

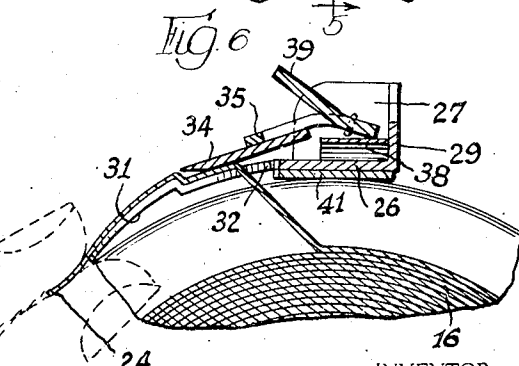
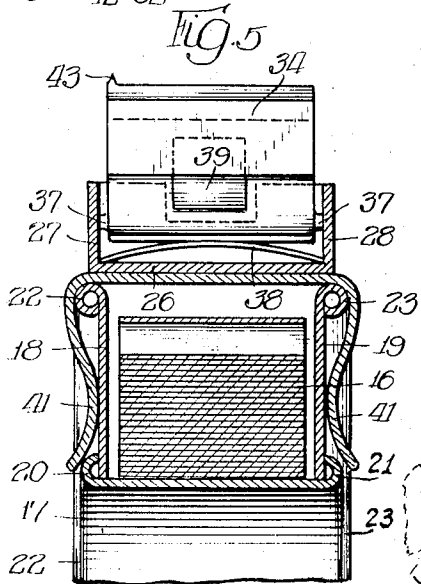
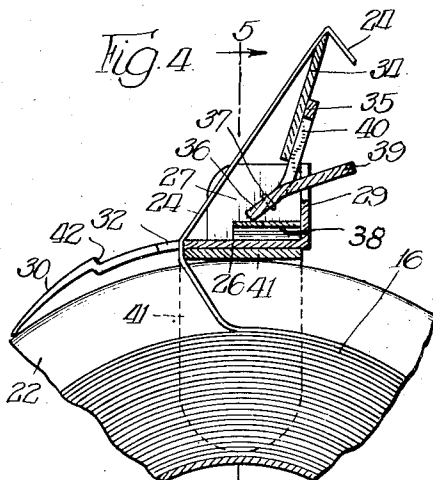
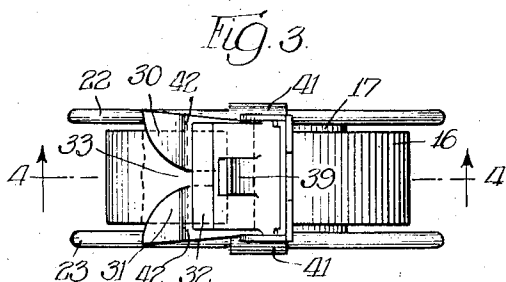
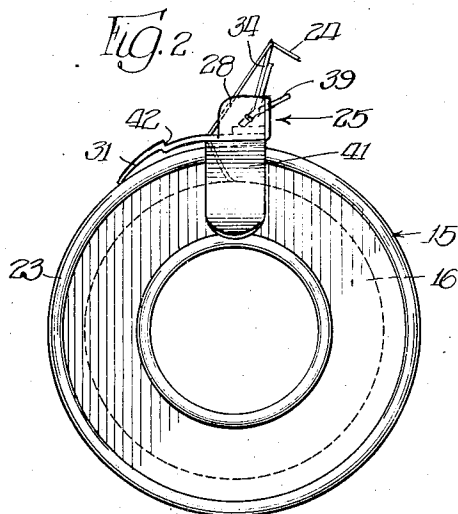
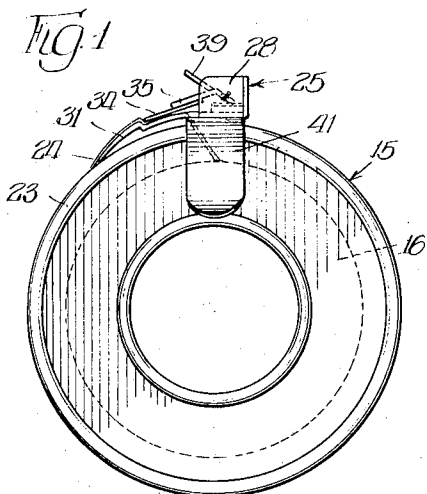
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F. A. ANDERSON

