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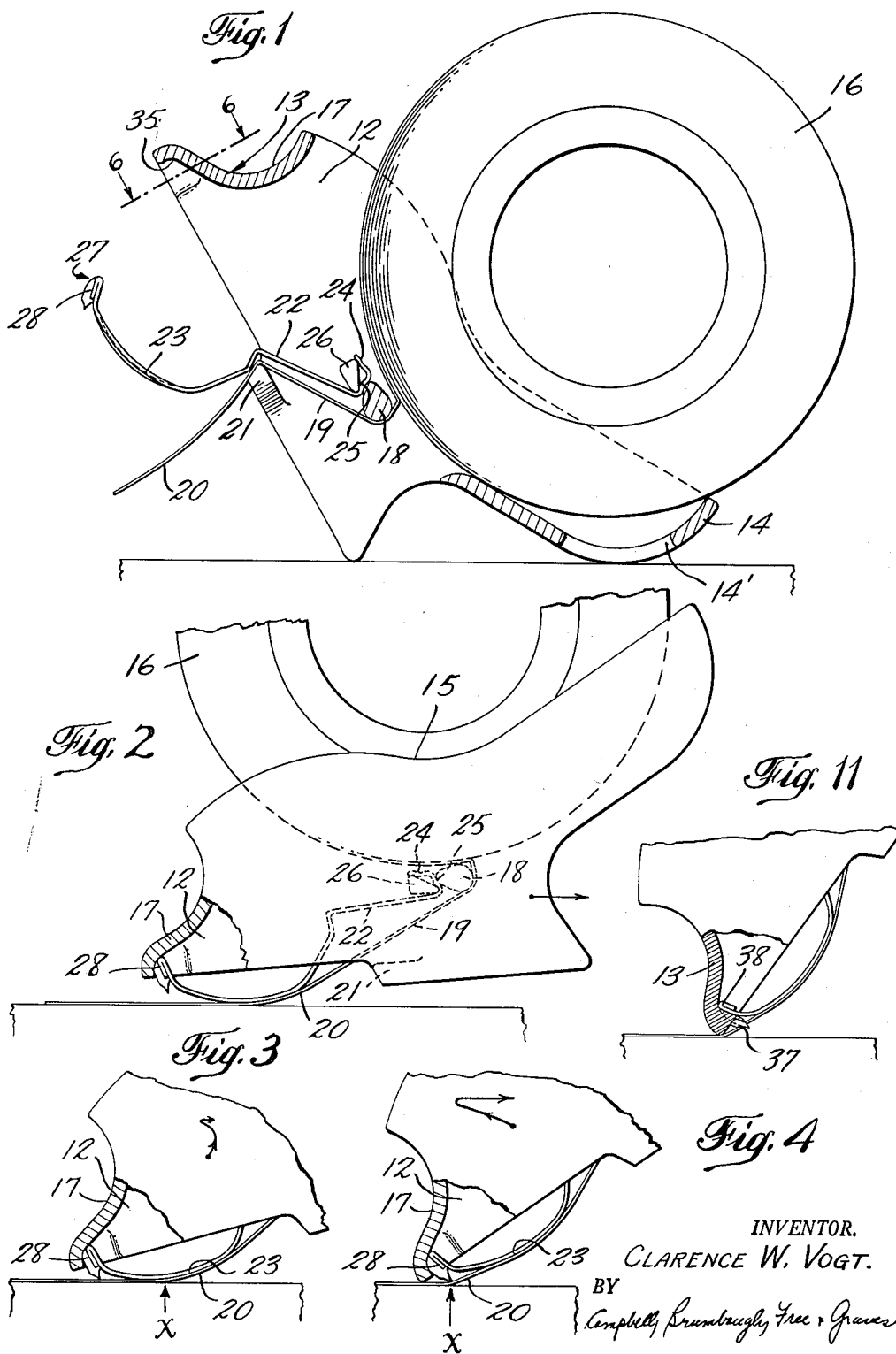
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TAPE APPLICATOR AND APPLYING AND CUTTING TONGUE

