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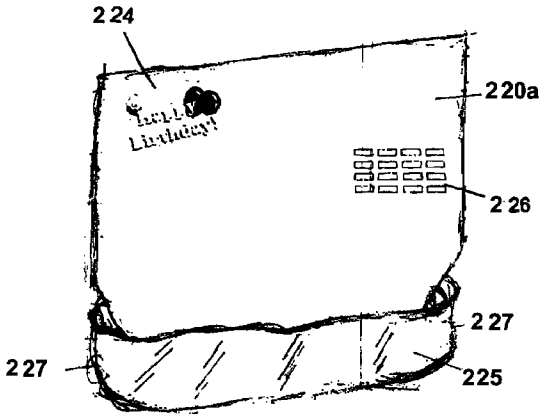


(57) Abstract: A method of making bibs wherein an elongated web of absorbent paper is laminated with an elongated web of plastic film to form a laminated web by embossing the absorbent paper and heat sealing the embossed area with the plastic film. The embossed areas are in the form of an array of spaced areas of a predetermined geometry. A stripe of an adhesive is applied along an edge of the laminated web of absorbent paper and plastic film on the plastic film side thereof. The stripe of adhesive is covered with a release tape. The laminated web is severed transversely at predetermined longitudinal intervals to form individual bibs, which are collected. In a further embodiment, the bib consists of a front side and a rear side, a top and a bottom and opposite side edges. The bib is made from a layer of plastic and two layers of absorbent paper laminated and together. An adhesive is coated on the rear side of the bib adjacent it's top and extends between the opposite side edges. A release tape covers the adhesive. A pocket extends between the opposite side edges formed at the bottom of the bib on its rear side having plastic on the inside of the pocket and paper on the outside of the pocket, so that when the pocket is turned inside out it comes to the front side of the bib and maintains an opened condition. A method for making such a bib.

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# SELF-STICKING BIBS AND METHOD OF MAKING

## BACKGROUND OF THE INVENTION

### Field of the Invention

The present invention relates to an improved self-sticking bib self-sticking bib for protecting a wearer while eating or any other activity that could adversely affect the clothes of a wearer, and a method of making same.

### Prior Art

One common definition of a bib is a small piece of material fastened under a chin to protect the clothing while eating. As a result, bibs have a connotation that typically associates their use with infants and toddlers. In fact, adults are generally much less apt to spill or splatter food onto their clothing compared to children. Nevertheless, there are certain situations in which it is appropriate or desirable for an adult to don a bib. Such a bib may either be a conventional bib or simply a tucked or otherwise secured napkin covering the chest.

Conventional bibs typically have two strings which tie around the neck to hold the bib in place. Other bibs use snaps, ties, strings, hook and loop fasteners, or the like to attach around the neck. More recently, some bibs have eliminated the strings and ties altogether and have instead used adhesive strips. These strips are located near the shoulder area on the backside of the bib and are used to adhere the bib to the wearer. Thus, bibs provided with an adhesive so they can adhere to a wearer are known from the art. However, such known bibs have various drawbacks, particularly regarding how they are constructed and how they are made.

Although a wide variety of bib designs can be adequate to protect one's clothing, a bib, regardless of design, has no ability to clean and/or sanitize either a food contacting surface or any portion of the wearer's body. For such cleaning and/or sanitizing, one must separately utilize either an agent (e.g. antibacterial lotion) or item (cleansing wipe).

In some situations, it would be beneficial if the agent or item formed a part of or was packaged with the bib.

Bibs provided with an adhesive so they can adhere to a wearer are known from the art. However, such known bibs have various drawbacks, particularly regarding their construction and how they are made. A principal drawback lies with bibs that use a pocket at the bottom of the outfacing side to catch drippings. Pockets made for this purpose tend to lie flat and do not stay open, and therefore, do not successfully catch drippings. The principal object of the present invention is to provide a novel improved self-sticking bib that includes a pocket that solves this irksome problem, and a method of making same.

