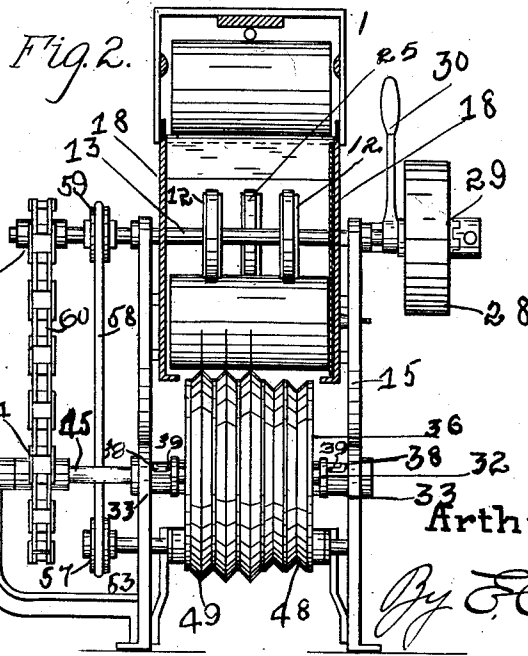
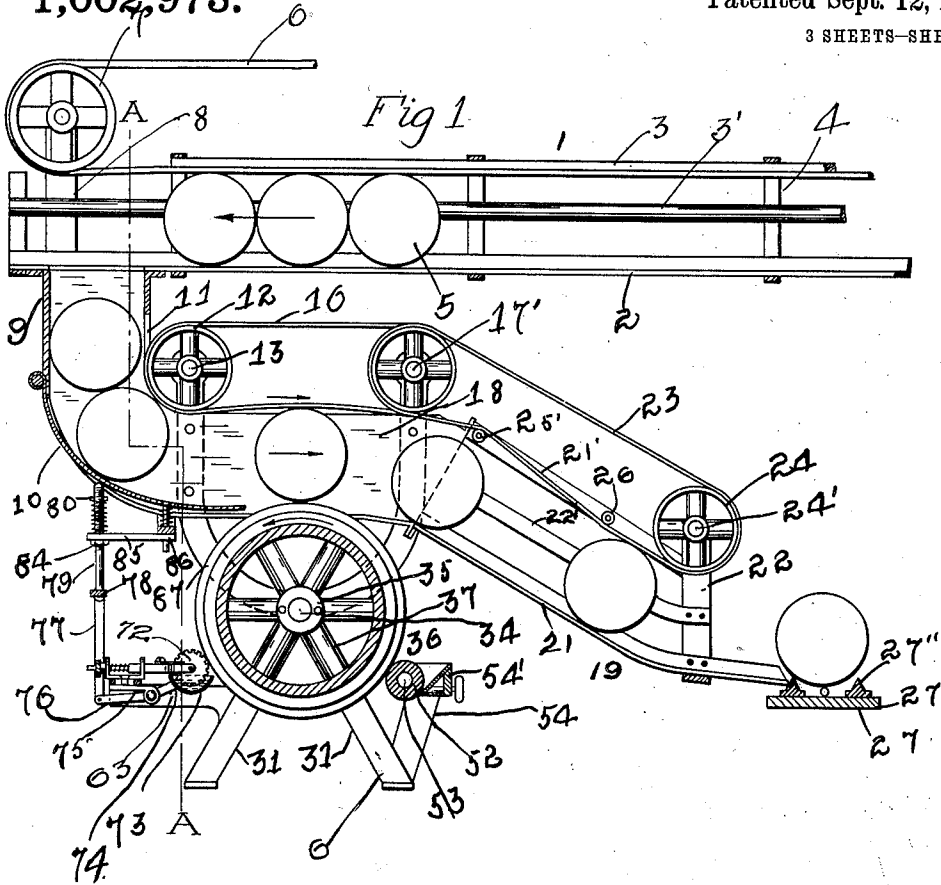


A. L. DUNCAN.
CAN MARKING MACHINE.
APPLICATION FILED JULY 1, 1910.

Patented Sept. 12, 1911.

3 SHEETS—SHEET 1.

1,002,973.



Witnesses
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3 SHEETS—SHEET 2.

Fig. 3.

