United States Patent

[11] **3,568,829**

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[54] **BIFUNCTIONAL LABEL STORAGE CARD**
6 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **206/56**
[51] **Int. Cl.** **G09f 3/02,**
B65d 83/08
[50] **Field of Search** 206/56
(A3)

[56] **References Cited**

UNITED STATES PATENTS

3,361,252	1/1968	Wise	206/56(A3)
2,883,044	4/1959	Kendrick	206/56(A3)
2,681,732	6/1954	Brady	206/56(A3)
2,434,545	1/1948	Brady Jr. et al.	206/56(A3)

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ABSTRACT: A bifunctional label storage card including a carrier member with pressure-sensitive adhesive labels stored on one of its surfaces and a hinge member detachably joined to the opposite surface of the carrier member, the carrier member being separable into two portions along at least one zone underneath portions of the labels stored thereon and the hinge member also being separable into at least two portions, so that a portion separated from the carrier can be hinged backwardly to expose an end of labels stored thereon or, alternatively, a portion of the carrier member and a portion of the hinged member can be separated from the balance of the structure for withdrawal of labels from the card and then precisely replaced to provide continued protection against soiling or other damage to the adhesive of any unused labels.

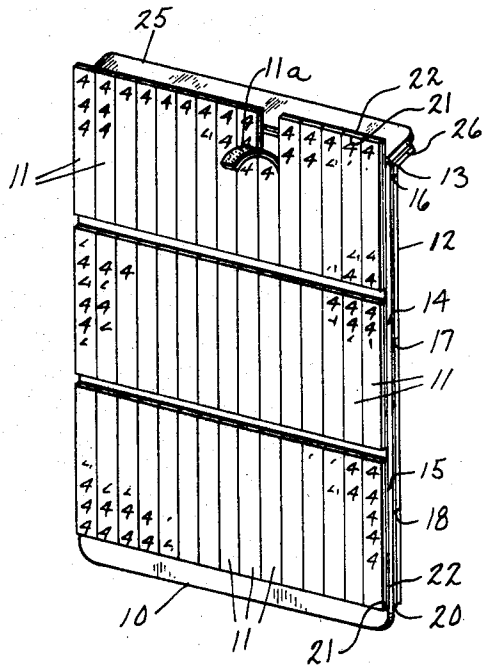


Fig. 1

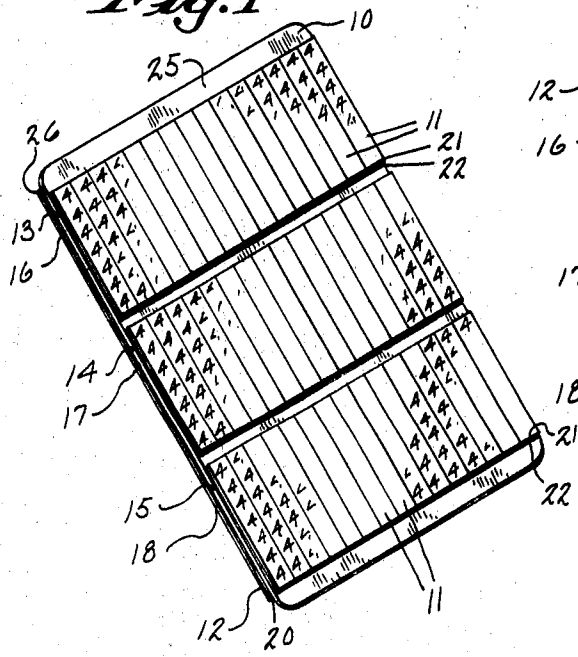


Fig. 2

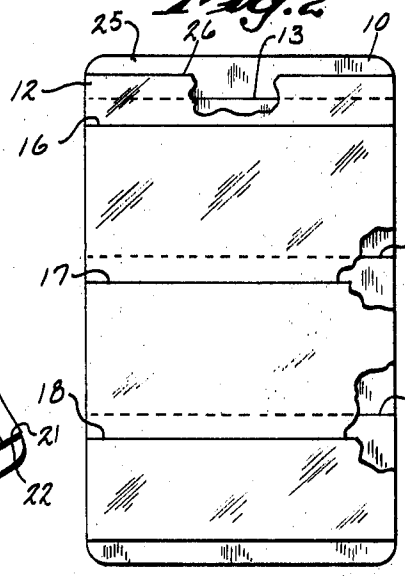


Fig. 3

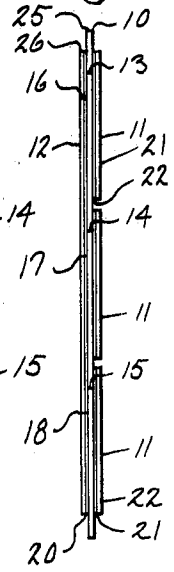


Fig. 4

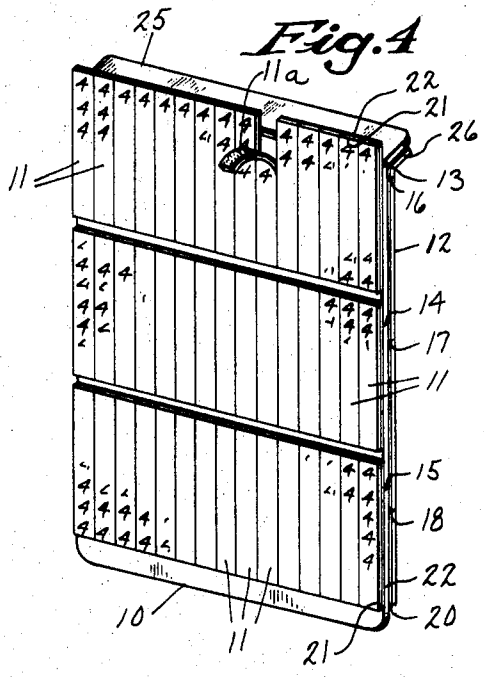
