, a runway for the cans, means for supporting labels in superimposed relation, means yieldingly pressing said labels toward said runway, and label holding means operated by a can to release the innermost label and simultaneously hold the remainder.

2. In a can labeling machine, a runway for the cans, means for supporting labels in superimposed relation, means yieldingly pressing said labels toward said runway, a pivoted catch means engaging over the innermost label and provided with a grip-

ping portion disposed at the side of the labels, and means operated by and during movement of a can for actuating said catch means to release the innermost label and
 5 move its said gripping portion to hold the remainder of the labels.

3. In a can labeling machine, in combination with a runway for the cans, means for feeding cans to said runway comprising a
 10 rotary carrier provided with can receiving pockets and supported for operation by weight of the cans, and means arranged for operation on the cans on said runway connected for actuation by said feeding means.

15 4. In a can labeling machine, a rotatable wheel provided in its periphery with pockets, means for delivering cans to said wheel for effecting rotation thereof, a runway at the lower portion of said wheel arranged to receive the cans discharged there-
 20 from, means for supporting a label in said runway in the path of a can, means arranged above said label for engagement with the can to thereby press the label thereto, and
 25 means for driving said last means from said wheel.

5. In a can labeling machine, a rotatable wheel provided in its periphery with
 30 pockets, a can chute above said wheel, a runway at the lower side of said wheel, said can chute being arranged to feed the cans

to said wheel, whereby the latter will be rotated by the cans carried, said runway being inclined downwardly from said wheel, a
 35 yieldingly supported platform at the forward end portion of said runway in the path of the cans, and a brake for said wheel connected with said platform for operation thereby.

6. In a can labeling machine, can convey- 40
 ing means operative by weight of the cans carried thereby, a runway arranged to receive the cans from said conveying means, means for holding labels in the path of the
 45 cans traveling on said runway, and mechanism associated with said labels for operation thereon and connected with said conveying means for operation thereby.

7. In a can labeling machine, can convey- 50
 ing means operative by weight of the cans carried thereon, a runway arranged to receive the cans from said conveying means, means for holding the label in said runway, and means for applying paste to the label
 55 connected for operation by said conveying means.

Signed at Seattle, Washington this 21 day of March 1911.

TOKUTARO NISHIDA.

Witnesses:

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