Jan. 24, 1928.

1,657,382

A. V. A. FELTEN

BARREL LABELING MACHINE

Filed April 6 1927

2 Sheets-Sheet 1

Fig. 1.

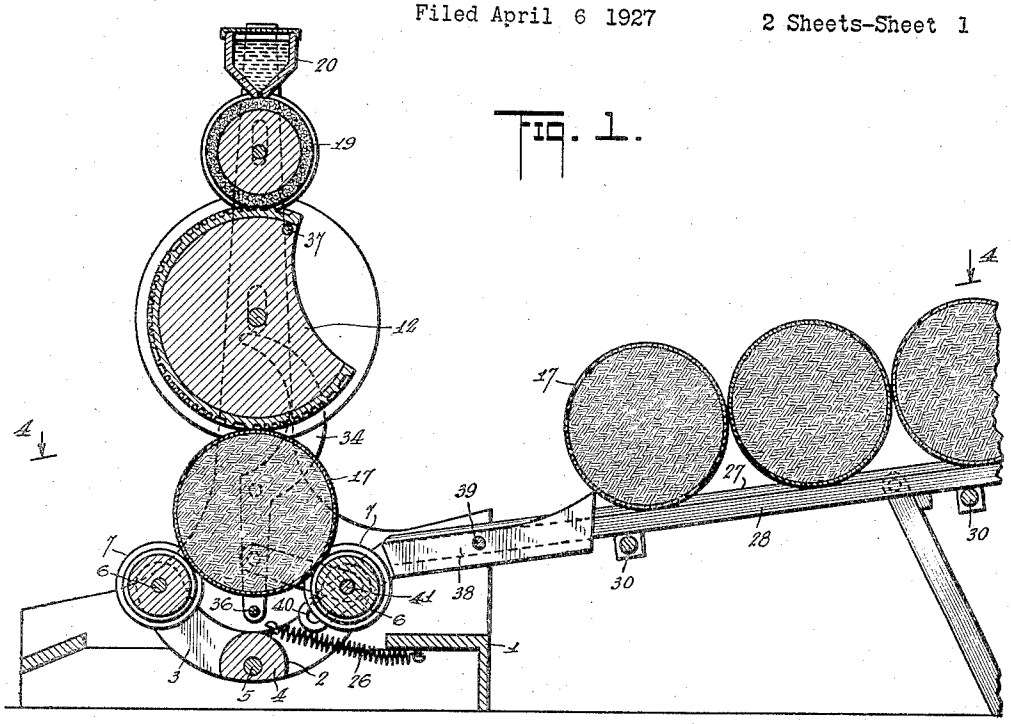
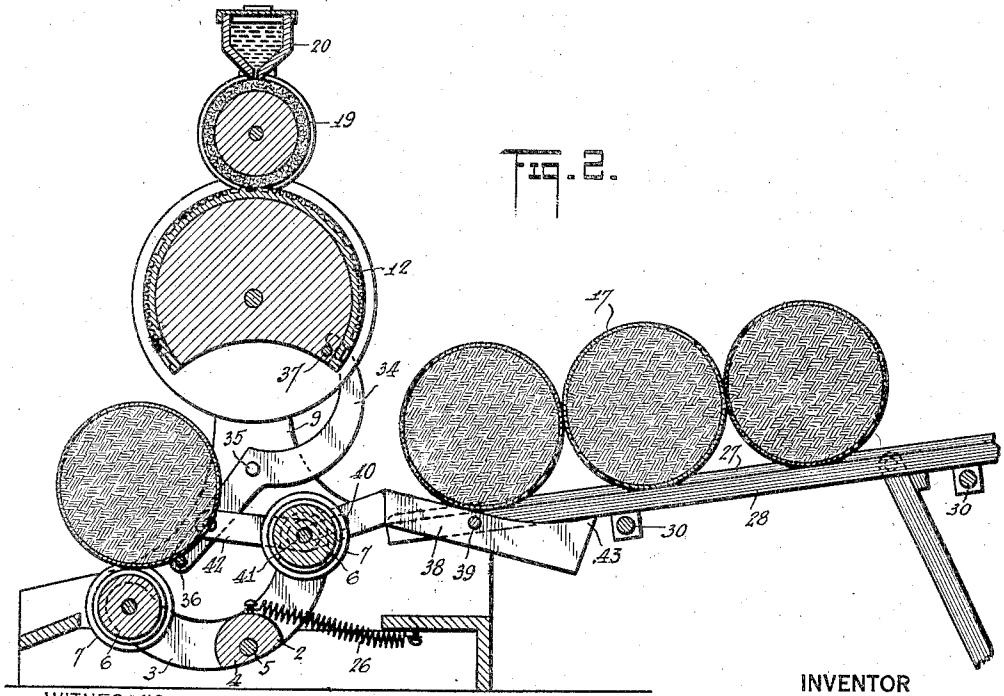


Fig. 2.



