March 14, 1950 F. A. DEUTSCH 2,500,157

APPLIER FOR APPLYING A LENGTH OF AN ADHESIVE TAPE TO A SURFACE

Filed June 24, 1948

FIG. 1.

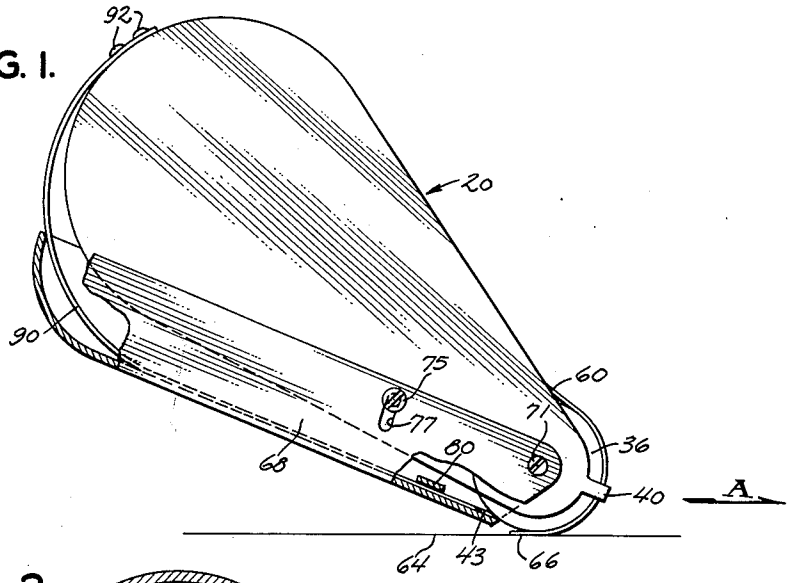


FIG. 2.

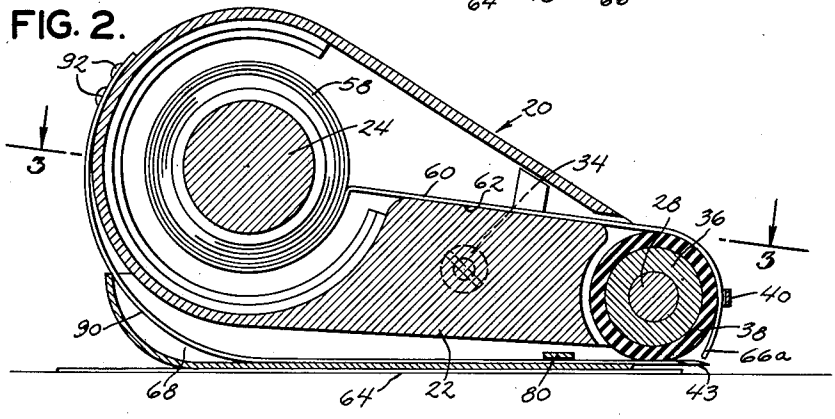
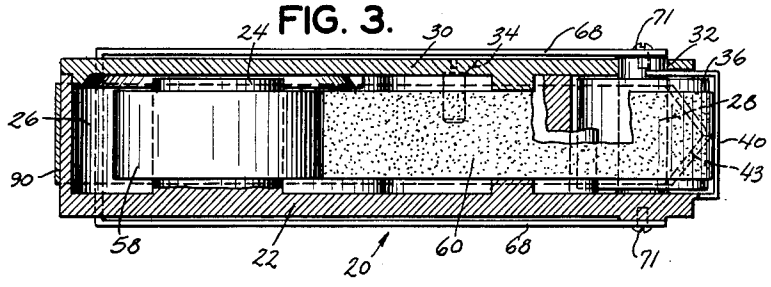


FIG. 3.



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APPLIER FOR APPLYING A LENGTH OF AN ADHESIVE TAPE TO A SURFACE

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1 Claim. (Cl. 216—21)

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The present invention relates to implements, and more particularly to an applier for applying a length of an adhesive tape to a surface.

An object of the present invention is to provide an applier carrying a supply roll of adhesive tape, by means of which a length of adhesive tape may be applied to a surface by simply moving the applier along such a surface and severing thereafter said length of adhesive tape from the supply roll.

