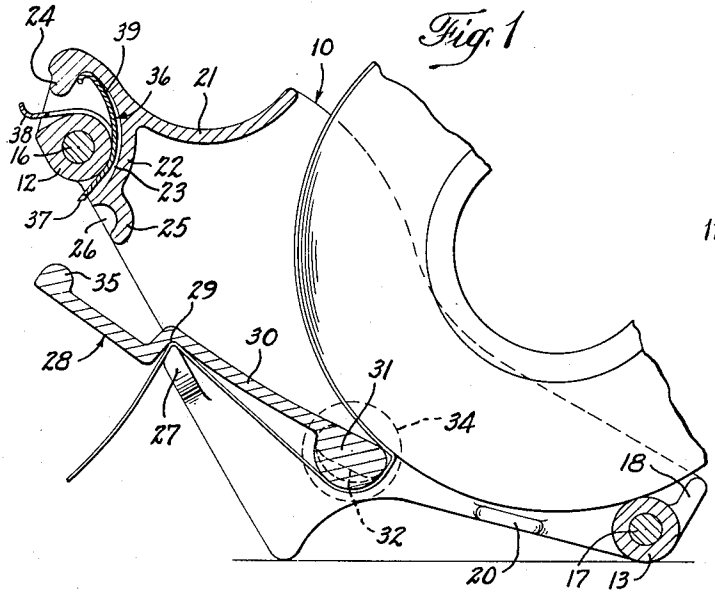
Nov. 1, 1955 C. W. VOGT 2,722,329

TAPE APPLICATOR WITH SEPARATE CUTTER

Filed April 27, 1953

Fig. 1



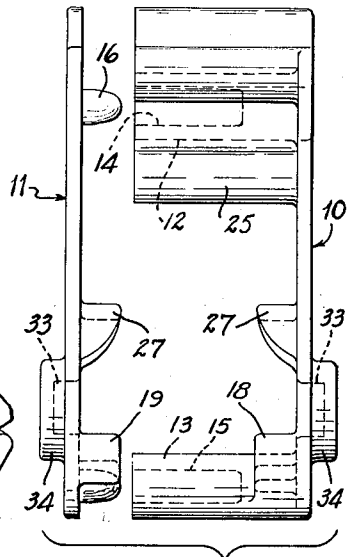


Fig. 4

Fig. 2

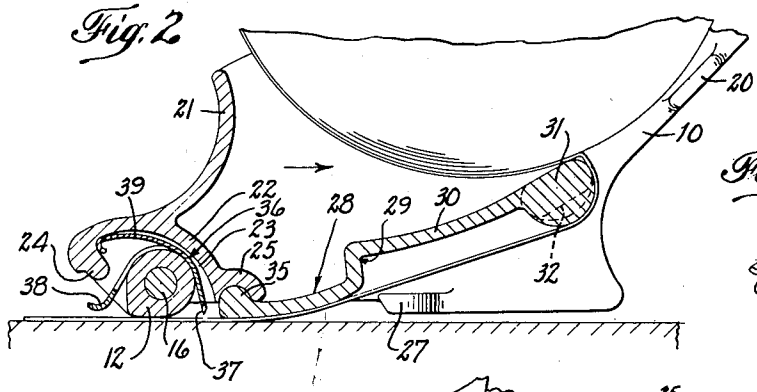


Fig. 5

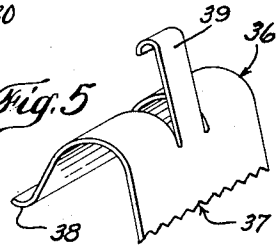


Fig. 3

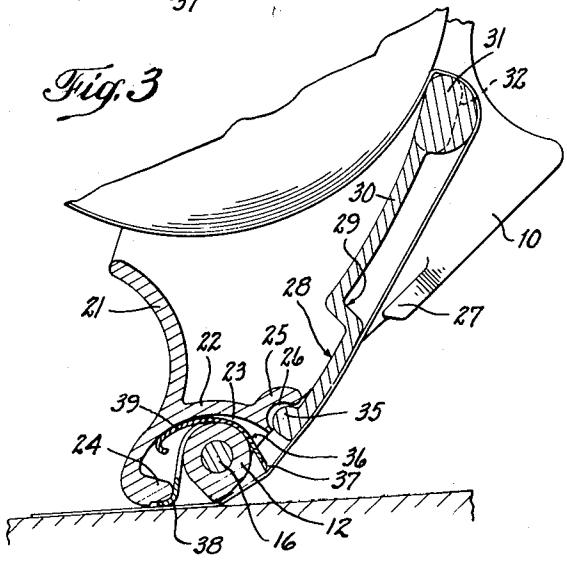
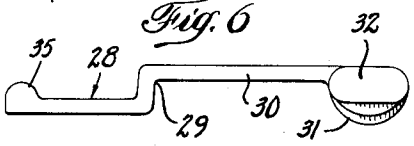


Fig. 6



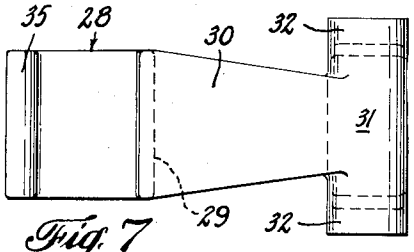


Fig. 7

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TAPE APPLICATOR WITH SEPARATE CUTTER

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4 Claims. (Cl. 216—21)

The present invention relates to tape holders such, for example, as holders adapted to dispense or apply adhesive tape when and as needed and to apply such tapes in desired lengths to surfaces. This invention relates generally to devices of this character, but seeks to provide a structure which is readily susceptible of being formed by conventional molding operations from conventional plastic substances.

