

Oct. 25, 1955

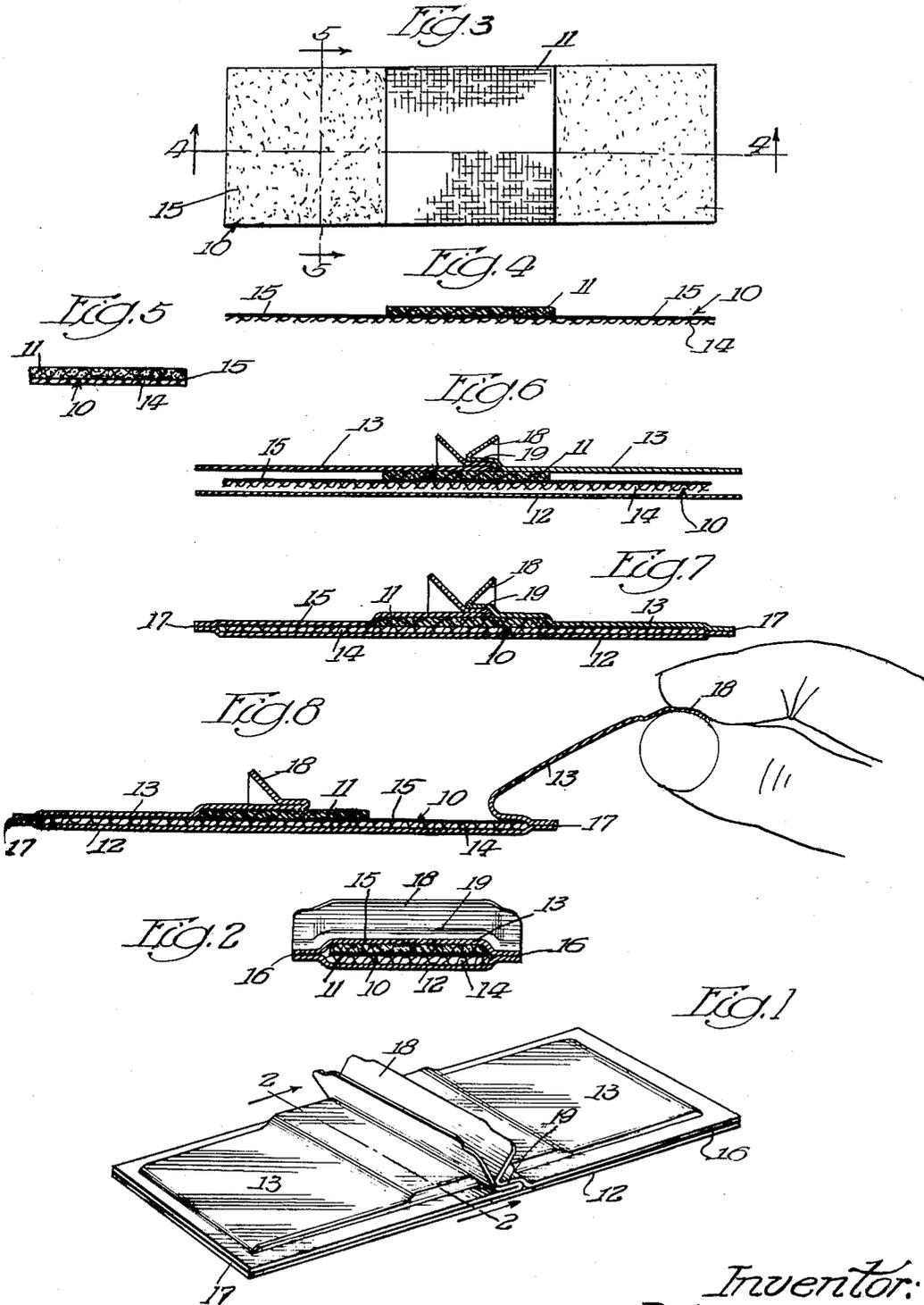
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2,721,550