## SUMMARY OF THE INVENTION

In a first embodiment, the invention relates to a method of making a self-sticking bib for protecting a wearer while eating or any other activity that could adversely affect the clothes of a wearer. The bib is particularly useful with young children and infants during feeding. The foregoing is accomplished by a method that consists of laminating a continuously running web of a plastic web, most preferably, a polyethylene film with a continuously running web of an absorbent paper web, most preferably, a cellular tissue paper, which previously has been printed with a printed decoration or motif. The lamination is effected by an embossing technique as a step of the method. The embossing is carried out so that an array of spaced depressions are made in the tissue web while heating the polyethylene film, so that an array of tissue portions of the tissue web are pressed into the heated film and adhered to the film, but the portions of the tissue web surrounding the pressed tissue portions, i.e. the unpressed portions, are left unaffected and therefore retain their original characteristics for absorption of liquids and other foods. The lamination is next followed by a step of applying, preferably by continuously spraying to the moving webs, a biocompatible adhesive or glue to one edge of the exposed polyethylene web in a longitudinal direction, i.e. the direction of travel of the web. The adhesive chosen is one that will adhere to clothes or human skin

and yet be easily removed with slight pulling with no adverse effects to the clothes or the skin. Such adhesives are well known in the art. Next, the adhesive stripe applied to the web is covered with a removable sealing tape, a strip of suitable material so that the adhesive is not exposed and is fully covered and yet is easily removed. Such materials are well known for several applications, such as, self-sealing envelops or Telfa$^{tm}$ bandages. Finally, the moving laminated web is cut transversely at space intervals and the resulting cut pieces (now bibs) are stacked. In the preferred embodiment, the webs are 18 inches wide and cut at 13 inch intervals to produce bibs that are 13 inches wide and 18 inches long with the adhesive at the top edge of the bib on the polyethylene film side.

In another embodiment, an improvement of the above described method, the end of the bib opposite the adhesive and cover is folded up with the polyethylene side on the outside of the fold and the paper on the inside of the fold, and the edges of the folded up portion of the bib is heat sealed along each of the folded up edges to form a pocket in the bottom of the bib to catch any food that falls down on or adjacent to the bib while being worn by a user. The folded up portion can be from 1 to 4 inches deep to form a suitable pocket to catch the spills or droppings. The folding up of the lower portions of the bibs can take place before the bibs are cut at the transversely spaced intervals with the cutting and the heat sealing of the folded up edges occurring simultaneously. However, it is preferred that the heat sealing of the edges of the pockets takes place before the cutting into individual bibs. Also, the folding up and heat sealing of the folded up edges can occur after the bibs have been cut to size in a separate steps.

In still another embodiment, a further improvement consists of using webs that are a multiple of the length of the bib to be made, i.e. 2X, 3X, ....nX, and the adhesive sprayed onto the polyethylene web at appropriate transverse locations across the longitudinally moving web corresponding to the top edges of the finished bibs. After applying the adhesive stripes and covering with a sealing tape or a strip of suitable material, the webs are cut at predetermined transverse intervals, such as 18 inches to create longitudinal sections that are bib wide. Thereafter, the cut web sections are either

cut at longitudinal intervals, such as 13 inches or the cut webs are finished by folding to form pockets as described in the foregoing, heat sealed to perfect the pockets and cut at predetermined longitudinal intervals, such as 13 inches. In either case, the cut bibs are then stacked.

In a still further embodiment, the objects of the invention are achieved by providing an improved self-sticking bib with a pocket that stays open for protecting a wearer while eating or any other activity that could adversely affect the clothes of a wearer. The bib is particularly useful with young children and infants during feeding. The foregoing is accomplished by the present invention by providing a construction consisting of laminated layers of paper and plastic, with two layer of tissue paper on the front side of the bib facing out and a plastic layer on the rear side facing in toward the wearer. The plastic side has a stripe of adhesive adjacent its top edge running completely across the bib from side edge to side edge. The adhesive stripe is covered with a release strip. In use, the release strip is removed to expose the plastic stripe, which serves as a means to stick on the wearer. A pocket from about 1 to 4 inches in depth is formed at the bottom of the rear side facing in so that it has plastic on the inside of the pocket and paper on the outside. In use, the pocket is folded inside out, which brings it to the front side facing out at its bottom. This now constitute a pocket on the front side of the bib that has plastic on the outside of the pocket and paper on the inside of the pocket. Most important, the folding inside out of the pocket results in the pocket staying in an opened condition. Now the paper-lined pocket lies at the bottom of the paper front side facing out, is open and can readily catch food, etc. that falls from the mouth of the wearer, or is spilled on the way to the mouth of the wearer.