A further object of the invention is to provide a device of the above character by means of which the tape material carried thereby and dispensed from the holder may be effectively severed from the remaining material in roll form in the holder.

Yet another object of the invention is to provide a device of the above character wherein the severing operation is accomplished without marring the surface to which the tape has been applied.

Another object of the invention is to provide a device of the above character, the structure of which insures that the tape material is effectively applied to desired surfaces.

Other and further objects of the invention will be apparent as it is described in greater detail in connection with the accompanying drawings, wherein

Figure 1 is a view in longitudinal vertical section, taken in a plane intermediate the sides of the device and showing a tape holder constructed in accordance with the present invention and in the position assumed when not in use;

Figure 2 is a partial view similar to Figure 1 showing the position of the tape holder and applying mechanism of the present invention during the application of tape to a desired surface;

Figure 3 is a view similar to Figure 2, showing the position assumed by the device of the present invention preparatory to and during the operation of cutting the tape;

Figure 4 is an exploded view in end elevation of the device of Figure 1;

Figure 5 is a perspective view of the tape cutting element shown in the device of Figures 1 to 3, inclusive;

Figure 6 is a view in side elevation showing the pressure tongue or snubbing element illustrated in Figures 1, 2, and 3; and

Figure 7 is a plan view of the pressure tongue of Figure 6.

Referring to the above drawings, a tape holder is illustrated as being formed with side plates **10** and **11** which preferably are formed of plastic material by simple and conventional molding operations. In order to accomplish this effectively, the side plates are formed with interengaging elements consisting of pins and recesses which, when assembled, serve to lock the elements in assembled position. To this end, the side plate **10** is provided with bosses **12** and **13** formed, respectively, with recesses **14** and **15**. Pins **16** and **17** are formed on the side plate **11** in such position as to mate with the respective recesses **14** and **15** (as illustrated in Figure 4) so that when assembled, the pins will engage the recesses and secure the side plates

in the desired assembled position. The sectional views of Figures 1, 2 and 3 illustrate the pins in assembled position, and it is to be understood that, if desired, supplementary means, such as cement and the like, may be utilized to facilitate the securing of the side plates together.

As a continuation of boss **13**, a rear flange **18** is provided integral with the adjacent portion of the side wall or plate **10**, this flange having its complementary flange **19** secured to the side plate **11** in order to serve as a support for rolls of adhesive tape that are relatively large in diameter and to assure that such rolls will be suitably positioned in the holder. Inwardly projecting flanges **20** are formed upon each of the side plates **10** and **11** to support rolls of tape of relatively small diameter, thus insuring that the holder will accommodate a variety of sizes of rolls.

Adjacent the boss **12** a forward bridge **21** is formed on one of the side walls or plates, the drawings illustrating this structure as being formed integrally with the side plate **10**. This bridge **21** is preferably curved and serves as a rest against which one or more fingers may engage during the use of the holder. The bridge **21** is formed with a downwardly extending wall **22** which is spaced from the boss **12** in order to provide a channel **23** adapted to receive a cutting member presently to be described. At the forward end of the bridge **21** an inwardly extending projection **24** is formed while the lower extremity of the wall **22** is provided with a projection **25** formed with a pocket or recess **26** for a purpose presently to be described.

Each of the side walls **10** and **11** is provided with a snubber ear **27**, these ears co-acting with a pressure tongue **28** to snub and secure the free end of the roll of tape against removal thereof from the holder, as illustrated in Figure 1. In this connection, although the tongue is molded flat, it is slightly bowed in its normal position as shown in Figure 1 in order to insure an effective snubbing action. The pressure tongue is formed with an angularly formed snubber surface **29** and a flexible arm **30** at the inner extremity of which a crowned or convexly shaped bar **31** is formed. The extremities of the bar **31** are formed with elongated ears **32** that are received within similarly formed recesses **33** provided by bosses **34** that are molded in the respective side plates **10** and **11**. The outer extremity of the pressure tongue **28** is provided with a rounded projection **35** that is adapted to be received within the recess **26** during application of the tape to a desired surface, as illustrated in Figure 2. During such operation the flexibility of the tongue is such that the tape is applied to the desired surface under suitable pressure, thus insuring effective adhesion of the tape to such surfaces. As the tape is stripped from the roll and passed over the crowned bar **31**, it is evened out or smoothed and directed to the pressure tongue under conditions such that the roll is properly centered or located within the holder.

