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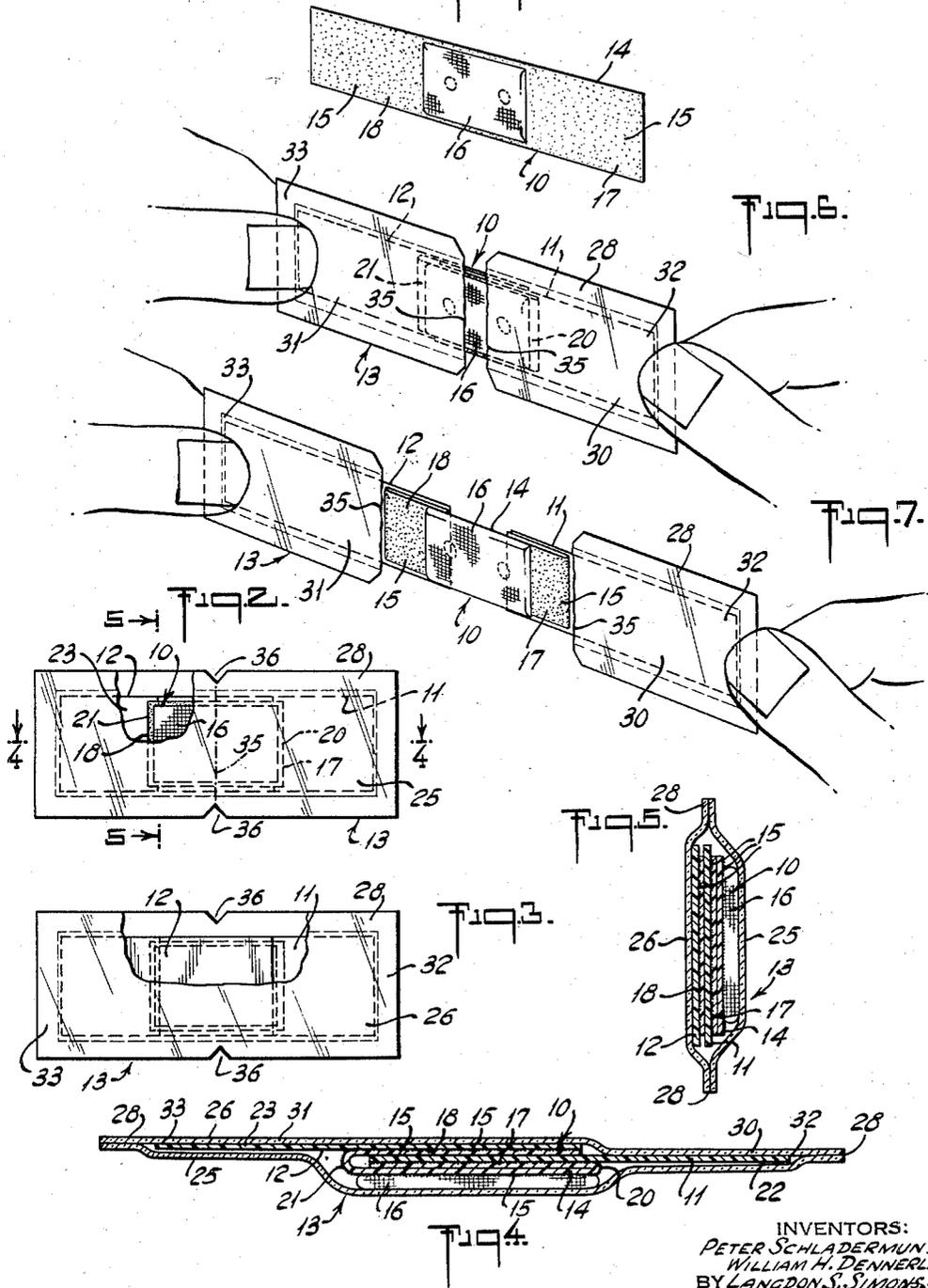
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ADHESIVE BANDAGE

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Fig. 1.