ADHESIVE BANDAGE

Filed June 1, 1954

2 Sheets-Sheet 1



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FIG. 9

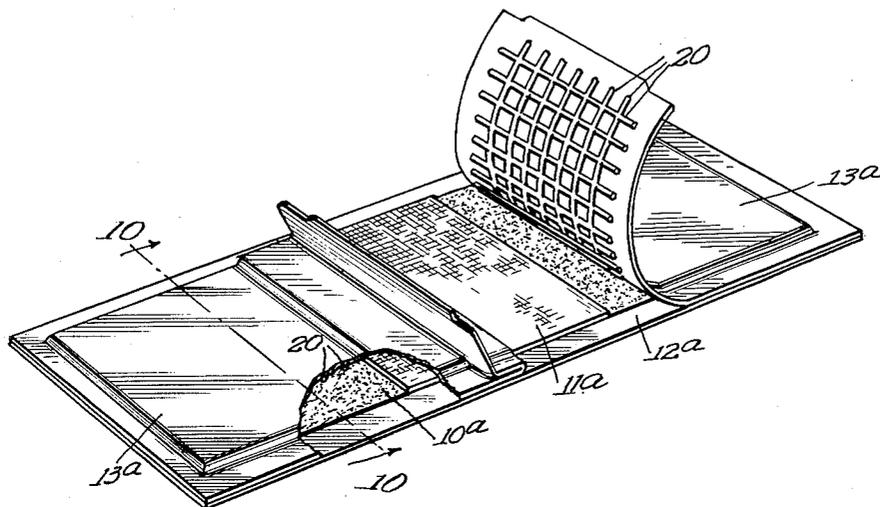
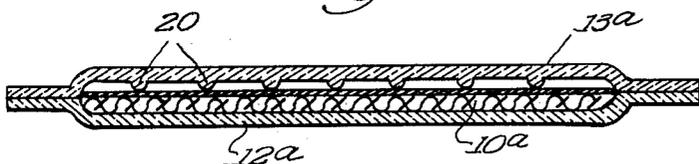


FIG. 10



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**ADHESIVE BANDAGE**

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Application June 1, 1954, Serial No. 433,333

9 Claims. (Cl. 128—156)

The present invention relates generally to adhesive bandages. More particularly the invention relates to that type of bandage which is designed and adapted to form a dressing for a wound or cut and as its components comprises: (1) a piece of adhesive tape which is cut to any desired size and shape and consists of a fabric backing and a coextensive, permanently tacky, pressure sensitive adhesive coating on the front side of the backing; (2) a plain or medicated pad which is formed of gauze or other suitable material, is connected adhesively to the central portion of the adhesive coating, and when the bandage is in use overlies or fits against the wound or cut; and (3) two separate strips which are positioned in opposed relation, cover, and serve temporarily to protect, the exposed portions of the adhesive coating on the front side of the fabric backing, and have the adjacent marginal portions thereof arranged in lapped relation over the pad and to form handles whereby the strips may be gripped in connection with removal thereof as a preliminary to rendering the adhesive tape piece and the pad useful as a bandage.

It has heretofore been customary to form the two oppositely disposed strips of an adhesive bandage of the aforementioned type of crinoline or similar loosely woven fabric material and to enclose the bandage in an envelope of cellophane or the like in order to maintain it in a sterile condition before use thereof. In practice it has been found that when the bandage is to be used extreme difficulty is encountered in opening the envelope. It has also been found that use of an envelope as a temporary container for the bandage materially increases the cost of producing and merchandising the bandage.

