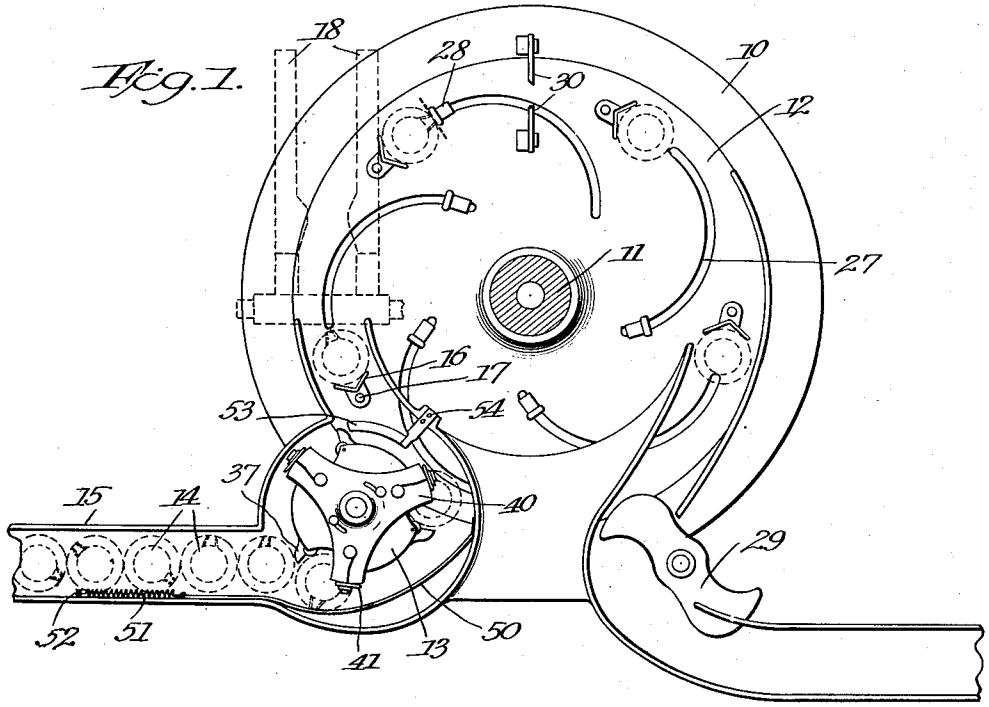
April 26, 1938. F. L. DARLING 2,115,061

LABELING MACHINE ATTACHMENT

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Fig. 1.



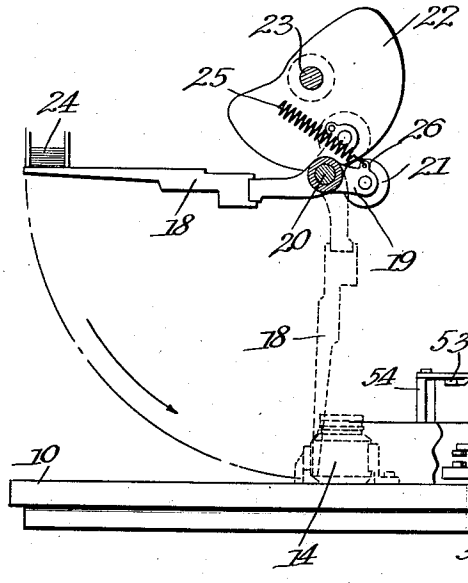


Fig. 2.

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Fig. 3.

