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3,337,152

TAPE DISPENSER

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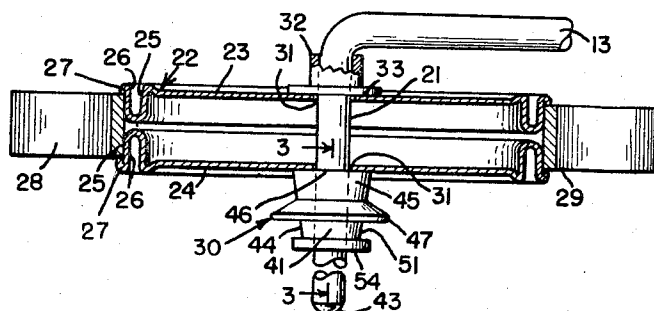


FIG. 2

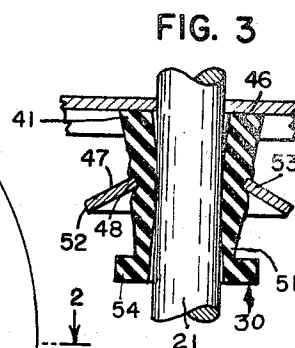


FIG. 3

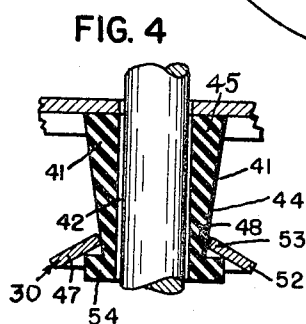
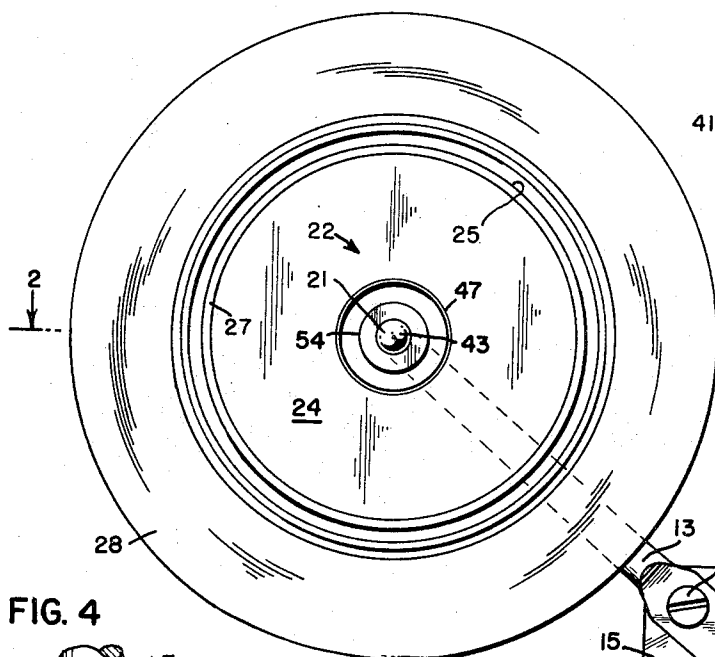


FIG. 4

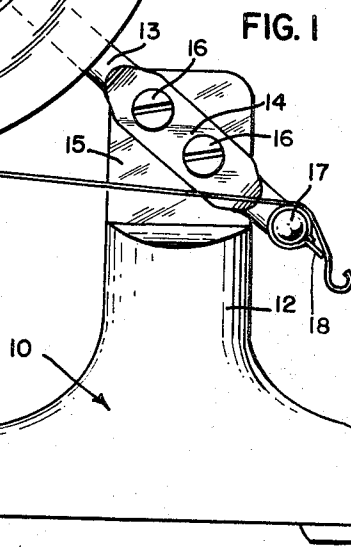


FIG. 1

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TAPE DISPENSER

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The herein disclosed invention relates to tape dispensers and, particularly, to tape dispensers in which the tape is mounted on a reel arranged for rotation about a spindle supported at one end and free at its other end for the end-wise reception of the reel and tape.

An object of the invention resides in providing a locking device for holding the reel and tape upon the spindle and comprising a sleeve constructed of a flexible material such as rubber or the like and having a bore therein through which the spindle may extend.

Another object of the invention resides in constructing the sleeve in the form of a truncated cone with the end of greater diameter adjacent the reel.

A still further object of the invention resides in providing a collar of rigid material encircling the sleeve and slidable along the same, said collar when urged toward the end of the sleeve of greater diameter compressing the sleeve axially and clamping the sleeve on the spindle.

An object of the invention resides in providing a bead encircling the sleeve at its smaller end for retaining the collar on the sleeve.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described.

In the drawings:

FIGURE 1 is a side elevational view of a tape dispenser illustrating an embodiment of the invention.

FIGURE 2 is a plan sectional view of a portion of the dispenser taken on line 2—2 of FIGURE 1.

FIGURE 3 is a fragmentary longitudinal sectional view taken on line 3—3 of FIGURE 2 and drawn to an enlarged scale.

FIGURE 4 is a view similar to FIGURE 3 showing the parts in altered relation.

The tape dispenser illustrated comprises a stand 10 having a base 11 and an upright 12 extending upwardly from said base. Issuing angularly upwardly from the upright 12 is an arm 13 constructed of a round rod which is formed with a flattened portion 14 overlying a flat 15 on the upper end of the upright 12. Screws 16 extend through the flattened portion 14 and are screwed into the upright 12. The arm 13 has bent outwardly therefrom at its lower end a part 17, which supports a tear blade 18 by means of which the tape may be severed from the roll.