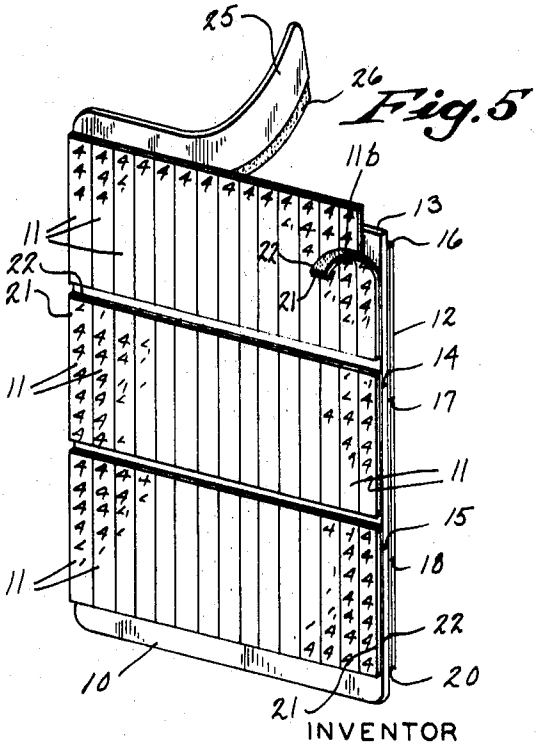


Fig. 5



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BIFUNCTIONAL LABEL STORAGE CARD

BACKGROUND OF THE INVENTION

1. Field

The present invention relates to the art of storage of pressure sensitive labels on a card or similar member from which they can be removed when needed for application to an object.

2. Prior Art

Effective and commercially successful car dispensers for the temporary storage of pressure-sensitive labels are shown in U.S. Pat. Nos. 2,434,545 and 2,681,732 wherein a card on which the labels are stored is constructed in such a manner that a portion of the card can be separated to expose the ends of the labels on the card, thereby permitting withdrawal of the labels for their application. Another type of label storage or dispenser card is shown in U.S. Pat. Nos. 2,883,044 and 3,361,252 comprising a card on which the labels are stored which includes a hinge so that part of the card can be folded away from the balance of the card to expose ends of the labels for withdrawal from the card. These two types of storage cards each have their own particular advantages.

SUMMARY OF THE INVENTION

The present invention provides a bifunctional label card which gives the user the advantages of both of the aforementioned constructions; specifically, with the present invention the user can either detach a portion of the card from the remainder to expose ends of the labels for withdrawal from the card or he may hinge a portion of the card away from the labels to thereby expose parts of the label for removal from the card.