2,203,073

TAPE DISPENSER AND CUTTER

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UNITED STATES PATENT OFFICE

2,203,073

TAPE DISPENSER AND CUTTER

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6 Claims. (Cl. 30—126)

The invention relates to a tape dispenser and cutter and particularly for cutting adhesive tape from a roll or a series of adhesive tape rolls.

One of the great difficulties in the handling of adhesive tape is that the tape can be separated from the roll only with considerable difficulty due to the adhesiveness of the tape. It is quite difficult, in many cases, to unfasten or loosen the end portion of the tape and separate or cut off a portion of the roll from the remainder.

The invention has for one of its objects, the provision of a knife blade which is instantly available because it is on the spool or reel which carries the roll of tape, and which knife blade when used readily and instantly enables a portion of the separated and loosened tape to be cut off from the remainder of the roll without searching for a knife, a pair of scissors or other cutter.

An important feature of the invention is to have the knife blade pivoted so that the blade may stand at an upright position, transverse of the adhesive tape which allows a portion of the tape to be readily cut off, or so that the knife blade may be in a lowered or safety position against the free end of the adhesive tape and resting upon a tape supporting portion of the cutting mechanism.

Another object of the invention is to construct the knife blade with relation to the knife blade holder, so that the uncut end portion of the adhesive tape which has been disconnected from the roll, may be turned downwardly by the pivoted knife blade against the top surface of a bifurcated support or platform upon which the unused and separated end portion of the tape may rest until used.

A further object of the invention is to keep the free end of the adhesive tape away from the balance of the roll of tape, and on top of the platformlike portion of the knife holder so that the free end of the tape may be readily grasped between the thumb and index finger, and may then be pulled so as to separate and remove the desired length or quantity of adhesive tape for its next use.

It is an additional object of the invention to construct the knife blade, the platformlike portion, and the other features in a single unitary structure which, in one form of the invention, is movable and revolvable on the spool or reel for the tape, so that as the piece of tape to be used is separated from the roll of tape, the whole unitary cutter and associated structure moves bodily along the periphery of the spool or reel.

Another object of the invention is to construct

the platformlike portion in a manner to readily admit the end portion of the tape, and also to hold it in position for the convenient cutting of a needed portion of the tape by the knife.

A further object of the invention is to construct the knife blade with associated spring mechanism so that the blade may be swung to and from and held in the cutting and the safety positions, respectively.

Another object of the invention is to construct the side supports or clamps of the device with springy material so that the cutter and associated mechanism as a unit, may be placed upon and removed from the spool or reel without difficulty.

A further object of the invention is to construct the device in such a manner that it may be readily placed in the aperture of the spool or reel, making it convenient for shipping and transportation.

It is an additional object of the invention to provide a modified form of structure with a separate relatively large spool carrying a plurality of rolls of adhesive tape of different widths which is mounted on a single hub or shaft and which structure has a common swingable cutter for cutting portions of the tape from any of the rolls.

Further objects and advantages of the invention will be readily understood and more fully described in connection with the following description taken with the accompanying drawing showing the two embodiments of the invention which have been referred to, but it will be understood that changes may be made in the parts and details of the two constructions without departing from the spirit of the invention, and I therefore do not limit myself to the exact construction shown and described, but in the claims hereinafter set forth, I intend to cover all modifications and variations of the invention.

In the drawing:

Figures 1 to 6 inclusive, illustrate the invention of the movable cutter on the spool or reel with the single roll of adhesive tape, and Figures 8 to 13 inclusive, illustrate the modified form of the invention, employing the relatively large spool or reel with a plurality or battery of rolls of adhesive tape, the tape and the cutting mechanism being enclosed in a casing or receptacle.