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2,889,039

ADHESIVE BANDAGE

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The present invention relates to individually packaged adhesive bandage units of the type, in which each unit comprises an adhesive bandage and a wrapper therefor. The adhesive bandage has a flexible backing coated with a pressure-sensitive adhesive composition and may consist of a simple strip of adhesive tape or may be of the dressing type, in which an absorbent compress or pad is affixed to the flexible adhesively coated backing to expose the adhesive on the parts of the backing beyond the pad. An adhesive bandage of this dressing type may take the form, for example, of a strip, patch, spot or so-called middle wound bandage.

The usual adhesive bandage of the general type described, has its exposed adhesive surface and its pad or compress, if such pad is provided, protected by a facing sheet member or members, and such a bandage is sterile and is packaged individually in such a manner, that sterility is maintained until the package is opened. For that purpose, the bandage protectively faced as described, is enclosed in an envelope or wrapper.

Among the objects of the invention are to provide a new and improved individually packaged adhesive bandage unit, which is constructed to permit removal of the wrapper and the adhesive protective or facing sheet or sheets and simultaneous withdrawal of the adhesive bandage by a simple balanced peeling operation without distorting the bandage or curling it out of shape, which is designed to permit removal of the adhesive facing sheet and the simultaneous withdrawal of the adhesive bandage without the fingers coming into contact with the pad or compress or with the adhesive surface, which can be conveniently handled for application to the injured or affected skin after at least part of the wrapper is removed without the fingers coming into contact with the pad or compress or with the adhesive surface, which is designed to make it self-evident how the package can be manipulated for its unsealing and removal of the adhesive bandage, which affords economy in the use of materials, which is flat and free from projecting parts, which can be easily and economically manufactured, and which lends itself easily and compactly to storage in a container as part of a pack.

Various other objects of the invention are apparent from the following description and from the accompanying drawings, in which

Fig. 1 is a perspective of the adhesive bandage which can be packaged in accordance with the present invention;

Fig. 2 is a front face view of the individually packaged adhesive bandage unit embodying the present invention, part of the wrapper being shown broken away to reveal the interior structure of the unit;

Fig. 3 is a rear face view of the individually packaged adhesive bandage unit embodying the present invention, part of the wrapper being shown broken away to reveal the interior structure of the unit;

Fig. 4 is a longitudinal section of the individually packaged adhesive bandage unit taken along the lines 4—4 of Fig. 2 but shown on a larger scale;

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Fig. 5 is a transverse section of the individually packaged adhesive bandage unit taken along the lines 5—5 of Fig. 2 but shown on a larger scale;

Fig. 6 is a perspective of the individually packaged adhesive bandage unit embodying the present invention, and shown in the preliminary stages of being opened to withdraw the adhesive bandage therefrom; and

Fig. 7 is a perspective of the individually packaged adhesive bandage unit of Fig. 6 but shown in the later stage of withdrawing the adhesive bandage therefrom.

Referring to the drawings, the invention is shown therein applied to a package unit for an adhesive bandage of the strip type having an absorbent compress or pad and exposed adhesive surfaces, although as far as certain aspects of the invention are concerned, it may be applied to other types of adhesive bandages, as will be described more fully hereinafter. The package unit illustrated comprises, in general, an adhesive bandage 10, a pair of protective facing sheets 11 and 12 for said bandage, and an expendable wrapper 13 of flexible material for said bandage. The adhesive bandage 10 comprises a strip 14 of adhesive tape backing material, which may be either woven or non-woven fibrous material, such as extensible polyvinyl chloride film and which may have the usual ventilation holes near the center region. Deposited on the strip 14 is a layer 15 of pressure-sensitive adhesive, which affords the necessary degree of adhesion for the attachment of the dressing pad thereto. A dressing pad 16 composed preferably of suitably folded woven or non-woven fabric, paper or other absorbent material, is placed on and secured to the adhesive layer 15. This dressing pad 16 is coextensive in width or slightly narrower than the adhesive strip 14 and much shorter, and is centered on the adhesive strip to form exposed end sections 17 and 18 covered with adhesive beyond the ends of the pad. Fig. 1 shows the fully extended adhesive bandage 10, before it is folded in the manner to be described, and before packaging.