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

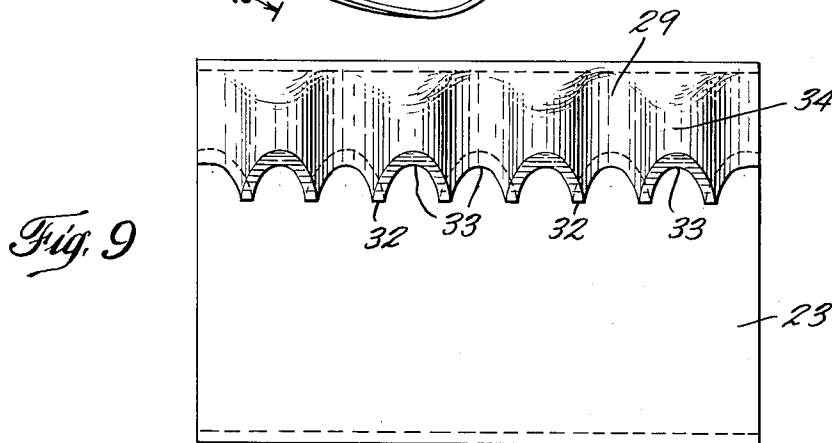
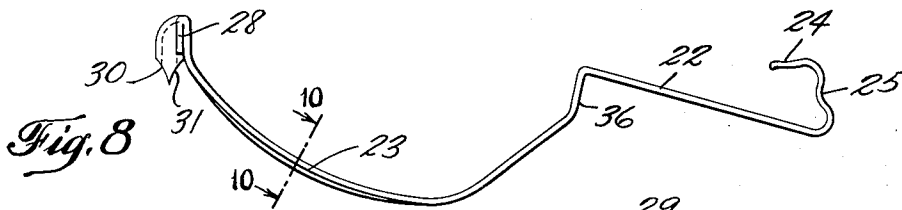
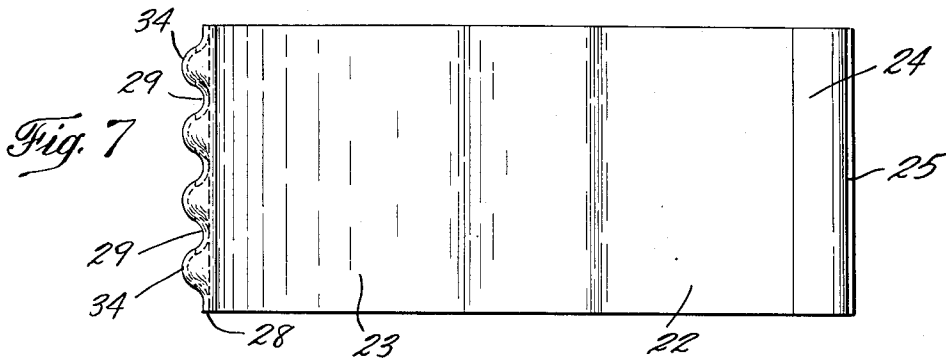
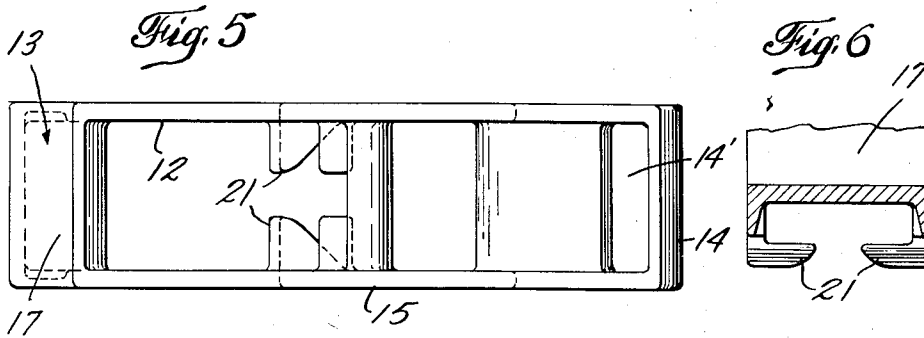
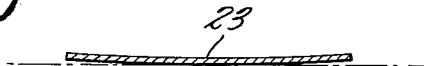


Fig. 10



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TAPE APPLICATOR AND APPLYING AND CUTTING TONGUE

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8 Claims. (Cl. 216—33)

The present invention relates to devices for holding rolls of adhesive tape and for dispensing and applying the tape from such rolls to desired surfaces and embodies an improved device of simple and unitary construction and by means of which rolls of such material may be easily used and also readily replaced to permit continued use of the device indefinitely.