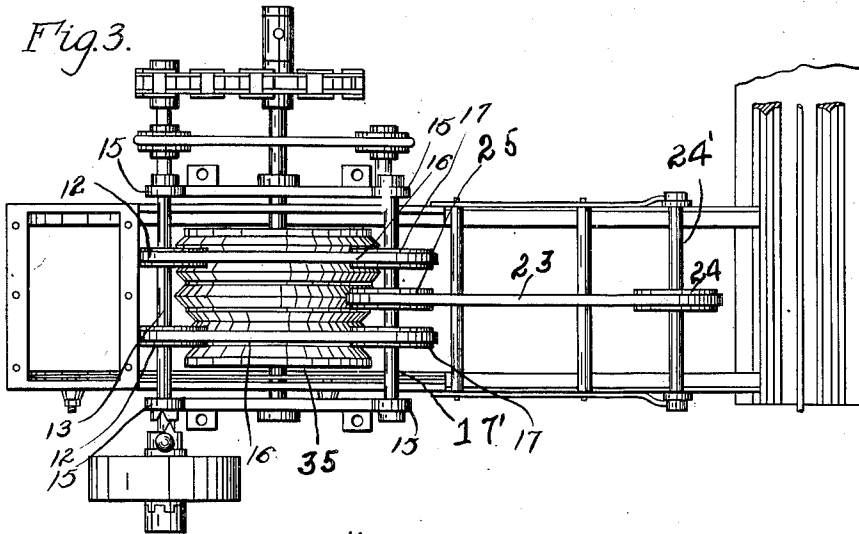


Fig. 4.

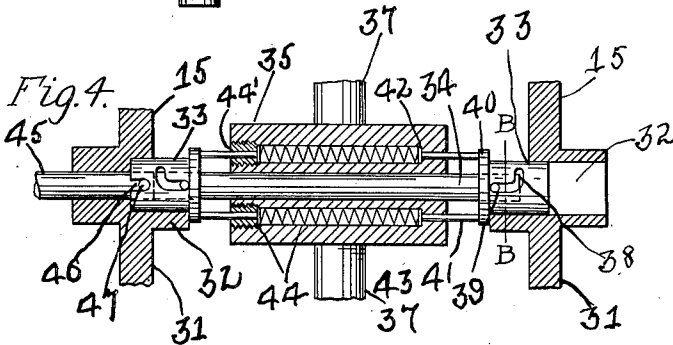


Fig. 5.



Fig. 6.

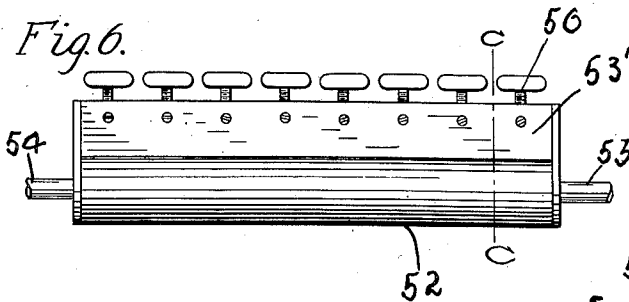
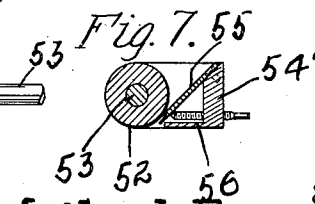


Fig. 7.