Figure 1 is a side elevational view of an individual spool for adhesive tape carrying the movable cutter and cutter holder with the cutting blade in lowered or safety position.

Figure 2 is a side elevational view of the spool for carrying the tape with the movable cutter and

cutter mechanism with the cutter blade in up-right or operative position.

Figure 3 is a top plan view of the spool carrying the adhesive tape and showing the top surface of the adhesive tape roll and the bifurcated platform portion of the cutter holder.

Figure 4 is a view partly in elevation and partly in section of a side view of a portion of the spool and tape, on the line 4-4 of Figure 3 and shows the cutting blade in upright or operative position.

Figure 5 is a cross sectional view on the line 5-5 of Figure 4 and shows a portion of the tape spool and the cutter and cutter mechanism, showing the cutting blade in upright or operative position.

Figure 6 is an enlarged view partly in elevation and partly in section, showing the cutter blade in lowered or safety position and illustrating how the fingers of the user grasp the end or loosened portion of the tape prior to cutting a portion of the tape from the roll for use.

Referring to the illustrations of Figures 1 to 7 inclusive, the spool or reel generally designated 15 is shown. The spool 15 is the preferred form of carrier for the roll of adhesive tape 16 which is used and which is to be cut by the cutting mechanism associated with and carried by the spool. It will be understood that any form of adhesive tape holder which will permit the adhesive tape to be cut as desired may be used with the cutting mechanism. The spool as shown is provided with the shaft or hub portion 17 connecting the two spool side portions 18 and 19. The shaft or hub 17 has its outer edges inwardly turned at 20 and 21, respectively, to embrace and hold the inner ends of the side spool portions 18 and 19, respectively. The outward ends of the spool portions 18 and 19, respectively, are inwardly turned at 22 and 23.

The inwardly turned rims or edges 22 and 23, respectively, form tracks or a runway for the cutting mechanism, which is removably secured to the spool and partly to the turned in rims 22 and 23 as well as the upper portion of the side walls of the spool 18 and 19, respectively. The adhesive tape 16 is wound about the hub 17 and is preferably less in width than the space between the two sides 18 and 19 of the spool, so as to allow freedom of movement for the loosened end portion of the tape. The end portion of the tape which has been loosened from the main body of the wound tape is designated 24 in the various views in the drawing.

The cutting mechanism of the invention which is associated with the adhesive tape which is wound on the spool 15 is preferably a single unitary structure embodying a movable and swingable cutting blade pivotally mounted between a pair of standards, operating in association with a spring, having a back stop, and also having a tape supporting platform. This whole structure is generally designated 25. The entire structure 25 is movable and may revolve around the entire circumference of the spool or 360°, riding on the rims 22 and 23. Simultaneously with the movement of the cutting mechanism, a desired length of adhesive tape may be withdrawn from the main portion of the tape 16, and when the proper or selected length has been withdrawn, it may be cut off, using the knife blade of the cutting mechanism.

The cutting mechanism and associated parts include a metallic portion or frame providing a cross piece 26 from the ends of which the side

knife blade supporting standards 27 and 28, extend. At the rear of the two upwardly extending standards 27 and 28, the knife blade stop 29 extends upwardly. Opposite the knife blade stop 29, and extending forwardly of the standard portions 27 and 28, is the bifurcated, platformlike, curved tape supporter, divided into two sections, 30 and 31. A transverse tape opening 32 extends between the raised standards or supports 27 and 28, and is wide enough and long enough to receive the free and loosened end portion 24 of the tape 16.

