

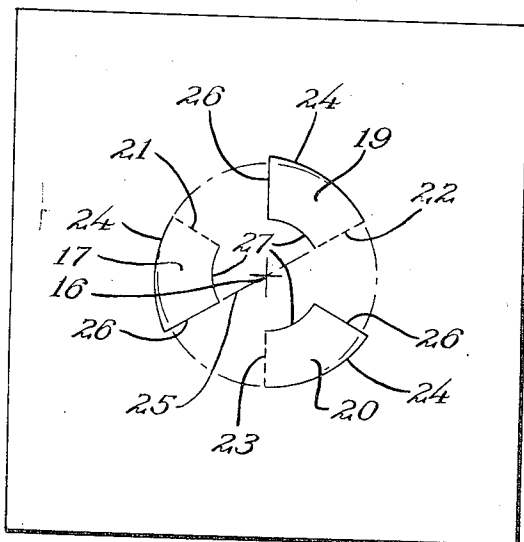
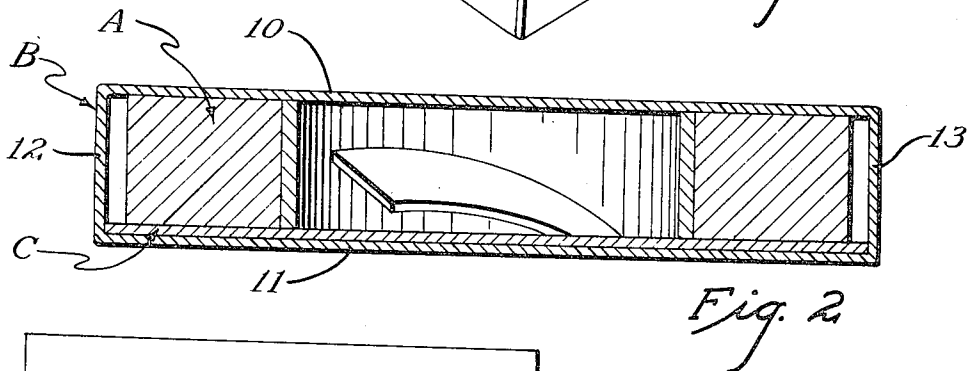
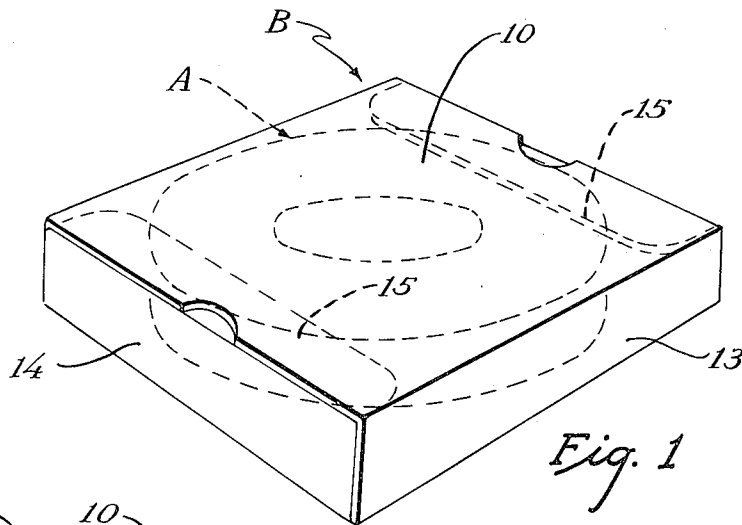
Oct. 9, 1956