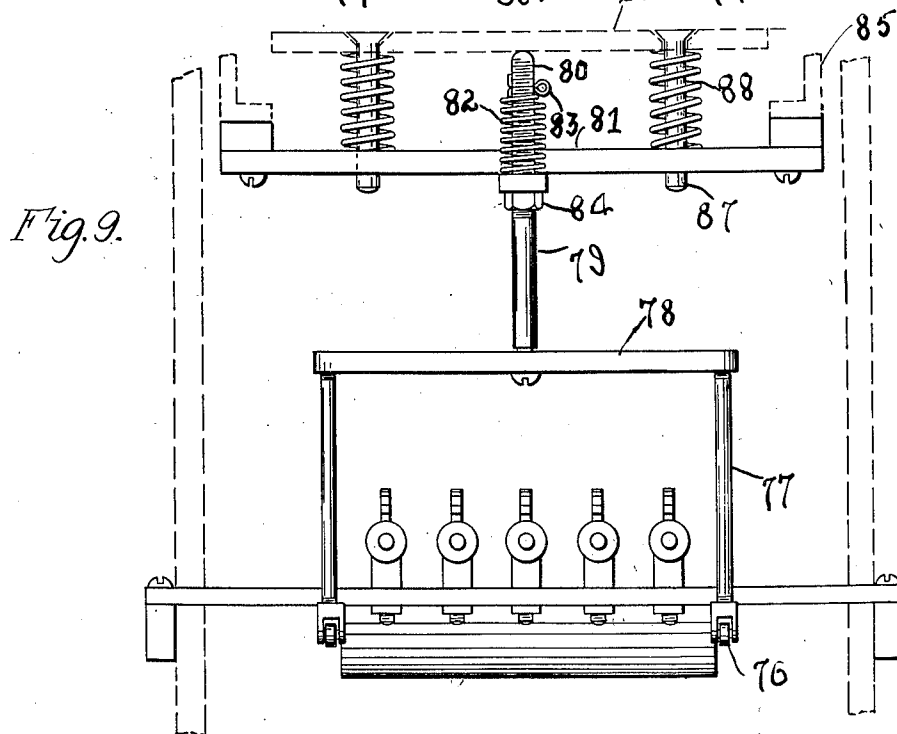
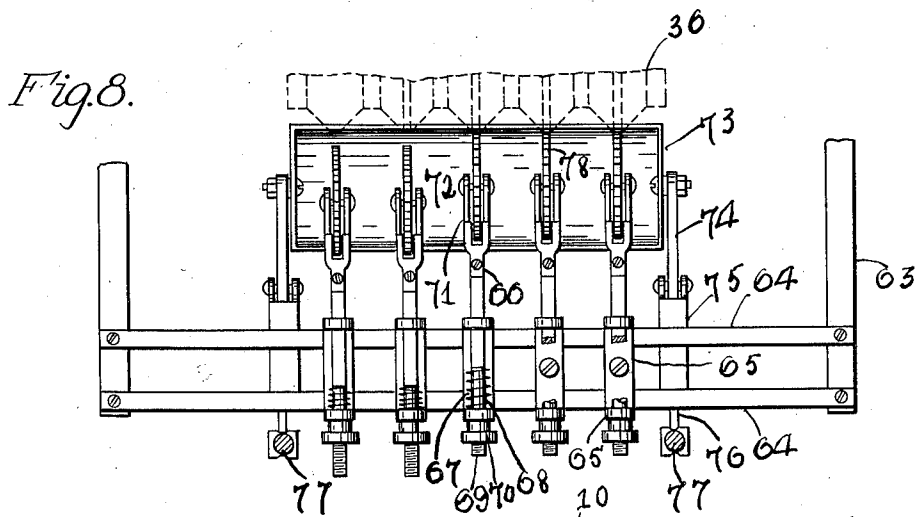
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UNITED STATES PATENT OFFICE.

ARTHUR L. DUNCAN, OF OAKLAND, CALIFORNIA.

CAN-MARKING MACHINE.

1,002,973.

Specification of Letters Patent.

Patented Sept. 12, 1911.

Application filed July 1, 1910. Serial No. 569,997.

To all whom it may concern:

Be it known that I, ARTHUR L. DUNCAN, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Can-Marking Machines, of which the following is a specification.

This invention relates to the branding of cans used for preserving fruits, vegetables, etc., and has for its object to provide a machine by means of which cans for preserving fruits, vegetables, etc., are branded on the sides of the can instead of on its top. Heretofore in so branding cans the brand was placed on the top of the can so that the operator filling the can could see the particular kind of brand marked on the top, which indicated the grade of the substance inclosed in the can.

There is now in use a new type of can known as the sanitary can, and has no cover but is open as it is fed in the machine, the cover being fastened thereto after the fruit or other substance has been packed in the can. As the new sanitary can now in use by all canning companies has no top it is necessary to mark the can on its side in some conspicuous manner and in order that the mark or brand may be readily seen it is necessary that said mark should be continuous around the sides of the can so that the operator in filling same will have no trouble in seeing it.