The platformlike portions 30 and 31 are preferably formed with outwardly extending curved portions, each of which comes to a point at its outer extremity, thus forming the bifurcation 33. The bifurcation 33 is relatively narrow at its inner end, but substantially as wide as the tape spool 15 at its outer rims or edges to assist the fingers to grasp the free end of the tape. The relatively narrow portion of the bifurcation 33 in the platformlike portion joins with the transverse slot 32, thus forming a free passage through the cutter mechanism for the free and loosened end 24 of the adhesive tape. The portions 30 and 31 of the platformlike structure are preferably curved and wide enough to extend from one outer edge to the other of the rims 22 and 23 so as to cover the opening to prevent the free and loosened end of the tape from getting down on to the main portion of the tape. The free and loosened end 24 of the tape is brought through the bifurcation 33, into the transverse slot 32, is then straightened in the slot 32 and remains in the slot 32 and a portion of the free end is placed on the upper top surfaces of the platforms 30 and 31, with the adhesive side of the tape pressed against the two upper top surfaces of the platforms and lying over the intervening bifurcation 33. When the tape is to be used, the end 24 is raised and a portion of tape desired may be cut off by means of the knife blade 34 pivotally mounted between the upstanding standards 27 and 28.

The outer end points of the platformlike portions 30 and 31 are preferably bent downwardly against the rims 22 and 23 so as to have these pointed portions cause as little interference as possible. The knife blade 34 is preferably secured and held by welding or other suitable means to the knife holder 35. The knife holder 35 has its lower part 36 extended forwardly between the standards 27 and 28 and is curved forwardly as best shown in Figure 4. The lower end of the knife holder 35 with its lower portion 36 is pivotally secured between the standards 27 and 28 by the pivot 37. The lower portion 36 contacts with the laterally curved spring 38. A handle 39 is struck out of the knife holder 35, leaving an opening 40. The knife blade and its associated mechanism are permanently mounted on the clamp 41 which extends across the tape spool and is formed to embrace the rims 22 and 23, and have its clamping arms extend downwardly against the walls 18 and 19 of the spool as best shown in Figure 5 of the drawing.

The knife blade 34 and the knife holder 35 are moved on the pivot 37 by means of grasping the handle 39 formed out of the knife holder 35 secured to the knife blade. When the knife blade is in the lowered or safety position as shown in Figure 1, the sharp edge of the blade is adjacent the ledge 42 in the portions 30 and 31 and prevents the sharp edge from doing harm. The knife blade as shown in Figure 5 is provided with

a sharpened end point 43 to assist in the tape cutting operation.

After the cutter and associated mechanism have been placed on the rims 22 and 23 of the spool, and the free and loosened end portion 24 of the tape has been brought through the bifurcation 33 and through the transverse opening 32, the knife blade 34 is in an upright or operative position. The loosened end 24 of the tape may then be grasped and placed against the side of the knife blade. The loosened end portion of the tape and the knife blade may then be grasped between the thumb and the index finger and the entire unitary structure 25 may then be rotated or revolved on the rims 22 and 23.

As the unitary structure 25 is rotated or revolved, the tape may then be freed from being held against the knife blade and be pulled out from the roll to the extent desired. While the tape is being pulled out from the roll, the unitary structure 25 continues to move on the rims 22 and 23 without interference. The freed portion of the tape has then been passing through the transverse slot 32. When the desired length of loosened tape is obtained, the tape may be brought against the cutting edge of the knife blade 34 and the desired portion of the tape be cut off and used.

When this has been done, there remains a relatively small portion of the loosened tape against the under side of the knife blade. When the knife blade by means of the handle 39, forces the relatively small loosened end of the tape back and downwardly against the platforms 30 and 31, the end of the tape may be brought a little further out over the bifurcation 33 so that when the tape is next to be used, the loosened end of the tape lying over the platforms 30 and 31 as best shown in Figure 7, may be grasped between the thumb and the index finger for another operation to secure another piece of tape.

It will thus be seen that the platforms 30 and 31 serve to keep the end of the tape from contacting the roll of tape which would make it difficult to loosen and unwind the tape, preparatory to its next use.

It may be noted that after a portion of the tape has been separated from the main roll, the knife blade may be used for cutting the disconnected tape portion longitudinally as well as transversely, if a narrower strip of tape should be desired.

