April 15, 1952 S. GARIK 2,593,291

ADHESIVE TAPE DISPENSER

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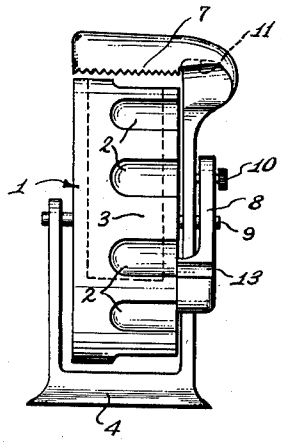
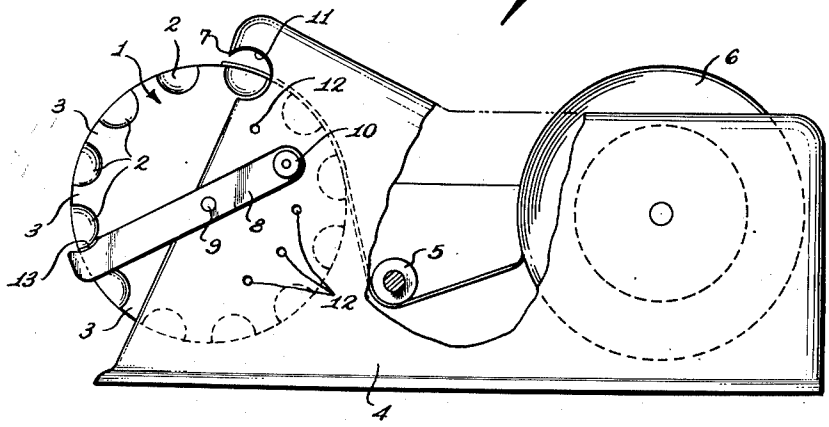


Fig. 1

Fig. 2



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ADHESIVE TAPE DISPENSER

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4 Claims. (Cl. 271—2.3)

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This invention relates to a dispenser for pressure sensitive tape.

The primary object of this invention is to provide a dispenser for pressure sensitive tape of generally improved design.

It is a further object to provide a dispenser which is positive in operation and which is inexpensive to manufacture and which requires little maintenance.

A further object is to provide a dispenser which enables an untrained operator to remove lengths of tape of equal, predetermined length, yet which permits the removal of various lengths when required.

A still further object is to reduce the effort necessary to unroll such tape from commercial storage rolls.

Pressure sensitive tapes are well known in industry and consist of a flexible backing material such as cloth, paper, cellophane or the like coated with an adhesive substance. The adhesive is of such a nature that it adheres to a surface when pressure is applied, and continues to adhere even after the pressure is released and does not require the application of moisture, solvent or heat. The adhesive ordinarily has a greater affinity towards the inner surface of the backing material than it has towards its outer surface and towards materials having a smooth surface, so that the tape may be stripped clean from its own backing and from smooth glass, plastic, metal or other non-porous surfaces. Such tapes are sometimes known as the non-offsetting type.

Pressure sensitive tapes for special purposes may have adhesive coatings on both sides. The present invention is applicable to such tapes also, provided they are of the non-offsetting type.

Conventional dispensers which are used with gummed tapes are not suitable for use with pressure sensitive tapes, since the tape would adhere to and prevent operation of the feed mechanism.

Pressure sensitive tapes are ordinarily marketed commercially in the form of tightly wound storage rolls in which the adhesive surface is in direct contact with the outer surface of the backing material and less frequently are provided with an interwound layer of less adhering material. The separation of the adhesive surface from the backing (or interwound material) requires an effort of variable intensity but always noticeable.

Conventional dispensers for pressure sensitive tape ordinarily require that the tape be grasped with the fingers and that a portion be pulled free from the storage roll. The tape may then be brought into contact with a serrated cutting edge, cut-off and removed. With this method it

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is necessary to give the tape an undue amount of handling and it is difficult to get a piece of exactly the desired length. This latter factor is particularly important in industrial applications where a large number of uniform pieces are required. Operators must spend a long training period learning to pull a uniform length. Non-uniformity of pieces of tape may result in an unsatisfactory product and at best results in a waste of tape.

