ABSTRACT: A dispensing holder for a roll of sheet material, such as tissue, including a front opening housing to be flush mounted in a wall recess and the roll support frictionally fitted within the housing. The roll support has a spindle for rotatably receiving the roll and a locating flange surrounding the spindle for positively locating the latter in a fixed position within the housing, wherein the roll is free to turn without rubbing contact with the housing.
DISPENSING HOLDER FOR ROLLED SHEET MATERIAL

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to dispensers and more particularly to a dispensing holder for rolled sheet material, such as toilet tissue.

2. Prior Art

The prior art is replete with a wide assortment of dispensing holders of the class described. Typical holders of this class, for example, are disclosed in U.S. Pat. Nos. 1,745,711, 2,805,112, 3,170,652 and 3,239,158. These existing holders, while satisfactory to a seasonal view of certain disadvantages which this invention overcomes. Some holders, for example, project beyond the surface of the wall on which they are mounted and thus present an undesirable obstruction. In other cases, while the holder itself is mounted flush with the wall surface, the roll within the housing protrudes beyond the surface. Another disadvantage of the existing holders is that refilling of the holder is difficult owing to a manner in which the roll support is held within the housing.

SUMMARY OF THE INVENTION

The present invention provides an improved dispensing holder of the class described which avoids the above-noted and other disadvantages of the existing holders. To this end, the present dispensing holder is equipped with a front opening housing to be flush mounted within a recess in a wall. Within the housing is a removable roll support for rotatably receiving the roll of sheet material to be dispensed. According to one important feature of the invention, this spindle is frictionally retained within the housing in such a way that it may be readily removed and replaced so as to facilitate refilling of the holder. Another important feature of the invention resides in a locating flange surrounding the spindle. This locating flange engages the walls of the housing to positively locate the spindle in a fixed position within the housing, wherein the roll of sheet material supported on the spindle is free to turn without rubbing contact with the housing. The housing is internally dimensioned to receive the full diameter of the spindle locating flange and the roll of sheet material on the spindle, such that neither the flange nor the roll project beyond the front side of the housing. In one disclosed embodiment of the invention, the front side of the housing is left open so that the roll is exposed to view. In another disclosed embodiment, the roll support includes a front closure panel which closes the front opening of the housing and hence conceals the roll of sheet material.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevation of a dispensing holder according to the invention;
FIG. 2 is a section taken on line 2—2 in FIG. 1;
FIG. 3 is a detail of the roll support embodied in the present dispensing holder;
FIG. 4 is an enlarged longitudinal section through the roll support;
FIG. 5 is a front elevation of a modified dispensing holder according to the invention;
FIG. 6 is a section taken on line 6—6 in FIG. 5;
FIG. 7 is a section taken on line 7—7 in FIG. 5;
FIG. 8 is an enlarged perspective view of one part of the roll support embodied in the modified dispensing holder; and
FIG. 9 is a sectional view showing a modified form of roll support according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning first to FIGS. 1 through 4, there is illustrated a dispensing holder 10 according to the invention for a roll 12 of sheet material, such as toilet tissue. The holder includes a front opening housing 14 and a roll support 16 within the housing.

Housing 14 has a circumferential wall 18 and parallel end walls 20. Circumferential wall 18 includes a semicylindrical portion 22 which defines the rear wall of the housing and planar portion 24 merging tangentially with the semicylindrical wall portion to form the upper and lower housing walls. The housing has a front opening 26. Surrounding the front side of the housing is an outwardly directed locating flange 30.

The roll support 16 has a spindle 32 and a circular locating flange 34 coaxially surrounding one end of the spindle. Spindle 32 comprises telescoping tubular sections 36 and 38. Locating flange 34 is rigidly joined to the outer end of spindle 32.Contained within the spindle 32 are resilient means 40, in this instance a compression spring, for yieldably urging the spindle sections 36, 38 apart, thus to increase the overall length of the spindle.

The diameter of the roll support spindle 32 is slightly less than the diameter of the central opening through the roll 12 of sheet material to be dispensed. The diameter of this spindle flange 34 substantially equals the diameter of the cylindrically curved housing wall portion 32. The overall length of the spindle 32 in its fully extended position is greater than the perpendicular spacing between the housing end walls 20. The spindle may be compressed, against the action of the spindle spring 40, to an overall length less than this wall spacing.

In use of the dispensing holder 10, the dispenser housing 14 is installed within a recess in a wall 42. When thus installed, the front flange 30 of the housing seats rearwardly against the wall surface so that the dispenser is substantially flush with the surface. This flush mounting of the dispenser constitutes an important feature of the invention. The housing may be secured in position in the wall in any convenient way, as by adhesively bonding the housing flange 30 to the wall surface.

According to another important feature of the invention, the housing 14 is internally dimensioned to completely contain the roll 12 of sheet material to be dispensed and the roll support 16. As a result, neither the roll nor the roll support protrudes beyond the front side of the housing, as is evident from FIG. 2. The present dispenser thus presents a very pleasing appearance and substantially no obstruction when thus installed.

Another important feature of the invention is concerned with the method of retaining and locating the roll support 16 within the housing 14. According to this feature, the spindle spring 40 urges the telescoping spindle sections 36, 38 outwardly into frictional contact with the end walls 20 of the housing 14 with sufficient force to frictionally retain the roll support within the housing. The arcuate housing wall 22 and spindle flange 34 are provided with a diameter slightly greater than the roll 12 of sheet material to be dispensed. The roll support is inserted into the housing to the position of FIG. 2, wherein the rear edge of the flange abuts the arcuate housing wall 22 and the outer face of the flange seats flat against the adjacent housing end wall 20. From this description, it will be understood that the flange 34 positively locates the spindle 32 in a fixed position within the housing 14, wherein the spindle axis is normal to the housing end walls 20 and coincides with the axis of curvature of the arcuate housing wall 22. The roll 12 is thereby free to turn on the spindle without rubbing contact with the housing.

