June 12, 1956 B. D. MORGAN 2,750,029

TAPE DISPENSER

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Fig. 1.

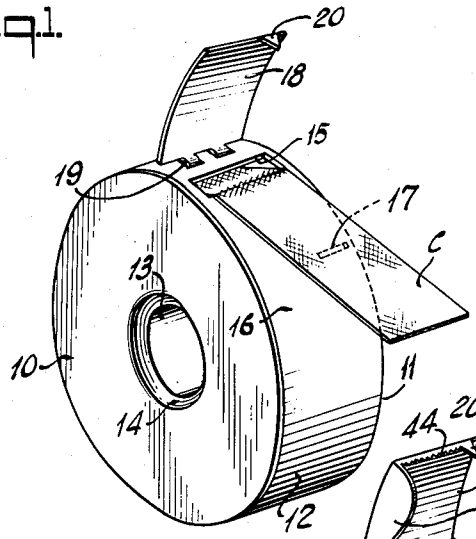
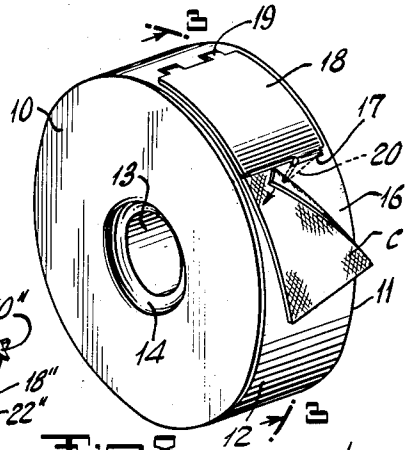


Fig. 2.



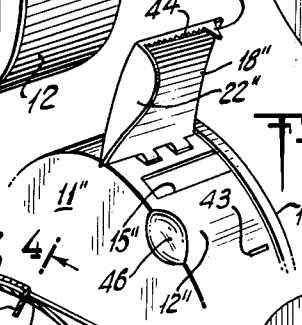


Fig. 3.

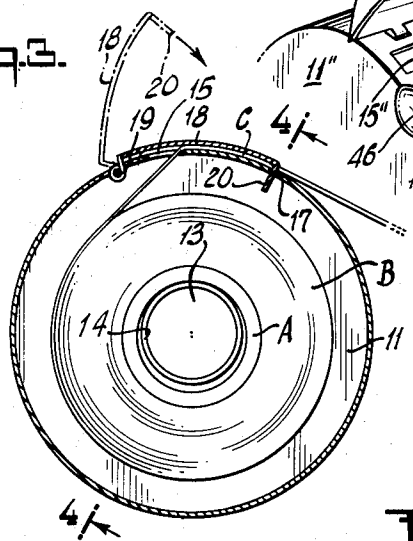


Fig. 8.

Fig. 5.

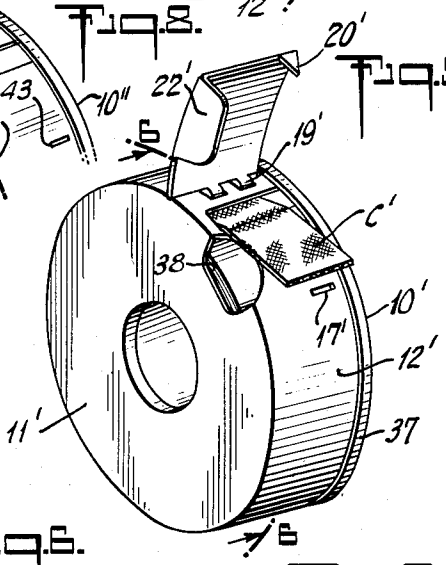


Fig. 4.

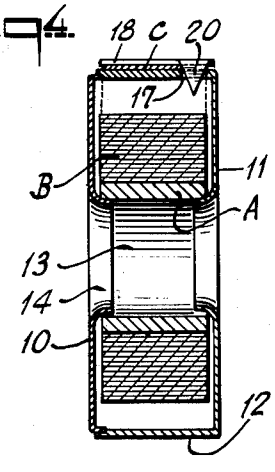


Fig. 6.

