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TAPE DISPENSER

Filed Feb. 14, 1966

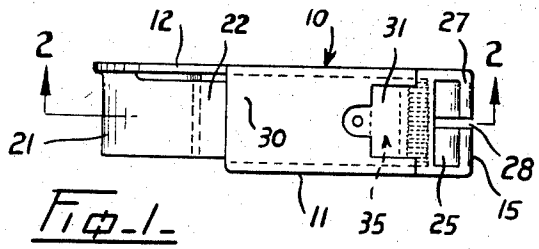



FIG. 1

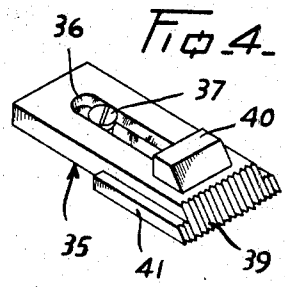



FIG. 4

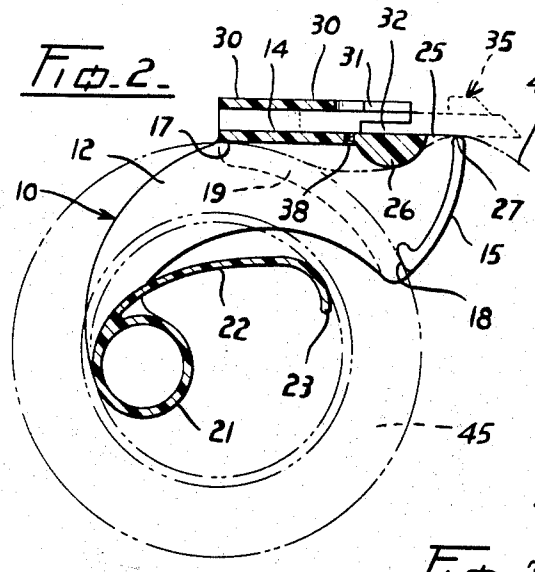



FIG. 2

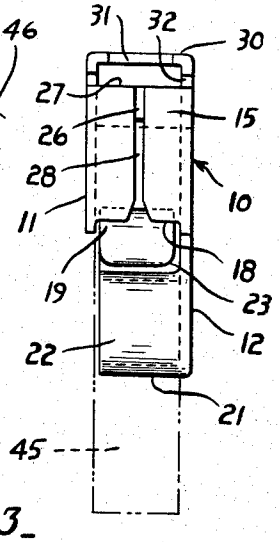



FIG. 3

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# TAPE DISPENSER

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## ABSTRACT OF THE DISCLOSURE

A dispenser and cutter for a roll of pressure sensitive tape. A resilient retainer journalling the roll, and constructed to act as a brake preventing unrolling thus facilitating dispensing and cutting. A tape discharge opening of T shape for threading.

This invention relates to improvements in dispensers which are particularly adapted for use in dispensing tape from large diameter rolls.

Much of the tape presently in use such as masking tape and the like is made up in annular rolls which may have an outside diameter of from 5 to 6 inches and an inside diameter of from 1½ to 3 inches. Such a roll cannot conveniently be dispensed from conventional dispensers of the type which totally or even partially encloses the roll since the overall size of the dispenser makes it difficult to handle during the tape dispensing operation. In addition to being uneconomical to manufacture, a large size dispenser of conventional design is often difficult to load and once loaded is not easily prepared for use, i.e., tape end is not readily available to be extended from the dispenser casing.

The above and other disadvantages of prior dispensers are reduced by the present invention which provides a dispenser which is attachable to a segment of the roll in such a manner that the roll itself can be gripped in the user's hand and the operation of the dispenser thereon can be fully controlled by use of the same hand.

One of the main objects of the invention is to provide means for mounting the dispenser on the roll so that the roll is journalled in a bearing which also can be used as a brake.

A further object is to provide means for the tape end to be seized and threaded through the dispenser to a position where it subsequently can be applied and cut as required.

In order to achieve these and other objects the invention contemplates the use of a dispenser which can be mounted on a tape roll. The case has a discharge opening through which tape is extended from the roll and a cutter for severing the extended length of tape. One of the side walls of the case projects rearwardly beyond the other side wall and a retainer carried on the projecting side wall so as to extend into the annular roll. The retainer slidably engages the inner periphery of the annular roll and supports the outer periphery of said roll in sliding contact with a rear part of the case.