The upper end of the arm 13 has another bent part 21, which is parallel to the part 17 and which serves as a spindle.

Rotatably mounted on the spindle 21 is a reel 22 consisting of two side plates 23 and 24. These side plates have U-shaped annular beads 25, which have outer flanges 26, with turned over lips 27. A roll of tape 28 is mounted on the flanges 26 and is held in place thereon by means of the lips 27 when the plates are urged together. The plates 23 and 24 are formed with central holes 31 and through which the spindle 21 extends. Mounted on the spindle 21, near the arm 13, is a flanged collar 32 which has a shoulder 33 engaging the plate 23 and limiting the movement of the reel 22 toward the arm 13.

For the purpose of holding the plate 24 in proper position with reference to the plate 23, a locking device 30 is employed. This device includes a sleeve 41 which is constructed of rubber or some other similar flexible material. This sleeve is formed with a bore 42 of a diameter slightly greater than the diameter of the spindle 21, permitting

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the sleeve to be freely applied to said spindle by axial sliding movement, the spindle being rounded at its end as indicated at 43 to facilitate insertion of the spindle into the bore of the sleeve. The sleeve 41 is in the shape of a truncated cone having a frusto-conical outer surface 44. The portion 45 at the larger end of the surface 44 is disposed at the end of the sleeve adjacent the plate 24 and has a shoulder 46, which butts up against the outer surface of the plate 24. Encircling the sleeve 41 is a ring 47 in the form of a washer and which has a bore 48 which encircles the portion 51 of the surface 44 at the smaller and free end of the sleeve 41. The ring 47 is dished, as shown in FIGURES 3 and 4, so that the marginal portion 52 is more remotely spaced from the plate 24 than the inner portion 53. The marginal portion 52 serves as a fingerpiece for sliding the ring 47 along the sleeve 41 and the additional space afforded by dishing said ring facilitates the insertion of the fingers between said ring and the plate 24. The ring 47 is held in place upon the sleeve 41 by means of a bead 54, which encircles the said sleeve and extends outwardly beyond the bore 48 of the ring 47.

In using the device, the two plates 23 and 24 are first assembled in the core 29 of the roll of tape 28 which is to be mounted on the dispenser, and said plates slid over the spindle 21 until plate 23 engages the shoulder 33 formed on the collar 32. The sleeve 41 with the ring 47 arranged as shown in FIGURE 4 is grasped by the said ring and slid over the end of the spindle 21. When the shoulder 46 on said sleeve engages the plate 24, movement of the sleeves terminates. Upon pressure being applied to the ring 47, the same is urged inwardly sliding along the outer surface 44 of the sleeve. As the ring so slides, the same compresses the material of the sleeve against the spindle 21 and clamps the sleeve in position upon said spindle. The shoulder 46 now creates a pressure on the plate 24, and which frictionally holds the reel in position and prevents unintentional unrolling of the tape. When the device is to be removed, the reverse procedure is employed, and the sleeve removed from the spindle.

The advantages of the invention are manifest. The dispenser is extremely simple in construction and can be manufactured at a low cost. The locking device works perfectly, and holds the reel assembled when applied to the spindle, and can be readily removed to permit a removal of the reel from the spindle.

Changes in the specific form of the invention, as herein described, may be made within the scope of what is claimed without departing from the spirit of the invention.

Having described the invention, what is claimed as new and desired to be protected by Letters Patent is:

1. In a tape dispenser having a support, a spindle carried by said support, a reel apertured to rotate on the spindle, means forming a shoulder on said spindle at the inner end thereof engaging one side of the reel and limiting the inward axial movement of said reel, the combination of:

- a flexible sleeve radially compressible and having a bore freely receiving said spindle,
- said sleeve having an inner end portion engageable with the other side of said reel,
- said sleeve having an outer surface,
- said outer surface having a portion at the free end thereof of lesser transverse dimensions than a portion of said surface inwardly of the free end thereof,
- a ring on said sleeve having an opening therein receiving the free end of said sleeve,
- said ring being movable axially along the outer surface of said sleeve from one portion thereof to another and when disposed on a portion of said surface of greater transverse dimensions than the dimensions

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- at the free end compressing said sleeve radially to clamp the sleeve on said spindle, and
 (g) means for retaining said ring on said sleeve.
2. A tape dispenser according to claim 1 in which:
 (a) the outer surface of the sleeve is in the form of a surface of revolution.
3. A tape dispenser according to claim 1 in which:
 (a) the outer surface of the sleeve is frusto-conical in form.
4. A tape dispenser according to claim 1 in which:
 (a) the ring extends appreciably outwardly beyond the outer surface of the sleeve to form a fingerpiece for axially moving the ring along the sleeve.
5. A tape dispenser according to claim 1 in which:
 (a) the ring is in the form of a washer.
6. A tape dispenser according to claim 1 in which:
 (a) the sleeve is constructed of rubber.
7. A tape dispenser according to claim 2 in which:

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- (a) the means for retaining the ring on the sleeve consists of a bead encircling the sleeve at the free end, and
 (b) said bead being of a diameter greater than the diameter of the opening in the ring.
8. A tape dispenser according to claim 5 in which:
 (a) the washer is dished outwardly to give greater access for engagement of the fingers of the user therewith.

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