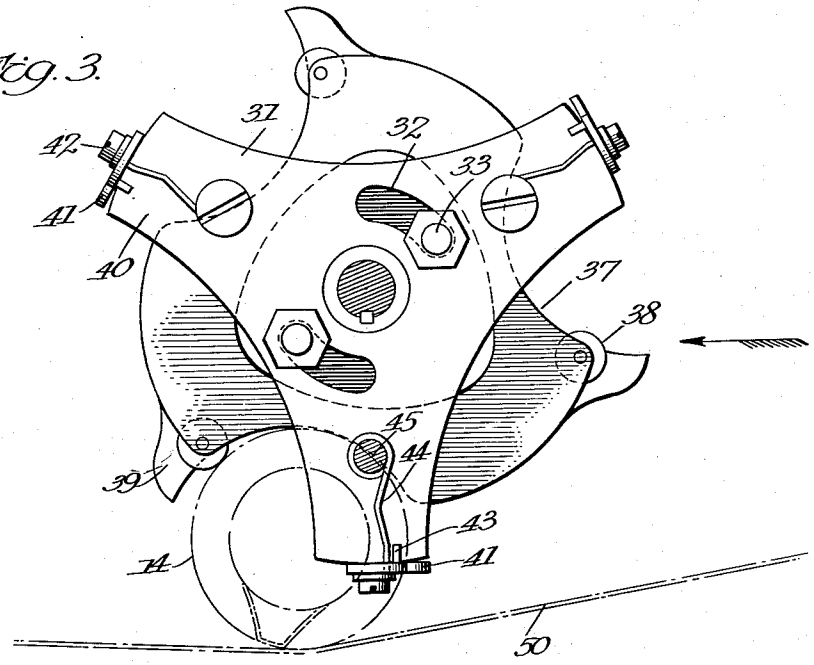
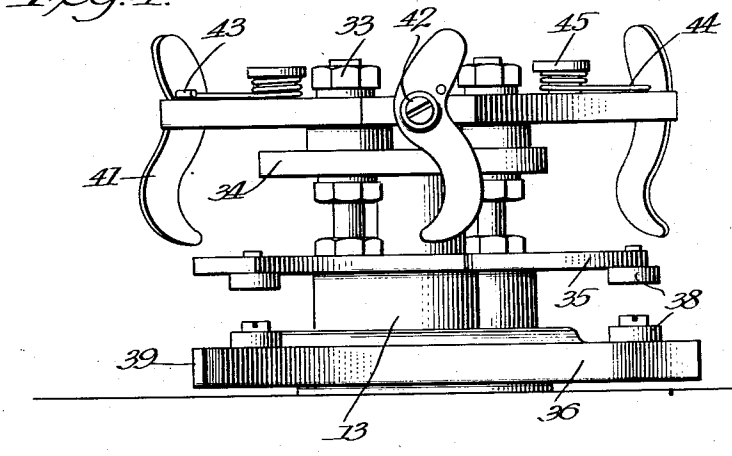


Fig. 4.



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LABELING MACHINE ATTACHMENT

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Fig. 5.

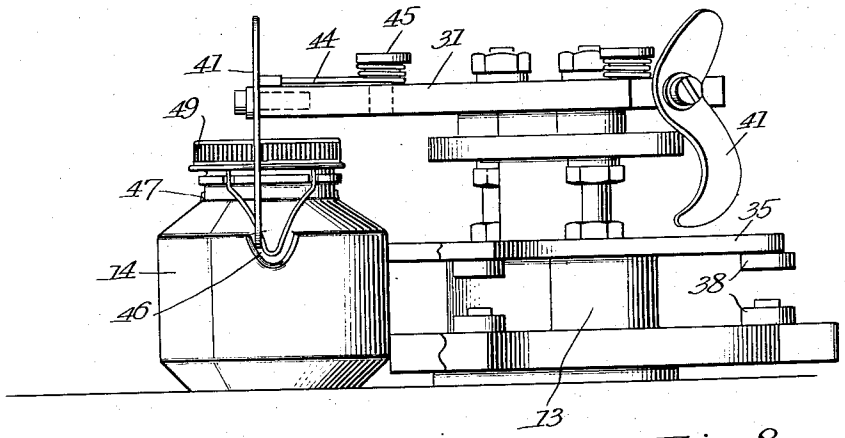


Fig. 6.

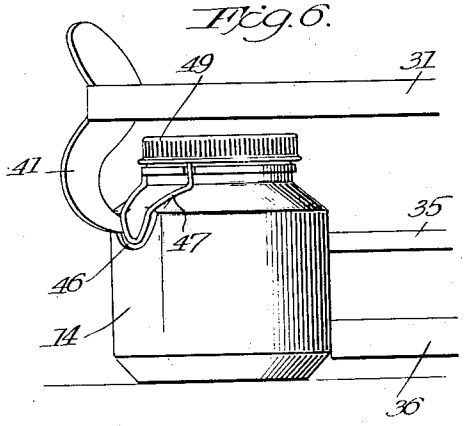


Fig. 8.

