Feb. 24, 1959 T. E. PIAZZE 2,874,886

APPARATUS FOR DISPENSING FLEXIBLE MERCHANDISE CONTAINERS

Filed Aug. 5, 1954

Fig-1

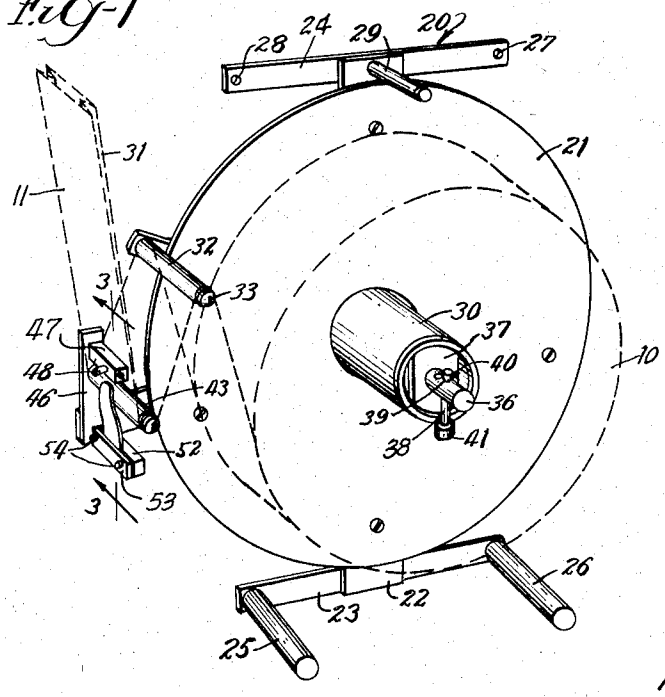


Fig-3

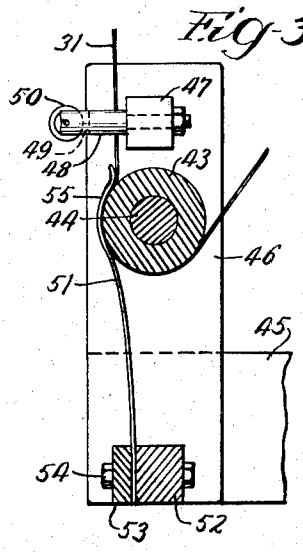


Fig-4

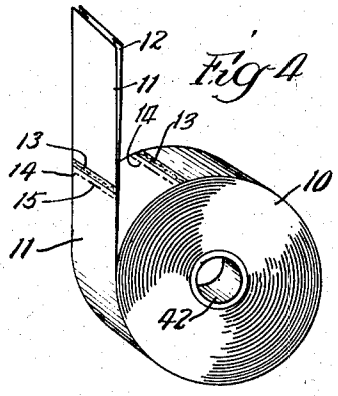


Fig-2

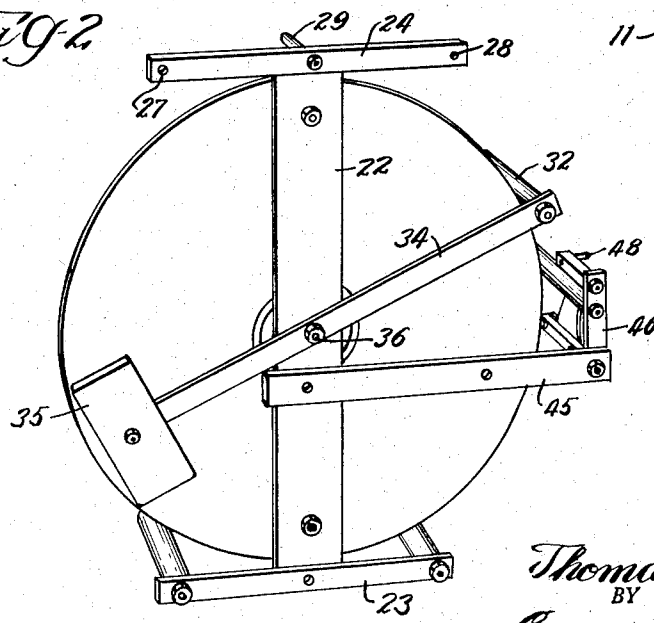
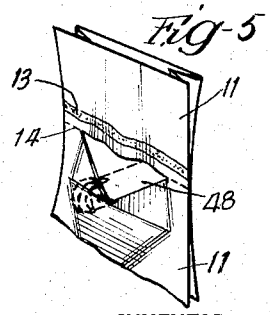