The present invention has for its object to provide a machine by means of which a brand or mark may be placed entirely about the sides of the can. To effect this, cans open at one end are fed past a branding device which can have the branding marks so detachably mounted thereon that the different marks may be applied to cans to indicate the kind of fruit or other substance within the same.

In accomplishing the objects of this invention as generally stated above it will of course be understood that the essential features thereof are subject to variations in design and structural arrangements but one preferred and practical arrangement is set forth in the accompanying specification and attached drawings, wherein:—

Figure 1 is a side view in longitudinal section of a machine for branding cans constructed in accordance with this invention. Figure 2 is a rear end view in vertical section

of the apparatus on the line A—A of Fig. 1. Fig. 3 is a plan view thereof with the feed conveyer omitted. Fig. 4 is an enlarged detail view in cross section of the hub and shaft of the branding wheel and its bearings. Fig. 5 is an enlarged view in cross section of the inking roller and reservoir. Fig. 6 is an enlarged plan view looking at the underside of the inking roller and its connections. Fig. 7 is an enlarged detail view in cross section of the inking roller on the line C—C of Fig. 6. Fig. 8 is an enlarged plan view of a second inking apparatus. Fig. 9 is a view in rear elevation of the device shown in Fig. 8.

In carrying out the invention the apparatus is provided at its top with a can conveyer 1 constructed in any suitable manner, and as here shown, preferably formed with pairs of bottom rails 2 in the shape of angle-irons connected by vertical supports spaced apart and pairs of upper rails 3. The sides of the conveyer are provided with guide strips 3' secured to the uprights 4 which are located adjacent to the ends of the cans 5, the ends of said cans resting upon the angle-irons 2. Movable through the top of the conveyer 1 is an endless belt 6 which passes over a pulley 7 mounted in an upright 8 of the conveyer, said endless belt 6 extending to another pulley and support not shown. Depending from the forward end of the conveyer is a chute 9 which may be formed of metal and has hinged to one side of its lower end a curved strip 10 also of sheet metal and yieldingly held in place as hereinbefore described and has formed in its other side an opening 11 through which projects pairs of pulleys 12 mounted on the shaft 13 having its supports in uprights 15 of the main frame. Extending over said pulleys 12 are endless belts 16 mounted on a shaft 17 having its bearings also in uprights 15 of the main frame. The shaft 13 projects through vertical sides 18 of sheet metal depending from the conveyer 1. Extending from the sides 18 and downwardly inclined is a conveyer 19 constructed in any suitable manner, and as here shown, preferably with the lower pairs of guide strips 21 formed in the shape of angle-irons and connected by uprights 22 with upper inclined bars 21' having guide bars 22' on each side of said conveyer spaced apart from the upper and lower bars. An endless conveyer belt 23 extends over a pulley 24 mounted on a shaft 24' on the upper

ends of the uprights 22, said endless belt 23 extending over a pulley 25 mounted on the shaft 17' of the pulley 17. The endless belt 23 extends over a friction roller 25' on one of the upper bars 21' of the conveyer frame and beneath the friction roller 26 on said bar.

It will be seen that by means of this construction that the cans 5 passing down through the conveyer 19 will not engage the belt 23 until each can reaches the point adjacent to the lower end of said conveyer 19. By this means, a can arriving at a point adjacent to the lower end of said conveyer, as shown in Fig. 1, will be retarded in its movement by coming in contact with the endless belt 23 and permit the preceding can which is passing on to the conveyer 27 to move out of the way before the can behind it reaches the conveyer 27. The conveyer 27 may be of any suitable shape and as here shown in cross section consists of a strip 27' having rails 27''. The shaft 13 may be driven by any suitable means as, for example, by means of a pulley 28 mounted on the shaft 13 so as to be slidable thereon and provided with a clutch 29 which can be opened and closed by means of a suitable operating handle 30. The lower ends of the main frame are formed with the diagonal supports 31 which connect at their upper ends with the lower portions of the uprights 14 and at such point the main frame is formed with a tubular socket 32 for the cylindrical bushings 33 in which are located the ends of the spindle or shaft 34 extending through the hub 35 of a wheel 36 having sprockets 37, each being formed with a bayonet joint slot 38 in which is located a pin 39 projecting from the shaft or spindle 34. Projecting from the flange 40 of each bushing 33 are rods 41 which extend through holes in the hub 35 and have heads 42 located in the ends of longitudinal sockets 43 in which are mounted coil springs 44 having their ends connected with heads 42 and the rods 41. The springs 44 serve to hold the bushings 33 in their socket bearings 32, the flange 40 of each bushing bearing against the end of each socket bearing 32. The springs 44 are inclosed in longitudinal sockets 43 by means of screw-plugs 44' through which the rods 41 extend. One of the bushings 33 is connected to a shaft 45 by means of open ended slots 46 in one end of said bushing 33 engaging the pins 47 projecting from the shaft 45. It will be seen that by means of this construction, the shaft or spindle by means of the bushing 33 will be in locked engagement with the shaft 45 to rotate therewith. It will be seen that by means of this construction hereinbefore described the hub and shaft of the wheel 36 permits the latter to be detached from its bearings by pushing in the bushing 33 so as