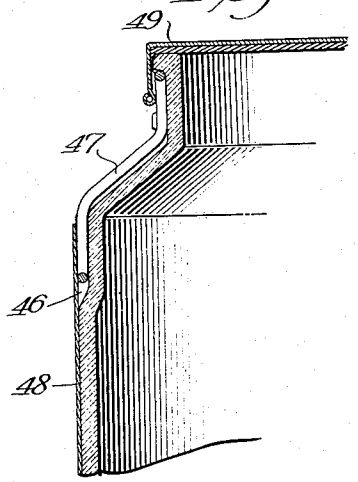
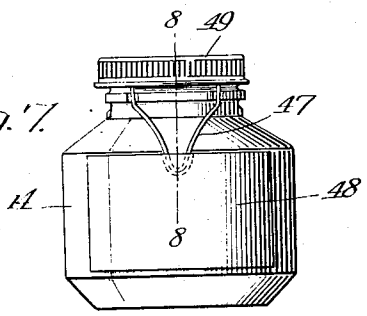


Fig. 7.



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Patented Apr. 26, 1938 2,115,061

UNITED STATES PATENT OFFICE

2,115,061

LABELING MACHINE ATTACHMENT

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Application December 19, 1932, Serial No. 648,013

38 Claims. (Cl. 216—54)

The present invention relates to labeling machines, and more particularly to means for insuring the labels being applied to predetermined portions of the containers.

In applying a label to a container of the type such as shown in my co-pending application Serial No. 648,014, filed December 19, 1932, it is desirable that the label be applied so as to cover the depression in the body of the container and the handle portion of the cap remover or opener.

It is, therefore, one of the important features of the present invention to provide a labeling machine with means for applying or affixing a label to a predetermined portion of the container, so that each container will be presented to the label applying device with a predetermined portion thereof always in the same position to receive the label.

A further object is to provide means associated with the infeed spider of a labeling machine for arresting the rotary movement of the container at a fixed point, so that each container will be advanced to the label applying device with a predetermined portion thereof arranged to receive the label, irrespective of what position this portion of the container may assume prior to its delivery to the infeed spider.

Another object of the invention is to provide means for insuring a label being applied to a predetermined portion of the container, which means may be in the form of an attachment that may be conveniently and economically mounted on any of the well known types of infeed spiders.

A still further object of the invention is to provide means for causing the containers as they are received by the infeed spider to be rotated in a direction opposite to the direction of rotation of the spider.

Other objects and advantages of the invention will become apparent from the following description when taken in conjunction with the accompanying claims and drawings.

Referring to the drawings, in which is shown a preferred embodiment of the invention:

Figure 1 is a plan view of a labeling machine showing my invention associated therewith.

Figure 2 is a detailed side view showing the means for applying the labels to the container.

Figure 3 is a plan view of the infeed spider showing the invention adjustably mounted thereon.

Figure 4 is a side elevation of Figure 3.

Figure 5 is a side elevation of Figure 3, looking in the direction of the arrow.

Figure 6 is a detailed view of parts of the machine.

Figure 7 is a side view of the container showing the label applied thereto in accordance with the invention.

Figure 8 is an enlarged sectional view taken substantially along the line 8—8 of Figure 7.

Referring to the drawings, in which like numerals designate like parts in the several views, 10 indicates the stationary base of the labeling machine on which is revolubly mounted by the shaft 11, the table or carrier 12. The infeed spider 13 is positioned to carry or transfer the containers 14 from the infeed conveyor 15 to the revoluble table 12 where the container is received by one of the rests or stationary uprights 16 secured to the table by the bolts 17.