When it becomes necessary to refill the holder 10, the roll support 16 is simply removed from the housing 14 through its front opening 26 and a new roll 12 is slid over the spindle. The roll support 16 is then replaced in the housing 14 by compressing the spindle 32 sufficiently to enable it to enter between the housing end walls 20. When the spindle is released, the spindle spring 40 again urges the telescoping spindle sections 36, 38 outwardly into frictional contact with the housing end walls 20 to frictionally secure the roll support within the housing. It will be evident, of course, that other resilient means than the compression spring 40 may be employed to bias the spindle sections 36, 38 apart.

Turning now to FIGS. 5 through 8, there is illustrated a modified dispensing holder 10a according to the invention.
This modified holder has a housing 14a containing a removable roll support 16a. Housing 14a is essentially identical to the housing 14 of the earlier despensing holder 10. Accordingly, there is no need to describe the housing 14a in detail.

The roll support 16a comprises a telescoping spindle 32a and a spindle carrier 44a. Referring to FIG. 8, the spindle carrier will be seen to comprise a rectangular wall panel 46a and spaced parallel flanges 48a projecting from the rear side of the panel. These flanges are spaced to have a close sliding fit between the housing end walls 20a. Rear edges 50a of the flanges are curved to the same radius as the rear wall 22a of the housing 14a. The front panel 46a of the roll support has the same dimensions as the front opening 26a of the housing 14a.

The roll support 16a is dimensioned for insertion into the housing 14a, through its front opening 26a, to the position of FIGS. 6 and 7. When fully inserted, the roll support flanges 48a fit snugly between the housing end walls 20a, and the rear curved edges 50a of the flanges seat against the rear curved wall 22a of the housing. The front roll support panel 46a closes the front housing opening 26a so as to obscure the roll 12 supported on the spindle 32a. The sheet material leads from the roll through a space between the front edge of the lower housing wall 24a and the lower edge of the roll support panel 46a. The two telescoping sections of the spindle 32a are spring loaded outwardly against the roll support flanges 48a to frictionally retain the spindle in removable roller support 16a.

It will be understood that the locating flange 34a serves to positively locate the spindle concentrically within the housing so as to permit the roll 12 to turn freely on the spindle without rubbing contact with the housing.

FIG. 9 illustrates a modified form of removable roller support 16b, wherein circular openings 52b extend through roll support flanges 48b along the axis of curvature of the rear flange edges, which edges are identical to edges 50a in FIG. 8, for slidably receiving the ends of the telescoping spindle 32b. The telescoping sections of the spindle 32b are spring loaded outwardly through openings 52b and against the housing end walls, which are like the end walls 20 in FIG. 2. The positioning of the spindle through the openings 52b provides positive positioning of the spindle relative to the face or cover member which is like cover member 30 of FIG. 2.

It will be evident to those versed in the art that the various parts of the present dispensing holder may be constructed of various materials. Preferably, however, these parts are injection molded from plastic.

The inventor claims:

1. A dispensing holder for a roll of sheet material comprising:
   a. a front opening housing to be flush mounted within a wall recess, and
   b. a removable roll support within said housing including means frictionally securing said support within said housing, a spindle for rotatably receiving said roll, and a flange surrounding at least one end of said spindle and disposed in edgewise engagement within the wall of said housing for positively locating said spindle within said housing in radially spaced relation to the housing wall.

2. A holder according to claim 1, wherein:
   a. said locating flange is circularly curved about the axis of said spindle, and said housing has a circularly curved rear wall portion of the same radius of curvature as said flange and engageable by said flange to positively locate said spindle in concentric relation to said housing wall portion.

3. A holder according to claim 2 wherein:
   a. said housing has a circular disc fixed to said spindle.

4. A holder according to claim 2 wherein:
   a. said roll support comprises a spindle carrier having a pair of flanges with circularly curved rear edges centered on the axis of said spindle, and said carrier flanges providing a pair of locating flanges for said spindle and being engageable with said rear housing wall portion to locate said spindle in concentric relation to said housing wall portion.

5. A holder according to claim 4 wherein:
   a. said spindle carrier flanges have central openings slidably receiving opposite ends of said spindle, and said spindle comprises telescoping sections and spring means for urging said sections apart through said openings and into frictional contact with said housing end walls to provide frictional retention of said roll support.

6. A holder according to claim 4 wherein:
   a. said spindle carrier has a front wall panel for closing the front opening of said housing when said carrier is installed within said housing.

7. A holder according to claim 3 wherein:
   a. said housing has spaced parallel end walls at opposite ends of said spindle, and said spindle comprises telescoping sections and spring means for urging said sections apart and into frictional contact with said housing end walls to provide said frictional retaining means.

8. A holder according to claim 7 wherein:
   a. said locating flange is rigid on the outer end of one spindle section and is urged flat against the adjacent housing end wall to locate the axis of said spindle normal to said end walls.

9. A holder according to claim 4 wherein:
   a. said housing comprises spaced parallel end walls at opposite ends of said spindle, and said spindle comprises telescoping sections, and spring means for urging said sections apart and into frictional contact with said end walls to provide said frictional retaining means.

10. A holder according to claim 1 wherein:
    a. said housing and roll support comprises molded plastic parts.

11. A holder according to claim 1 wherein:
    a. said housing is dimensioned to totally contain said roll support and roll, whereby neither said roll support nor roll protrude beyond the front side of said housing.