A principal object of this invention is to provide a label dispenser card which gives the user the option of either separating a portion of the card and then replacing it, or folding a portion of the card backwardly from the rest of the card in order to dispense labels therefrom. A defect of some label-dispensing and storage cards is that the separated portion of the card will not adhere well to labels remaining on the card due to the release properties of the card relative to the label adhesive. Another principal object of this invention is to provide a label dispenser card of the foregoing construction incorporating an adhesive system for the card functioning that is independent from the adhesive system used on the labels stored on the card, thereby enhancing replaceability of a card portion that was removed for the dispensing of labels. A more specific object is to provide the particular constructions hereinafter described and claimed.

According to the present invention, a label storage card is provided in which labels are releasably joined to one surface of a card member and the card member is slit or otherwise weakened along a line underlying the labels so that the card may be separated into two portions along such weakened zone, and further including a hinge member detachably joined to the surface of the card opposite from the labels wherein the hinge also has a line of weakness along which the hinge member is separable, but the line of weakness in the hinge is offset from the line of weakness formed in the card member. In a particularly useful embodiment of this invention, the hinge member is detachably joined to the card with pressure sensitive adhesive of a different adhesion than that used on the labels stored on the card.

DESCRIPTION OF THE DRAWINGS

A presently preferred embodiment of the present invention is shown in the drawings which are meant to illustrate, not limit, the present invention inasmuch as it is anticipated that changes can be made in the illustrated embodiment that will remain within the true spirit and scope of the present invention. In the drawings:

FIG. 1 is a perspective view showing the front surface of a label dispenser card according to this invention;

FIG. 2 is a plan view, with portions broken away, of the rear surface of the card of FIG. 1;

FIG. 3 is a sectional view of the card of FIG. 1;

FIG. 4 is a perspective view showing the card of FIG. 1 in one of its operative conditions; and

FIG. 5 is a perspective view showing the card of FIG. 1 in another of its operative conditions.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 illustrates a bifunctional label dispenser card according to the present invention comprising a card **10** carrying a plurality of labels **11** arranged in three rows on its front surface, and a hinge member **12** comprising a sheet of film adhered to its rear surface. As best shown in the rear view of FIG. 2 and sectional view of FIG. 3, the card **10** includes a plurality of spaced parallel slits **13**, **14** and **15**, with each slit arranged, respectively, under the upper, middle and lower rows of labels **11**. The slits **13**, **14** and **15** are arranged relative to the rows of labels such that a minor or small end portion of each label **11** is positioned on one side of each slit and the balance or major portion of the label is arranged on the opposite side. Further, also as best shown in FIGS. **2** and **3**, the hinge **12** includes a group of spaced parallel slits **16**, **17** and **18** each arranged adjacent, respectively, slits **13**, **14** and **15**. The slits **16**, **17** and **18** are offset somewhat from the slits **13**, **14** and **15**, this amount of offset preferably being in the range of about 1/16 inch to ¼ inch for most effective utilization of the card of the invention. The hinge **12** is to be detachably joined to the card **10** and for such purpose, in the preferred illustrated embodiment, the hinge is joined to the card along a layer of pressure-sensitive adhesive **20**.

Turning now to FIG. 3, each label **11** includes an outer layer **21** and a layer of pressure sensitive adhesive **22**. The labels **11** are to be "releasably joined" to the card **10** along their adhesive layers so that they can be held on the card during storage but removed therefrom without serious delamination or stripping away of the adhesive **22** from a label. The card **10** can be coated or impregnated with suitable release materials in order to obtain a releasable joinder of this type, silicone or silicone rubber coatings being known for such purpose in the art, as well as diverse other types. The outer layer **21** of each label can be a single layer of any suitable label material including plastic films, metal foils, paper, etc., and can be imprinted with a numerical legend as shown in the drawing or any other information, or they can be unprinted if so desired. The outer layer of each label also may be formed of two or more layers of similar or dissimilar films or coatings.

The term pressure-sensitive adhesive as used herein means normally tacky, nonhardening pressure-sensitive adhesive that adheres to an object by the application of pressure alone. Many suitable formulations are known in the art and will not be described in detail except to state that typical formulations include a rubbery polymeric material such as natural rubber, synthetic rubber, latex crepe rubber or rubbery synthetic polymers and copolymers compounded with compatible resinous tackifiers such as ester gum, terpene resins, etc., dispersed in an appropriate solvent such as an aliphatic or aromatic hydrocarbon. The adhesive layer is strongly bonded to the outer layer of the label so as not to delaminate therefrom.

