Oct. 31, 1950 S. E. SORENSON 2,527,588

TAPE APPLIER AND DISPENSER

Filed Feb. 10, 1947

Fig 1

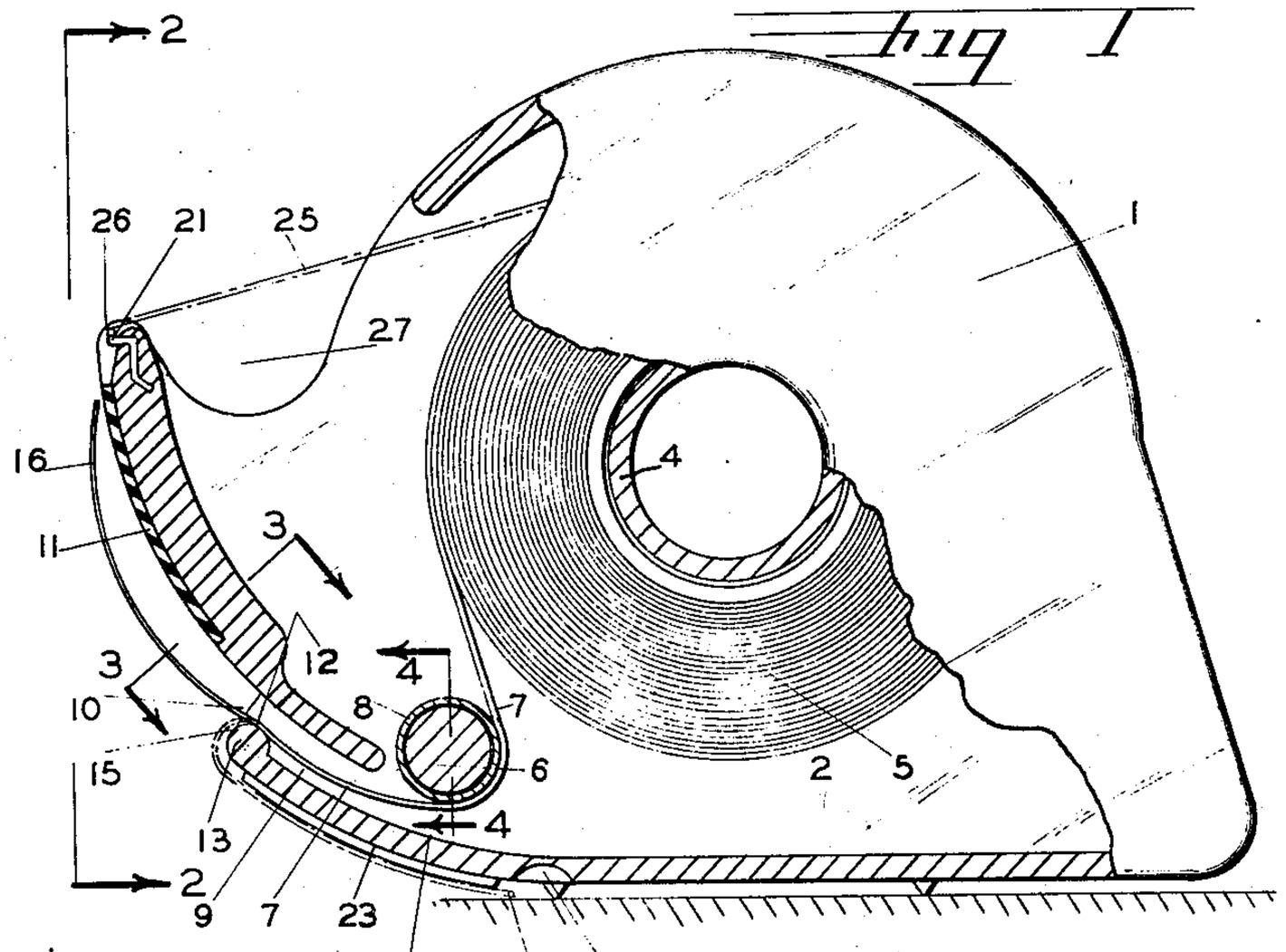

Fig 5

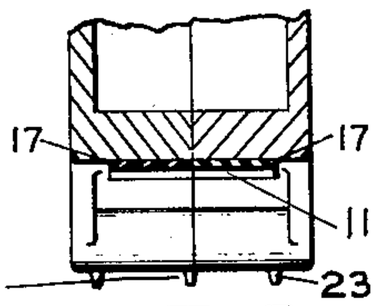

Fig 3

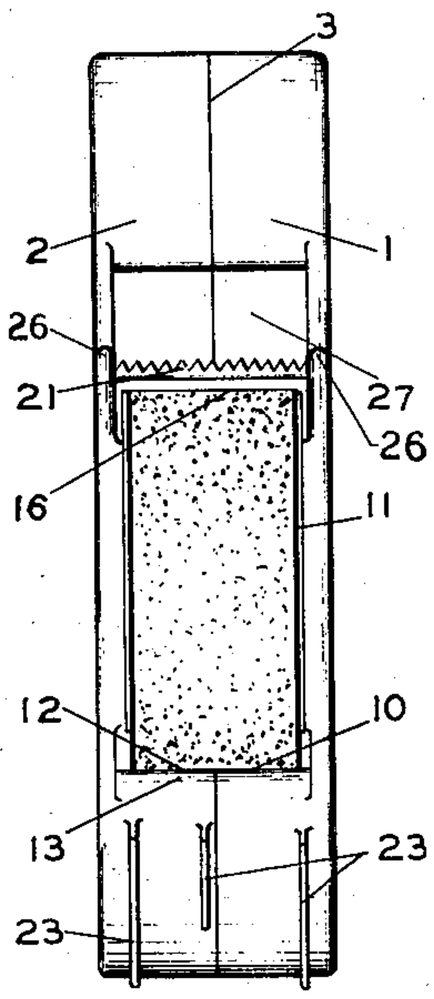

Fig 2.

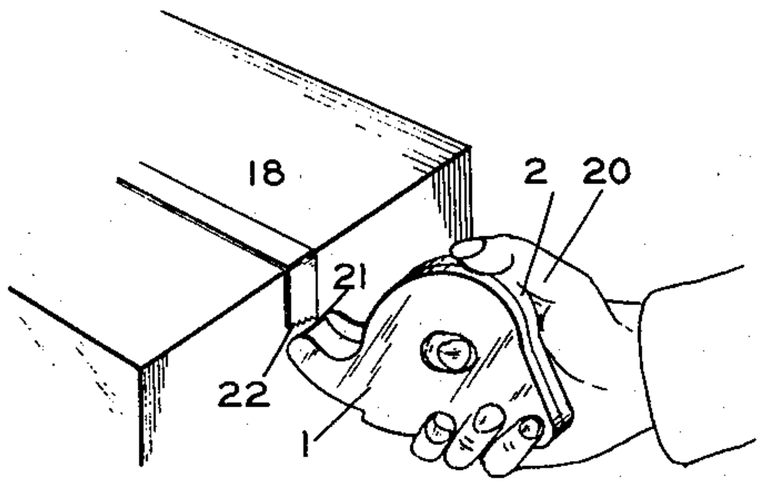

Fig 6

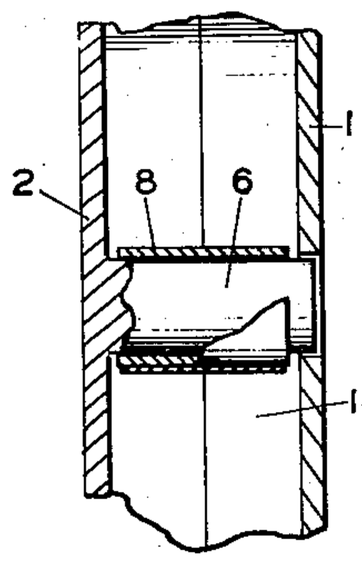

Fig 4

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TAPE APPLIER AND DISPENSER

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4 Claims. (Cl. 216—33)

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This invention relates to a tape applier and dispenser and is particularly related to pressure sensitive tapes.