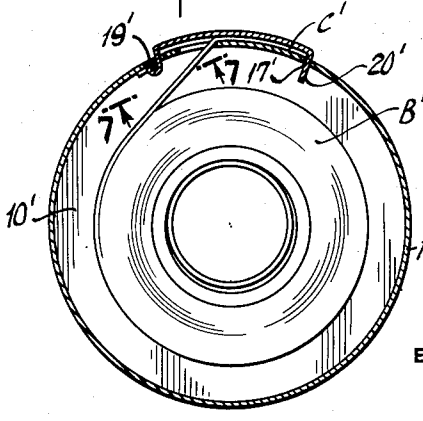
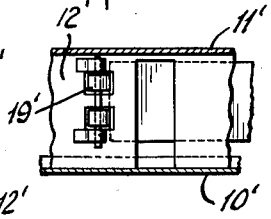


Fig. 7.



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Fig. 9.

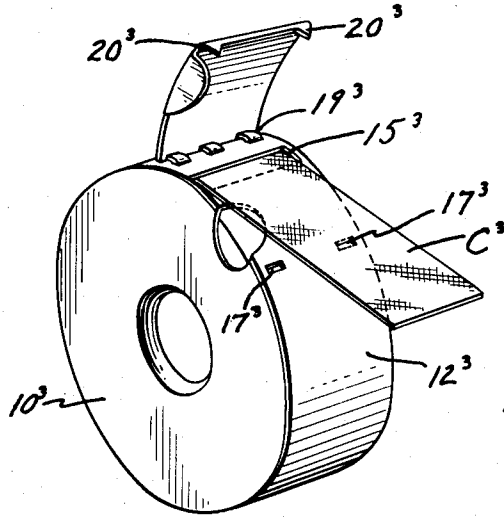
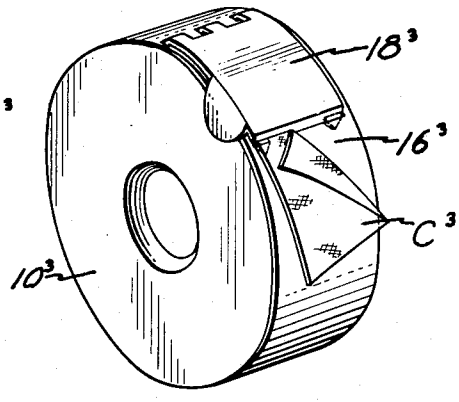


Fig. 10.



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TAPE DISPENSER

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2 Claims. (Cl. 206—52)

This invention relates to tape dispensing devices and more particularly to devices for dispensing dry adhesive tape of the normally tacky and pressure-sensitive type and to adhesive tape units based thereon.

Because of the high degree of adhesiveness of normally tacky and pressure-sensitive adhesive coatings, tapes of this type are very efficient in application, but often quite difficult to handle. This applies particularly to the tapes having heavier backings such as cloth and other fabrics that are used commonly in surgery and medicine, for instance, in the application of dressings, and for many other home and industrial uses. Pressure-sensitive adhesive tapes having heavy fabric backings, as contrasted with those having relatively thin film backings, are inherently tough, and difficult to cut unless very sharp cutting devices are used. The use of very sharp cutting devices, on the other hand, unless the devices are elaborately shielded, is obviously dangerous and should not be recommended for the many applications around the home for which surgical tapes are used. Elaborate shields for the knife are impractical due to the need for compactness in devices of this type. In addition, pressure-sensitive adhesive tapes of this type, because of their inherent adhesiveness, attract dust and other contamination readily, and it is important that whatever dispensing device is used, shield the products as much as possible from contamination and prevents the settling of airborne particles on the adhesive tape. It is an object of the invention to provide a dispensing device constructed in a novel manner to overcome difficulties and objections to devices of the prior art and to facilitate the handling, cutting and dispensing of normally tacky and pressure-sensitive adhesive tape. It is a further object of the invention to provide a dispensing device of particular utility in connection with the handling, cutting and dispensing of tape having a cloth or other heavy fabric backing, and of tape for use in surgical and medical applications and for use around the home. A further object is the provision of a dispensing device for adhesive tape permitting instantaneous cutting of tape having a heavy fabric backing without difficulty. Yet a further object of the invention is an adhesive tape dispenser having a cutting device that is safe for use in the home. Still further objects of the invention are the provision of a dispensing device that is complete for most uses and highly compact, and of a dispensing device that protects the product dispensed therefrom so completely as to prevent substantially contamination thereof and particularly the settling of airborne particles thereon.