Fig-5



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APPARATUS FOR DISPENSING FLEXIBLE MERCHANDISE CONTAINERS

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5 Claims. (Cl. 225—106)

This invention relates to packaging and is more particularly concerned with improvements in apparatus for use in packaging merchandise in successive containers in a rapid and efficient manner.

It is a general object of the invention to provide apparatus for use in packaging merchandise in flexible containers, which containers are formed of a continuous plastic film material, or the like, and which are supplied in connected roll form.

It is a further object of the invention to provide apparatus for use in packaging merchandise in containers which are formed of relatively flexible and limp material, such as a plastic film, and which are supplied to the operator in connected series, the apparatus being adapted to facilitate separation of successive containers from the source of supply and presentation of the same, with the mouth thereof in open condition, to a filling funnel, or the like, for receiving therein a predetermined quantity of the merchandise which is to be packaged.

It is another object of the invention to provide an apparatus for facilitating the handling of a plurality of containers which are formed of plastic film material and which are supplied to the apparatus in connected series or roll form, which apparatus is so arranged that the operator is able to withdraw a single container from the supply thereof and separate the same from the next succeeding container by a tearing operation.

It is another object of the invention to provide a mechanism for use in dispensing merchandise containers or bags which are supplied in connected series or roll form which comprises a support for a roll of the bags and associated apparatus permitting the bags to be withdrawn and removed from the roll, which apparatus includes an abutment member adapted to project through an aperture in a perforated line separating each bag in the roll from the next succeeding bag as the bags are unwound from the roll and moved in a predetermined path past the abutment member, whereby the endmost bag may be separated from the end of the roll by tearing along the perforated line separating it from the next succeeding bag while the next succeeding bag is held against advancing movement by engagement with the abutment member.

These and other objects and advantages of the invention will be apparent from a consideration of the apparatus and the method of using the same which is illustrated in the accompanying drawings, wherein:

Fig. 1 is a front perspective view of apparatus arranged for dispensing a roll of connected containers which embodies the principles of the invention;

Fig. 2 is a rear perspective view of the apparatus;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1, to an enlarged scale;

Fig. 4 is a perspective view of a roll of the container material; and

Fig. 5 is a perspective view illustrating the separation of the containers.

Referring first to Fig. 4 of the drawings, there is illustrated a supply roll 10 of the containers 11 with which the dispensing mechanism is adapted to be employed. The roll 10 comprises a plurality of the connected containers 11, each of which is formed from a section of flat tubular material which is initially provided with infolded sides or bellows fold formations 12. Each of the containers 11 is separated from the adjoining container in the roll 10 by a transverse seal formation 13 and a perforated transverse tearing line 14 which is provided adjacent the transverse seal 13. The perforated tearing line 14 preferably comprises a center slit 15 of substantial width and a plurality of smaller slits or perforations extending from the center slit 15 to opposite side edges of the tube.

The dispensing apparatus 20 (Figs. 1 to 3) which is adapted to support the roll 10 for ready removal therefrom of the individual containers 11 comprises a circular support plate 21 which is preferably positioned in vertical or upright relation relative to a horizontal supporting surface. The plate 21 is secured to an upright frame forming bar or plate 22 having cross bars 23 and 24 at opposite ends. The lower end cross bar 23 is provided at its opposite ends with laterally extending parallel rods 25 and 26 which are adapted to cooperate with the end cross bar 23 to provide a U-shaped bottom supporting frame when the apparatus is supported on a table top or other horizontal surface. The top end cross bar 24 is apertured at opposite ends at 27 and 28 to permit the apparatus to be fastened to a vertical or overhead support. A handle forming bar or rod member 29 extends laterally of the cross bar 24 intermediate its ends to facilitate handling of the apparatus.