The card **10** can be of any relatively stiff and rigid material suitable for the carrying of labels. A concreted fibrous material such as vulcanized fiber or resin bonded pulp is particularly advantageous, although heavy paper, cardboard stock, or plastic stock can also be utilized, either release coated or uncoated. A card of vulcanized fiber from 10 to 15 mils thick has proved especially useful. The hinge **12** is most satisfactorily made of a thin sheet of plastic film material which will not readily tear during the flexing actions described hereinbelow to which it may be subjected in normal use. Polyolefin films such as polyethylene and polypropylene, nylon films, polyvinyl chloride films, and polyethylene terephthalate films are satisfactory, and nonplastic materials such as cloth, etc. may

also be used. Generally films from ½to 10 mils thick are suitable.

The slits **13**, **14** and **15** in the card **10** and the slits **16**, **17** and **18** in the hinge **12** are shown as continuous slits extending throughout the thickness of the card and hinge respectively. However, the slits may also comprise score lines which extend partly through each member or perforated lines or spaced slits as long as the card and hinge are separable along such constructions, and the term "slit-line" as used herein is intended to refer to these various constructions.

One functional mode of the label dispenser card of this invention is illustrated in FIG. 4. The upper end portion **25** of the card **10** is separated from the balance of the card along the slit **13** and folded rearwardly in relation to the rest of the card so that the upper end of each label becomes exposed and can be grasped for removal from the card. A sufficiently large end portion of each label should be exposed so that it can be grasped readily by hand or with a tool, as illustrated by label **11***a*, and at the same time the portion of each label extending onto the end portion **25** of the card, or lying across the slit **13**, should not be so large as to inhibit facile release of such end portions from the card **10** during the hinging action illustrated in FIG. 4. If the minor portion of each label which becomes exposed upon folding of the end portion **25** as shown in the drawing is about ⅛ to ¼ inch long, suitable action generally will be obtained. When the end of the card is folded back as shown on the drawing, proper hinging action of the hinge **12** is provided because it is integral or continuous underneath the slit **13** in the card **10** due to the offset between the slit lines **13** and **16**. After one or more labels **11** have been removed from the top row, the end portion **25** can be folded to its original position where it is coplanar with the balance of the card **10** and in which condition the ends of each label will be covered and protected by the portion **25**; the stiffness of the card retains the end portion **25** in such position, but this may also be aided, to a greater or lesser degree, by adhesion to the adhesive **22** of labels remaining on the card. In a similar fashion, the card **10** can be folded rearwardly along the slits **14** and **15** to enable withdrawal of labels from the middle and lower rows on the card.

The second functional mode of the card label dispenser of this invention is illustrated in FIG. **5** wherein the end portion **25** of the card **10** is detached from the balance of the card along the slit **13** and the end portion **26** of the hinge **12** is detached from the balance of the hinge along the slit line **16**. The strip formed of the portions **25** and **26** can be completely detached from the card **10**, an intermediate stage of which detachment is shown in FIG. **5**. When the card is in this condition, each label **11** is again in a dispensing position and label **11***b* is shown as being partially removed from the card **10**. When it is desired to expose the ends of labels in the other rows on the card **10**, the card can be separated along the slit line **14** and the hinge sheet separated along the slit line **17** to reach the middle row, and the card can be separated along the lower slit line **15** and the hinge along the lower slit line **18** to reach labels in the lower row.

This separation of the hinge is possible because of the detachable joinder of the hinge **12** to the card **10**, preferably by means of the pressure sensitive adhesive layer **20** so that if not all the labels in the upper row on the card, for example, are used the strip comprising end portions **25** and **26** can be rejoined to the card along the exposed adhesive on the strip **26** and either the hinge action of FIG. 4 or the separation action of FIG. **5** will be available for future use. This replaceability also is made possible by reason of the offset between the slits **13** and **16** in the card and hinge respectively.

