

Aug. 30, 1955

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2,716,625

METHOD OF MAKING A SURGICAL PAD

Original Filed Dec. 21, 1950

2 Sheets-Sheet 1

Fig. 1

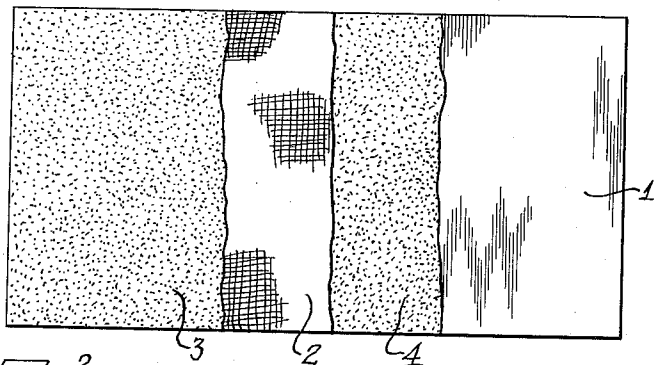


Fig. 2

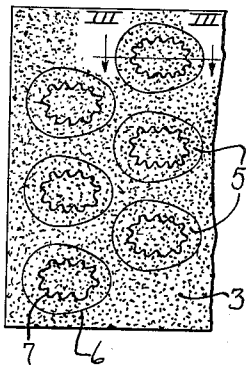


Fig. 3

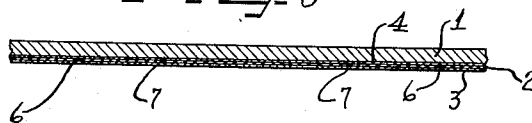


Fig. 4

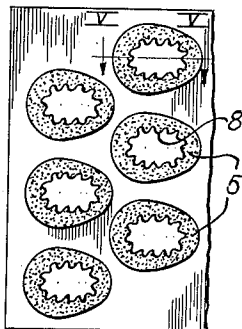
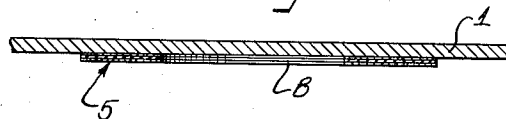


Fig. 5



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2 Sheets-Sheet 2

FIG-6

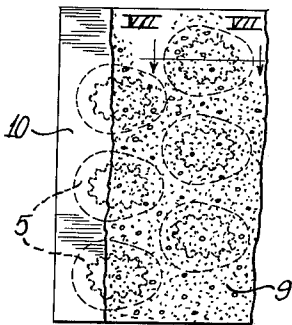


FIG-7

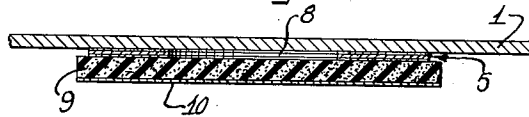


FIG-8

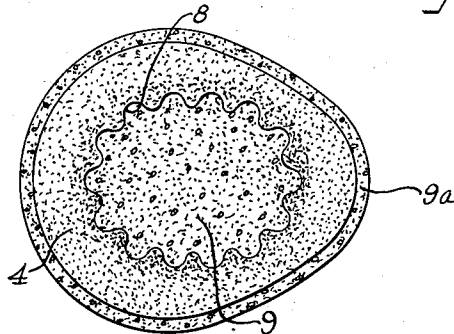


FIG-9

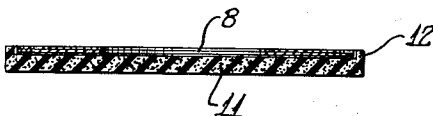
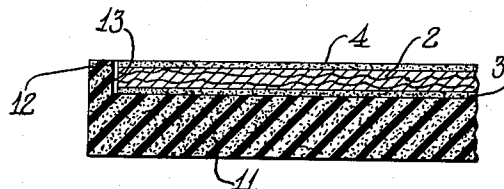


FIG-10



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2,716,625

METHOD OF MAKING A SURGICAL PAD

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8 Claims. (Cl. 154—79)

This invention relates to improvements in a method of making a surgical pad or the like, and more particularly to the method of making a surgical pad of the character adhesively attached to the human body over some affliction, such as a corn, callus, bunion, abrasion, or an affliction or injury requiring protection and relief from pressure by articles of apparel, although the invention may have other uses and purposes as will be apparent to one skilled in the art.

This application is a division of my copending application entitled Surgical Pad and the Like, filed December 21, 1950, Serial No. 202,034.

In the past, many and various processes or methods for the manufacture of surgical pads and the like have been developed, but in most cases have proven objectionable due to the expense involved, both insofar as labor is concerned and insofar as wastage of material is concerned. Also, difficulty has been experienced in the manufacture of surgical pads for adhesive attachment to the body, and wherein the cushion body portion of the pad extended laterally beyond the undersurface of adhesive, so as to prevent exudation of adhesive from beneath the pad while in use.

With the foregoing in mind, it is an important object of the instant invention to provide a method of making a surgical pad or the like, which method may be practiced with facility, and is extremely economical both as to labor and wastage of material.

