This invention has to do in a general way with devices for cutting tape or the like and is more particularly related to a device which is especially adapted for use in connection with rolls or spools of adhesive tape or similar material.

We are aware of the fact that various attempts have been made to produce cutters for material of this nature, but to the best of our knowledge such cutters have always been in the form of straight or saw-toothed knives which are adapted to extend at right angles across the tape to be cut.

In order to effectively sever the tape by means of knives of this character, it has been found necessary to give the free end of the tape a twisting movement, which, in view of the inherent sticky qualities of the tape, is obviously impractical.

It is the primary object of this invention to produce a tape cutting device of the class described, which is of simple form and construction and in which the tape may be effectively severed by a straight line pull away from the roll.

It is a further object of this invention to produce a cutter of the class described whereby the tape may optionally be severed in a manner such that it can be torn or split after it has been cut from the roll.

The general construction of the device contemplated by this invention embodies a tapered and pointed knife which is adapted to be arranged with the point thereof in substantial engagement with the periphery of the roll of tape. The knife may be made in a form such that it can be interposed between the side plates of a tape supporting spool, or in a modified form the knife is made so as to be used in connection with the small roll of tape which does not have the side members, in other words, the small roll which is not supported upon a spool.

It is a noteworthy feature of the aforementioned type of cutter that the knife or cutting blade is mounted in the spool in a manner such that its movement away from the roll of tape is limited. In other words, the cutter is pivotally mounted between the side plates of the spool and is held against unlimited swinging movement therein by means of stop members.

The details in the construction of a preferred and a modified form of our invention will be best understood from the following description of the accompanying drawings which is chosen for illustrative purposes only, and in which—

Fig. 1 is an elevational view showing the outer surface of a side plate in a spool equipped with a preferred embodiment of our invention;

Fig. 2 is a plan view of the spool shown in Fig. 1;

Fig. 3 is a sectional elevation taken in a plane represented by the line 3—3 in Fig. 2;

Fig. 4 is a sectional elevation taken in a plane represented by the line 4—4 in Fig. 3;

Fig. 5 is a perspective view of a preferred form of cutter or cutting knife;

Fig. 6 is an elevational view showing a roll of tape equipped with a modified form of our invention;

Fig. 7 is a perspective view of the modification shown in Fig. 6.

More particularly describing the invention as herein illustrated, reference numeral 11 indicates a spool which comprises a hub member 12 and side plates 13 and 13'. The hub member 12 carries a sleeve 14 which in turn serves as the support for a roll of tape generally indicated by reference numeral 15. The side members 13 are provided with a pair of oppositely disposed aligned apertures 17 and 17' which are adapted to receive ears 18 and 18' on the base portion of cutter member 19. The cutter member 19 is best shown in Fig. 5 as being in the form of a tapered, pointed, and curved metal plate, the edges 20 and 20' of which are sharpened and terminate in a point 21, which is situated in a plane intermediate the edges of the tape preferably on the longitudinal center line of the cutter. The side plates 13 and 13' are also provided with a pair of arcuate slots 22 and 22' which receive stop ears 23 and 23' on the cutter member 19. These ears 23 and 23', in combination with the arcuate slots 22 and 22' cooperate to prevent the unlimited swinging movement of the cutter 19.
when the tape is being severed from the roll.

In the operation of the device shown in Figs. 1 to 4 inclusive, when it is desired to form a substantially straight cut in the tape, the desired quantity of tape is withdrawn from the roll and the free end is pulled backward so that a section of the tape is drawn into engagement with the point 21 of the cutter. The tape is then given a quick backward pull, and we have found in practice that this results in the same being severed along a substantially straight line. This is partially due to the fact that the roll is free to rotate upon the spool, and partially due to the fact that the tape tears after the cutter has been started therethrough.

In the event it is desired to split the tape after it has been cut from the roll, the practice is to draw the tape slowly over the cutter without the quick jerk mentioned above. In this procedure the tape is cut substantially along the dot and dash lines indicated at A in Fig. 2, reference letter B indicating the type of cut that is formed when the first procedure outlined above is followed. It will be noted that the ears 23 and 23', when the tape is being cut, engage the upper ends of the arcuate recesses 22 and 22', holding the cutter firmly in place for severing the tape.

In Figs. 6 and 7 we show a modified form of cutter which is adapted to be used upon a roll of tape indicated by reference numeral 25. This is the usual type of roll which is sold in lengths of one yard, and it will be noted that this roll does not have the side plates found in the longer lengths, as indicated in Figs. 1 to 5 inclusive. The cutter, under these circumstances, is made in the form of an arcuate metal strip 28, which is provided with a U bend 27 to give it resiliency, and has a pointed knife or cutter member 28 formed on one end thereof. The inherent resiliency of the plate is adapted to hold the cutter in firm engagement with the periphery of the roll, and it will be noted that the cutter member 28 has a tapered and sharpened point 29 which, as pointed out above, is preferably situated substantially on the longitudinal center line of the cutter.

It will be understood, of course, that various means may be employed for supporting the cutter member, and that the essence of the invention resides in a tapered and pointed cutter which is associated with means for holding the same so that the cutter is in substantial engagement with the periphery of the roll, or in a manner such that the tape may be drawn backwardly over the cutter for severing same.

It is to be understood that while we have herein described and illustrated one preferred form and one modification of our invention, the invention is not limited to the precise construction described above, but includes within its scope whatever changes fairly come within the spirit of the appended claims.

We claim as our invention:

1. In combination with a roll of tape: a tapered, pointed cutter; and means for holding said cutter so that the point thereof is substantially in engagement with the periphery of said roll.

2. In combination with a roll of tape: a tapered, pointed cutter; and means for holding said cutter so that the point thereof is substantially in engagement with the periphery of said roll, the cutting edge of said cutter being tapered so that the point thereof falls on the longitudinal center line of the cutter.

3. In combination with a spool having side plates and a hub portion, a roll of tape on said hub portion, and means for cutting sections from said tape comprising a tapered knife having its base portion mounted between said side plates and having a point situated in a plane between the edges of said tape.

4. In combination with a spool having side plates and a hub portion, a roll of tape on said hub portion, and means for cutting sections from said tape comprising a tapered pointed knife pivotally mounted at its base portion between said side plates, the point of said knife being adapted for downward movement into engagement with the periphery of said roll of tape.

5. In combination with a spool having side plates and a hub portion, a roll of tape on said hub portion and means for cutting sections from said tape comprising a tapered pointed knife mounted at its base portion between said side plates, said knife being curved downwardly from its base portion toward the periphery of said roll of tape.

6. For use in combination with a roll of tape: a spool having a hub portion adapted to support said roll and side plates on said hub portion, said side plates being provided with a pair of aligned apertures; and a tape cutter comprising a pointed knife member interposed between said plates and supported by means of ears extending into said apertures.

7. For use in combination with a roll of tape: a spool having a hub portion adapted to support said roll and side plates on said hub portion, said side plates being provided with a pair of aligned apertures and a pair of aligned slots; and a tape cutter comprising a pointed knife member interposed between said plates, supporting ears on said knife member extending into said apertures, and additional ears on said knife member extending into said slots and adapted to prevent unlimited swinging movement of said knife member.

8. In combination with a roll of tape, a tape cutter embodying a curved metal strip.
adapted to partially encircle a roll of tape and having a tapered pointed cutting edge formed at one end thereof with the point situated substantially in engagement with said tape and in a plane intermediate the edges of said tape.

In testimony whereof, we have hereunto set our hands at Los Angeles, California, this 16th day of September, 1930.

FRANK E. EWING.
FRED J. CLUNK.
NEIL M. COATS.