The principal object of this invention is to provide an adhesive bandage which is an improvement upon, and eliminates the disadvantage of, previously designed envelope-enclosed adhesive bandages and is characterized by the fact that the two oppositely disposed strips for temporarily protecting the exposed portions of the adhesive coating of the pad carrying piece, instead of being formed of crinoline or other loosely woven fabric, are formed of imporous or impervious thermoplastic film material, such as rubber hydrohalide or cellophane, and have extended side margins and outer end margins which are connected to the side margins and outer end margins of a backing piece of like thermoplastic material over the rear side of the fabric backing of the pad carrying adhesive tape piece to the end that the two opposed strips have a twofold purpose in that they serve to form with the backing piece an envelope for the adhesive tape piece and the pad and also form the temporary medium for protecting the exposed portions of the adhesive coating of the adhesive tape piece.

Another object of the invention is to provide an adhesive bandage of the last mentioned character in which the adjacent margins of the two opposed strips of thermoplastic material are folded or doubled back to form two exposed handles or finger grips and have the bent parts in heat sealed but separable relation in order that the two

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strips form with the backing strip of like thermoplastic material a hermetically sealed envelope in which the pad carrying adhesive tape piece is temporarily retained.

A further object of the invention is to provide a bandage of the type and character under consideration which is generally of new and improved construction, consists of a minimum number of parts and is capable of being used with facility as well as manufactured at a low cost.

Other objects of the invention and the various advantages and characteristics of the present adhesive bandage will be apparent from a consideration of the following detailed description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the drawings which accompany and form a part of this specification or disclosure and in which like numerals of reference denote corresponding parts throughout the several views:

Figure 1 is a perspective of an adhesive bandage embodying one form of the invention;

Figure 2 is a transverse section of the bandage of Figure 1 taken on the line 2—2 of Figure 1;

Figure 3 is a plan view of the pad carrying adhesive tape strip before application thereto of the two oppositely disposed strips and the backing strip of thermoplastic material;

Figure 4 is a longitudinal section on the line 4—4 of Figure 3;

Figure 5 is a transverse section on the line 5—5 of Figure 3;

Figure 6 is a longitudinal section showing the pad carrying adhesive tape piece after application thereto of the two oppositely disposed strips and the backing strip but before heat sealing of the side and outer end margins of the two strips to the side and end margins of the backing strip;

Figure 7 is a longitudinal section of the bandage after heat sealing of the side and outer end margins of the two opposed strips of thermoplastic material to the side and end margins of the backing strip;

Figure 8 is a longitudinal section of the bandage illustrating one of the two oppositely disposed strips of thermoplastic material being pulled away from the adjoining strip in order to break the hermetically sealed envelope that is formed by the two oppositely disposed pieces and the backing strip and also expose the pad carrying adhesive tape piece preparatory to use;

Figure 9 is a perspective showing an adhesive bandage embodying a second or modified form of the invention with one of the two oppositely disposed strips of thermoplastic material pulled partially away from the adjoining strip; and

Figure 10 is a transverse section taken on the line 10—10 of Figure 9.

The bandage which is shown in Figures 1 to 8, inclusive, of the drawings constitutes one form or embodiment of the invention. It is adapted to form a dressing for a wound or cut and consists of but five parts, namely, a piece 10 of adhesive tape, a pad 11, a backing strip 12 and a pair of oppositely disposed strips 13. As pointed out more in detail hereafter the piece 10 and the pad 11 constitute the active or useful part of the bandage and the strips 13 form with the backing strip 12 a readily removable envelope for retaining the pad carrying piece until such time as it is desired for use.

The piece 10 is formed of standard or conventional adhesive tape and consists of a fabric backing 14 and a coating 15 of so-called permanently tacky, pressure sensitive adhesive on the front side of the fabric backing. It may be cut to any desired size and shape but is shown

in the drawings as being rectangular. The fabric backing 14 may, if desired, be coated on its rear side with any suitable moistureproofing substance to the end that the piece 10 is fluid impervious. The coating 15 of the piece 10 is co-extensive with the fabric backing 14 and serves adhesively to retain the bandage in place in connection with use thereof. The piece 10 by reason of the fact that it is formed of conventional or standard adhesive tape is flexible. The coating 15 of the piece 10 may be of the well known rubber-resin-zinc-oxide variety.