R. M. DUNNING ET AL
TAPE ROLL SUPPORT

2,765,907

Filed Oct. 26, 1951

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

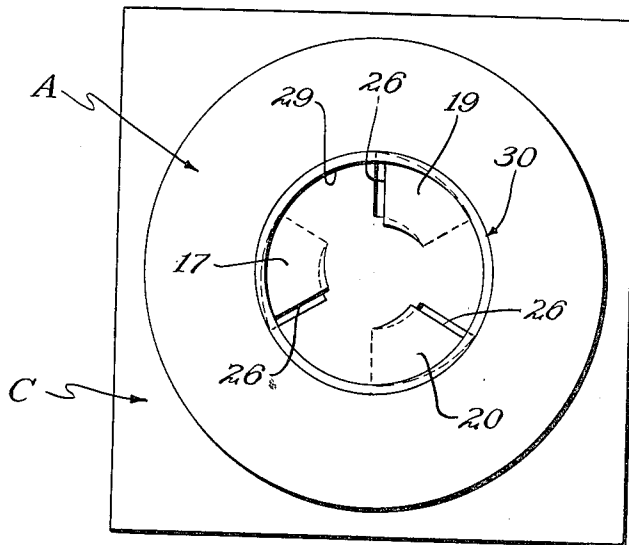


Fig. 4

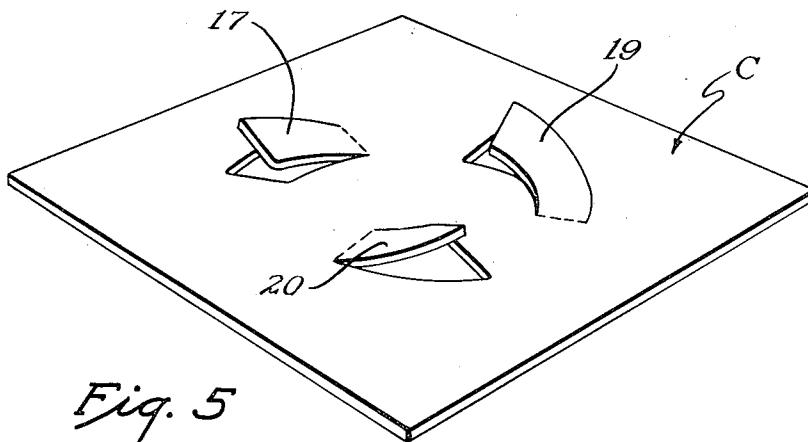


Fig. 5

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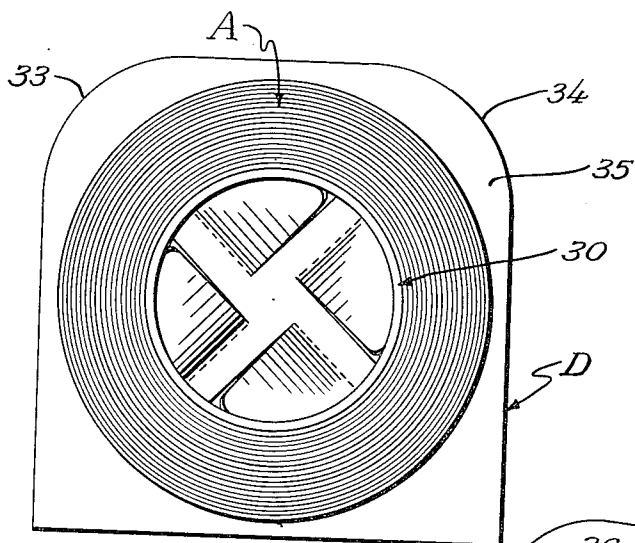


Fig. 6

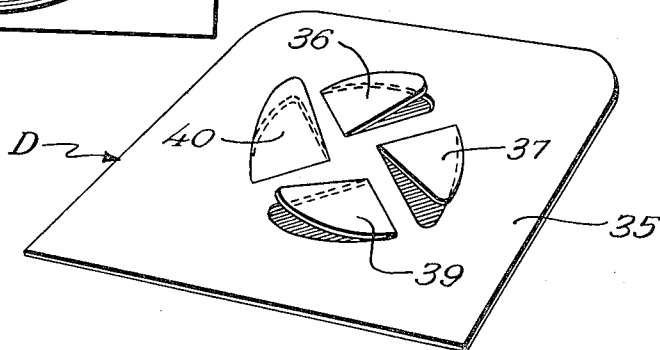


Fig. 7

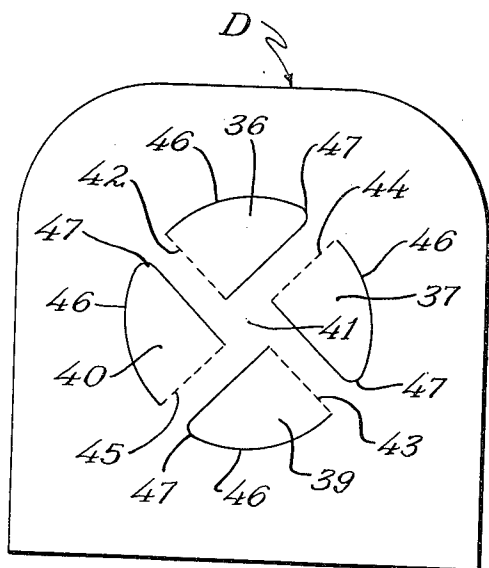


Fig. 8

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TAPE ROLL SUPPORT

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Application October 26, 1951, Serial No. 253,398

4 Claims. (Cl. 206—52)

Our invention relates to an improvement in tape roll support and deals particularly with a means of holding a roll of tape or similar material from radial movement during shipment and storage.

