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BACKING CARD CONSTRUCTION FOR DISPENSING
ADHESIVE TAPE LABELS
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Fig. 1

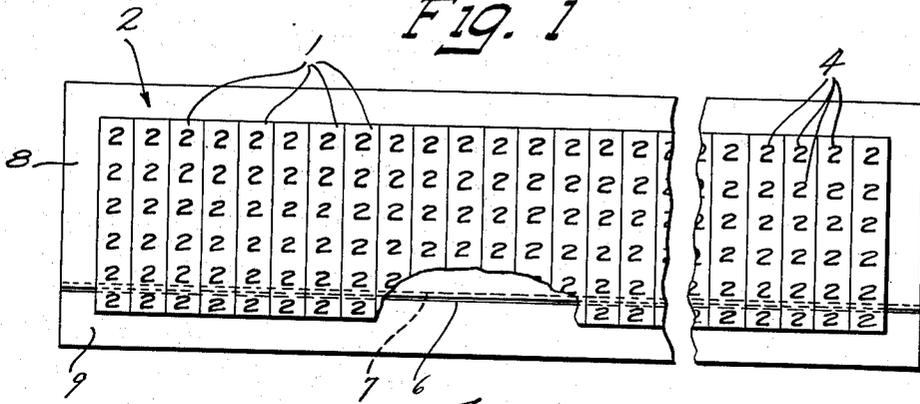


Fig. 2

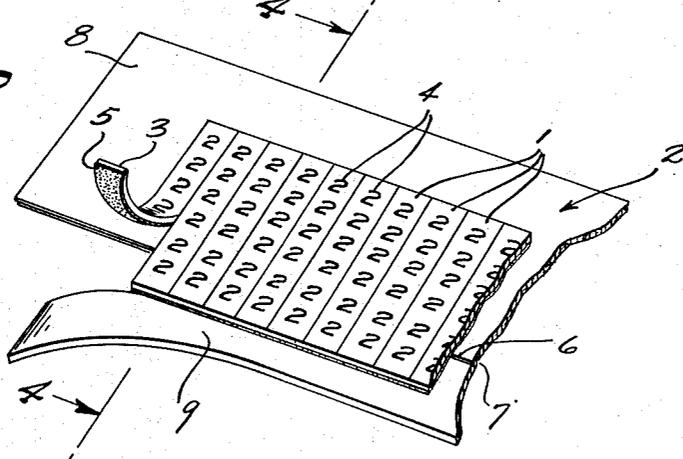


Fig. 3

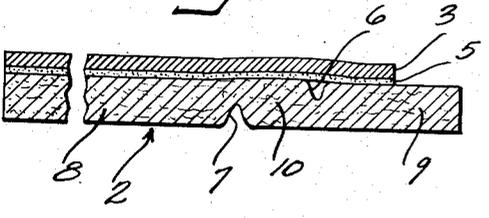


Fig. 4

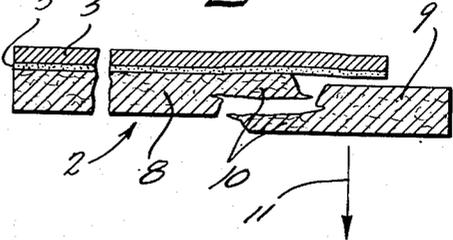
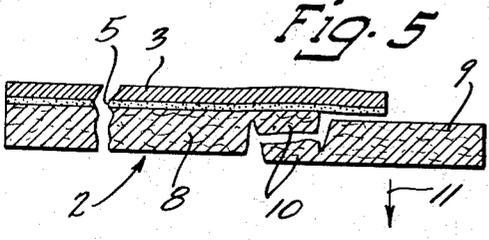


Fig. 5



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BACKING CARD CONSTRUCTION FOR DISPENSING ADHESIVE TAPE LABELS

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2 Claims. (Cl. 206-56)

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This invention relates to backing-board-mounted, pressure sensitive tape, and it resides in an improved combination comprising portions of pressure sensitive tape, adherently attached with a removable bond, to a hard, fibrous, splittable, backing-board having a separation zone beneath the tape portions formed of cooperating, parallel, slightly staggered linear indentations on opposite sides of the board marking the sides of a confined splitting area within which the backing-board can be cleanly separated by a tearing motion to release a portion of the backing-board so that removal of tape portions will be facilitated.