In the drawing, wherein similar numerals refer to similar parts throughout the several views shown:

Fig. 1 is a perspective view of a form of the dispenser of the invention in open position ready for piercing an end of tape protruding from the dispenser;

Fig. 2 is a perspective view, similar to Fig. 1 with the dispenser in closed position, showing the protruding tape end after piercing thereof;

Fig. 3 is a vertical section through line 3—3 of Fig. 2,

also illustrating the open position of the dispenser in dotted lines;

Fig. 4 is a section taken at an angle to the horizontal through line 4—4 of Fig. 3;

Fig. 5 is a perspective view, similar to Fig. 1 but illustrating another embodiment of the invention;

Fig. 6 is a vertical section through line 6—6 of Fig. 5;

Fig. 7 is a partial, enlarged transverse section through line 7—7 of Fig. 6, illustrating one type of hinge that may be used in this invention;

Fig. 8 is a partial view in perspective, illustrating another embodiment of the invention.

Fig. 9 is a perspective view, similar to Fig. 1, but illustrating still another embodiment of the invention; and

Fig. 10 is a perspective view showing the dispenser of Fig. 9 in closed position.

In the form illustrated in Figs. 1–4, the dispenser comprises a fully enclosed container made of suitable material such as metal or plastic or their equivalents, and consists of parallel walls **10** and **11**, which are preferably disk shaped as illustrated, and which are spaced by a peripheral side wall **12**. Each main wall **10** and **11** may form a continuous circular disk and may have a center opening **13** as illustrated to facilitate holding of the dispenser. Whether there is such a center opening or not, it is desirable to have centrally at least one inwardly directed flange **14** providing a support for the core A of an adhesive tape roll B that may be dispensed from the dispenser unit. Walls **10** and **11**, side wall **12** and core A fully enclose the tape and prevent contamination thereof, except for shielded openings in said side wall **12** described hereinafter.

Side wall **12** has at least one opening **15** large enough to permit free withdrawal of a tape end therethrough. The side wall portion adjacent to this passage **15** is preferably smooth, forming a peripheral surface **16** adapted for attachment of selected lengths of tape thereto. This surface **16** has at least one slot **17** referred to specifically below, near said opening **15**.

On the side of the opening **15**, opposite said platform **16** an arm **18** pivots on at least one hinge **19** that is on said side wall **12**. The hinge **19** may depend on side wall **12** as illustrated in Fig. 1, or on any other portion of the dispenser unit. Arm **18** is long enough to reach slot **17** and is shaped preferably to conform in its lowermost position to the shape of surface **16**, thereby acting as a cover by obstructing all openings in said surface **16** and covering any short length C of free tape at least up to the slot **17**, and providing a compact closed dispenser unit. Cover arm **18** also carries at least one pointed tooth **20** adapted to slide in said closed position into slot **17**. If desired, the tooth **20**, which is preferably pointed radially, may be bent at a slight angle so as to engage slot **17** frictionally in the closed position of the unit, preventing accidental opening and unwanted exposure of the contents thereof.

In the operation of the device, a tape roll B is inserted during manufacture of the dispenser or thereafter, and placed on flange **14**. The free end C of the tape is withdrawn from the roll and placed on platform **16**, the walls **10** and **11** are pressed together and against side wall **12** and the cover arm **18** is lowered so as to insert tooth **20** in slot **17**, providing a fully enclosed package for the tape in storage and transit.

The tape consumer raises cover arm **18**, grasps the end C of the tape and draws the desired amount of tape past slot **17**. At this point of the operation, he lowers the arm causing tooth **20** to pierce the tape over slot **17**, and closing the openings of the unit. The adhesion of the tape and, if desired or necessary, also pressure of the cover arm **18** holds one part of the tape securely so that severance of the end may be completed readily near slot **17** by

pulling it against the hold of the cover. The unit is now again fully enclosed with the tooth in its harmless position, ready for a repetition of the tape withdrawal and severing cycle.

The embodiment of Figs. 5–7 is similar in most respects to the embodiment of the invention, described above, and similar numerals describe its similar parts. However, this embodiment shows an opening **38** to provide access to the underside of the adhesive tape to facilitate lifting it off the platform **16** preparatory to a dispensing operation. A flange **22'** is utilized on the arm to cover this opening and protect against contamination the tape both inside the container and on the platform. The drawing also illustrates a side cover **10'** having a flange **37** covering the marginal portion of wall **12'** and adapted for removal at intervals to facilitate refilling of the unit. The tooth **20'** is at the very edge of the arm, not adjacent it as is tooth **20**.