The roll 10 is adapted to be rotatably mounted on a cylindrical supporting member 30 which extends laterally of the frame member 22. The free end 31 of the web material is adapted to extend up over a take-up roller 32 which is rotatably mounted on a supporting shaft 33 which extends laterally of the end of a supporting arm member 34. The arm member 34 carries a counterweight 35 at its other end and is secured intermediate its ends to a shaft 36 which is journaled in the supporting frame plate 22 and a cooperating bearing forming cross plate 37 at the outer end of the roll support 30.

The shaft 36 carries adjacent its free end a cross pin 38 which is slidably mounted in a radial aperture 39 with a removable cotter pin 40 at one end and a guide roller 41 rotatably mounted on the other end for bearing against the end edge of the core 42 of the roll 10 to retain the roll 10 in proper alignment on the support 30.

The end 31 of the web material passes from the take-up roller 32 beneath a fixed guide roller 43 (Figs. 1 and 3) which is rotatably mounted on a shaft 44 extending laterally of a supporting bracket formation which comprises the horizontal bar or plate 45 extending from the main vertical support member 22 and a vertically extending bar or plate 46 mounted on the end of support bar 45. The guide roller 43 is arranged in parallel relation with take-up roller 32 and the roll support 30. A rod 47 extends laterally of the vertical support plate 46 immediately above the guide roller 43 and provides a supporting member for an abutment pin 48 which projects outwardly beyond the surface of the adjoining guide roller 43. The abutment pin 48 is provided in its outer free end with an axially extending vertical slot 49 and a disk-like roller 50 of relatively small diameter is journaled therein which bears against the web material as it is pulled by the operator in a vertical direction upwardly of the guide roller 43.

The web material is held against the surface of the guide roller 43 by a spring plate 51 which is clamped to a supporting bar member 52 extending from the vertical

support member 46 by means of a clamp bar 53 and cooperating clamp bolts 54. The spring plate 51 is formed of relatively thin resilient plate material and is curved at 55 adjacent its upper end to conform to the curvature of the roller 43 and to press the web material against the same.

In using the apparatus the frame is set up as desired and secured in place. The roll of material 10 is secured on the support member 30 by lifting the pin 38 sufficient to pass the hollow core 42 of the roll over the same. Thereafter, the free end 31 of the roll 10 is threaded over the take-up roller 32, beneath the guide roller 43 and upwardly between the roll 43 and the spring plate member 51 and in front of or on the outside of the bar 47 and pin 48 so that when the end 31 of the web material 10 is pulled upwardly by the operator, as in Fig. 1, the small roller 50 on the end of the projecting pin 48 engages the inner face of the web material and the latter is urged against the roller 50 by the action of the spring 51 in urging the same toward the roller 43, which is immediately below the pin 48, and the tension in the material due to the operator's pull on the same in the vertical direction. The individual containers 11 may then be separated from the supply roll 10 by pulling upwardly on the same until the pin 48 engages in the center slit 15 in the perforated tearing line 14 and penetrates the web material as shown in Figs. 3 and 5. Continued pull on the end of the material causes the end to tear off on the perforated line 14, while the adjoining portion of the material is held against advancing movement by the abutment pin 48 as shown in Fig. 5.

I claim:

1. Apparatus for dispensing a roll of connected containers which are collapsed to form a relatively narrow web and which are separated by longitudinally spaced cross perforations, with the individual perforation lines each having a center slit formation, said apparatus comprising a supporting frame, means extending from the supporting frame for supporting the roll of containers so that the same may be unwound therefrom, a roller extending from said supporting frame in parallel spaced relation to the container supporting means over which the endmost container is adapted to advance, a bracket on said supporting frame immediately adjacent said roller having a surface portion extending generally parallel to the axis of said roller, a pin secured in fixed relation on said surface portion and having a free end portion projecting into the path of movement of the containers and generally normal to the plane in which they advance, a bracket extending from said supporting frame at the opposite side of said roller and a spring plate mounted on said last mentioned bracket and having a free end portion positioned in resilient engagement with the surface of said roller for urging the containers toward said roller and over the end of said pin.