For packaging, the adhesive bandage 10 has its adhesive end section 17 reversely folded back along the fold line 20 near one end of the pad 16 to bring said end section in overlapping relationship to the portion of the bandage carrying the pad 16, to form an inner fold, with the backing strip parts of said end section and said pad carrying portion of the bandage in face to face non-adhesive contact. The other adhesive end section 18 of the bandage 10 is reversely folded back along the fold line 21 near the other end of the pad 16 to bring said end section in overlapping relationship to the folded adhesive end section 17 of the bandage to form an outer fold, with the non-adhesive surface of the end section 18 facing the outside adhesive face of the end section 17.

To protect the adhesive surfaces of the adhesive bandage 10 while in the wrapper 13, the two facing sheets 11 and 12 are provided. The facing sheet 11 is adhesively attached to the outside surface of the folded end section 17 of the bandage by the adhesive layer 15 thereon and is interleaved between the two end sections or folds 17 and 18 of the bandage without adhesive attachment to the end section 18. The other facing sheet 12 is adhesively attached to the outside surface of the end section 18 of the bandage 10 by the adhesive layer 15 thereon.

The two facing members 11 and 12 are coextensive in width or are slightly wider than the backing strip 14 of the adhesive bandage 10 and cover the entire adhesive surfaces respectively of the folded end sections 17 and 18 of the adhesive bandage. These facing members 11 and 12 are much longer than the end sections 17 and 18 of the adhesive bandage 10 to define projecting end sections 22 and 23 defining finger pieces and forming with the wrapper 13 finger tabs, as will be more fully described.

The specific materials from which the different com-

ponents of the adhesive bandage package unit are made are preferably those described in the U.S. Patent No. 2,708,083. The patent discloses a facing member, which serves as protection for the adhesive surface of the bandage and which is smooth and continuous and constituted of organic material substantial inert with respect to the adhesive. This type of facing member serves to develop substantially the full sticking powers of the adhesive to which it is protectively applied. Materials proposed for that purpose in the aforesaid patent are vinyl chloride resins and copolymers thereof with vinyl acetate and vinylidene chloride, cellulose acetate, cellophane, epoxy resins, etc. and also resins which may be employed as coatings. The facing sheets 11 and 12 of the present invention in adhesive protective contact with the bandage sections 17 and 18 are advantageously made of this material.

The wrapper 13 individually packages the adhesive bandage 10, so that after sterilization, said bandage will remain sterile. For that purpose, this wrapper 13 comprises a pair of similar wrapper sheets 25 and 26 of rectangular shape, made of suitable flexible material, which is desirably pervious, such as glassine, if the package unit is to be subjected to thermal treatment to sterilize the adhesive bandage 10 therein or which may be pervious or impervious, if the adhesive bandage is treated chemically for sterilization before packaging. These wrapper sheets 25 and 26 may be two separate sheets or may be integrally connected (i.e. a single piece) and folded over at its midsection to form the two sheets or panels. These sheets flank the folded adhesive bandage 10 with the adhesively attached facing sheets 11 and 12 as described, and are longer and wider than this assembly to define projecting margins at the sides and ends, which are in face to face contact and which are secured together by adhesive or by heat-sealing, depending on the nature of the wrapper material, to form a seam 28 around the assembly. The sheets 11 and 12 so connected together, form an envelope in which the adhesive bandage 10 is sealed and define two opposed flat pocket sections 30 and 31 into which the projecting end sections 22 and 23 of the facing sheets 11 and 12 extend to form with said wrapper pocket sections opposed finger tabs 32 and 33.

The wrapper 13 is intended to be ruptured in a transverse region 35 midway of the wrapper preliminary to the operation of withdrawing the adhesive bandage 10 from said wrapper. To facilitate this rupture without exposing the interior of the package unit to contamination, the wrapper 13 at this region 35 has weakened areas, such as aligned indentations or cuts 36 across the seam 28 on opposite sides of the package unit. These cuts 36 may be in the form of slits but preferably constitute notches, to make self-evident their function. With this tear construction, when the finger tabs 32 and 33 are tilted in their plane and at the same time pulled apart, the wrapper sheets 25 and 26 will tear transversely clear across the sheets in the line of the cuts 36 in the region 35 without tearing the facing sheets 11 and 12, as shown in Fig. 6. Although two of these cuts 36 are shown, only one is necessary but two are preferred, to make the wrapper 13 rupturable in either one of two reversed positions.

