April 4, 1961 I. J. YANIELLO 2,978,156

ROLL PAPER DISPENSER

Filed May 22, 1959

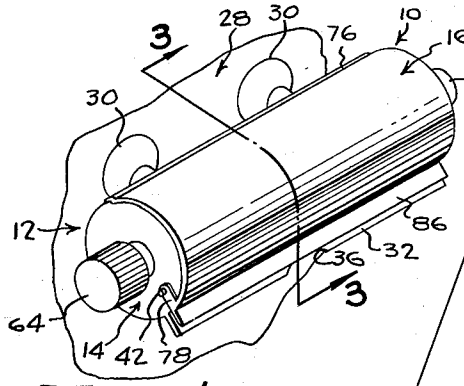


Fig-1

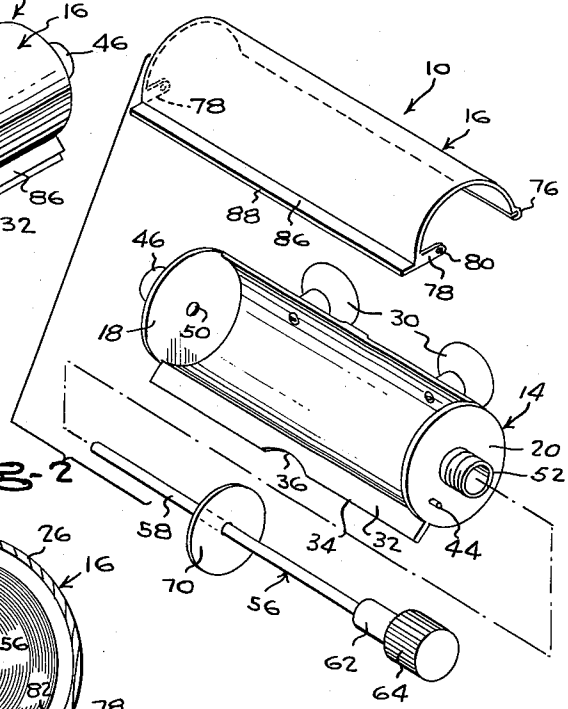


Fig-2

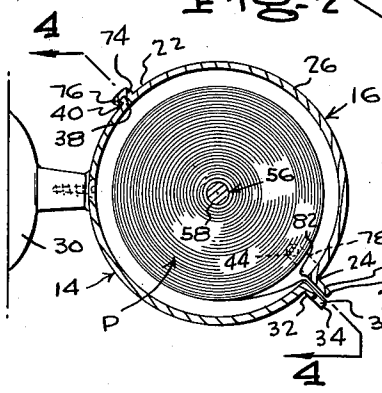


Fig-3

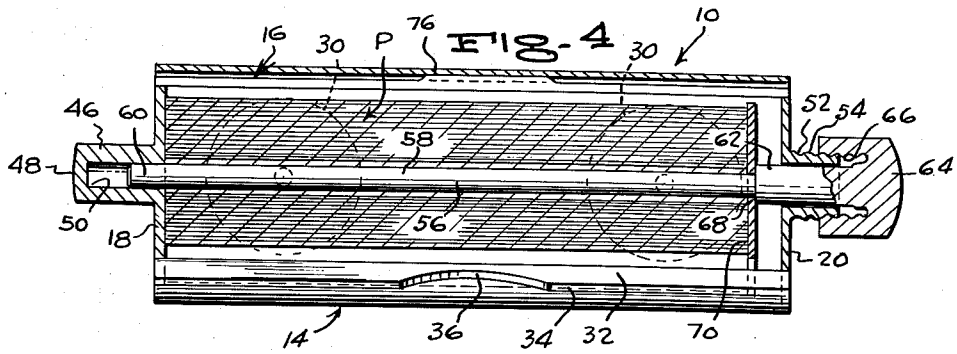


Fig-4

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ROLL PAPER DISPENSER

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3 Claims. (Cl. 225—42)

This invention relates to an improved tear-off type of dispenser for roll paper, such as paper towels and the like.