A further object of the present invention is to provide an applier for applying adhesive tape to a surface by movement along such a surface, said applier being equipped with cutting means in such a manner, that, after the application of a length of adhesive tape to a surface, said length of adhesive tape may be readily severed from the supply roll of adhesive tape carried by the applier.

Another object of the present invention is to provide an applier for applying a length of adhesive tape to a surface, by means of which practically no stress is exerted on such a surface during the application of the adhesive tape, so that the adhesive tape may be applied without damage to or distortion of the surface, if the latter consists of a loose sheet of paper for example.

A further object of the present invention is to provide an applier for applying a length of adhesive tape to a surface, by means of which such a length of adhesive tape may be smoothly applied from end to end to such a surface.

Another object of the present invention is to provide an applier for applying a length of adhesive tape to a surface, which does not require the gripping of the adhesive tape by hand for the performance of the application of the adhesive tape to the surface.

A further object of the present invention is to provide an applier for applying a length of adhesive tape to a surface, which may be readily manipulated.

With the above and other objects of the invention in view, the invention consists in the novel construction, arrangement and combination of various elements and parts, as set forth in the claim hereof, certain embodiments of the same being described in the specification and being illustrated in the accompanying drawings, forming part of this specification, wherein:

Fig. 1 is a side elevational view of an applier according to the invention, in position for applying tape to a surface, some parts being broken away,

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Fig. 2 is a sectional side view of the applier shown in Fig. 1, wherein, however, the elements thereof are in a position for cutting the tape, and

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Referring now to Figs. 1–3, 20 generally indicates the main body or carrier of an applier according to the invention. Said carrier 20 comprises a member 22 of suitable rigid material having a stud 24 extending into a cavity 26. Furthermore, said member 22 is provided with a pin 28 integral with said member 22. A cover plate 30 having a bore 32 for engagement with the pin 28 may be attached to the member 22 by means of a screw 34.

An applying roller 36 having a layer 38 of resilient material, for example rubber, is rotatably arranged on the pin 28. A transverse bar or guard 40 substantially in the shape of a U is rigidly connected at its ends with the member 22 and the pin 28. The base of said U-shaped guard 40 extends substantially parallel to the circumference of the applying roller 36 at a distance therefrom.

The carrier 22 is pivotally connected with a support 68 at 71. In the embodiment shown in the drawings, said pivotal connection 71 is in alignment with the axis of the applying roller 36.

One end of a strip-like length of resilient material 90 is secured to the carrier 20 by means of screws 92. The other end portion of said resilient strip 90 is slidably engaged with a bearing 80 of the support 68 and has at its free end a cutting edge 43.

Said resilient strip 90 tends to urge the carrier 20 and support 68 into the spread position shown in Fig. 1. Said spread position is limited by an abutment of a pin 75 mounted on the carrier 20 with the upper end of a slot 77 arranged in the support 68.

After removal of the cover 30, a supply roll 58 of an adhesive tape, which may be of any customary type, for example, of the cellulose type known in the trade as "Scotch-tape" or of the fabric type, may be readily rotatably mounted on the stud 24 of the member 22. The end of the adhesive tape 60 is laid along the surface 62 of the member 22 and around a portion of the circumference of the applying roller 36 as shown in Fig. 2. Of course, the non-sticky surface of the adhesive tape 60 is brought into contact with said surface 62 and the circumference of the applying roller 36. The end of the adhesive tape 60 passes between the guard 40 and the applying roller 36. According to Fig. 2, more than a

quarter of the circumference of the applying roller **36** is engaged by the adhesive tape **60**.

Upon re-attachment of the cover **30**, the applier is ready for use.

When it is desired to apply a length of adhesive tape to a surface, for example a sheet of paper or a card-board, the carrier **20** of the applier is held at an angle to the surface **64** as shown in Fig. 1. The end **66** of the adhesive tape **60** is applied to the surface **64** by exerting a slight pressure on said tape by means of the roller **36**. Thereupon, the carrier **20** of the applier is moved along the surface **64** in the direction of the arrow A. Such a movement of the applier causes a rolling of the applying roller **36** over the surface **64**, whereby a length of adhesive tape **60** is applied to the surface **64**. During said rolling of the applying roller **36** over the surface **64**, the rotating roller **36** engaged with the adhesive tape **60** draws off adhesive tape from the supply roll **58**. During this drawing-off procedure the supply roll **58** is prevented from over-running by the adhesion between the drawn-off tape **60** and the next layer of tape on the supply roll.