To effect withdrawal of the adhesive bandage 10 from the wrapper 13 after said wrapper has been transversely ruptured as described, the finger tabs 32 and 33 are pulled apart. This operation pulls apart the two severed sections of the wrapper 13 and at the same time pulls the facing sheets 11 and 12 longitudinally apart. As the facing sheets 11 and 12 are pulled lengthwise apart, they peel away from the adhesive end sections 17 and 18 of the adhesive bandage 10, and at the same time cause these adhesive end sections to unfold gradually into alignment with the pad 16, as shown in Fig. 7. It should be noted that this peeling and unfolding operation is a well balanced one, so that the peeling of the facing sheets 11 and

12 takes place substantially at the same rate and no curling of the adhesive bandage 10 takes place.

After substantial portions of the adhesive end sections 17 and 18 of the adhesive bandage 10 have been peeled off the facing sheets 11 and 12 and have been unfolded into alignment with the pad 16, and before these facing sheets have been completely detached from the adhesive bandage, the bandage can be applied to the affected skin or surface through the manipulation of the finger tabs 32 and 33. After the adhesive bandage 10 has been partially applied to the affected skin as described, the removal of the wrapper 13 and the facing sheets 11 and 13 may be completed by continued pulls on the finger tabs 32 and 33, while the parts of the adhesive end sections 17 and 18 being peeled off the facing sheets and being unfolded is pressed down against the affected skin or surface by the pulling fingers, to cause said parts of the adhesive end sections to be progressively applied to the skin or surface, until the wrapper 13 and the facing sheets 11 and 12 have been completely removed from the adhesive bandage 10. At this stage, the adhesive bandage 10 will be almost completely applied to the affected skin or surface, except perhaps for the extreme ends of the bandage, which might merely need to be pressed down.

It is seen, therefore, that the operation of removing the wrapper 13, withdrawing the adhesive bandage 10 therefrom, and applying the adhesive bandage to the affected skin or surface is effected simply, neatly, expeditiously and without the fingers coming into contact with the adhesive side of the adhesive bandage, and without any substantial contact of the fingers with the outside non-adhesive side of the adhesive bandage.

The invention has been shown applied to a form of adhesive bandage containing an elongated rectangular strip of adhesive to which is affixed an absorbent rectangular pad or compress. However, as far as certain aspects of the invention are concerned, the invention may be applied to adhesive bandages of other shapes. For example, it can be applied to a so-called patch type of adhesive bandage, in which a square piece of backing material coated with adhesive has a square absorbent pad in the center or to a so-called spot type of adhesive bandage, in which a round piece of backing material coated with adhesive has a round absorbent pad in the center, or to a so-called middle wound type of bandage in which a comparatively large piece of gauze in the form of a pad has connected thereacross one or more strips of adhesive tape projecting beyond the gauze.

While the invention has been described with particular reference to a specific embodiment, it is to be understood that it is not to be limited thereto, but is to be construed broadly and restricted solely by the scope of the appended claims.

What is claimed is:

1. An adhesive bandage package unit comprising an adhesive bandage including an adhesive strip, the front surface of which has adhesive, the back surface being free of adhesive, the end sections of said adhesive strip being reversely folded rearwardly along respective transverse fold lines in overlapping relationship to define an inner single fold and an outer single fold, the inner fold presenting an outer adhesive face and an inner non-adhesive face confronting the intermediate section of the adhesive strip, the outer fold presenting an outer adhesive face and an inner non-adhesive face confronting the inner fold, a facing sheet for the inner fold interleaved between said folds and adhesively attached to the adhesive face of said inner fold, said facing sheet projecting outwardly beyond the fold line of the inner fold, a second facing sheet for the outer fold adhesively attached to the adhesive face of said outer fold and projecting outwardly beyond the fold line of the outer fold, the projecting sections of said facing sheets serving as finger pieces by which the facing sheets may be pulled in the opposite

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directions to cause said facing sheets to be peeled off the respective end sections of the adhesive strip and said end sections of the adhesive strip to be unfolded substantially into the plane of said intermediate section of the adhesive strip, and a wrapper for the folded adhesive bandage and the facing sheets.