An important advantage of the card construction of this invention is that the pressure-sensitive adhesive **20** which joins the hinge member **12** to the card **10** can be of a different type than the pressure-sensitive adhesive **22** on the labels **11**. This allows use of a pressure-sensitive adhesive **20** that is best suited for proper functioning of the card construction, particularly as to replaceability of the end portions **25** and **26** when the card is used as shown in FIG. **5**, instead of being confined to reliance upon the label adhesive **22** for such replaceability. The surface of the card **10** carrying the labels normally has a high release characteristic in relation to the adhesive **22** which usually will be a strong adhesive with low adhesion to the card; these factors are necessary to provide satisfactory labels, but are detrimental to a proper functioning of the card because they inhibit replaceability. With the card of this invention, the adhesive **20** used between the hinge and the card can be a weaker adhesive, or have a stronger adhesion for the card and hinge, and there can be low release between these members and the adhesive **20**; these characteristics are critical for effective operation of the dispenser card but would be unsatisfactory for facile removal and application of the labels. usually, there would be no release coating, or other adhesive release treatment, on either the card **10** or the hinge **12** along their surfaces joined by the adhesive **20**.

The following examples further describe and illustrate the present invention. The "adhesion" of the several adhesives used in the examples was measured according to Pressure-Sensitive Tape Council Method No. 1, revised Apr. 1966, which is based upon a 180° peelback of the test samples and is carried out at room temperature.

EXAMPLE 1

A bifunctional label dispenser card was made using a sheet of 15-mil thick vulcanized fiber as the card **10** and a hinge member **12** of 0.5-mil thick polyethylene terephthalate film (Mylar). The adhesive **20** for joining the hinge **12** to the card **10** was an acrylic-based pressure-sensitive adhesive that was coated onto the hinge and had an adhesion to the card of 16 ounces/inch. Labels **11** using a rubber-based pressure-sensitive adhesive **22** were stored on the card, which adhesive had an adhesion of 2 ounces/inch to the release-coated front surface of the card. It was found an end portion **25** of the card could be hinged backwardly without the hinge separating from the card to thereby expose ends of the labels for removal from the card. Further, it was found that an end portion **25** of the card together with an end portion **26** of the hinge could be completely separated from the card so as to expose ends of the labels, but that the composite strip of portions **25** and **26** could be replaced readily by rejoinder to the card along the adhesive **20** on the part of end portion **26** of the hinge that projects beyond the edge of end portion **25** of the card by reason of the offset between the slit lines **13** and **16**.

EXAMPLE 2

A bifunctional label dispenser card was made according to Example **1** except that the adhesive **20** for joining the hinge **12** to the card **10** was an acrylic-based adhesive with an adhesion to the card of 7 ounces/inch. The card operated satisfactorily in both of its functions, i.e. the hinging action of FIG. **4** and the separable strip action of FIG. **5**.

EXAMPLE 3

Another card was made that was the same as that of Example **1** except that the adhesion of the adhesive between the hinge **12** and the card **10** was 2 ounces/inch, the same adhesion as that of the label adhesive to the front surface of the card. The card did not operate satisfactorily in that such low adhesion did not provide a removable strip (comprising end portions **25** and **26**) that could be replaced as was the case with the cards of Examples **1** and **2**, and the low adhesion of the hinge to the card also impaired the hinging type of dispensing action. This example demonstrates the importance of the feature of the card construction of this invention that allows the use of an adhesive between the card and the hinge that has a higher adhesion than that of the label adhesive to the front surface of the card, thereby enabling satisfactory card storage of labels having adhesive with a very low adhesion to a dispenser card. If the replaceability of the separable strip (end portions **25** and **26**) was dependent solely upon

joinder to adhesive of exposed portions of the labels, the strip could not be satisfactorily replaced in a manner that would give adequate protection to the labels and in a manner permanent enough to permit normal handling of the card.

It has been found that the adhesion of the hinge **12** to the card should be at least about 5 ounces/inch in order to obtain satisfactory bifunctional characteristics, and preferably the adhesion is at least 15 ounces/inch or higher for most applications. The pressure-sensitive adhesive used to join the hinge to the card preferably has greater adhesion to the hinge than to the card material so as to eliminate or reduce offset or transfer of the adhesive onto the card. Also, the adhesion of the adhesive between the hinge and the back of the card should be less than the internal strength of either the card material or the hinge material so as to prevent rupture of either when utilizing the separable strip-dispensing function. However, if desired, the adhesive can be applied to the back surface of the card and the hinge material joined thereto. Thus the label dispenser cards according to this invention, in their completed condition, utilize differential adhesive systems wherein the label adhesive has a low adhesion, generally less than about 5 ounces/inch to the front surface of the card which can be release coated, and a second or independent adhesive is utilized to join the hinge to the card and which has an adhesion of at least about 5 ounces/inch or higher.