The pad 11 is formed of gauze or other suitable soft pliable absorbent material and is adhesively connected to the central portion of the adhesive coating 15. It preferably extends to the side edges of the adhesive tape piece 10 and, if desired, may be saturated with an antiseptic, such as "mercurochrome." When the bandage is in use it is contemplated that the pad 11 will be placed against the wound or cut. As will be noted in the drawings the end edges of the pad 11 terminate an appreciable distance inwards of the end edges of the piece 10.

The backing strip 12 is formed of rubber hydrohalide, cellophane or any other imporous or impervious thermoplastic film material. It normally extends over, and serves to cover, the rear side of the adhesive tape piece 10 and is of greater dimensions than such piece in order that its side and end margins project beyond those of the piece.

The two oppositely disposed strips 13 are formed separately from one another and normally cover and serve to protect the exposed portions of the adhesive coating 15 on the front side of the fabric backing 14 of the adhesive tape piece 10. They are formed of the same material as the backing strip 12 and are so positioned and dimensioned that their side margins and outer end margins are conterminous with the side margins and end margins of the backing piece 12. The side margins of the strips 13, i. e., the portions of the strips that project beyond the side edges of the adhesive tape piece 10 are connected to the side margins of the backing strip 12 by full length heat seals 16 and the outer end margins of the strips 13 are connected to the end margins of the backing strip by full length heat seals 17. The heat seals 16 and 17 are obtained by subjecting the abutting margins of the strips 13 and the backing strip 12 to pressure and heat. The heat softens the film material of which the strips are formed and hence results in the desired heat sealing of the aforesaid abutting margins of the strips. The heat seals 16 and 17 form temporary air-tight joints between the strips 13 and the backing strip 12. If desired the abutting end margins of the strips 13 and the backing strip 12 may be formed integrally with each other instead of being connected together by the heat seals 17. The inner end margins of the strips 13 are disposed adjacent each other and are folded or doubled back to form over the central portion of the pad 11 two oppositely extending but exposed handles 18 whereby the strips may be gripped in connection with removal thereof from the exposed portions of the adhesive coating 15 of the adhesive tape piece 10. The folded portions of the inner end margins of the strips 13 are arranged in overlapping relation and are releasably secured together by a heat seal 19 to the end that the strips 13 and the backing strip 12 form a hermetically sealed envelope in which the pad carrying piece 10 is retained until it is desired for use. The strips 13 have a two-fold purpose in that they form with the backing piece an envelope for the backing and also form a temporary medium or instrumentality for protecting the exposed portion of the adhesive coating 15 on the front side of the fabric backing 14.

It is contemplated that the strips 13 will remain in heat sealed relation with the backing strip 12 until use of the pad carrying adhesive tape piece 10 is desired. At such time the handles 18 are grasped between the thumbs and forefingers and are pulled apart as shown in Figure 8 of the drawings. As the handles 18 are initially pulled

apart or away from one another the heat seal 19 is broken. In connection with further pulling apart of the handles 18 the strips 13 are stripped from the exposed portions of the adhesive coating 15 and at the same time the heat seals 16 between the side margins of the strips 13 and the side margins of the backing strip 12 are broken. After complete pulling apart of the handles 18 and breakage or rupture of the heat seals 16 and 17 the pad carrying adhesive tape piece 10 is exposed and may be removed from the backing strip 12. Upon removal from the backing strip the pad carrying piece 10 may be used by placing the pad 11 against the wound or cut and then pressing the end portions of the piece 10 against the portions of the skin that are adjacent the wound or cut. The rear side of the fabric backing 14 of the adhesive tape piece 10 is nonadhesive and hence does not adhere to the inner surface of the backing strip.