2. An adhesive bandage package unit as defined in claim 1, wherein said wrapper is in the form of an envelope and has opposed end pocket sections into which the projecting sections of said facing sheets extend to form finger tabs therewith, said wrapper being rupturable between said pocket sections.

3. An adhesive bandage package unit as defined in claim 2, wherein said wrapper has an indentation on a margin thereof in its intermediate section between said pocket sections to weaken said wrapper for rupture across its intermediate section when said finger tabs are tilted in the same plane.

4. An adhesive bandage package unit as defined in claim 2, wherein said wrapper comprises opposite panels on opposite faces of the folded and faced adhesive bandage, the longitudinal margins of said panels projecting beyond the sides of the folded and faced adhesive bandage and being secured together to form a marginal seam, said seam having a cut thereacross in its intermediate section between said pocket sections to weaken said wrapper for rupture across its intermediate section when said finger tabs are tilted in the same plane.

5. An adhesive bandage package unit as defined in claim 1, wherein the adhesive bandage has a pad on the front adhesive surface of the adhesive strip shorter than the adhesive strip and located intermediate the ends thereof to define said end sections of the adhesive strip, said end sections of the adhesive strip being reversely folded rearwardly in overlapping relationship along fold lines near the opposite boundaries of said pad respectively.

6. An adhesive bandage package unit comprising an adhesive bandage including an adhesive strip; the front surface of which has pressure-sensitive adhesive, the back surface being free of adhesive, a pad on the front surface of the strip shorter than said strip and located intermediate the ends thereof to define end sections of the adhesive strip beyond the opposite ends of said pad, said end sections of the adhesive strip being reversely folded rearwardly along respective transverse fold lines near the opposite ends of the pad in overlapping relationship to define an inner single fold and an outer single fold, the inner fold presenting an outer adhesive face and an inner non-adhesive face confronting the intermediate section of the adhesive strip, the outer fold presenting an outer adhesive face and an inner non-adhesive face confronting the inner fold, a facing sheet for the inner fold

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interleaved between said folds and adhesively attached to the adhesive face of said inner fold, said facing sheet projecting outwardly beyond the fold line of the inner fold, a second facing sheet for the outer fold adhesively attached to the adhesive face of said outer fold and projecting outwardly beyond the fold line of the outer fold, and a wrapper for the folded and faced adhesive bandage, comprising a pair of sheet panels on opposite faces of the folded and faced adhesive bandage connected together at the ends and sides to form an envelope for the folded and faced adhesive bandage, the end sections of the wrapper around the projecting sections of the facing sheet defining therewith finger tabs, said wrapper being rupturable thereacross substantially in the midsection upon tearing manipulation of the finger tabs, said facing sheets being adapted to be peeled off the folded end sections of the adhesive strip and said folded end sections being adapted to be progressively unfolded upon the pulling of the finger tabs apart after rupture of the wrapper.

7. An adhesive bandage package unit comprising an adhesive bandage including an adhesive strip, the front surface of which has adhesive, the back surface being free of adhesive, the end sections of said adhesive strip being reversely folded rearwardly along respective transverse fold lines as single folds against the back surface of the strip, whereby these folds present adhesive on their outer faces, a facing sheet attached to the adhesive outer side of each fold and extending from the folded adhesive strip substantially in a plane, the two facing sheets extending along the folded adhesive strip and projecting endwise outwardly from the folded ends of the adhesive strip in opposite directions, the projecting sections of said facing sheets serving as finger pieces by which the facing sheets may be pulled in the opposite directions to cause said facing sheets to be peeled off the respective end sections of the adhesive strip and said end sections of the adhesive strip to be unfolded substantially into the plane of the intermediate section of the adhesive strip, and a wrapper for the folded adhesive bandage and the facing sheets in the form of an envelope having opposed end pocket sections into which the projecting sections of said facing sheets extend to form finger tabs therewith, said wrapper being completely rupturable between said pocket sections to permit said pocket sections to be pulled apart.

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