Tape of the pressure sensitive type is often contained in rectangular cartons during transportation and storage. It is desirable that the periphery of the tape roll remain out of contact with the walls of the carton during this time. If pressure is exerted against the roll of tape for an extended period of time, difficulty is often experienced in unrolling the tape evenly. As such tape is usually wound about a hollow core, it is desirable to provide some support which will extend into this hollow core and which will extend beyond the periphery of the tape roll so as to hold the peripheral surface out of contact with the carton walls.

An object of the present invention resides in the provision of a pad having a plurality of angularly spaced ears connected to the pad along generally radial lines emanating from the center of the pad. These ears are provided with arcuate outer surfaces, the center of arcuation being off-set from the center of the pad. The hinged portions of the ears are entirely within the radius of the inner core diameter. However, the arcuate outer surface extends beyond the radius of the core. When these ears are hinged upwardly from the plane of the pad they may engage snugly against the inner surface of the hollow core to hold the tape from lateral movement on the pad.

A feature of the present invention lies in the fact that the tabs thus formed are hingedly connected to the pad along generally radial lines emanating from the center of the pad. When the tabs thus connected are hinged out of the plane of the pad, the tabs are extremely resistant to radial movement throughout their length.

A feature of the present invention resides in the provision of a pad capable of holding a roll of tape from radial movement which may be made of a minimum of stock and at extremely low cost. The pad which we employ is preferably but slightly wider than the diameter of the tape roll and is formed of a single thickness of material with the tabs cut from the body of the pad. Such pads may be produced at low cost.

A feature of the present invention resides in the provision of a pad for supporting a roll of tape provided with tabs cut from the body of the pad in such a way that the tabs cannot fold down into the plane of the pad when once engaged with the core of the tape roll. As the tabs extend beyond the diameter of the tape core interior, they may not accidentally swing down into the plane of the pad. Furthermore, if the tabs swing upwardly toward right angular relation to the pad, they will still effectively hold the tape roll from movement.

These and other objects and novel features of our invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of our specification:

Figure 1 is a perspective view of a tape carton showing in general the type of carton sometimes used to contain a roll of tape.

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Figure 2 is a sectional view through the carton of Figure 1.

Figure 3 is a top plan view of the pad on which the tape roll is supported.

Figure 4 is a plan view of the pad showing a roll of tape supported thereupon.

Figure 5 is a perspective view of the pad with the tabs bent out of the normal plane of the pad.

Figure 6 is a top plan view of a modified form of tape holding pad with the tape roll thereon.

Figure 7 is a perspective view of the pad shown in Figure 6.

Figure 8 is a top plan view of the pad of Figures 6 and 7.

The roll of tape is indicated in general by the letter A and is shown enclosed within a tape carton which is indicated in general by the letter B. In order to hold the tape roll A from radial movement within the carton, the tape roll is supported by a pad C. It should be understood that the pad C may if desired comprise a wall of the enclosing carton rather than a separate pad as illustrated.

The carton B is shown as including a top wall 10, a bottom wall 11, and connecting side walls 12 and 13. The wall 13 is shown as comprising flaps hinged to the top and bottom panels of the carton and adhered in overlapping relation.

End closure panels 14 are hinged to the top or bottom panels of the carton and are provided with tuck flaps 15 which tuck into the carton to hold the ends of the carton closed. This form of carton is often used for various products and forms no part of the present invention, but is described in order to show that the peripheral walls of the tape walls are spaced from the carton walls. The pad C is rectangular in form and is shown as having a plurality of angularly spaced tabs therein spaced about the center point 16 of the pad. In speaking of the center point of the pad, it should be understood that the point 16 need not be at the precise center of the pad, but is so located that when the tape roll is coaxial therewith the periphery of the roll will not extend over the periphery of the pad.

Three tabs 17, 19 and 20 are illustrated in the drawings, although the number of such tabs may be varied. The use of at least three such tabs is preferable if maximum strength is desired. Each tab is preferably hinged to the remainder of the pad along a generally radial fold line. The tab 17 is hingedly connected to the pad along the fold line 21. The tab 19 is hinged along the fold line 22 and the tab 20 is hingedly connected along the fold line 23. Each of the tabs is similarly constructed and the cut lines forming the same will accordingly be identified with similar numerals. An arcuate cut line 24 describes the outer edge of each tab, the center of arcuation being offset from the center point 16, preferably along a radial line such as 25 at right angles to the line of hinge of the tab. The ends 26 of the tabs are shown as being radial in direction, although this is not of extreme importance. The inner edges 27 of the tabs are shown as arcuate and may have as the center of arcuation either the center point 16 or the center of arcuation of the outer line 24 of the corresponding tab.