The herein described adhesive bandage may be used with facility and produced at an extremely low cost and this is directly attributable to the fact that the oppositely disposed strips 13 have a two-fold purpose as previously pointed out.

The bandage which is shown in Figures 9 and 10 of the drawings constitutes a second or modified form of the invention. It consists of a piece 10<sup>a</sup> of adhesive tape, a pad 11<sup>a</sup>, a backing strip 12<sup>a</sup> and a pair of oppositely disposed strips 13<sup>a</sup>, and is the same in design and construction as the bandage of Figures 1 to 8, inclusive, except that the strips 13<sup>a</sup>, instead of being smooth have ribs 20 formed on the central portions of the inner surfaces thereof. By utilizing or employing the ribs 20, the portions of the inner surfaces of the strips 13<sup>a</sup> that face the exposed portions of the adhesive area are rough or unsmooth and hence are not completely in contact with such portions of the adhesive with the result that the strips may be more readily pulled or stripped from the adhesive coated end parts of the pad carrying piece 10<sup>a</sup> that if they had truly smooth surfaces. The strips 13<sup>a</sup> may, if desired, be provided with crinkles or regosities instead of the ribs 20. In the event that the strips 13<sup>a</sup> are formed of thermoplastic film material with rough or unsmooth inner surfaces, only the high spots on the inner surfaces of the strips are in adhesively connected relation with the exposed portions of the adhesive area. When the inner end margins of the strips 13<sup>a</sup> are connected together by a heat seal corresponding to the heat seal 19 of the bandage of the Figures 1 to 8, inclusive, the two strips form a unitary facing strip in opposed and registering relation with the back strip 12.

The invention is not to be understood as restricted to the details set forth since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

This application is a continuation in part of my application Serial No. 150,985, filed on March 21, 1950, and entitled "Adhesive Bandage," and now abandoned.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. As a new article of manufacture, an adhesive bandage comprising an elongated piece of adhesive tape in the form of a flexible backing and a substantially coextensive coating of permanently tacky, pressure sensitive adhesive on the front side of the backing, a pad on the central portion of the adhesive coating of the piece, a backing strip of thermoplastic film material, extending loosely across the rear side of the flexible backing of the piece and having its side and end margins projecting beyond the side and end margins of said piece, and a pair of oppositely disposed strips of thermoplastic film material and greater width than the piece, fitting directly against, and adhesively secured to, the exposed surfaces of said adhesive coating of the piece, having their outer end margins connected to the end margins of the backing strip and their side margins projecting beyond the side margins of the piece and connected by heat seals to the

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side margins of said backing strip, having their inner end margins in lapped relation with the pad and connected together by a heat seal, forming with the backing strip an envelope for temporarily retaining the piece and pad prior to use thereof, and adapted after breakage of the heat seal between their inner end margins to be pulled away from each other in order to free them from the exposed surfaces of the adhesive coating, break the heat seals between their side margins and the side margins of the backing strip and thus expose said piece and pad for immediate use.

2. As a new article of manufacture, an adhesive bandage comprising an elongated piece of conventional adhesive tape in the form of a fabric backing and a coextensive coating of permanently tacky, pressure sensitive adhesive on the front side of the backing, an absorbent pad on the central portion of the adhesive coating of the piece, an imporous backing strip of thermoplastic film material extending loosely across the rear side of the fabric backing of the piece and having its side and end margins projecting beyond the side and end margins of said piece, and a pair of oppositely disposed, imporous strips of thermoplastic film material and greater width than the piece, fitting directly against, and adhesively secured to, the exposed surfaces of said adhesive coating of the piece, having their outer end margins connected to the end margins of the backing strip and their side margins projecting beyond the side margins of the piece and connected by heat seals to the side margins of said backing strip, having their inner end margins in lapped relation with the pad and connected together by a heat seal, forming with the backing strip a hermetically sealed envelope for temporarily retaining the piece and pad prior to use thereof, and adapted after breakage of the heat seal between their inner end margins to be pulled away from each other in order to free them from the exposed surfaces of the adhesive coating, break the heat seals between their side margins and the side margins of the backing strip and thus expose said piece and pad for immediate use.