The pressure sensitive tapes that are to be dispensed with my dispenser are those tapes having an adhesive material applied to one side, said adhesive requiring no further treatment when applying than to press the same against an object. Usually this tape is of transparent material, the adhesive being applied to the tape at its origin and ready to apply when the tape is removed from the roll.

The primary object of the invention is to provide an applying device that will press the tape directly to the object to which the tape is being applied, causing the tape to adhere thereto instantly.

A further object of the invention is the provision of a tape applying device that will completely apply the tape to a receiving surface and also having a provision associated therewith for tearing the tape off, and at the same time positioning the exposed ends of the tape relative to the dispenser ready for the next application, all accomplished without contacting the tape with the fingers of the operator.

Another object of the invention is to provide means of doubling the tape back on the device for storage until it is required to dispense the tape and apply the same to a desired object.

These and other incidental objects will be apparent in the drawings, specification and claims.

Referring to the drawings:

Figure 1 is an enlarged side view of my new and improved tape applier and dispenser partially in section for convenience of illustration, showing the tape in position for immediate application.

Figure 2 is a face view of the applicator taken on line 2—2 of Figure 1, looking in the direction indicated.

Figure 3 is a fragmentary sectional view taken on line 3—3 of Figure 1, looking in the direction indicated, illustrating the resilient pressure plate for applying the tape.

Figure 4 is a fragmentary enlarged sectional view taken on line 4—4 Figure 1, illustrating the tape roller within the case of the device.

Figure 5 illustrates the relative position of the tape applier and dispenser while applying tape to an object.

Figure 6 illustrates the tearing off of the tape and the relative position of the hand of the operator while holding the dispenser.

In the drawings:

My new and improved tape applier and dispenser comprises a casing, preferably, formed by two half body portions 1 and 2 which are centrally joined at 3. Located centrally of the casing is a hollow spindle 4 upon which is mounted a roll of pressure sensitive tape 5. The spindle 4 comprises parts of the body members 1 and 2. A second spindle 6, forming part of the body portion 2, has the loose end 7 of the tape trained thereabout best illustrated in Figure 1. This spindle may or may not have a revolving sleeve 8 therearound.

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The tape 7 passes through the channel 9 and out through the opening 10 which is defined by the lower end of the upwardly and forwardly curved front or applicator wall and the forward upwardly curved end of the bottom or outer wall of the casing. The tape passes upwardly in front of the applicator wall which carries a pressure member, specifically a resilient pad 11, the adhesive side of the tape facing outward or away from the pressure plate. The tape, when cut, recoils due to its natural elasticity, and, in recoiling toward the spindle 6, engages the inner surface 12 of the cylindrical portion 13 forming the forward end of the bottom wall of the device. The tape adheres to the surface 12 and thereby prevents the tape from rewinding into the case when not being applied.

Due to the fact that the spindle 6 is located near and adjacent the inner surface 14 of the body of the device it puts a pressure against the tape 7 at 15, which provides a leverage on the tape, maintaining the end 16 adjacent the resilient pressure plate 11. This is one of the outstanding features of my device, and the spindle 6 must be properly positioned to accomplish this lever action on the tape, pivoting the said tape at 15 against the edge 12 of the body of the device after an application of tape has been made and torn off from the end 16. The resilient pressure plate 11 is cemented to the body of the device at 17.

I will now describe the operation of my new and improved tape applying and dispensing device. Referring to Figures 5 and 6, the end 16 of the tape 7 is applied to the object 18 at 19 by applying the pressure plate 11 against the surface of the same, which presses the end of the tape 16 against the object 18, then the device is pulled towards the operator or away from the point 19 over the surface of the object, the pressure plate 11 pressing the tape down against the object.