It is also an object of this invention to provide a method of making a surgical pad and the like, which method is both simple and economical to practice in connection with the making of surgical pads in which the body portion thereof extends laterally beyond the undersurface of adhesive by means of which the pad is attached to the body of a user.

Still a further feature of the invention resides in the provision of a method of making a surgical pad or the like in quantity lots, and wherein the wastage from the underlayers of numerous pads is removed before the application of the material forming the body portions of the pads.

Still another feature of the invention resides in the provision of a method of making a surgical pad or the like, which method is highly desirable to be practised in the construction of a surgical pad having a molded or preformed body portion.

While some of the more salient features, characteristics, and advantages of the instant invention have been above pointed out, others will become apparent from the following disclosures, taken in conjunction with the accompanying drawings, in which—

Figure 1 is a top plan illustrative view, with parts broken away, showing an initial step in the making of a surgical pad by a method embodying principles of the instant invention;

Figure 2 is a fragmentary top plan view illustrating a succeeding step in the method;

Figure 3 is a greatly enlarged fragmentary vertical

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sectional view taken substantially as indicated by the line III—III of Fig. 2, looking in the direction of the arrows, and showing the structure in inverted position;

Figure 4 is a view similar in character to Fig. 2, but illustrating a further step in the method;

Figure 5 is a view similar in character to Fig. 3, showing the structure in inverted position, and taken substantially as indicated by the line V—V of Fig. 4;

Figure 6 is a view of the general nature of Figs. 2 and 4, illustrating a still further step in the method of making the pad;

Figure 7 is a view taken substantially as indicated by the line VII—VII of Fig. 6, illustrating the backing plate as broken away at the ends, and showing a completed pad in inverted position and in vertical section, still attached to that backing plate;

Figure 8 is a bottom plan view of the completed pad removed from the backing plate;

Figure 9 is an inverted sectional view of a surgical pad of somewhat different form, but which also may be made by way of a method embodying principles of the instant invention; and

Figure 10 is an enlargement of the left hand portion of Fig. 9.

As shown on the drawings:

One preferred method of making the pad illustrated in Figs. 7 and 8 will first be described, with reference to Figs. 1 to 8 inclusive. First referring to Fig. 1, it will be seen that a suitable backing plate 1 may be utilized, and this plate is preferably of metal or equivalent material having a surface sufficiently smooth to permit the application and removal of adhesive, without injury to the adhesive, and preferably without leaving traces of adhesive on the plate when the adhesive or completed pad is removed from the plate. In one form of the method, the first step is the application over the surface of the plate 1 of a sheet of double-faced adhesive tape, which sheet includes a fabric 2 provided with upper and lower adhesive faces 3 and 4, respectively.

After the application of the double-faced adhesive sheet to the backing plate, a suitable die mechanism, adjusted to cut or strike through the double-faced adhesive sheet without injurious contact with the plate 1, may be utilized to sever a plurality of pad-shaped pieces 5 from the sheet, the cutting of each pad-shaped piece 5 being along an outside bounding line of cut 6 and an inside tortuous line of cut 7. This tortuous line of cut 7 defines a scalloped or serrated inside opening 8 through the double-faced adhesive sheet, as seen in Fig. 4, which opening is for the reception of an affliction in the finished pad. In the illustrated instance the boundary defining line of cut 6 is shown endless in generally ovate configuration, but it will be understood that the resultant pad may be given any desired contour, such as round, purely oval, or substantially any other shape that may be desired.

After the cutting of the pad-shaped pieces 5, as illustrated in Fig. 2, all scrap or waste of the double-faced adhesive sheet is removed from the plate 1, leaving the pad-shaped pieces still adhered to the plate but in open and separated condition, as illustrated in Figs. 4 and 5.

Of course, in this position, the pads have an exposed upper adhesive face, and the next step in the process is the application of a sheet of relatively thick cushioning material 9 over the upper faces of the pads as indicated in Fig. 6. In the illustrated showing, the cushioning material 9 is foam latex, a very light and highly resilient material, which retains its elasticity and restorative power indefinitely, and which does not vulcanize or become permanently compacted by virtue of apparel pressure and body heat.

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While in all cases it will not be considered necessary, if so desired, a sheet of smooth non-drag material 10 may be applied over the cushioning material 9, as indicated in the left hand portion of Fig. 6. The sheet of non-drag material 10 may be cemented or otherwise secured to the upper face of the cushioning material. Such a non-drag cover portion 10 may satisfactorily be made from smooth slick cloth, or a vinyl or other plastic film might be utilized, and in the event of a plastic film, it could be sprayed over the upper face of the cushioning material 9 if desired.

After the application of the cushioning material 9 over the pad-shaped pieces 5, and after the application of the non-drag cover material 10, if the same is utilized, die mechanism is utilized to sever finished pads by cutting through the cover 10, if utilized, and the cushioning material 9, along a line of cut concentric with the bounding edge of each pad-shaped piece 5, but spaced away from that bounding edge. In other words, the cushioning body portion 9 of the pad preferably extends laterally beyond the adhesive undersurface 4 of the finished pad to provide a clean exposed marginal portion 9a of the cushioning material entirely around the adhesive undersurface 4 as illustrated in Fig. 8. Thus, when the pad is applied to the body of a user, it will be substantially impossible for adhesive to exude laterally from beneath the cushioning material and contact articles of apparel.