Referring to the drawings:

FIGURE 1 is a plan of the dispenser with the cutter being shown by dotted lines in the retracted or open position.

FIGURE 2 is a vertical section taken on the line 2—2 of FIG. 1 with the cutter similarly shown in the extended or closed position.

FIGURE 3 is a front elevation of the dispenser with the cutter omitted.

FIGURE 4 is a perspective view of the cutter.

The tape dispenser shown in FIGS. 1 to 4 has a case **10** which preferably is made of a strong, resilient plastic



although other suitable materials may be used. The case has parallel side walls **11** and **12**, a top wall **14** and a curved front wall **15**. As shown by dotted lines only in FIG. 2, the lower edge of the side wall **11** is curved and projects below the rear edge **17** of the top wall and the inwardly flanged lower edge **18** of the front wall. This projecting edge of the side wall **11** and the corresponding portion of the side wall **12** define with the edges **17** and **18**, a channel which is designated by the numeral **19**.

The side wall **12** curves downwardly and inwardly below the channel **19** and is tapered to merge with a transversely extending tubular hub **21**. This hub is integrally formed with the side wall and also with a retainer **22** which curves upwardly so that its downwardly turned free end **23** normally is disposed close to the channel **19** and between the edges **17** and **18**. It will be noted the retainer **22** is a spring-like member which is fairly easily flexed to vary its curvature but which has quite a strong tendency to return to the normal extended position mentioned above.

A tape discharge opening **25** is provided in the top wall of the case adjoining the curved front wall. On the underside of the wall **14** a tape guide **26** is formed, the guide extending from side wall to side wall and being substantially semi-circular in cross section. The upper edge of the wall **15**, on the opposite side of the rectangular discharge opening from the tape guide, desirably is rounded as at **27**. Formed in the front wall **15** is a centrally disposed feed slot **28** which extends from edge **18** to edge **27**, the slot preferably being widened near the edge **18** as shown in FIG. 3.

The case **10** has an integral cover **30** which is an inverted channel-like member, the front end of which is located above the tape guide **26**. This forward part of the cover has a top recess **31** and side grooves **32**.

Slidably mounted on the top wall **14**, beneath the cover **30**, is a cutter **35** which may be formed of a strip of the same plastic material as the case. The cutter **35** is centrally slotted as at **36** and a screw **37** projects freely through this slot to enter a threaded opening **38** in the top wall **14** of the casing. A toothed cutting edge **39** is provided on the front of the cutter and near this bevelled edge, the sliding member has a thumb rest **40** and side flange **41**. When the cutter is moved forward on the case it serves as a closure for the discharge opening **25** and when said cutter is in this fully extended or closed position its cutting edge **39** is disposed well forward of the front wall **15**. In the open or retracted position of the cutter the rest **40** and flanges **41** are lodged in the recess **31** and grooves **32** respectively.

The tape dispenser is adapted to be attached to a large diameter roll **45** of tape which may be masking tape or any one of a number of tapes produced in this standard form. To mount the device on the roll, the retainer **22** is compressed and the roll is manipulated to enter its outer edge into the channel **19** and to lodge the hub **21** and the retainer **22** within the roll's centre opening. When the resilient retainer is released from its slightly compressed state, the retainer end **23** will bear against the inner periphery of the roll so as to hold the roll's outer periphery in contact with the edges **17** and **18**. Thus, the roll is supported between the spaced apart points **17**, **18** and **23** which act as bearings to journal the roll. At this time the roll is held against lateral movement by the restraining action of the channel **19**. If the roll is unused its inner edge will also have sliding contact with the hub end of the retainer **22** which has a steadying effect as the roll is rotated during the tape dispensing operation. As the tape is used, however, the roll's inner edge moves out of contact with the lower end of the retainer and it is the three above mentioned bearing points which journal the roll.