Pliant sheet material coated with permanently tacky adhesive, requiring no solvent to activate the same, is commonly called pressure sensitive adhesive tape. For convenience such materials are herein called adhesive tape. Adhesive tape cut to the form desired for particular uses such as labels, masks and the like has found wide acceptance. To facilitate such uses of pre-cut adhesive tape it has been common to mount a series of pre-cut adhesive tape portions in a row with the adhesive face of each portion fixing the respective portion in temporary contact with a fairly stiff, resilient backing-board. Such a backing-board acts as both a package and a dispenser for the adhesive tape portions. For satisfactory mounting a board of material is chosen that does not pull away at the surface and mask the adhesive upon the peeling of an adhesive tape portion therefrom. To provide means for assisting in the removal of the adhesive tape strips from the mounting board, it has been proposed that the board be weakened so as to be severable by creasing along a line extending beneath the adhesive portions and the present invention resides in an improvement in such a structure.

A severable mounting board enables the user to strip a part of the board from the adhesive tape portions to expose the ends thereof so that the same may be grasped to facilitate the peeling of the adhesive tape portions from the mounting board. In order to induce the desired severance of the board along a predetermined line beneath the strip it has been the practice to scribe or score an indentation upon the face of the board to which the adhesive tape portions are applied. To produce clean and complete severance of a board so scored it is necessary to crease it strongly along the scored line before the portion of the board which is to be pulled away to expose the adhesive tape strips is removed.

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To reduce or eliminate need for creasing as noted the scoring depth may be increased to further weaken the mounting board. Increased depth of scoring, however, is objectionable in that the board may be weakened to such an extent that premature bending or breaking will occur along the scored indentation during normal handling of the board. If the scoring depth is great, a further difficulty is encountered. In the course of manufacture of boards carrying pre-cut adhesive tape portions the tape is first applied to the board and then cut apart into strips or other shapes by dies pressed into the tape. The adhesive tape employed usually is composed of woven textile or felted fibre. If a deep indentation underlies such tape the cutting dies tend to force threads or fibres of the tape material into the indentations without cutting such threads. Failure to obtain a complete severance of the threads or fibres interferes with separate peeling of the adhesive portions and impairs the usefulness of the structure.

It is an object of this invention to provide a backing-board-mounted adhesive tape construction that permits severance of a portion of the backing-board upon application of a simple tearing pull without employment of indentations deep enough to unduly weaken the board or to permit embedding of adhesive sheet material carried thereby within the scoring indentations.

It is another object of this invention to provide a backing-board-mounted adhesive tape construction that induces severance of the backing-board within the interior portions of the board substantially in alignment with the run of the preponderant grain direction without intersecting or meeting exterior surfaces of the board.

These and other objects and advantages of this invention will appear in the description to follow. In the description reference is made to the accompanying drawing in which there is shown by way of illustration and not of limitation a specific form in which this invention may be embodied.

In the drawing:

Fig. 1 is a top plan view with parts broken away of a series of dispensably mounted adhesive tape portions fixed to a backing-board in accordance with this invention,

Fig. 2 is a fragmentary view in perspective of the adhesive tape portions and backing-board shown in Fig. 1 with a portion of the backing-board partially severed from the remainder to expose ends of a number of the adhesive tape portions,

Fig. 3 is an enlarged view in cross section of

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the adhesive tape portions and backing-board shown in Fig. 1,

Fig. 4 is an enlarged view in cross section of the adhesive tape portions and backing-board shown in Fig. 1 viewed through the plane 4-4, and

Fig. 5 is an enlarged view in cross section of the adhesive tape portions and backing-board wherein scoring indentations extending across the surfaces of the backing-board have a contemplated depth greater than the thickness of the board.