After the severance of the completed pads, the waste material may be removed from around the pads leaving them in the condition seen in Fig. 7. The pads may then be removed from the backing plate 1 and placed upon any suitable backing material of a temporary character, for packaging.

Obviously, as mentioned above, the pad may be given substantially any desired shape, and the central opening through the double-faced adhesive layer need not necessarily be of a serrated character, although actual practice has proven that the pad remains longer and more firmly in position on the body against slippage by virtue of such a serrated opening or other tortuous opening, than is the case where the central opening has a smooth edge.

Other steps in the method may be varied somewhat without departing from the principles of the instant invention. For example, a sheet 2 may be utilized having only one adhesive face for attaching the sheet to the backing plate 1. In that event, the body forming or cushioning sheet 9 may be provided with an adhesive undersurface to attach the same to the non-adhesive face of the sheet 2. Or, as still a further alternative method, latex cement could be brushed or sprayed over the uncoated surface of the sheet 2, the cuts made, waste removed, and the foam latex body portion 9 applied to such cementitious surface. Where some other material than foam latex is utilized for the cushion body of the pad, it would be preferable to utilize the double-faced adhesive sheet illustrated.

In Figs. 9 and 10 I have illustrated a different form of pad in which the body portion is pre-formed or molded. In the illustrated instance a body portion 11 of foam latex is shown by way of example. This molded body portion is provided with a depending skirt 12 around the marginal portion thereof defining a central recess 13, preferably of a depth to just receive the double faced adhesive sheet 2. The adhesive 3 attaches the sheet to the pad, and the adhesive face 4 may attach the sheet to the aforesaid plate 1. After the double-faced adhesive layer has been attached to the sheet in the manner above described, and the pad portions or pieces 5 severed therefrom, the molded body 11 may be placed over each of these pad pieces 5 and the completed pad removed from the plate 1, or the pieces 5 may be removed from the plate 1 and placed inside the recess 13 in the molded body pieces. With a pad of the character shown in Figs. 9 and 10, there is no possibility of any lateral

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exudation of adhesive during use, because the skirt 12 also contacts the body around the adhesive face 4.

From the foregoing, it will be noted that I have provided a very simply practiced and highly economical method of making surgical pads and the like, the practice of the method resulting in a definite saving of time, labor and material.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

1. The method of making surgical pads, including the steps of placing a sheet of double-faced adhesive tape on a backing plate, cutting individual pad-shaped pieces from said sheet, removing the waste material, placing a sheet of cushioning material over said pieces, and cutting pad-shaped units from the cushioning material sheet over said pieces.

2. The method of making surgical pads, including the steps of placing a sheet of double-faced adhesive tape on a backing plate, cutting individual pad-shaped pieces from said sheet, removing the waste material, placing a sheet of cushioning material over said pieces, and cutting pad-shaped units from the cushioning material sheet concentric with said pieces but of larger areas.

3. The method of making surgical pads, including the steps of mounting a sheet of adhesive tape on a backing plate with the adhesive face against the plate, cutting out pad-shaped pieces from said sheet, removing the waste, adhesively securing a sheet of cushioning material over and to said pieces, and cutting pad-shaped units from the cushioning material sheet concentric with but of greater area than said pieces.

4. The method of making surgical pads, including the steps of mounting a sheet of adhesive tape on a backing plate with the adhesive face against the plate, cutting out pad-shaped pieces from said sheet, removing the waste, adhesively securing a sheet of cushioning material over and to said pieces, adhesively securing a smooth non-drag cover sheet over said cushioning material, and severing finished pads by cutting through said cover sheet and cushioning material concentrically with said pad-shaped pieces.

5. The method of making surgical pads, including the steps of placing a sheet of double-faced adhesive tape on a backing plate, cutting individual pad-shaped pieces with a central opening therein from said sheet, removing the waste material, securing a sheet of cushioning material over and to the exposed adhesive face of said pieces and over the openings therein, and cutting through said cushioning material beyond the bounding edges of said pieces but therearound.

6. The method of making surgical pads, including the steps of placing a sheet of double-faced adhesive tape on a backing plate, cutting individual pad-shaped pieces from said sheet, removing the waste material, and securing a pre-formed body portion having a depending surrounding skirt over and to each said piece with the skirt of the body portion contacting the plate around the respective piece.

7. The method of making surgical pads, including the steps of placing a sheet of double-faced adhesive tape on a backing plate, cutting individual pad-shaped pieces from said sheet, removing the waste material, and attaching each said pieces to a pre-formed intermediately recessed body part inside the recess thereof.

8. The method of making surgical pads, including the steps of mounting a sheet of adhesive tape on a backing plate with the adhesive face against the plate, cutting out pad-shaped pieces from said sheet, removing the waste, and attaching each said piece to a pre-formed intermediately recessed body part inside the recess thereof.

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