A label applying device including the spaced long arms or pickers 18 and the short arms 19 (Fig. 2) is mounted on a horizontally disposed shaft 20 located above the table 12. A roller 21 journalled between the short arms 19 engages a cam 22 carried by the shaft 23 so that the pickers 18 may swing downwardly from the bottom of the label holder 24 to its vertical position to apply the label to the container in the manner as shown in Figure 2. The pickers 18 may be detachably connected to the shaft 20 to permit different sizes to be attached to the shaft, depending upon the size and width of the containers to which the label is to be applied. A spring 25 connected as at 26 to one of the arms 19, has its opposite end connected to a fixed portion of the machine not shown, so as to normally urge the fingers 18 to their vertical position, while, the cam 22 is so shaped, that it acts to control the time of movement of the pickers and swing them up to the label holder against the action of the spring 25.

The table 12 may be provided with a series of curved openings 27 (Fig. 1) in which are movably mounted the gripping devices 28 that correspond in number with the number of rests 16 and coact therewith for holding the bottle and label after the latter is applied and until the container is discharged from the machine through the outfeed spider 29. Wipers 30 are positioned so as to smooth and affix the labels upon the surface of the container as the latter passes from the label applying device towards the outlet feed spider 29.

In order that a container 14 such as a jar, bottle or the like may have a label applied to a predetermined portion thereof by a labeling machine, means are provided which may be readily

and conveniently mounted on the infeed spider 13 to insure each container being presented to the labeling device with the same portion or surface thereof positioned to receive the label. This means may comprise a plate or member 31 (Fig. 3) which preferably has opposed arcuate slots 32 for receiving the clamping bolts 33 that extend from the gate cam 34 on the infeed spider 13. Manifestly the cam 34 which is usually mounted on the infeed spider may be dispensed with and the plate 31 directly connected to the spider.

The infeed spider 13 has the spaced upper and lower plates 35 and 36, respectively, which are provided with the pockets or cut-away portions 37 (Fig. 3) for singly receiving the containers as they issue from the infeed conveyor 15, so as to transfer them to the table 12 at fixed intervals. While three of these pockets are shown it will be obvious that any number may be employed.

The plates 35 and 36 are preferably provided adjacent the pockets 37 with rollers 38 that engage the containers when they are delivered to the spider 13, while the lower plate 36 adjacent one end of each of the pockets 37 has an outwardly extending finger 39 for separating the advanced or forward container from the adjacent container in the conveyor 15.

The plate 31 may be provided with outwardly extending spaced arms 40 which correspond in number to the number of pockets 37 in the infeed spider 13. Each of the arms 40 has pivotally mounted thereon a peripherally disposed depending finger or member 41 as at 42, arranged to extend down into the path of the containers as they are delivered to the pockets. The downward swinging movement of the upper portion of each of the fingers 41 is limited by a stop 43 which engages the arm 40, while the lower portion of each of the fingers is normally urged toward the left, (Fig. 4) by means of a spring 44 which is connected at one end to the upper portion of the finger 41 and has its opposite extremity coiled around the shank of the screw 45 threaded to the arm 40.

Assuming that it is desired to present a predetermined portion of the container 14 to the labeling device and that these containers are formed with a depression 46 (Fig. 5) for receiving the cap remover 47, so that the label 48 may be applied to the body of the container medially relative to the depression 46 and cover the same in the manner as shown in Figure 7; the containers 14 are conducted in any suitable manner, to the conveyor 15 after having previously been filled and the cap or cover 49 applied thereto. As the forward container reaches the infeed spider 13, it is brought into frictional and binding engagement with a thin strap 50 preferably of metal, that is connected at one end to the curved wall of the conveyor and has its opposite end secured to a coil spring 51, which in turn is connected as at 52 to the inner wall of the conveyor. At the same time the forward container is received by one of the pockets 37 and is separated from the adjacent container by the arm 39 (Fig. 1). Due to the binding frictional engagement of the strap 50 with the container and the engagement of the rollers 38 therewith, the container will rotate in the pocket 37 in a direction opposite to the direction of rotation of the spider 13 until one of the fingers 41 engages the depression 46, whereupon the rotary motion of the container is arrested. The container is then carried by the spider 13 to the revoluble table 12 where it is received by one of the rests 16 and the label 48 applied to the body thereof by the pickers 18 which are suitably spaced apart to permit the container to be passed between them and be received by the movable holders 28. As the container reaches the table 12, the upper portion of the finger 41 engages a laterally disposed arm 53 connected at 54 to the machine so as to raise the finger out of engagement with the depression 46. This arm is of sufficient length to insure the finger being maintained in its raised position until after the container has been transferred to the table 12 and the rest 16.