2. Apparatus for dispensing a roll of relatively narrow web material which is divided into sections by lines of cross perforations at longitudinally spaced intervals, said apparatus comprising a supporting frame, a material supporting shaft extending from the supporting frame for receiving the roll of material so that the end may be unwound therefrom, a roller supporting shaft extending from said supporting frame in parallel spaced relation to the material supporting shaft and having rotatably mounted thereon a roller of relatively small cross section over which the end of the material is adapted to advance, a bracket extending from said supporting frame immediately adjacent one side of said roller supporting shaft and an abutment forming pin secured in fixed relation on said bracket and having a free end portion extending in a direction generally normal to the plane of the web material and projecting into the path of movement of the material as it advances over the same, a bracket extending from said supporting frame at the opposite side of said rotatable roller and a spring plate mounted on said last mentioned bracket and having its free end bearing against the curved surface of said roller adjacent said abutment pin for urging the material toward said roller and into engagement with said abutment pin whereby upon movement of said material over said abutment pin the latter will penerate said material as it registers with the lines of cross perforations.

3. Apparatus for dispensing a roll of material which is cross perforated at longitudinally spaced intervals, with the individual perforation lines each having a center slit formation, said apparatus comprising a support for the roll of material, means for guiding the end of the material in a predetermined path, a supporting roll member extending across the path of the material over which the material is pulled, a bracket mounted immediately adjacent the curved surface of said roll member and having a surface portion generally parallel to the axis of said supporting roll member, an abutment member in the form of a pin extending in fixed relation from said bracket and generally normal to said surface portion, said abutment pin engaging the surface of the material as it is pulled across the same, and resilient means for urging the material against the surface of said roll member to cause the material to stretch over the end of said abutment pin and engage the same in the center slit formation of successive cross perforations, whereby to permit the successive endmost portions of the material to be separated from the remaining material by the application of pulling force in the direction of advancing movement of the material and generally normal to the axis of said abutment pin while the remaining material is restrained by said abutment pin.

4. Apparatus for dispensing a roll of relatively narrow web material which is divided into sections by lines of cross perforations at longitudinally spaced intervals, said apparatus comprising a supporting frame, a shaft extending from the supporting frame for receiving the roll of material so that the end may be unwound therefrom, a guide roll supported on said frame in parallel radially spaced relation to the material receiving shaft over which the end of the material is adapted to advance, a bracket extending from said supporting frame immediately adjacent said guide roll and an abutment forming pin on said bracket having a free end portion thereof projecting into the path of movement of the material as it is advanced over the roller, said abutment pin having a slot in its end and a disc-like roller journalled in said slot for engaging with the web material along a relatively narrow line in the axial direction of the material and for penetrating the material at the perforating lines whereby successive individual sections of the material may be torn from the roll.

5. Apparatus for dispensing a roll of relatively narrow web material which is divided by lines of cross perforations at longitudinally spaced intervals, said apparatus comprising a supporting frame, a shaft extending from the supporting frame for receiving the roll of material so that the end may be unwound therefrom, a roller guide member extending from said supporting frame in parallel radially spaced relation to the material receiving shaft over which the end of the material is adapted to advance, a bracket extending from said supporting frame immediately adjacent said roller guide member, an abutment forming pin on said bracket having its free end slotted and projecting into the path of movement of the material as it advances from the roller guide member, an anti-friction disc member rotatably supported in the slotted end of said abutment pin for engaging with the inner face of the material as it advances over the end of said abutment pin, a bracket extending from said supporting frame at the opposite side of said roller guide member and a spring plate secured on said last mentioned bracket and having a free end portion thereon positioned to bear against the outer face of the wet material as it advances over said roller guide member

and over the end of said abutment pin for resiliently urging the material toward said roller guide member and against the end of said abutment pin whereby said abutment pin will penetrate the material when the material is advanced to register the lines of perforations with the end of said abutment pin.

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