The invention relates generally to devices such as shown in applicant's copending applications Serial Nos. 297,459 and 303,587 and has for an object the provision of a device of the above character that may be easily and inexpensively made and conveniently used.

A further object of the invention is to provide a device of the above character that may be made, if desired, by simple molding operations.

Yet another object of the invention is to provide, as an article of manufacture, a tongue or pressure member formed not only effectively to apply tape material to a desired surface, but also with means to facilitate the severing of the tape after a desired length thereof has been applied to a surface.

Other and further objects of the invention will be apparent as it is described in greater detail in connection with the accompanying drawings, wherein:

Figure 1 is a view in longitudinal section showing a tape applying mechanism made in accordance with this invention;

Figure 2 is a view in side elevation partly broken away and in section showing the device of Figure 1 in the tape applying position;

Figure 3 is a partial view in side elevation similar to Figure 2 showing the device of Figures 1 and 2 as it is being moved into the tape severing position;

Figure 4 is a partial view similar to Figure 3 showing the position of the device as it severs the tape;

Figure 5 is a plan view of the device of Figure 1 with the tape and tape applying tongue removed;

Figure 6 is a partial view in section taken on the line 6—6 of Figure 1 and looking in the direction of the arrows and with the tongue removed;

Figure 7 is an enlarged plan view of the tape applying tongue of this invention;

Figure 8 is a view in side elevation of the tongue shown in Figure 7;

Figure 9 is an enlarged view in front elevation of the tongue of Figure 7;

Figure 10 is a view in section taken on line 10—10 of Figure 8 and looking in the direction of the arrows; and

Figure 11 is a view similar to Figures 3 and 4 showing a modified form of the invention.

Referring to the above drawings (all of which are in enlarged scale) a tape applying device is shown comprising a body formed of side walls 12 connected by a forward bridge 13 and rear bridge 14, the latter being formed with an opening 14' if desired. The upper edges of the side walls may be formed with a curved profile, as shown at 15, the device being adapted to receive a roll of adhesive tape 16 between the side walls and the roll pref-

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erably resting upon the rear bridge 14 as is illustrated in Figure 1.

In using the device, the side walls are grasped between the thumb and fingers other than the forefinger, the latter resting against the forward bridge 13. The bridge 13 is preferably formed with a curved profile as indicated at 17 in order to provide a convenient shape to permit the forefinger to apply pressure to the device.

Intermediate the forward and rear bridge there is provided a cross bar 18 over which the tape material 19 passes as it is withdrawn from the roll and, in order that the free end 20 of the tape may be snubbed against returning over the bar 18, oppositely spaced snubber lugs 21 are formed to project inwardly from the side walls 12 at the edges thereof. By providing spaced lugs 21 rather than a solid bar, threading of the tape through the device is facilitated.

In accordance with this invention, a pressure tongue 22 is provided as a separate and replaceable element. It is made of flexible material having sufficient rigidity to transmit the pressure exerted upon the device to the tape that is being applied to a desired surface (as illustrated in Figure 2) and preferably is yieldably deformable in order that the area of contact of the tongue and tape may be as large as possible. In practice it has been found that the tongue 22 may be made of plastic material preferably having a convex bow 23 with a reentrant inner end 24. A reverse bend 25 in the end 24 provides a recess for engaging the bar 18. Spaced inwardly projecting lugs 26 are provided on the inner sides of side walls 11 in order that the end 24 may be held in assembled position. As will be seen from Figure 1, the lugs 26 are spaced sufficiently far from the bar 18 to receive the end 24, the shape of the lugs serving to position the end 24 under tension in said position.

The outer end of the tongue is formed with a cutting element 27 (Figures 7, 8 and 9), this element being formed of a reversely bent portion 28 on the outer extremity of the tongue. Prior to bending, the portion 28 is corrugated as indicated at 29 (Figures 7 and 9) and the extremities of the corrugations are angularly ground shear cut, or otherwise formed as shown at 30 and 31 thus to form piercing projections 32 and cutting edges 33. After the portion 28 is bent into the position illustrated in Figure 8, the rounded outwardly projecting convolutions 34 serve to protect the surface upon which the tape is being applied from being marred or scuffed by the projections 32 or cutting edges 33 inasmuch as these rounded convolutions are the elements that will engage the surfaces if any portion of the tongue does.