The embodiment of Fig. 8 illustrates yet another variation of the invention wherein an undercut **46** substitutes for opening **38** to facilitate grasping the tape by giving access to the underside of that portion thereof adhering to the outer surface of wall **12''**. Arm **18''** carries not only a tooth **20''** but also serrations **44**, adjacent said tooth, to aid in completing the cutting action started by tooth **20''**. As in the other embodiments, the tooth fits into an opening **43** but the adjacent edge including the serrations **44** rest against the surface of wall **12''**.

Figs. 9 and 10 inclusive illustrate an embodiment of the invention in which more than one severing tooth **20** is provided for puncturing the tape segment near its edge to initiate tearing. The reference numbers in Figs. 9 and 10 are the same as those appearing in the other figures, with different superscripts to indicate the different embodiments. In the Figs. 9 and 10 embodiments two teeth 20^3 at opposite ends of the cutting head are adapted to enter two cooperating slots 17^3, thereby initiating tear at opposite edges of tape segment C^3.

It will be understood that the invention provides a safe, efficient and convenient dispenser unit for storing, dispensing and severing dry adhesive tape of the normally tacky and pressure-sensitive type, adapted particularly for tapes having heavy fabric backings. Furthermore, the use of the product of the invention is unlikely to increase the manufacturing cost of the tape holder or of its dispensing unit materially above the cost of economical units of the prior art.

While preferred embodiments of the invention were shown and described in this specification, it will be understood that these were shown merely by way of example and that various modifications and changes in the details thereof can be made without departing from the principles and spirit of the invention.

I claim:

1. An adhesive tape unit comprising a roll of adhesive tape and a dispenser therefor including parallel spaced top and bottom members and a peripheral wall member connecting said members to form a container housing said roll, means in the container for supporting the roll for unwinding during a dispensing operation, an opening in the peripheral wall member through which the tape may be pulled during the dispensing operation, a transversely extending slot in the peripheral wall member adjacent one edge thereof and located on one side of said dispenser opening, a cover member for the dispensing opening attached at one end to the container housing and movable to open position to facilitate withdrawal of a desired length of tape through the dispensing opening and location of a portion of the withdrawn tape in a position overlying said slot, a transverse cutting head carried by the cover member at the end thereof opposite its attachment with the container housing and comprising a radially directed flange, said flange having at least one and no more than two severing teeth of length substantially equal to the depth of the flange and operating, as the cover member is moved to closed position, to enter the slot a distance sufficiently far to effect severance of the tape near an edge thereof, means between the slot and the dispensing opening giving access to the underside of that portion of the tape located in such position when the tape is caused to overlie the slot, and which facilitates lifting the tape preparatory to another tape dispensing operation, and a flange carried by the cover member and closing said access means when the cover member is in closed position to protect the tape in the vicinity thereof against contamination.

2. An adhesive tape unit comprising a roll of adhesive tape and a dispenser therefor including parallel spaced top and bottom members and a peripheral wall member connecting said members to form a container housing said roll, means in the container for supporting the roll for unwinding during a dispensing operation, an opening in the peripheral wall member through which the tape may be pulled during the dispensing operation, a pair of aligned transversely extending slots in said peripheral wall member located one adjacent each edge thereof and on one side of said dispensing opening, a cover member for the dispensing opening attached at one end to the container housing and movable to open position to facilitate withdrawal of a desired length of tape through the dispensing opening and location of a portion of the withdrawn tape in a position overlying said slots, a transverse cutting head carried by the cover member at the other end thereof and comprising radially directed flange means, said flange means having two pointed severing teeth of length substantially equal to the depth of the flange means and operating as the cover member is moved to closed position to enter one into each of the slots a distance sufficiently far to effect severance of the tape near both its edges, means between the slots and the dispensing opening giving access to the underside of that portion of the tape located in such position when the tape is caused to overlie the slots, and which facilitates lifting the tape preparatory to another tape dispensing operation, and a flange carried by the cover member and closing said access means when the cover member is in closed position to protect the tape in the vicinity thereof against contamination.

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