What I claim and desire to secure by United States Letters Patent is:

1. In a tape dispenser and cutter, the combination of a tape holder, a knife blade for cutting said tape, said knife blade being pivotally mounted in said holder, said holder being provided with means whereby said knife blade may be swung to an operative or cutting position and also to a safety position in which the blade is shielded, said holder having means to receive and support an unused end of tape, said means being a platformlike portion extending from said first mentioned holder, said platformlike extension being bifurcated to form said extended portion into two separate portions providing a space for engagement of the tape by the fingers, said bifurcation being augmented by a space transverse of the first space, each of said spaces being adapted to receive and having passed there-through a free end portion of tape.

2. In a tape dispenser and cutter, the combination of a tape holder, a knife blade for cutting said tape, said knife blade being pivotally

mounted in said holder, said holder being provided with means whereby said knife blade may be swung to an operative or cutting position and also to a nonoperative or safety position, said holder having means to receive and support an unused end of tape, said means being a platformlike portion extending from said first mentioned holder, said platformlike extension being bifurcated to form said extended portion into two separate portions, the space forming said bifurcation being augmented by a second space transverse of the first space, each of said spaces being adapted to receive and having passed there-through a free end portion of tape, said platform sections being outwardly and downwardly curved, causing said bifurcation to be V shaped to readily allow the fingers to grasp the free end of said unused tape which may overlie said bifurcation.

3. In a tape dispenser and cutter, the combination of a tape holder, a knife blade for cutting said tape, said knife blade being pivotally mounted in said holder, said holder being provided with means whereby said knife blade may be swung to an operative or cutting position and also to a nonoperative or safety position, said holder having means to receive and support an unused end of tape, said means being a platformlike portion extending from said first mentioned holder, said platformlike extension being bifurcated to form said extended portion into two separate portions, the space forming said bifurcation being augmented by a second space transverse of the first space, each of said spaces being adapted to receive and having passed there-through a free end portion of tape, said platform sections being outwardly and downwardly curved, causing said bifurcation to be V shaped to readily allow the fingers to grasp the free end of said unused tape which may overlie said bifurcation, each of said platform sections being formed with an abutment or rise to place the edge of the knife blade in its nonoperative or safety position.

4. In a tape cutter adapted to be mounted on a reel, the combination of a frame, a blade mounted for rotation in the frame, and adapted to be held in a cutting position or in a lowered position in which the blade is shielded, said frame including a bifurcated platformlike extension having a depressed area within which said blade may be received when in lowered position, said extension likewise having an opening in communication with the space provided by said bifurcation, through which opening the tape is adapted to travel as it is unreeling.

5. In a tape cutter adapted to be mounted on a reel, the combination of a frame, a blade mounted for rotation in the frame, and adapted to be held in a cutting position or in a lowered position in which the blade is shielded, said frame including a bifurcated platformlike extension having a depressed area within which said blade may be received when in lowered position, said extension likewise having an opening in communication with the space provided by said bifurcation, through which opening the tape is adapted to travel as it is unreeling, the position of said opening relative to the cutting edge of the blade when in operative position being such that the free end of the tape remaining after a length has been cut off is of such length that, when carried backward by the movement of the blade to inoperative position, said unused free end will overlie a substantial portion of the bi-

furcated extension beyond the depressed portion within which the blade is received.

6. In combination, a U-shaped spring clip, the resilient legs of which are adapted to engage
5 over the side members of a reel, a frame providing a base permanently secured to the base of the clip, said frame having upstanding portions and a bifurcated curved extension, the terminal portions of which extension are adapted to ride
10 on the rims of said reel and said extension having a depressed area, a blade holder having an operating arm, said blade holder being pivoted in said upright portions, a blade secured to said

blade holder, a flat spring mounted between the uprights and adapted to be engaged by an extension on said blade holder whereby said blade holder may be moved against said spring pressure to positions beyond its center of rotation, 5 in one of which positions the blade is in operative condition, and in the other of which positions the blade is spring-held within said depressed area, said extension having a transverse opening in communication with the space provided by 10 said bifurcation, through which opening the tape is fed while being unreeled.

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