The bifunctional label dispenser and storage card of this invention thus provides the features of having a portion of the card separable from the balance of the card to expose ends of labels carried on the storage card or having a portion of the card hinged away from the balance of the card to also expose ends of labels for withdrawal. The user can select which of the dispensing functions best suits his purpose and still have either action available for future use. This dual action is possible through the provision of a card with a hinge sheet detachably adhered to one side of the card wherein a slit line is formed in the card and a parallel slit line is formed in the hinge sheet that is offset or spaced slightly from the slit line in the card. This bifunctionality has an additional advantage in that it enhances the replacement of the strip which is removed from the cord when it is utilized as shown in FIG. **5**. For example, with strong or tenacious adhesives, it is necessary to use a high release coating on the card surface which carries the labels and this enhanced release surface characteristic inhibits the replacement of the strip portion such as **25** if the only means to hold it to the card was along the adhesive of the exposed end portions of the labels. With the storage card of this invention, however, reattachment of the removable strip is also provided by the portion **26** of the hinge sheet when it is adhered to the card by means of pressure-sensitive adhesive and an adhesive can be used to join the hinge sheet to the card that does not release from the card as easily as that used on the labels themselves.

Another advantage of the card construction of this invention accrues from the fact that replacement of the removable strip is not dependent upon attaching it to the adhesive of exposed end portions of labels remaining on the card after some have been dispensed: if only a few labels remain on the card it would be difficult to hold the replaced strip in position because of the reduced adhesive area, but with the card of this invention the adhesive area for providing replaceability of the removable strip does not change as labels are removed from the card. Stated otherwise, the label dispenser card of this invention provides a replaceable strip type of dispensing function wherein there is a constant degree of replaceability that is independent of the number of labels stored on the card.

These several advantages are obtained with a label-dispensing card construction that provides continuous protection or coverage of the adhesive of labels stored thereon until they are removed from the card.

I claim:

1. In a dispenser and storage card assembly for pressure-sensitive adhesive labels of the type including a card, pressure-sensitive adhesive releasably joined to one surface of the card, and a hinge sheet of flexible material adhered to the opposite surface of the card, which card includes a slit line underlying labels thereon with a minor portion of a label on one side and a major portion of a label on the other side of the slit line, the improvement wherein:

a slit line is formed in the hinge sheet and arranged parallel to the slit line formed in the card;

the slit line formed in the hinge sheet being spaced from the slit line formed in the card; and

the card is separable into portions along the slit line formed therein so that one portion of the card can be moved relative to the remainder of the card upon folding of the hinge sheet for dispensing of labels from the card and, alternatively, a portion of the card and an adhered portion of the hinge sheet are detachable from the balance of the assembly along the slit line formed in the card and the slit line formed in the hinge sheet for dispensing of labels from the card.

2. An article according to claim **1**, wherein the hinge sheet is adhered to the card by means of pressure-sensitive adhesive, and said portion of the card and an adhered portion of the hinge sheet are replaceable to the balance of the card along said pressure-sensitive adhesive between the slit line in the card and the slit line in the hinge sheet.

3. An article according to claim **2**, wherein the pressure-sensitive adhesive adhering the hinge sheet to the card has a higher adhesion to said opposite surface of the card than the adhesion of the pressure-sensitive adhesive labels releasably joined to said one surface of the card.

4. An article according to claim **3**, wherein the adhesion of the pressure-sensitive adhesive adhering the hinge sheet to the card is at leas about 5 ounces/inch.

5. An article according to claim **4**, wherein the adhesion of the pressure-sensitive adhesive labels to said one surface of the card is less than 5 ounces/inch.

6. An article according to claim **1**, wherein:

there is a plurality of rows of labels releasably joined to the card; and

there is a slit line in the card and a slit line in the hinge sheet for each row of labels, the labels of each row being arranged with a minor portion extending on one side of said slit lines and a major portion extending on the opposite side of said slit lines.