WITNESSES

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Fig. 3.

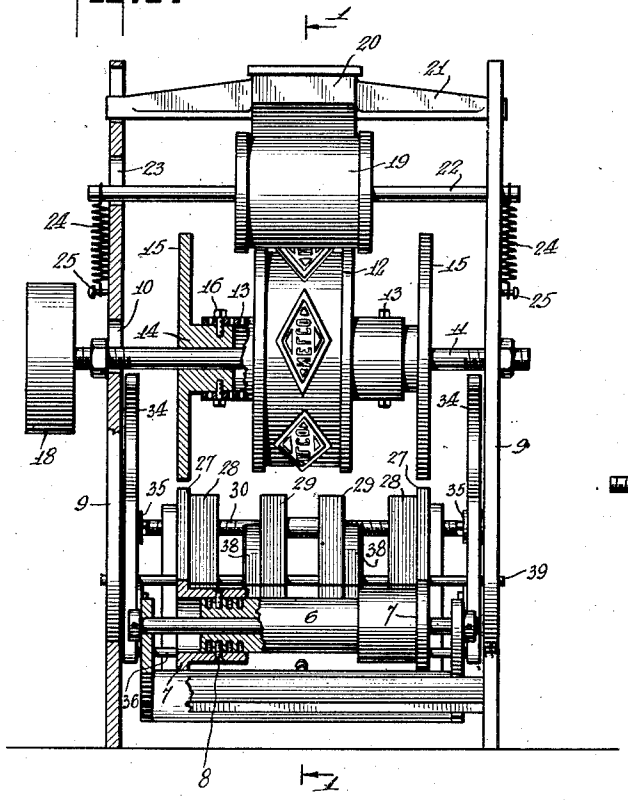


Fig. 5.

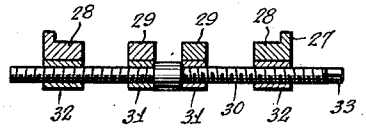
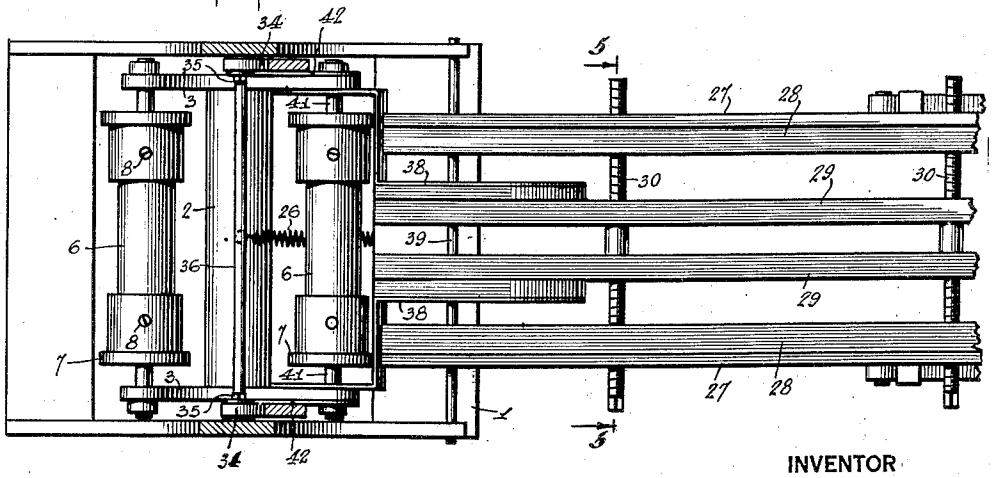


Fig. 4.



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BARREL-LABELING MACHINE.

Application filed April 6, 1927. Serial No. 181,522.

This invention relates to barrel labeling machines.

An object of the invention is to print upon the side of a barrel or any cylindrical object a circular series of labels or other printed matter, and perform this operation upon barrels or drums which are successively presented to a printing roll.

A further object is to provide means for positioning a barrel or drum in a cradle or a support and in contact with a printing roll so that the barrel or drum is revolved and turned with the roll and receives the printed matter on the side thereof.