As best shown in Fig. 3, preferably the width of the applying roller **36** is somewhat larger than the width of the adhesive tape **60**. Thus, a portion of the applying roller **36** is in direct contact with the surface **64** during the rolling along of the applier for the application of a length of adhesive tape to said surface. Therefore, the applying roller slightly pressed against the surface **64** is driven by the friction between the surface **64** and the applying roller **36** during the movement of the applier in the direction of the arrow A (Fig. 1). Owing to the fact that the applying roller **36** presses the adhesive tape onto the surface **64** and causes the drawing-off of tape from the supply roll by its own rotation, practically no stress is exerted on the surface **64** during the application of adhesive tape by means of the applier shown in the drawings. Therefore, the application of adhesive tape to the surface **64** by means of the applier will not cause any damage to the surface; for example, if such a surface consists of a rather thin sheet of paper, said paper will not be torn or mutilated during the application of adhesive tape by the applier.

After a sufficient length of adhesive tape **60** has been applied to the surface **64**, the applier is lowered, so that the support **68** comes into engagement with said surface, whereupon the carrier **20** is pressed downwardly against the action of the strip-like spring **90**. During the thus resulting rocking of the carrier **20** about the pivot **71**, the cutting edge **43** of the strip-like spring **90** is advanced from its retracted position (shown in Fig. 1) to the right into its advanced tape-cutting position shown in Figs. 2 and 3, whereby the tape is cut. Upon a release of the carrier **20**, the latter is automatically returned into its spread position relative to the support **68** (shown in Fig. 1) and the cutting edge **43** of the strip-like spring **90** is automatically returned into its retracted position by the action of said strip-like spring **90**.

After the cutting of the tape the guard **40** near to the sticky surface of the end **66***a* (Fig. 2) of the tape prevents the latter from an undesired backing-up; the applier is ready for applying another length of tape to a surface.

When such another length of tape shall be applied to a surface, the end **66***a* (see Fig. 2) may be readily used in the manner described above in connection with the end **66** (see Fig. 1) for applying the adhesive tape to the surface by holding the applier in the position shown in Fig. 1 and pressing said end against the surface through the medium of the applying roller **36**.

As will be readily understood from above, it is unnecessary to touch the sticky adhesive tape to be applied to a surface with the fingers of a hand. The application of a length of adhesive tape to a surface is carried out merely by an appropriate manipulation of the body **20** of the applier.

I have described a preferred embodiment of my invention, but it is understood that this disclosure is for the purpose of illustration and that various omissions or changes in shape, proportion and arrangement of parts, as well as the substitution of equivalent elements for those herein shown and described may be made without departing from the spirit and scope of the invention as set forth in the appended claim.

What I claim is:

An applicator for applying a length of an adhesive tape to a surface, comprising in combination: carrying means including a body and a support for said body movably connected with each other, holding means on said carrying means for rotatably holding a supply roll of adhesive tape, an applying roller rotatably arranged on said carrying means in a position for being engaged at a portion of its circumference by tape coming from such a supply roll, said applying roller being arranged for being rolled over a surface by a displacing manipulation of said carrying means along said surface and for applying at the same time adhesive tape to said surface, and a strip-like length of resilient material attached at one of its ends to one of said relatively movable support and body and loosely engaged at a portion of its length with the other of said last mentioned elements for urging same into a spread position at a predetermined angle relative to each other, said strip-like length of resilient material being provided with a cutting edge at its free end slidably mounted on said support, said cutting edge being reciprocable between a retracted position and an advanced tape-cutting position, said cutting edge being in its retracted position when said pivotally connected support and body are at said predetermined angle relative to each other, and said cutting edge being automatically displaced into its advanced tape-cutting position upon an action of said carrier on said engaging portion of said strip-like length of resilient material during a change of said angle by a movement of said body relative to said support.

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