It will be seen that the strap 50 will cause the advanced container to rotate in a counter direction to that of the spider until it is stopped by one of the fingers 41 engaging the depression 46, so that the container will be in a fixed position when it is delivered to the table 12, thus insuring the label being applied to the same predetermined portion of each container.

The slots 32 in the plate 31 permit the latter to be adjusted so as to align the fingers 41 with the depressions 46 in order that rotary movement of each container will be arrested at a predetermined point and properly presented to the labeling device.

The various parts of the machine are operatively connected to the main driving mechanism, not shown, and are so synchronized that the containers, when the machine is in operation, will be sequentially delivered to the spider 13 at periodic intervals and singly transferred to the table 12 so as to apply the label to a predetermined portion thereof and then carried by the table past the wipers 30 and finally discharged through the outfeed spider 29.

It will be observed that the invention is of such a character that it may be readily installed or associated with any of the well known types of labeling machines without materially affecting or changing the operation of the machine and at a minimum expense of time and labor. Moreover, the invention may be associated with containers or receptacles of various kinds where it is desired to insure a portion thereof being placed or arranged in a predetermined position relative to another device or element.

It is to be understood that the form of the invention herewith shown and described is merely illustrative of a preferred embodiment and that such changes may be made as fall within the purview of one skilled in the art without departing from the spirit of the invention and the scope of the appended claims.

I claim:

1. In combination with a machine for applying labels to containers, the combination of a movable carrier, a movable spider for delivering the containers to the carrier, and means cooperating with said movable spider and said carrier for presenting a predetermined portion of the container to a label applying means.

2. A rotatable infeed spider for singly delivering containers to a carrier of a labeling machine, said spider having stop means coacting with complementary means on the container while the container is being delivered to the carrier, for presenting a predetermined portion of the container to a label applying means.

3. A labeling machine for applying labels to containers having a depression comprising in combination, a revoluble carrier, a rotatable infeed spider for singly delivering the containers to the carrier, means applying a label to the

container, and means coacting with the depression in the container for presenting the portion of the container having the depression therein to the label applying means.

4. In combination with a machine for applying labels to containers, a revoluble carrier, a rotatable infeed spider for singly delivering the containers to the carrier, means applying a label to the container, means producing rotation of the container, and stop means movable with the infeed spider and engaging the container for presenting a predetermined portion of the container to the label applying means.

5. A rotatable infeed spider for singly delivering the containers to a labeling machine, means adjacent said spider for producing rotation of the container, and means on the spider arranged to engage a depression in the container for presenting a predetermined portion of the container to a label applying means.

6. In combination with a machine for applying labels to containers, a revoluble carrier, a rotatable infeed spider singly delivering the containers to the carrier, means producing rotary movement of the container, a plate mounted on the spider and provided with spaced movable depending fingers, said fingers coacting with means on the container for arresting rotary movement thereof, and means when the container carried by the spider is delivered to the carrier for disengaging the finger from the container.

7. In combination with a machine for applying labels to containers having a depression for receiving a cap remover, a revoluble carrier, a rotatable infeed spider singly delivering the containers to the carrier, means producing rotary movement of the container, means applying a label to the container over said depression, a plate mounted on the spider and provided with spaced movable depending fingers arranged to engage the depression in the container to arrest rotary movement thereof, and means when the container carried by the spider reaches the carrier for disengaging the finger from the container whereby to insure the label being applied to the portion of the container having the depression therein.

8. In combination with a machine for applying labels to containers having a depression, a revoluble table, a rotatable infeed spider singly delivering the containers to the table, means producing rotary movement of the container, means applying a label to the container in a predetermined position with respect to the depression, a plate mounted on the spider having spaced movable members arranged to engage the depression in the container to arrest rotary movement of the latter as it is being conducted to the table to permit said label applying means to apply the label to said predetermined portion, and means in the path of the movable members for disengaging each member from the container when the latter reaches the table.