It will be noted that with this construction that if the tabs are hinged upwardly from the plane of the pad, the outer edges 24 of the tabs extend helically upwardly from the pad to engage snugly against the inner surface 29 of the tape roll core 30. In other words, the tabs are preferably so shaped that when inclined upwardly along their hinge lines, the outer edges of the tabs extend along a common circle about the point 16 when viewed in plan. When thus engaged the tape roll is firmly held from movement laterally of the pad in any direction.

A pad D which is generally rectangular in shape and which may if desired be provided with two rounded

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corners 33 and 34 arranged at one end of the sheet body 35. The rounded corners are arranged to simplify the insertion of the pad and tape roll into an enclosing carton.

The pad body 35 is provided with four tabs 36, 37, 39 and 40. These tabs are hingedly connected to the pad 5 body along fold lines which emanate from a common center point 41. The tabs 36 and 39 are connected to the pad along diametrically opposed aligned fold lines 42 and 43. However, the tab 36 extends in one direction 10 from the fold line 42, while the tab 39 extends in the opposite direction of the aligned fold line 43. Similarly the tabs 37 and 40 are connected to the pad along diametrically opposed and aligned fold lines 44 and 45. The tabs, however, extend on opposite sides of the fold lines, the tab 37 being arranged on one side of the fold line 44 15 and the tab 40 being arranged on the opposite side of the fold line 45. The outer surfaces 46 of the various tabs are arcuate in form, but the centers of arcuation are off-set slightly from the center point 41 so that the ends of the tabs are outside of a circle extending through the opposite 20 end of the arcuate edges. The tab ends 47 are all outside of a circle through the outer extremities of the fold lines 42, 43, 44 and 45. Thus when the tabs hinge upwardly along their respective fold lines, the outer edges 46 of the tab engage snugly along the cylindrical inner surface 25 of the tape roll core 30.

The operation of the pad D is similar to the operation of the pad C. However, it will be noted that the tabs are stronger from a structural standpoint because of the increased length of the tabs along their respective hinge 30 lines. Furthermore, it will be noted that the hinge lines extend diagonally of the pad so that the individual tabs are stronger than they might otherwise be regardless of whether the grain of the paperboard extends longitudinally or transversely. The paperboard will usually withstand 35 greater strain from a compression standpoint in a direction with the grain than in a direction transversely of the grain. By arranging the tabs with their fold lines diagonal, the grain of the paper strengthens all of the tabs regardless of whether the grain extends longitudinally or laterally of the pad. 40

It will be noted that the tabs normally extend beyond the inner diameter of the tape roll core and therefore cannot fold down into the plane of the pad when once engaged with the tape roll core. At the same time if the tabs 45 should be folded upwardly toward right angular relation to the pad, they would still engage the core sufficiently to hold the core from any substantial lateral movement. Thus when the tape roll is mounted upon the pad it is firmly held from engagement with the side walls of the 50 carton B.

In accordance with the patent statutes, we have described the principles of construction and operation of our tape roll support, and while we have endeavored to set

forth the best embodiments thereof, we desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of our invention.

We claim:

1. A pad in combination with a tape roll having a hollow core, the pad including a flat paperboard pad body having a series of tabs cut therefrom, said paperboard pad body having a grain direction, said tabs being generally triangular in shape and being hingedly connected to the pad along diametrically aligned fold lines, two such tabs being arranged on fold lines at right angles to the fold lines connecting a second pair of tabs to the pad, the tabs extending upwardly from and at an acute angle with the plane of the pad, the outer edges of the tabs contacting the inner surface of the core.

2. The structure described in claim 1 and in which the fold lines connecting the tabs to the pad extend diagonally with respect to the grain of the pad.

3. A tape roll support in combination with a member having a hollow cylindrical core, the support comprising a pad having a series of angularly spaced tabs therein, said tabs being hingedly connected to the pad along generally radial lines leaving openings in the pad, and outer edges on said tabs extending helically along the core, said outer edges of the openings extending beyond the confines of the inner surface of the core.

4. A tape roll support for a roll of tape having a hollow cylindrical core having a predetermined internal diameter, the support including a pad upon which the tape roll may rest, an axis normal to the pad defining the center of a predetermined circle, a series of similar tabs cut from the pad in angularly spaced relation about said circle and foldable about substantially a radius of said circle, each of the tabs having a curved outer edge extending from its generally radial fold line to a point outside said circle, the diameter of the circle being substantially equal to the internal diameter of the core, whereby when said tabs are bent out of the plane of the pad, said curved outer edges may extend from the said lines of fold to points directly above said circle.

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