The primary object of the invention is to provide an inexpensive and generally superior device of the kind indicated in which rolls of such as paper towels can be more quickly and easily installed in a secure and protected manner, and wherein the tearing off of lengths of paper can have no opening effects on components of the device.

Another object of the invention is to provide a device of the character indicated above which has, in conjunction with its roll-carrying shaft, simple combined means which serves the dual purposes of securing the shaft in place in the device and of frictionally holding the roll adjacent unwanted free rotation in the device, the said combined means being adjustable to provide different degrees of such frictional holding of the roll.

A further object of the invention is to provide a compact device of the character indicated above which has means for removably mounting the same on any desired surface, such as in the home, office, or automobile, and which is of uncomplex construction and composed of a small number of simple and easily assembled parts.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

Figure 1 is a perspective view of a device of the invention mounted on a vertical support surface;

Figure 2 is an exploded perspective view of said device;

Figure 3 is an enlarged vertical transverse section taken on the line 3—3 of Figure 1; and

Figure 4 is a longitudinal section taken on the line 4—4 of Figure 3.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated device 10 comprises a horizontally elongated cylindrical casing 12 which is composed of a relatively stationary, semi-cylindrical lower section 14, and a semi-cylindrical, movable upper cover section 16. As shown in Figure 3, the sections are separated from each other at points in a plane which is angled forwardly and downwardly with respect to the horizontal.

The lower, relatively stationary casing section 14 has fixed circular disc first and second end walls 18 and 20, respectively, which have upper halves which extend above the elevated rear longitudinal edge 22 and the depressed forward longitudinal edge 24 of the section 14, and having free arcuate edges 26 upon which the upper section 16 rests at its ends. For mounting the device on the surface of a desired support, such as a wall 28, the lower section 14 is provided along a horizontal line spaced below its elevated rear edge 22, with mounting means, such as suitably secured longitudinally spaced suction cups 30.

The lower section 14 further comprises a forwardly declining and forwardly projecting tearing flange 32 fixed along its depressed forward edge 24. The flange 32 has a free edge 34 which is formed as a tearing edge and is indented by a central notch 36 which enables grasping and pulling paper left resting upon the flange 32 by the tearing off of a length of paper along the edge 34.

Fixed on and extending along the elevated rear edge 22 of the lower casing section 14 and projecting radially therefrom is a retaining rib 38 having in its rear side a longitudinal detent slot or groove 40. At locations near to and spaced upwardly and rearwardly from the tearing flange 32 the outer sides of the end walls 18 and 20 have fixed thereon pins 42 and 44, respectively, which are eccentric with respect to the longitudinal axis of the casing 12 and located on a diameter thereof.

On and preferably integral with the first lower section end wall 18, as seen in Figure 4, is an axial tubular boss 46 which extends axially outwardly therefrom, and has a closed outer end 48, and an axial bore 50 which opens through the end wall 18 and defines a shaft bearing socket. On and preferably integral with and extending axially outwardly from the second end wall 20 of the lower section 14, is an axial tubular bearing 52 having external screw threads 54.

A paper roll shaft 56 extends non-rotatably through the lower casing section 14 and comprises a smaller diameter cylindrical main portion 58 having a free end 60 to engage conformably in the bearing bore 50 of the boss 46, and a relatively short, larger diameter end portion 62 which extends rotatably and slidably through the bearing 52. The outer end of the enlarged shaft portion 62 has on its outer end a further enlarged knurled cap nut 64 whose internal threads 66 are threadably and removably engaged on the threads 54 of the bearing 52. The meeting of the inward end of the enlarged shaft portion 62 which the main shaft portion 58 defines a shoulder 68, and a relatively large diameter washer 70 is slidably circumposed on the main shaft portion 58 to bear against the shoulder 68.

As can be seen from Figure 4, a paper roll P, of a length to be accommodated in the lower casing section 14 between its first and second end walls 18 and 20, and circumposed on the main shaft portion 58, is adapted to be slightly compressed endwise between the first end wall 18 and the washer 70 by threading the cap nut 64 inwardly on the bearing 52, until the desired degree of frictional resistance to vagrant rotation of the paper roll in the casing has been obtained. The threading of the cap nut 64 on the tubular bearing 52 also serves to assemble the shaft 56 in the lower casing section 14.