The roll **45** is now rotated on its three bearings until the tape end **46** projects beyond the edge **18** of the wall **15**. A short length of tape is peeled from the roll and is folded lengthwise upon itself with the adhesive sides in bonding contact with one another. With the cutter **35** in the open position, the folded end of the tape is drawn upwardly through the feed slot **28** until it projects from the discharge opening **25**. A further length of tape is then pulled from the roll and the cutter is closed so that the folded portion of the tape may be cut and discarded whereupon the dispenser is ready for use.

To remove a length of tape from the roll **45**, the case **10** is held lightly in one hand, preferably with one finger lodged in the tubular hub **21**, and in a manner which will enable pressure to be applied to the retainer **22**. With the dispenser thus held and the cutter in fully retracted position, the tape end **46** is gripped by the other hand and the required length is drawn off the roll. As this is done, the tape passes around the guide **26** which leads it off the roll at an angle best suited to break the adhesion of the tape. When the desired tape length has been extended, finger pressure is increased on the retainer **22** to stop further rotation of the roll and simultaneously the cutter is fully extended so that the tape may be severed against the cutting edge **39**. The tape, desirably, is always cut with its cutter **35** fully extended so as to leave a short length projecting beyond the wall **15** where it will be readily available for the next application.

If desired, the dispenser can be used to apply tape to a surface directly from the case. This is possible due to the three bearing point means of attaching the dispenser to the tape and the shape of the case generally which combine to position the device well for forward on the roll. By so positioning the case, the large diameter roll is prevented from interfering with the dispensing operation. The case can be rocked about its transverse axis until the cutter is about perpendicular to the surface to be taped at which time the lowermost edge of the tape roll would be above the front wall **15** and well clear of the surface. The tape end is then applied to the surface and the dispenser is drawn away from the attached end to unwind the roll. Again the tape cutting is done by braking the roll using the retainer **22** and positioning the cutter so that the tape can be cut by a pulling and twisting motion of the case. With practise it will be found that all these movements can be coordinated so that the tape application and cutting can be done with one continuous wiping-on motion of the dispenser.

From the foregoing description it will be apparent the dispenser is easily loaded, the feeding of the tape and into position of use is readily accomplished and the tape is easily dispensed from whatever position of the device is dictated by the shape of the article to be taped and other obvious factors.

What I claim is:

**1.** A tape dispenser structure for mounting on an annular roll of tape; the dispenser having a case including side walls, and a tape discharge opening; the roll having



an outer periphery, and a core with an inner periphery; resilient means secured to at least one case side wall adapted to journal the roll, and to provide means for braking the roll; the structure including:

(a) a case having two parallel side walls, a top wall and a curved front wall, with a lower edge of one side wall curved and projecting below a rear edge of the top wall and below an inwardly flanged lower edge of the front wall,

(b) a channel defined by the side walls and the edges aforesaid, the roll periphery being received in the channel,

(c) the resilient means slidably engaging the core inner periphery being secured to the projecting side wall at a transversely extending hub formed integrally with said side wall and the resilient means, being adapted to urge the roll periphery against the lower edge of the curved side wall and against the inwardly flanged lower edge of the front wall, the lower edge of the curved side wall and the flanged front wall edge being circumferentially spaced, and with the roll being journalled by the circumferentially spaced edges, and the resilient means engaging the core.

**2.** Structure as defined in claim **1**; wherein the resilient retainer extends from the hub to an inwardly turned free end slidably engaging the core inner periphery as aforesaid, adapted for the inwardly turned free end to be manually urged against the core periphery, with the roll outer periphery urged against the circumferentially spaced edges aforesaid, so providing breaking means.

**3.** Structure as defined in claim **1**; with the tape discharge opening being formed adjacent the front wall, and the front wall having a feed slot extending from edge to edge thereof and communicating with the discharge opening; a cutter slidably mounted on the top wall and adapted to form a movable closure for the discharge opening.

**4.** Structure as defined in claim **3**; with a tape guide being formed on an underside of the front wall adjacent the discharge opening.

**5.** Structure as defined in claim **4**; with the tape discharge opening being formed adjacent the front wall, and the front wall having a feed slot extending from edge to edge thereof and communicating with the discharge opening; a cutter slidably mounted on the top wall and adapted to form a movable closure for the discharge opening.

**6.** Structure as defined in claim **5**; with a tape guide being formed on an underside of the front wall adjacent the discharge opening.


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