to disengage them from the socket bearings 32 all for a purpose to be hereinafter set forth.

The wheel 36 is formed with any number of grooves 48 desired in which are detachably located rubber rings 49 having on their periphery the desired characters of the mark or brand.

One end of the shaft 45 has its bearings in one of the uprights 15 and the other end in a sleeve 50 on the upper end of an elbow shaped bracket 51 mounted on one of the diagonal supports 31.

In connection with the foregoing apparatus there is provided an inking roller 52—preferably a smooth metallic cylinder, mounted on a shaft 53 having its bearings in inclined uprights 54 pivotally secured at their lower ends to one of the inclined supports 31 and adapted to be swung in said supports so as to move the inking roller 52 into and out of engagement with the branding wheel. A casting 54' extends longitudinally in the rear of the inking roller 52 and has its ends mounted in the inclined supports 54. A longitudinal steel strip 55 is mounted on its upper edge to the casting 54', and has its lower edge adjacent to the inking roller 52. The strip 55 is flexible and may be adjusted to and away from the roller 52 by means of set-screws 56 mounted in the casting 54'. Mounted on one end of the shaft 53 which projects beyond one of the supports 31 of the main frame is a pulley 57 over which extends an endless band 58 which passes over a pulley 59 on the shaft 13. The shaft 45 which is connected with the shaft of the branding wheel, as heretofore set forth, is driven by means of an endless chain 60 which extends over a large sprocket wheel 61 on the shaft 45 and a smaller sprocket wheel 62 on the shaft 13, the relative sizes of said sprocket wheels 61 and 62 being such as to time the movement of the branding wheel to the movement of the cans as they pass over the latter. In connection with this apparatus a second inking device is employed constructed as follows:—Projecting from one of the pairs of supports 31 of the main frame are horizontal brackets 63 which extend longitudinally on one side of the uprights and are connected together by cross bars 64. Mounted upon the cross bars 64 in any suitable manner is a row of strips 65 having up-turned ends 65' through which extend longitudinally movable rods formed with a square portion 66 and with a rounded portion 67 forming a shoulder with a square portion and having encircled thereon a coil spring 68 which has its end bearing against one of the up-turned ends 65' and the shoulder portion of the rod, the outer end of said rod being secured thereto as at 69 on which is mounted an adjusting nut 70. The forward ends of the rods are each formed with

a U-shaped portion 71 in which is mounted a toothed inking wheel 72, the periphery of said wheel being located adjacent to the periphery of the branding wheel. The toothed inking wheels 72 are located above an ink trough 73 and partly project into the same, said ink trough being pivotally mounted on the outer end of rods 74 which are pivotally connected at their inner end with a bracket 75 mounted on the cross bars 64 and having extensions 76 which are pivotally connected at their outer ends with the lower ends of vertical rods 77 depending from each end of the cross bar 78 in the center of which is connected the lower end of a vertical rod 79 having a threaded upper portion 80 projecting through a cross bar 81, said threaded upper portion of rod 79 having encircling the same a coil spring 82 held at its upper end by a cotter pin 83 and adjustably held at its lower end by an adjusting nut 84 by means of which the tension of said spring may be regulated. Projecting from the cross bar 81 are horizontal bars 85 which are connected with the ends of the cross bar 86 through which projects pins 87 connected at their upper ends with the curved hinged strip 10 and having a coil spring 88 located on the pins 87 between the strip 10 and the cross strip 86.