Referring now to the drawing, there is shown in Fig. 1 a plurality of dispensably mounted adhesive tape portions 1 arranged in a row and disposed on a card-like backing-board 2. The adhesive tape portions or strips 1, as shown, are intended for use as identification labels such as are employed for marking electrical wiring and the like. It is contemplated, however, that the adhesive tape portions 1 may be of any configuration and size desired and may be adapted for any suitable use or purpose such as masks, ornaments, dial faces, closures and others.

Each of the labels 1 comprises a thin layer of pliant sheet material 3 composed of a suitable material such as paper, fabric or composition having sufficient strength to withstand peeling of the adhesive from the board 2. On the upper face of each of the labels 1 is printed marking indicia 4, suitable for the intended use, and upon the lower face of each label 1 is secured a layer of pressure sensitive adhesive 5. The adhesive 5 is of the permanently tacky type which adheres without need for moistening with water or other solvent. The adhesive 5 is disposed in facing relationship with the board 2 and acts to hold each of the labels 1 to the board 2 until removed for use. While the labels 1 adhere to the board 2 the adhesive 5 is protected from contact with the atmosphere and with foreign objects and the board 2 by reason of its stiffness maintains the surface of the labels 1 in an unwrinkled condition. Margin areas of the board 2, extending beyond the margin of the labels 1, enhance the protection afforded. The board 2 thus constitutes a protective package in which the printed marking indicia 4 are prominently displayed for ready inspection by the user.

It is preferred that the mounting board 2 be formed of a firm, stiff, resilient material of sufficient thickness to retain its shape and to resist bending during the usual course of handling. The board 2 should have the further quality of not feathering, that is peeling away of a thin layer of the board material, from the surface thereof, upon a label 1 being removed therefrom, which feathering may mask the adhesive. A further desirable property is that of slightly greater strengths in all directions other than directly across the thickness of the board so that a small but perceptible delaminating tendency, not sufficient to rise to feathering is exhibited. Materials which have the above properties and which are therefore suitable substances for use as mounting boards for the labels 1 are herein termed laminar concreted materials. By the term laminar concreted it is meant properties within the material are such that relative movement between the internal component constituents that comprise the makeup of the material is strongly restrained except for a slight delaminating tendency. Cemented felted fibrous material such as vulcanized fibre or resin bonded pulp

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are examples of laminar concreted material as the term is herein employed.

Extending across the front face of the board 2 is a scored line or indentation 6 that underlies each of the individual labels 1. As is more clearly shown in Fig. 3, the indentation 6 is of a depth approximating one-half the thickness of the board 2. A second score or indentation 7 of depth approximating one-half the thickness of the board 2 runs across the back face of the board 2 parallel to but spaced laterally from the score 6. The scores 6 and 7 act in conjunction to form a severance guide as hereinafter described and may be continuous as shown or may consist of a line of closely spaced short indentations.

The scores 6 and 7 are disposed closer to one margin of the board 2 than to the other thus dividing the board 2 into a major body portion 8 and a smaller portion herein termed a starter strip 9. The starter strip 9 serves as a portion of the board 2 that may be removed so as to expose the ends of the labels 1 to permit them to be grasped by the user in order to facilitate peeling of the labels 1 from the board 2 as they are needed.

As is shown in the drawing, the scores 6 and 7 are offset slightly with the scoring 6 on the front face being placed closer to the near edge of the board 2. The two scores thus embrace a small ribbon like portion or zone 10 of board material extending beneath the labels 1 which zone presents a shortened path for delamination or splitting which is totally confined. The scores 6 and 7 are offset, in the preferred form of the invention, an amount approximating 1 to 3 times the thickness of the board 2. A greater offset strengthens the board but increases the possibility of harmful feathering while a smaller offset may unduly weaken the board 2. It is contemplated that such greater or lesser offsets may be employed in certain cases as special embodiments of this invention.