In general, the objects of this invention are achieved by providing a tape dispenser with a driving member capable of substantially slipless contact with the tape so that its motion measures the amount of tape unrolled, which member pulls tape from the roll and which can be advanced in uniform steps to enable the operator to remove uniform lengths of tape.

A preferred embodiment of the present invention is illustrated in the accompanying drawing in which Figure 1 is a front view of the tape dispenser; and Fig. 2 is a side view of the dispenser of Fig. 1.

Referring now to the drawings by reference characters, there is illustrated a driving roller 1 rotatably mounted on base member 4 which supports, also rotatably, idler roller 5 and tape storage roll 6. Knife 7 is also mounted on base 4. Adjustable stop 8 is preferably attached to this base rotatably and coaxially with roller 1. The position of stop 8 may be adjusted by rotation around axis 9 and then fixed by means of thumbscrew 10 or other appropriate means. The upper forward part 13 of stop 8 is preferably shaped to match closely the contour of slots 2 except at the very tip which is preferably directed slightly upwards. Base member 4 is preferably shaped in its upper part to form a guiding depression 11 which helps the operator to insert his finger readily into the slot of the driving roller and prevents accidental injury from contact with knife 7. Cavities 12 may be provided in base member 4 to receive the tip of thumbscrew 10. These cavities are preferably spaces so that when the thumbscrew 10 engages them and the position of upper surface 13 of stop 8 coincides with the lower surface of one of the slots 2, the rear surface of another slot 2 is aligned with the inner rim of guiding depression 11.

Roller 1 has a form particularly adapted for direct hand propulsion. Slots 2 provided in roller 1 may be engaged conveniently by a finger and pressure exerted on teeth 3 causes the roller to rotate.

In operation the tape passes from storage roll

6 under idler roller 5 and onto driving roller 1. At the beginning of a cycle of tape dispensing the end of the tape is substantially below knife 7. The operator now inserts his finger into the last slot over which the tape extends which is facilitated by guiding depression 11 of the base member 4. Having thus engaged roller 1 the operator rotates it until his finger reaches the upper surface 13 of stop 8. The length of tape thus unrolled is substantially independent of the exact position of the operator's finger because of the matching shape of surface 13 and of slots 2. The tape may be then grasped between the finger which is already near the sticky side of the tape in slot 2 and the thumb, lifted from roller 1 and severed against knife 7, which makes the dispenser ready for another dispensing cycle and leaves in the hand of the operator a predetermined length of tape held by its tip end. A distinct advantage of this method is that the operator needs to perform only one continuous smooth motion to advance and remove a length of tape.

Many variations of the present invention are possible and I do not propose to limit its application to the specific structures described but only by the scope of the following claims.

I claim as my invention:

1. A dispenser for pressure sensitive tape comprising in combination: means for receiving a roll of pressure sensitive tape; a driving roller having at least two equally spaced accessible slots extending to its peripheral surface, said roller adapted to receive a length of pressure sensitive tape upon a portion of said peripheral surface and over said slots, the size and position of said slots being at least sufficient to permit the insertion of a finger thereinto underneath said length of pressure sensitive tape; and a stop immediately adjacent to the side of said roller and adapted to limit the motion of a finger inserted into one of said slots and rotating said roller.

2. The dispenser of claim 1 comprising a guide adapted to facilitate insertion of a finger into one of said slots.

3. The dispenser of claim 1, wherein said stop and said slots have substantially matching surfaces coming in contact with said finger.

4. A dispenser for pressure sensitive tape comprising in combination: means for receiving a roll of pressure sensitive tape, a rotatable driving roller spaced peripherally from the position normally occupied by said roll of tape, said driving roller being adapted to receive on a portion of its peripheral surface a length of pressure sensitive tape, periodically spaced openings in said peripheral surface, the size and position of said openings being at least sufficient to permit the insertion of a finger thereinto underneath said length of pressure sensitive tape, a fixed guide adapted to facilitate said insertion of said finger, an adjustable stop immediately adjacent to the side of said roller adapted to limit the motion of said finger inserted into one of said openings, said guide and said stop being spaced to align another of said openings with said guide when said motion is limited by said stop whereby said tape may be advanced a predetermined length by said motion of said finger and then grasped by said finger and detached from said roll.

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