As illustrated in Figures 3 and 4 the forward bridge is formed with an inwardly extending backing surface 35 against which the cutting element 27 engages when tape is being applied. The tongue is also formed with a snubbing surface 36 which is adapted to force the adhesively coated side of the tape against the snubber lugs 21 and prevent the escape of the free end 20 of the tape between tape applying operations.

In the form of the invention shown in Figure 11, the corrugated cutting element 37 is formed in or secured to the forward bridge 13. The outer end of the bar 23 of the tongue is then formed at 38 to merely rest against the bridge 13 during the applying operation.

As will be seen from Figure 1, the holder and roll of tape normally rest on the rear bridge 14 whereas, in use, the forward bridge is moved downwardly in a counter-clockwise direction (as viewed in Figures 1 and 2) to cause the desired pressure to be exerted upon the tape and surface to which it is applied. The arrows in Figures 3 and 4 indicate the motion which may take place during the movement just prior to severing of the tape by the cutting edge previously described.

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In operation it is found that if the depth of the corrugations equals the distances between adjacent piercing projections 32 a highly effective cutter results. The material of the tongue and/or cutting element 27 may be of metal or plastic and the cutter may be formed integral therewith or, if preferred, it may be separately formed and suitably secured thereto. In Figures 3 and 4 an arrow marked X indicates the point at which the tape is to be severed and at which the frame and tongue are turned in a counterclockwise direction (as viewed in these figures) to initiate the severing operation. The cutting operation, in view of the structure herein above described, involves first a piercing of the tape at a plurality of points and then a cutting through the balance of the tape by cutting edges 33.

From the foregoing it will be seen that I have provided an improved form of tape applying mechanism that is simple in structure and easily operated to apply tape effectively to desired surfaces. Moreover, the invention includes an improved form of tape cutting mechanism, as hereinabove described, as well as a tape applying tongue which may constitute, as an article of manufacture, a replaceable unit in the tape applying mechanism above referred to.

I claim:

1. A tape applying mechanism comprising a body member formed with spaced side walls, forward and rear bridges connecting the side walls, the rear bridge member being formed with a roll receiving surface, a pressure applying surface on the forward bridge, a bar connecting the side walls intermediate the bridges, a flexible tape applying tongue formed with a pressure surface adjacent the outer end thereof, tape snubbing means on the body member and adjacent which the tongue is yieldingly urged, and means on the side walls adjacent the bar to facilitate securing the tape applying tongue to the body member.

2. A tape applying mechanism comprising a body member formed with spaced side walls, forward and rear bridges connecting the side walls, the rear bridge member being formed with a roll receiving surface, a pressure applying surface on the forward bridge, a bar connecting the side walls intermediate the bridges, spaced inwardly extending tape snubbing lugs on the side walls adjacent the bottom of the body member, and means adjacent the bar to facilitate securing a tape applying tongue to the body member.

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3. A tape applying mechanism comprising a body member formed with spaced side walls, forward and rear bridges connecting the side walls, the rear bridge member being formed with a roll receiving surface, a pressure applying surface on the forward bridge, a bar connecting the side walls intermediate the bridges, and an inwardly extending lug on at least one of the side walls spaced from the bar to facilitate securing a tape applying tongue to the body member.

4. A device according to claim 1 wherein the forward bridge is formed with a recess to receive the outer end of the tape applying tongue upon application of pressure thereto.

5. A device according to claim 1 wherein the tongue is formed with a reentrant inner end to engage between the bar and the means on the side wall adjacent the bar.

6. An article of manufacture comprising a strip of resilient material, said strip having a portion formed with concavo-convex curvature adjacent to one end thereof, said strip being bent reversely at one end and having a cutting member on the reversely bent end at the convex side of said strip, said cutting member being disposed substantially tangent to said concavo-convex portion of said strip and having a cutting edge facing back along the convex side of said strip, and means at the other end of said concavo-convex portion for engaging an element of a tape applying device to secure said strip to said device.

7. An article of manufacture according to claim 6 wherein the cutting member is corrugated and beveled at its outer end to provide a cutting edge.

8. An article of manufacture according to claim 6 wherein the cutting member is corrugated with the outer end thereof beveled upon opposite sides to form spaced piercing points and intermediate cutting edges.

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