In the enlarged cross sections of the board 2 shown in Figs. 3, 4 and 5 a grain structure within the board material with a predominant run that parallels the major surface areas is diagrammatically indicated as suggestive of the fibrous laminar concreted structure of a material such as vulcanized fibre. The strength of such a material is greater in certain directions with respect to the run of the grain. Thus, tensile strength in the direction of the grain is relatively large as compared with resistance to shear aligned with the grain or to tensile strength normal to the grain. As a result a splitting or severance running with the grain may be accomplished with a small force if the area of splitting is small. Through the offset relationship of the scorings 6 and 7 a splitting severance along the grain is induced and controlled so as to be confined within the small predetermined zone 10. This permits severance of the starter strip 9 with the application of a small pulling or tearing force by the user without need for preliminary creasing of the board 2.

While the effort needed to remove the starter strip is small the unitary protective character of the board 2 is retained up to the time of use since the confined zone of weakness 10 is overlapped by the adhesive tape 3 which acts to strengthen and reinforce the zone of weakness.

Upon a pull being exerted on the starter strip 9 in the direction represented by the arrow 11 in Fig. 4 such as would be applied by a natural tearing motion, stresses within the ribbon portion 10

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cause a splitting that extends with the grain and between the valleys of the scorings 6 and 7. Where the scores 6 and 7 equal or exceed in their combined depths the thickness of the board 2, a severance such as is shown in Fig. 5 will result. If the combined depths of the scores 6 and 7 are slightly less than the thickness of the board 2 severance may occur as shown in Fig. 4. Thus a complete separation of the starter strip 9 occurs without producing feathering which extends to the surface of the board 2 to mask the adhesive.

As noted the score 6 is disposed closer to the near edge of the board 2 than is the score 7. With this relationship splitting ensues, as the normal and natural tearing action is applied to starter strip 9, without a binding of the two thin ledges of the portion 10 that are formed upon severance and at the same time the short ends of the adhesive tape strips are freed from the starter strip 9.

The scoring 6 which is disposed directly beneath the adhesive coated faces of the labels 1 may be made comparatively shallow, and therefore of small width at the surface of the board 2, so as to offer small opportunity for textile threads of the label material to be embedded within the scoring indentation. The cutting of the pliant adhesive tape may thus be accomplished without the annoyance of uncut threads extending between adjacent portions of the cut adhesive tape.

I claim:

1. In a dispensably mounted pressure sensitive adhesive tape the combination comprising a backing board composed of a thin layer of laminar concreted material having a limited susceptibility to splitting parallel to its faces, a pressure sensitive adhesive tape portion in adherent contact with one face of said board, said board being divided into a minor severable marginal starter strip portion and a main tape mounting portion by a pair of substantially par-

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allel closely spaced lines of indentation each approximating one-half the thickness of said board in depth, one of said lines of indentation being in the face of the board in contact with said tape and the other in the opposite face of said board, the two lines approaching one another sufficiently closely to confine severance by splitting to a narrow zone of separation between them when tearing force is applied between said main mounting portion and said starter strip portion, said lines of indentation being disposed closer to one margin of said board to render said starter strip portion a minor part of said board and to underlie the adherent adhesive tape portion with a minor part thereof in contact with said starter strip portion and a major part thereof in contact with said main tape mounting portion, the line of indentation in the face of said board in contact with said tape being disposed closer to the near margin of said board than the line of indentation in the opposite face of said board whereby said starter strip portion may be separated by tearing from said main mounting portion by force applied to said starter strip portion in a direction away from said adhesive tape without causing interference and binding of the edges of said board formed by such separation.

2. A dispensably mounted pressure sensitive adhesive tape in accordance with claim 1 wherein the said pressure sensitive adhesive tape portion is divided into a series of individual smaller portions by a plurality of lines of division extending transversely of the lines of indentation in said backing board.

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