3. As a new article of manufacture, an adhesive bandage comprising an elongated piece of conventional adhesive tape in the form of a fabric backing and a coextensive coating of permanently tacky, pressure sensitive adhesive on the front side of the backing, a pad on the central portion of the adhesive coating of the piece, an imporous backing strip of thermoplastic film material, extending loosely across the rear side of the fabric backing of the piece and having its side and end margins projecting beyond the side and end margins of said piece, and a pair of separately formed, one-piece, oppositely disposed, imporous strips of thermoplastic film material and greater width than the piece, fitting directly against, and adhesively secured to, the exposed surfaces of said adhesive coating of the piece, having their outer end margins and side margins connected by heat seals to the end and side margins of said backing strip, having their inner end margins in lapped relation with the pad and connected together by a heat seal, forming with the backing strip an envelope for temporarily retaining the piece and pad prior to use thereof, and adapted after breakage of the heat seal between their inner end margins to be pulled away from each other in order to free them from the exposed surfaces of the adhesive coating, break the heat seals between their side and outer end margins and the side and end margins of the backing strip and thus expose said piece and pad for immediate use.

4. As a new article of manufacture, an adhesive bandage comprising an elongated piece of adhesive tape in the form of a flexible backing and a coextensive coating of permanently tacky, pressure sensitive adhesive on the front side of the backing, a pad on the central portion of the adhesive coating of the piece, a backing strip of thermoplastic film material, extending loosely across the rear side of the flexible backing of the piece and having

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its side and end margins projecting beyond the side and end margins of said piece, and a pair of oppositely disposed strips of thermoplastic film material and greater width than the piece, fitting directly against, and adhesively secured to, the exposed surfaces of said adhesive coating of the piece, having their outer end margins connected to the end margins of the backing strip and their side margins projecting beyond the side margins of the piece and connected by heat seals to the side margins of said backing strip, having their inner end margins in lapped relation with the pad, folded back to form oppositely extending exposed handles and connected together at their folded parts by a heat seal, forming with the backing strip an envelope for temporarily retaining the piece and pad prior to use thereof, and adapted when the handles are pulled away from each other first to break apart at the heat seal between said folded parts and then to come free from the exposed surfaces of the adhesive coating and simultaneously break the other heat seals and thus expose said piece and pad for immediate use.

5. As a new article of manufacture, an adhesive bandage comprising an elongated piece of adhesive tape in the form of a fabric backing and a coextensive coating of permanently tacky, pressure sensitive adhesive on the front side of the backing, an absorbent pad on the central portion of the adhesive coating of the piece, an imporous backing strip of thermoplastic film material, extending loosely across the rear side of the fabric backing of the piece and having its side and end margins projecting beyond the side and end margins of said piece, and a pair of separately formed, one-piece, oppositely disposed, imporous strips of thermoplastic film material and greater width than the piece, fitting directly against, and adhesively secured to, the exposed surfaces of said adhesive coating of the piece, having their outer end margins and side margins connected by heat seals to the end and side margins of said backing strip, having their inner end margins in lapped relation with the pad, folded back to form oppositely extending exposed handles and connected together at their folded parts by a heat seal, forming with the backing strip a hermetically sealed envelope for temporarily retaining the piece and pad prior to use thereof, and adapted when the handles are pulled away from each other first to break apart at the heat seal between said folded parts and then to come free from the exposed surfaces of the adhesive coating and simultaneously break the other heat seals and thus expose said piece and pad for immediate use.