9. A device of the class described, the combination of a revoluble table, a rotatable infeed spider singly delivering containers to the table, a yieldable strap connected to the machine adjacent the spider and engaging the containers for imparting a rotary movement to the containers in a direction opposite to that of the spider to position the container for the application of a label to a predetermined portion thereof, and means for applying a label to said predetermined portion of the container.

10. In combination with a machine for applying labels to containers, a revoluble table, a rotatable infeed spider singly delivering the containers to the table, means associated with the spider and engaging the containers for imparting a rotary movement to the containers in a direction opposite to that of the spider, means applying a label to the container, and means on the spider for stopping rotation of the container to prevent a predetermined portion of the container to the label applying means.

11. A machine of the class described including in combination a rotating infeed spider for singly delivering containers to a label applying means, means associated with the spider and engaging the containers for imparting a rotary movement to the containers in a direction opposite to that of the spider, a label applying means, and means on the spider for arresting the movement of the container at a predetermined point, whereby to insure the label being applied to a predetermined portion of the container.

12. In combination with a machine for applying labels to containers having a depression, a revoluble table, a movable infeed spider singly delivering the containers to the table, yieldable means connected to the machine adjacent the spider and engaging the containers for imparting a rotary movement to the containers in a direction opposite to that of the spider, means applying a label to the container, and means on the spider arranged to engage the depression in the container for arresting its rotary movement, whereby to insure the label being applied to a predetermined portion of the container.

13. In combination with a machine for applying labels to containers having a depression for receiving a cap remover, a revoluble table, a rotatable infeed spider singly delivering the containers to the table, yieldable means connected to the machine adjacent the spider and engaging the containers for imparting a rotary movement to the containers in a direction opposite to that of the spider, a plate mounted on the spider, said plate having spaced depending fingers movably connected thereto and arranged to engage the depression in the container for arresting its rotary movement, and means in the path of travel of said plate for engaging said fingers to release them from engagement with the container as the latter is delivered to the table.

14. In combination with a machine for applying labels to containers having a depression for receiving a cap remover, a revoluble table, a rotatable infeed spider singly delivering the containers to the table, yieldable means associated with the spider and engaging the containers for imparting a rotary movement to the containers in a direction opposite to that of the spider, an adjustable plate mounted on the spider and having spaced depending movable fingers arranged to engage the depression in the container for arresting the rotary movement thereof, and means in the path of said plate for engaging said fingers to release them from engagement with the container as the latter is delivered to the table.

15. In combination with a machine for applying labels to containers, a revoluble table, a rotatable infeed spider singly delivering the containers to the table, yieldable means connected to the machine adjacent the spider for imparting a rotary movement of the container in a direction opposite to that of the spider, a plate mounted on the spider, said plate having spaced depend-

ing fingers movably connected thereto and arranged to engage the container for arresting its rotary movement, means yieldably maintaining the fingers in a vertical position, and means in the path of travel of said plate for engaging said fingers and releasing them from engagement with the container as the latter is delivered to the table, whereby to insure the label being applied to a predetermined portion of the container.

16. A labeling machine of the class described having a revoluble infeed spider for receiving a container, and means associated with the spider for causing the container to rotate in a direction opposite to that of the spider.

17. A labeling machine of the class described having a revoluble infeed spider for receiving a container, and yieldable means associated with the spider for causing the container to rotate in a direction opposite to that of the spider.

18. A labeling machine of the class described having a revoluble infeed spider for receiving a container, and a yieldable strap associated with the spider for causing the container to rotate in a direction opposite to that of the spider.

19. A rotatable infeed spider for labeling machines having spaced pockets for receiving containers, means for producing rotary movement of the containers, and means associated with each of the pockets for arresting the rotary movement of the containers at a predetermined point.

20. A rotatable infeed spider for labeling machines having spaced pockets for receiving containers, means for producing rotary movement of the containers, and a plate mounted on the spider and having depending members associated with each of the pockets for arresting the rotary movement of the containers at a predetermined point.

21. A rotatable infeed spider for labeling machines having spaced pockets for receiving containers, means for producing rotary movement of the containers, and a plate mounted on the spider having depending fingers movably connected thereto adjacent the pockets for arresting the rotary movement of the containers when the containers have been turned into a predetermined position.