A further object is to provide an apparatus of this character which feeds one barrel or drum at a time into the supporting cradle and ejects the printed barrel or drum at the end of the printing operation.

A further object is to provide an apparatus or machine of this character which is entirely automatic in its operation and which is capable of adjustment to accommodate different sizes of barrels or drums.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings—

Figure 1 is a view in longitudinal section, illustrating my improved apparatus, showing the barrel or drum in position for printing thereon, the view being taken on the line 1—1 of Figure 3;

Figure 2 is a view similar to Figure 1 showing the barrel or drum being ejected from the supporting cradle;

Figure 3 is a view, mainly in end elevation, showing the parts in section and broken away for clearness of illustration;

Figure 4 is a sectional plan view, taken on the line 4—4 of Figure 1, with the barrels or drums removed;

Figure 5 is a view in transverse section on the line 5—5 of Figure 4.

1 represents a base frame in which a cradle 2 is mounted to rock. This cradle 2 comprises a pair of end yokes 3, 3 connected by a central segmental roll 4 mounted on a shaft 5, the latter having bearings in the end of the base frame 1.

The yokes 3, 3 support at their ends rollers 6, 6 and these rollers 6 have flanged collars 7 at their ends which telescope on the ends of the roll proper and are secured at various longitudinal adjustments by a screw 8 so as to lengthen the rolls in accordance with the length of the barrels or drums operated upon.

The base frame 1 has uprights 9 at opposite sides which may be slotted as shown at 10 and form vertically adjustable guides for a shaft 11. This shaft 11 carries at its center a segmental printing roll 12 having hollow hubs 13 in which central enlargements 14 on disks 15 are secured at various longitudinal adjustments by screws 16 so that these disks may be spaced toward and from the printing roll, and as said disks are of greater diameter than the printing roll and are designed to register vertically with the flanges on the collars 7 they function as guides to hold the barrels or drums 17 in proper position for printing.

The shaft 11 may have a pulley 18 at one end to which power is supplied from any desired source, or any other suitable means may be employed for turning the shaft 11, as it will be readily understood.

Above the printing roll 12 an inking roll 19 is provided and has a properly cushioned surface of absorbent material contacting with the surface of the roll 12 to supply the ink thereto, and an ink font 20 is located above the inking roll 19 and supplies ink thereto. This font 20 is secured to a bar 21 supported by the uprights 9.

The inking roll is mounted on a shaft 22 which projects through slots 23 in the uprights 9, and coil springs 24 connect the shaft 22 with fixed pins or other devices 25 on the uprights tending to press the inking roller in proper engagement with the printing roll.

It will be noted that the printing roll is segmental in form so that while it has a surface or periphery of sufficient length to print upon the entire periphery of a barrel or drum it is cut away or recessed so as to allow the drum to ride into and out of position in the supporting cradle 2, all of which will be more fully hereinafter described.

The cradle 2 is held in normal position by means of a coil 26 connecting the center roll 4 with a fixed part of the base frame 1, as clearly shown in Figures 1 and 2.

The barrels or drums 17 are fed by gravity down an inclined track 27. This track 27 consists of outer rails 28 and inner rails 29. The outer rails 28 are flanged or angu-

lar in form in cross section so as to properly guide the barrels or drums, and these side rails 28 are capable of adjustment toward and away from each other to regulate the width or gage of the track in accordance with the length of the barrels or drums operated upon.

I have illustrated as a convenient means for adjusting these rails right and left hand screw-threaded rods 30 which have rotary mounting in bearings 31 fixed to the bottom of the inner rails 29 and having screw-threaded engagement with sleeves 32 on the bottom of rails 28. At least one end of each screw-threaded rod 30 is made angular as shown at 33 for the reception of a wrench to turn the same and adjust the rails to proper position.

The uprights 19 support a pair of tripping levers 34 pivotally supported between their ends on the uprights, as shown at 35, and connected at their lower ends by a rod 36 which lies within the confines of the cradle 2 and which functions as a kicker to eject the printed barrel, as will be explained.

The upper portions of these tripping levers 34 are preferably curved, constituting cams, and these curved or cam portions are engaged by pins 37 on the ends of the printing roll 12 to cause said levers to be operated at each complete revolution of the printing roll.

The barrels are held back on the track and permitted to move forward one at a time through the medium of triggers 38. These triggers are in the form of angular levers pivotally supported on a rod 39 on the base frame 1.

The forward ends of the levers 34 have longitudinal slots 40 therein receiving the rod or shaft 41 which supports the roll 6 of cradle 2. Links 42 connect this same rod or shaft 41 with the levers 34 at a point below the pivotal mounting of the latter.