The operation of the apparatus is as follows:—Cans 5 having open ends and fed from the conveyer 1 to the chute 9 and passing down through the same as shown in Fig. 1 successively come in contact with the endless band 16 thereby causing the cans to press on the yielding hinged strip 10, which holds each can as it passes in frictional engagement with the band 16 and which in turn bears against the pins 79 and 87 and pushes down the cross bar 78 and the depending bars 77 by acting on the bars 76, so as to press the inking roller 72 against the periphery of the branding wheel. The branding wheel, which as hereinbefore described, consists of a grooved wheel with detachable rubber rings in said grooves having suitable marking devices extending around their peripheries, rotates against the inking roller 52 and in such rotation the cans as they are fed forward each engage the periphery of said branding wheel. A can in such engagement with the branding wheel being pressed against said wheel by the endless band 16 will be caused to rotate so that the branding wheel will mark the entire circumference of the can. The branding wheel may be formed of any number of grooves desired, and as many rubber rings as desired to mark a particular brand are mounted on the grooved wheel. For example should the particular brand be three lines to be placed on the circumference of the can three rubber rings are used as shown in Fig. 2. As hereinbefore described, the grooved brand-

ing wheel may be readily detached to remove or change the rubber rings on said wheel according to the character of the brand desired to be imprinted on the cans. When it is desired to place a different circumferential brand or mark on the cans the inking roller 52 may be swung and held out of the way by means of a hinged support and any number of toothed inking rollers 72 may be employed according to the character of the brand desired to be imprinted on each can. This use of the toothed inking rollers is indicated in Fig. 8—the rollers being adjusted into and out of engagement with the periphery of the branding wheel by means of the spring actuated coils and the adjusting nuts 70.

It has been found desirable for certain forms of branding to use a device which supplies ink intermittently and in a narrow line. For this reason the hereinbefore described construction of the inking wheels 72, the ink trough 73 and the operative parts connected therewith are employed. When it is in use the inking roller 52 is moved out of engagement with the branding wheel.

Having described the invention, I claim:—

1. In a machine of the character described, a feed conveyer mechanism for feeding cans with a rotary movement, a second feeding mechanism for feeding cans with a rotary movement, a main discharge conveyer connected with said second feeding mechanism, means for yieldingly holding each can in frictional engagement with the second feeding mechanism as it passes from the first named feeding mechanism to the second with a rotary movement and a rotary branding device adjacent to said second feeding mechanism and adapted to mark the sides of each can as it is fed past said branding device.

2. In a machine of the character described, an upper can feeding mechanism for moving the cans forward with a rotary movement, a second can feeding mechanism for moving the cans forward with a rotary movement, means for yieldingly holding each can in frictional engagement with the second can feeding mechanism as the can passes between the upper feeding mechanism to the second feeding mechanism, a can discharge conveyer connected with the second can feeding mechanism and a branding device movable beneath the second can feeding mechanism and adapted to mark the sides of each can as it is fed over the same.

3. In a machine of the character described, an upper can feeding mechanism for moving the cans forward with a rotary movement, a discharge chute located at one end of said can feeding mechanism, a second can feeding mechanism located below the

upper can feeding mechanism and adjacent to said discharge chute, and serving to engage and feed cans from said chute to a branding device, a third can feeding mechanism located adjacent to the second can feeding mechanism, and a rotary branding device located beneath the second can feeding mechanism, and adapted to mark the sides of each can as it passes over said branding device.

4. In a machine of the character described, an upper can feeding mechanism for feeding forward cans with a rotary movement, a chute depending from said upper can feeding mechanism and provided with a yielding portion, a second feeding mechanism having one end located adjacent to said chute and opposite to said yielding portion thereof, a can discharge conveyer located adjacent to said second can feeding mechanism, and a rotary branding device located adjacent to said second can feeding mechanism and adapted to mark the sides of each can as it is rotated over said branding device.