22. A rotatable infeed spider for labeling machines having spaced pockets for receiving containers, means for producing rotary movement of the containers, a plate mounted on the spider and having depending fingers movably connected thereto adjacent the pockets for arresting the rotary movement of the containers at a predetermined point, and means for causing rotation of the containers carried by the spider in a direction opposite to that of the spider.

23. In a labeling machine of the class described having a revoluble table, a rotatable infeed spider for singly delivering containers to the table, means for rotating the container carried by the spider in a direction opposite to that of the rotation of the spider, and means for arresting the rotary movement of the container at a predetermined point.

24. In a labeling machine of the class described having a revoluble table, an infeed spider for singly delivering containers to the table, yieldable means frictionally engaging the containers and coacting with the spider for rotating the containers in a direction opposite to that of the rotation of the spider, and means for arresting the rotary movement of the container at a predetermined point, to insure that a label is applied to a predetermined portion thereof.

25. In combination with a rotatable infeed spider of a labeling machine, means for producing rotary movement of a container and means associated with the spider for arresting rotary movement of the container at a predetermined point.

26. In combination with a rotatable infeed spider of a labeling machine, means for producing rotary movement of a container and means mounted on the spider and coacting with the container for arresting the rotary movement of the container when the container has been turned into a predetermined position.

27. In combination with a rotatable infeed spider of a labeling machine, means for producing rotary movement of a container and a plate mounted on the spider, said plate having movable depending members arranged to engage the container for arresting rotary movement of the latter at a predetermined point.

28. A rotatable infeed spider for labeling machines having a plate mounted thereon, and spaced depending members pivotally connected to the plate for arresting the rotary movement of a container when the container has been turned into a predetermined position.

29. An infeed spider for labeling machines having a plate, means for producing rotary movement of a container, and means adjustably connecting the plate to the spider, said plate having spaced depending members pivotally connected to the plate for arresting the rotary movement of the container at a predetermined point.

30. A rotatable infeed spider for labeling machines having means for producing rotary movement of a container, a plate, said plate provided with spaced movable depending fingers arranged to engage the container for arresting the rotary movement thereof, and means yieldably maintaining the fingers in engagement with the container.

31. A rotatable infeed spider for labeling machines having means for producing rotary movement of a container, a plate, said plate provided with spaced movable depending fingers arranged to engage the container for arresting the rotary movement thereof, means yieldably maintaining the fingers in engagement with the container, and means for adjusting the plate relative to the spider.

32. In a labeling machine including a labeler and means for feeding articles thereinto, the combination of a rotating pocketed feed turret for transporting articles into the said labeler, means for turning the articles while in the pockets and means on the turret for arresting the rotating movements of the articles when in a predetermined position prior to their entry into the said labeler.

33. In a labeling machine, the combination of an article feeding turret, a wall adjacent the turret and having a yieldable section therein adapted to have frictional contact with the articles and thereby turn said articles while being transported by the turret and means on the turret to arrest turning of the articles when in a predetermined position so that said articles are uniformly presented to the labeling mechanism.

34. In a machine for applying labels to containers, a revoluble carrier, a rotating infeed spider for singly delivering containers to the carrier, means on the carrier for applying a label to the container, and means cooperating with the spider for presenting a predetermined portion of the container to the label applying means.

35. In a labeling machine comprising a labeler and means for feeding articles to be labeled thereinto, the combination with a rotating infeed turret of means for arranging the articles in a predetermined position prior to their entry into the labeler.

36. A labeling machine of the class described, having rotatable infeed spider singly delivering containers to a label applying means, means adjacent the spider and engaging the containers for reversing the direction of rotation of the containers relative to the direction of rotation of the spider, and means for arresting rotation of the containers when the containers have turned into a predetermined position.

37. A labeling machine of the class described, having a movable infeed member provided with spaced pockets for receiving containers, and means associated with said member for causing the containers to rotate in a direction opposite to the direction of movement of said member.

38. A labeling machine of the class described, having a movable infeed member provided with spaced pockets for receiving containers, means associated with said member for causing the containers to rotate in a direction opposite to the direction of movement of said member, and means associated with said member for arresting rotation of the containers at a predetermined point.

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