I would call particular attention to the shape of the angular levers 38 constituting the triggers. These levers are so shaped as to project upwardly in front of the lowermost barrel on the track, as shown in Figure 3, and at their extremities are formed with upwardly projecting lugs or fingers 43 which are adapted, when the triggers are moved into the position shown in Figure 1, to hold the barrels back on the track.

I have illustrated the printing roll as having a series of labels thereon which of course are to be printed on the barrels or drums, but it is obvious that the printing roll may have any suitable or desirable printing matter thereon.

The operation is as follows:

Figure 1 shows the apparatus in the operation of printing a roll or drum 17. It will be noted that the barrel or drum 17 is supported in the cradle 2 and as the printing roll revolves it will cause the barrel or drum to revolve and print the side of the barrel or drum. As the printing operation is completed the recessed portion of the printing roll 12 will be positioned above the barrel or drum in the cradle and the pins 37 will engage the tripping levers 34 causing them to swing to the position shown in Figure 2. This movement of the levers 34 through the medium of the links 42 causes the cradle 2 to swing to the position shown in Figure 2, and at the same time the rod 36 connecting the tripping levers 34 functions as a kicker to project the barrel or drum from the cradle. During this ejecting of the printed barrel or drum the trigger levers 38 will assume the position shown in Figure 2 and will hold back the series of barrels on the track until the printed barrel is completely ejected. As the pins 37 ride past the trigger levers 34, the spring 26 will draw the cradle and other parts connected thereto back to normal position and during this movement of the barrel will be permitted to ride down the track and move into the cradle 2. The lugs 43 at the free ends of the trigger levers 38 move upwardly to hold back the line of barrels, as shown in Figure 1.

While I have illustrated my apparatus for continuous feeding and operation it is obvious of course that I may provide any standard equipment for intermittent feeding or for controlled feeding to suit the users.

While I have illustrated what I believe to be a preferred embodiment of my invention it is obvious that various changes and alterations might be made in the general form of the parts described without departing from my invention and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. A machine of the character described, including a cradle, a printing roll above the cradle, means for directing a barrel or drum into the cradle, and means for rocking the cradle to eject the barrel from the cradle after the printing operation.

2. A machine of the character described, including a cradle, rollers in the cradle adapted to support a barrel and permit rotary movement of the latter, a printing roll adapted to engage the barrel to print thereon and turn the same while the latter is in the cradle, and means for rocking the cradle to eject the barrel from the cradle after the printing operation is completed.

3. A machine of the character described, including a cradle, rollers in the cradle adapted to support a barrel or drum and permit rotary movement of the latter, a printing roll adapted to engage the barrel

to print thereon and turn the same while the latter is in the cradle, said printing roll segmental in form, and means operated by the printing roll to tilt the cradle and eject a barrel therefrom after the printing operation is completed.

4. A machine of the character described, including a barrel-receiving cradle, tracks guiding the barrels on the cradle, means adapted to permit the barrels to move onto the cradle one at a time, means for printing on the side of the barrel while the latter is in the cradle, and means for rocking the cradle to eject a barrel from the cradle after the printing operation and permit another barrel to move into the cradle for printing operation.

5. A machine of the character described, including a barrel-receiving cradle, tracks guiding the barrels on the cradle, means adapted to permit the barrels to move onto the cradle one at a time, means for printing on the side of the barrel while the latter is in the cradle, and means for rocking the cradle to eject a barrel from the cradle after the printing operation and permit another barrel to move into the cradle for printing operation, certain of said parts being adjustable whereby various sizes of barrels may be operated upon.

6. A machine of the class described, including a cradle, a spring holding said cradle in normal position, a printing roll above the cradle, means for feeding one barrel at a time into the cradle to be printed upon by the printing roll, trigger levers moved by the printing roll at each rotation of the latter, a rod connecting said trigger levers, and a link connecting said trigger levers with the cradle whereby the movement of said trigger levers operates to tilt the cradle and to eject a barrel or drum from the cradle after the printing operation is completed.

7. A machine of the character described, including a support, means in the support providing rotary mounting for a barrel, a rotary printing device adapted to engage the surface of the barrel and revolve the same and print thereon, means for ejecting a barrel from said rotary support after the printing operation is completed, means for permitting barrels to roll by gravity one at a time onto the rotary support therefor, and means adjustable in accordance with the length of the barrel to guide the same onto the rotary support and hold the same against movement on said support during the printing operation.

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