5. In a machine of the character described, an upper can feeding conveyer consisting of brackets adapted to support cans endwise, and an endless belt movable through the top of said conveyer, and adapted to contact with the cans and to feed them forward with a rotary movement, a second can conveyer consisting of an endless belt, a conduit depending from the first-named conveyer and connected with the second conveyer, said endless belt of the second conveyer being located in one side of said conduit, and extending along the top of the second conveyer, a can discharge conveyer connected with the second conveyer, and a rotary branding device located adjacent to the second conveyer and adapted to mark the sides of each can as it is moved with a rotary motion over said wheel.

6. In a machine of the character described, an upper can feeding conveyer adapted to move cans endwise with a rotary movement, a second can conveyer comprising a chute, and an endless belt movable along the top of said chute and adapted to engage cans moving through said chute, and to rotate the same, and a chute depending from the first named conveyer and formed with a curved lower portion, said endless belt of the second conveyer being located at one side of said chute, a can discharge conveyer adjacent to the second can conveyer and a rotary branding wheel having its periphery located adjacent to the second conveyer and adapted to mark the sides of the cans passing through said conveyer between said wheel and the endless belt of the second conveyer.

7. In a machine of the character described, a conveyer for feeding cans forward

with a rotary movement, a second conveyer for feeding cans forward with a rotary movement, a conduit between said conveyers having a yielding lower section opposite the endless belt of the second conveyer, a can discharge conveyer located adjacent to the second conveyer and a rotary branding wheel having its periphery located at the bottom of the upper end of said second conveyer.

8. In a machine of the character described, a conveyer for moving cans forward with a rotary movement, a rotary branding device, a second conveyer for moving cans forward with a rotary movement from and in contact with said rotary branding device, a conduit connecting said conveyers and means for yieldingly holding each can in frictional engagement with the second conveyer and feeding the same as it passes over said conduit to said branding device.

9. In a machine of the character described, a conveyer for feeding cans forward with a rotary movement, a second conveyer for feeding cans forward with a rotary movement, a conduit between said conveyers, a can discharge conveyer connected with the second conveyer, a rotary branding wheel located adjacent to said can conveyer and an inking roller located adjacent to the periphery of said branding wheel.

10. In a machine of the character described, a branding wheel having a number of branding rings, an ink trough, a number of inking wheels projecting into said trough, and adjustably movable into and out of contact with said rings on the branding wheel.

11. In a machine of the character described, a conveyer for feeding cans with a rotary movement, a chute depending from said conveyer and having a hinged section, a second conveyer connected with said chute, a can discharge conveyer connected with the second conveyer, a rotary branding wheel having its periphery located adjacent to the upper end of said second conveyer, an ink trough located adjacent to said branding wheel, inking wheels located in said trough and adjustably movable into and out of engagement with said branding wheel, and an automatic mechanism connected with said trough to swing it to and away from said wheels and acted upon by said hinged section of the chute between the conveyers.

12. In a machine of the character described, a conveyer for feeding cans with a rotary movement, a second conveyer, consisting of a chute with a horizontal upper portion and an inclined lower portion, a main discharge conveyer connected to the end of said lower portion, a chute connecting said first named main conveyer with the upper end of the second can conveyer, a rotary branding wheel having its periphery

located adjacent to the upper end of said second chute, an endless belt movable upon the top of said second chute, and guides for said endless belt engaging it with each can as it passes over said branding wheel, and in and out of engagement with each can as it leaves said branding wheel, and in engagement with each can at the lower inclined end of the second chute.

10 13. In a machine of the character described, a conveyer to feed cans forward with a rotary movement, a chute depending from said conveyer consisting of a chute with a horizontal upper portion and an inclined lower portion, a branding wheel having its periphery adjacent to the bottom of the horizontal upper portion of said chute, an endless belt movable on the upper side of said chute and adapted to press against

a can as it passes over said rotary branding wheel, a can discharge conveyer connected to said second chute, a swinging ink trough located adjacent to the periphery of said branding wheel, a number of toothed inking wheels, projecting into said trough, and adjustable into and out of contact with the periphery of said branding wheel, and a mechanism connected with said inking trough and with said hinged section of the chute between the conveyers by means of which said inking trough is automatically swung away from said inking wheels.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR L. DUNCAN.

Witnesses:

H. C. SCHROEDER,
F. P. SCHROEDER.