The upper, movable cover section 16 is devoid of end walls and has on and extending along its elevated rear edge 22 an outstanding and rearwardly extending hook flange 74 terminating in a resilient hook 76, which is engageable behind the retaining rib 38 of the lower casing section 14, with the hook 76 snapped into the retaining rib groove 40 for holding the cover section 16 in closed and secured relation to the lower section 14. The cover section 16 is mounted on the lower section 14 by radially inwardly projecting arms 78, which have holes 80 at their inward ends, which are located on a diameter of the casing 12 and which are snapped over the pins 42, 44 on the lower casing section end walls 18 and 20 and which are also located on a diameter of the casing 12. As an alternative to the hook flange hook 76 being resilient, the same can be rigid and the cover section made sufficiently resilient to afford the hook the needed resilient and tensioned engagement with the retaining rib 38 and its detent groove 40.

As seen in Figure 3, the depressed forward longitudinal edge 82 of the cover section 16 is slightly spaced

upwardly from the tearing flange 32 of the lower section 14, so as to provide a paper guiding exit slot 84, and a fixed paper confining flange 86 on and along the edge 82 extends forwardly therefrom, coextensively with and is parallel spaced above the tearing flange 32, and has a free edge 88 spaced slightly rearwardly from the tearing edge 34, so as not to interfere with tearing of paper along the edge 34. Removal of the upper casing section or cover section 16, for insertion and removal of a paper roll P in the casing 12, involves forcing the cover section forwardly sufficiently to disengage the hook 76 of the hook flange from the retaining rib 38, as is permitted by the engagement of the arm 78 on the pins 42, 44 and the spacing of the flanges 36, 32, and then snapping the arms 78 off the pins; and these operations are reversed for installing and securing the cover section 16 in place.

As is apparent from Figure 2, a paper roll P is installed in the casing 12 with the paper coming off the underside of the roll and passed directly to and through the exit slot 84. Paper is simply pulled off the roll P to the desired length beyond the tearing edge 34 and then pulled downwardly against and along the edge 34 to provide the desired length of dispensed paper. Alternately, the pulled out paper can be pulled upwardly instead, along the free edge 88 of the paper confining flange 86 and torn off along the free edge 88 thereof.

It is believed obvious from the structural formations of the device, as described above, that the same or any of them are susceptible to being made of either metal or molded plastic, or of composition materials.

Although there has been shown and described herein a preferred form of the invention, it is to be understood that the change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A paper roll dispenser comprising a horizontally elongated, substantially cylindrical casing having a relatively stationary semi-cylindrical lower section and a semi-cylindrical upper cover section, said sections having forward and rear longitudinal edges, means fixed on and extending rearwardly from said lower section for mounting the casing on a support, means removably securing the upper section coextensively over the lower section, said lower section having first and second concentric circular end walls, said end walls having arcuate upper edges upon which the upper section rests at its ends, an axial bearing socket fixed on said first end wall and having a bore opening therethrough, an open ended externally threaded tubular bearing fixed axially on the second end wall and having a bore opening therethrough, a removable paper roll supporting shaft comprising a main portion extending lengthwise through the casing and having an end rotatably and slidably engaged in the bore of bearing socket, an enlarged diameter portion on the other end of the shaft slidably journaled through said tubular bearing, a cap nut fixed on the outer end of said enlarged shaft portion and threaded on said tubular bearing, the main shaft portion and said enlarged portion defining a shoulder, the threading of the cap nut on the tubular bearing serving to assemble the shaft to the casing and to compress a paper roll circumposed on said main shaft portion between said shoulder and said first end wall so as to provide frictional retardation of vagrant rotation of the roll, the forward longitudinal edges of the casing sections being spaced to define an exit slot for paper drawn from the paper roll, one of said forward longitudinal edges having a tearing edge, an outstanding retaining rib fixed on and extending along the rear longitudinal edge of the lower section, and a resilient hook flange fixed on and extending along the rear longitudinal edge of the cover section, said hook flange having a hook snapped over and engaged behind said retaining rib.