When it is desired to sever the tape, the device being held in the hand 20 of the operator, is

tilted away and out from the object, as best illustrated in Figure 6, at the same time twisting slightly sidewise causing the cutter blade 21 to tear the tape at 22. As the tape is being applied to the surface of the object, it is also being stretched between the spindle 6 and the ends 16 and, as the tape rolls around the spindle 6, it is curled inward so that the end 16 tends to move towards the pressure plate. This movement towards the plate 11 is assisted by the outward tension of the tape at 15 against the edge 12 of the case, which maintains the end of the tape 16 against the pressure plate 11 so that it will be ready to apply against the object to be taped.

It will be noted in Figure 1 that there is a general bow imparted to the tape due to its travelling over the spindle 6. After this bow has been applied to the tape is causes the tape to bear against the point 15, as above described, which provides a leverage between the spindle 6 and the point 16, and as above described causes the end 16 to move towards the pressure plate. This action is also assisted by the fact that when the tape is severed, a tension is applied to the tape by the action of the pull of the device between the spindle 6 and the end 16, stretching the tape. However, the instant the tape is severed, it then tends to contract, striking at the point 15 against the edge 12 and adhering to this edge. The tape does not contact the edge 12 during application, but only after the tape is cut and recoils does it become attached to the surface 12.

When the device is not being used the end 16 may be doubled back over the ribs 23 sticking thereto with the adhesive side adhering to these ribs, as indicated by the broken lines in Figure 1. A support or feet are formed on the bottom of the casing to project beyond the ribs 23 to prevent contact and pressure adjacent the tape while it is adhered to the ribs. A depression 24 is formed in the bottom wall of the casing adjacent the ends of the ribs so that the finger nail of the operator may be inserted behind the end 16 of the tape to lift it from the ribs 23 for use.

My new and improved tape dispensing device may also be used as a tape dispenser by extending the tape directly from the roll 5 outwardly through the open top of the casing and applying the adhesive side of the end 16 to the tips 26 at the top of the front wall, as indicated by the broken lines 25 in Fig. 1. When the tape is to be used, the operator may insert a finger through the cut outs 27 in the sides of the casing and under the end of the tape, removing it from the tips 26 and applying it to the object to be taped in the conventional manner.

I do not wish to be limited to the exact mechanical structure as illustrated, as other mechanical equivalents may be substituted still coming within the scope of the claims.

I claim:

1. A tape applicator and dispenser comprising

a casing having a fixed upwardly and forwardly projecting applicator wall extending to a terminus, a bottom wall having its forward end curved upwardly and spaced from the applicator wall to form a tape passage therebetween and terminating short of the terminus of said applicator wall, a support in the casing for a coiled tape, a tape roller guide in the casing at the inner end of the passage and around which the tape is drawn to form a reverse bend to create a bow in the tape, and a cutter at the terminus of the applicator wall to sever the tape.

2. A tape applicator and dispenser as defined in claim 1 wherein the terminus of the bottom wall is provided with a cylindrical head for engagement with the bowed end of the tape when it is severed.

3. A tape applicator and dispenser comprising a casing having a curved upwardly and forwardly extending front wall and a bottom wall with the front end thereof curved upwardly in front of the lower end of said front wall and being spaced therefrom to provide a tape passage, a pressure element carried by said front wall, a spindle in the casing for receiving a roll of tape, a cutter on the upper end of the front wall above the pressure element for severing the tape, and a roll in the casing adjacent the inner end of said tape passage and around which the tape is drawn to the tape passage to tension the tape during the application thereof for forming a reverse bend therein to cause the free end of the tape to bow outwardly after serverance and upon release of the tension thereon.

4. A tape applicator and dispenser, comprising a casing having a fixed curved upwardly and forwardly extending applicator wall extending to a terminus, an outer wall spaced from the applicator wall to form a tape passage therebetween and terminating short of the terminus of said applicator wall, a support in the casing for a coiled tape, tape guide means at the inner end of the passage and around which the tape is drawn to form a bend therein, and a cutter at the terminus of the applicator wall to sever the tape.

STANLEY E. SORENSON.

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