In order that the tape may be cut or severed from the roll as desired, a cutter member **36** is provided in the form of a generally U-shaped metallic element preferably having a serrated cutting edge **37** and a flanged pressure surface **38**. A resilient tongue **39** is tamped out of the material of the cutter member and, in assembled position, engages behind the projection **24**, as illustrated in Figures 1 and 2, in order that the cutter member may be located in its normal non-cutting position. As will be seen from Figures 1, 2, and 3, the channel **23** diverges at the forward end thereof in order that the resilient tongue **39** may cause the cutter member to be urged normally into the non-cutting position shown. In such position the pressure plate **38** projects outwardly beyond the plane tangent to the outermost points of the boss **12** and projection **24**. Also, in this position, the cutting edge **37** lies inside of a plane drawn tangent to the lowermost surface of the boss **12** and the pressure tongue **28** when in its

tape-applying position, as illustrated in Figure 2. In this position, no cutting of the tape can take place.

After a desired length of tape has been applied to a desired surface, the tape holder is moved in a counterclockwise position, as illustrated in Figure 3, and the pressure plate **38** bears against the previously applied tape to move the cutter member **36** in a clockwise direction within the channel **23**, thus to cause the cutting edge **37** to project beyond the plane tangent to the outermost portions of the boss **12** and the pressure tongue **28** to sever the tape (as illustrated in Figure 3). During this movement, the pressure tongue **28** will tend to move away from the position illustrated in Figure 2, but this movement is resisted by the tackiness of the tape still remaining on the roll, and by any braking effect resulting from the user of the device applying pressure to the top of the roll of tape as it rests upon the flanges **20**, thus placing the tape in the path of the cutter under tension to facilitate the cutting operation. At the same time the boss **12**, together with the pressure plate **38** resting against the projection **24**, insure that the end of the tape that has been applied to the desired surface is firmly adhered thereto, and the structure is such that the cutting edge **37** can at no time engage the surface to which the tape has been applied. This is of great importance in order that marring or scratching of such surface may be avoided. From an inspection of the drawings and an understanding of the relationship of the parts, it will be seen that as soon as the cutting edge **37** is moved so that it approaches the surface to which the tape is applied, the cutting edge recedes within the channel **23** and assumes a position such that contact cannot be made with such surface, as illustrated in Figure 2.

While the invention has been described with specific reference to the accompanying drawings, it is not to be limited save as defined in the appended claims.

I claim:

1. Tape dispensing mechanism, comprising a holder having side plates and a forward bridge member, means to position a roll of tape between the side plates, means on the holder to apply tape material from the roll to a desired surface, a boss spaced from the bridge member and having a curved surface eccentric to said bridge and forming a curved channel therebetween, said channel having open ends at opposite sides of said boss, a cutting member in the channel and slidable around the curved surface of said boss, said cutting member being formed at one end with a tape cutting edge movable out of one end of said channel to cut said tape material, a pressure surface at the other end of the cutting member extending

out of the other end of the channel, a spring on the cutting member projecting from it to engage the wall of the channel and retract the cutting edge into said channel, the length of the cutting member being greater than the length of the channel.

2. Tape dispensing mechanism, comprising a holder having side plates and a forward bridge member and a transverse portion at the bottom of said holder and rearwardly of said bridge member, bosses on the side plates having facing non-circular recesses formed therein, a flexible pressure tongue having at one end thereof a flexible pressure means for pressing tape upon a desired surface, an enlarged boss formed at the other end of the tongue and projections on the sides of the last named boss complementary in shape to the shape of the non-circular recesses and received therein to mount the tongue between the side plates, the bosses being inclined to maintain the tongue below and out of engagement with said transverse portion and said tongue being flexible to enable it to be bent upward by pressure thereon to engage said flexible pressure means against said transverse portion.

3. Tape dispensing mechanism, according to claim 2, wherein the last named boss is formed with a convex tape engaging surface.

4. A tape dispensing mechanism comprising a holder having spaced apart side plates and a forward bridge member having a concavely curved lower wall, means to position a roll of tape between the side plates and behind the forward bridge member, means at the bottom of the holder to apply tape from the roll to a desired surface, said holder having a boss with a convexly curved upper surface spaced from said curved lower wall to form therewith a curved channel having open ends on opposite sides of said boss, a curved cutting member having a cutting edge at one end and a pressure surface at the other end, said cutting member substantially fitting the curved surface of said boss and being slidable therearound to project its cutting edge through one of the open ends when pressure is applied to said pressure surface, and spring means on said cutting member engaging said curved lower wall and urging said cutting edge into retracted position in said channel.

References Cited in the file of this patent

UNITED STATES PATENTS

2,400,435	Nelson et al.	May 14, 1946
2,532,596	Bobrov	Dec. 5, 1950
2,584,065	Taylor	Jan. 29, 1952