2. A paper roll dispenser comprising a horizontally elongated, substantially cylindrical casing having a relatively stationary semi-cylindrical lower section and a semi-cylindrical upper cover section, said sections having forward and rear longitudinal edges, means fixed on and extending rearwardly from said lower section for mounting the casing on a support, means removably securing the upper section coextensively over the lower section, said lower section having first and second concentric circular end walls, said end walls having arcuate upper edges upon which the upper section rests at its ends, an axial bearing socket fixed on said first end wall and having a bore opening therethrough, an open ended externally threaded tubular bearing fixed axially on the second end wall and having a bore opening therethrough, a removable paper roll supporting shaft comprising a main portion extending lengthwise through the casing and having an end rotatably and slidably engaged in the bore of bearing socket, an enlarged diameter portion on the other end of the shaft slidably journaled through said tubular bearing, a cap nut fixed on the outer end of said enlarged shaft portion and threaded on said tubular bearing, the main shaft portion and said enlarged portion defining a shoulder, the threading of the cap nut on the tubular bearing serving to assemble the shaft to the casing and to compress a paper roll circumposed on said main shaft portion between said shoulder and said first end wall so as to provide frictional retardation of vagrant rotation of the roll, the forward longitudinal edges of the casing sections being spaced to define an exit slot for paper drawn from the paper roll, one of said forward longitudinal edges having a tearing edge, said securing means comprising radial arms on the ends of said cover section extending radially inwardly therefrom on a diameter of the casing at locations near the forward longitudinal edge of the cover section, said arms extending across the outer sides of related end walls of the lower casing section, means securably and removably pivoting said arms on the lower casing end walls, an outstanding retaining rib fixed on and extending along the rear longitudinal edge of the lower section, and a resilient hook flange fixed on and extending along the rear longitudinal edge of the cover section, said hook flange having a hook snapped over and engaged behind said retaining rib.

3. A paper roll dispenser comprising a horizontally elongated, substantially cylindrical casing having a relatively stationary semi-cylindrical lower section and a semi-cylindrical upper cover section, said sections having forward and rear longitudinal edges, means fixed on and extending rearwardly from said lower section for mounting the casing on a support, means removably securing the upper section coextensively over the lower section, said lower section having first and second concentric circular end walls, said end walls having arcuate upper edges upon which the upper section rests at its ends, an axial bearing socket fixed on said first end wall and having a bore opening therethrough, an open ended externally threaded tubular bearing fixed axially on the second end wall and having a bore opening therethrough, a removable paper roll supporting shaft comprising a main portion extending lengthwise through the casing and having an end rotatably and slidably engaged in the bore of bearing socket, an enlarged diameter portion on the other end of the shaft slidably journaled through said tubular bearing, a cap nut fixed on the outer end of said enlarged shaft portion and threaded on said tubular bearing, the main shaft portion and said enlarged portion defining a shoulder, the threading of the cap nut on the tubular bearing serving to assemble the shaft to the casing and to compress a paper roll circumposed on said main shaft portion between said shoulder and said first end wall so as to provide frictional retardation of vagrant

rotation of the roll, the forward longitudinal edges of the casing sections being spaced to define an exit slot for paper drawn from the paper roll, one of said forward longitudinal edges having a tearing edge, said securing means comprising radial arms on the ends of said cover section extending radially inwardly therefrom on a diameter of the casing at locations near the forward longitudinal edge of the cover section, said arms extending across the outer sides of related end walls of the lower casing section, means securably and removably pivoting said arms on the lower casing end walls, an outstanding retaining rib fixed on and extending along the rear longitudinal edge of the lower section, and a resilient hook flange fixed on and extending along the rear longitudinal edge of the cover section, said hook flange having a hook snapped over and engaged behind said retaining rib, said pivot means comprising pins extending from the outward sides of the lower casing section end walls, said arms being resilient and having holes snapped over the pins.

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