6. As a new article of manufacture, an adhesive bandage comprising an elongated piece of adhesive tape in the form of a flexible backing and a substantially coextensive coating of permanently tacky, pressure sensitive adhesive attached directly to the front side of the backing, a pad on the central portion of the adhesive coating of the piece, a backing strip of thermoplastic film material extending loosely across the rear side of the flexible backing of the piece and having its side and end margins projecting beyond the side and end margins of said piece, and a pair of oppositely disposed strips of thermoplastic film material and greater width than the piece, fitting directly against, and adhesively secured to, the exposed surfaces of said adhesive coating of the piece, having their outer end margins connected to the end margins of the backing strip and their side margins projecting beyond the side margins of the piece and connected by heat seals to the side margins of said backing strip, having their inner end margins connected together by a heat seal, forming with the backing strip an envelope for temporarily retaining the piece and pad prior to use thereof, and adapted after breakage of the heat seal between their inner end margins to be pulled away from each other in order to free them from the exposed surfaces of the adhesive coating, break the heat seals between their side margins and the side margins of the

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backing strip and thus expose said piece and pad for immediate use.

7. As a new article of manufacture, an adhesive bandage comprising an elongated piece of adhesive tape in the form of a non-adhesive flexible backing and a coextensive coating of permanently tacky, pressure sensitive adhesive attached directly to the front side of the backing, a pad on the central portion of the adhesive coating of the piece, a backing strip of thermoplastic film material, extending loosely across the rear side of the flexible backing of the piece and having its side and end margins projecting beyond the side and end margins of said piece, and a pair of oppositely disposed strips of thermoplastic film material and greater width than the piece, fitting directly against, and adhesively secured to, the exposed surfaces of said adhesive coating of the piece, having their outer end margins connected to the end margins of the backing strip and their side margins connected by heat seals to the side margins of said backing strip, having their inner end margins in overlapped relation, forming with the backing strip an envelope for temporarily retaining the piece and pad prior to use thereof, and adapted to be pulled away from each other in order to free them from the exposed surfaces of the adhesive coating, break the heat seals between their side margins and the side margins of the backing strip and thus expose said piece and pad for immediate use.

8. As a new article of manufacture, an adhesive bandage comprising an elongated piece of adhesive tape in the form of a flexible backing and a substantially coextensive coating of permanently tacky, pressure sensitive adhesive on the front side of the backing, a pad on the central portion of the adhesive coating of the piece, a backing strip of thermoplastic film material, extending loosely across the rear side of the flexible backing of the piece and having its side and end margins projecting beyond the side and end margins of said piece, and a pair of separately formed, one-piece, oppositely disposed strips of thermoplastic film material with rough or unsmooth surfaces, fitting directly against, and adhesively secured at their high spots to, the exposed surfaces of

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said adhesive coating of the piece, having their outer end margins connected to the end margins of the backing strip and their side margins projecting beyond the side margins of the piece and connected by heat seals to the side margins of said backing strip, having their inner end margins temporarily connected together, forming with the backing strip an envelope for temporarily retaining the piece and pad prior to use thereof, and adapted after breakage of the temporary connection between their inner end margins to be pulled away from each other in order to free them from the exposed surfaces of the adhesive coating, break the heat seals between their side margins and the side margins of the backing strip and thus expose said piece and pad for immediate use.

9. As a new article of manufacture, an adhesive bandage comprising a piece of adhesive tape in the form of a flexible fabric backing and a substantially coextensive coating of permanently tacky pressure sensitive adhesive on the front side of the backing, a pad on the central portion of the adhesive coating of the piece, a backing strip of thermoplastic film material, extending loosely across the rear side of the fabric backing of the piece and having its marginal portions projecting beyond the marginal portions of said piece, and a facing strip of thermoplastic film material with rough or unsmooth surfaces, fitting directly against, and adhesively secured at its high spots to, the exposed surfaces of said adhesive coating of the piece, having its marginal portions connected to the marginal portions of the backing strip by heat seals and forming with said backing strip an envelope for temporarily retaining the piece and pad prior to use thereof.

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