A further embodiment comprises an alternative structure of the inventive bib for providing an improved self-sticking bib with a pocket that stays open for protecting a wearer while eating or any other activity that could adversely affect the clothes or body of a wearer, comprises a sandwich lamination of a plastic layer intermediate two tissue paper layers, one on each side of the plastic layer. One of the paper layers of the lamination serves as the front outwardly facing side of the bib, and is coextensive with

the plastic layer from top to bottom of the bib blank, whereas the other paper layer serves as the back inwardly facing side of the bib and is shorter than the plastic layer from top toward the bottom. The other paper layer terminates by about 2 to 8 inches, and preferably 4 inches from the bottom of the bib blank. This difference enables a pocket to be formed on the back inwardly facing side of the bib having plastic inside and paper outside, in the manner described above. Therefor, it now becomes possible to turn this pocket inside out to form the permanently opened pocket on the front side of the bib with plastic on the outside and paper on the inside of the pocket. In addition, the bib now has paper on both the front and rear sides, so after serving its purpose as a bib, it can then be used as a napkin either in place or after removal from the wearer.

A still further embodiment concerns a novel method for making the novel bib comprising laminating a layer of plastic, most preferably, a polyethylene film with at least two absorbent tissue paper layers, most preferably, a cellular tissue paper, which previously has been printed with a printed decoration or motif. The resulting lamination or bib blank occurs by an embossing technique, carried out so that an array of spaced depressions is made in the tissue layers while heating the polyethylene layer to cause impregnation of the tissue layers. The array of embossed tissue depression portions of the tissue layers are pressed into the heated plastic layer, and the layers adhere together. The portions of the tissue layers surrounding the pressed tissue portions, i.e. the unpressed portions, are left substantially unaffected, and therefore, they retain their original characteristics for absorption of liquids and other foods. The lamination is next followed by a step of applying, preferably by continuously spraying, a biocompatible adhesive or glue across the top edge, or adjacent the top edge, of the exposed polyethylene layer on the rear side of the bib blank from one side edge to the opposite side edge, i.e. in a transverse direction relative to top to bottom of the bib. If the bibs are being made using traveling webs, then, in the direction of travel of the web. The adhesive chosen is one that will adhere to clothes or human skin and yet be easily removed with slight pulling with no adverse effects to the clothes or the skin. Such adhesives are well known in the art. Next, the adhesive stripe applied to the web is covered with a removable sealing tape or release paper, a strip of suitable material so that the adhesive is not exposed

and is fully covered and yet the covering release paper is easily removable. Such materials are well known for several applications, such as, self-sealing envelops or Telfa$^{tm}$ bandages. Finally, the laminated structure is folded from the bottom to form a pocket on the back side of the bib blank with the plastic side edges of the pocket now brought together face to face and they are heat sealed. If the laminated structure is a moving laminated web, then it is cut transversely at space intervals and the resulting cut pieces (now bibs) are stacked. The webs are 18 inches wide and cut at 13 inch intervals to produce bib blanks that are 13 inches wide and 18 inches long with the adhesive at the top edge of the inside rear face or side of the bib composed of a double layer of tissue laminated to single plastic layer, preferably polyethylene. Thus the adhesive is on the polyethylene side, the rear side of the bib. The pocket is formed on the inside rear face or side of the bib blank, also, on the polyethylene film side.

A further embodiment relates to an alternative to the above, a novel bib is made by laminating a layer of plastic, most preferably, a polyethylene in between at least two absorbent tissue paper layers, most preferably, a cellular tissue paper (sandwich construction). Thus one paper layer will lie on the front side of the bib and the other paper layer will lie on the rear side of the bib. The layer on the front side of the bib is previously printed with a printed decoration or motif. A stripe of adhesive is placed (sprayed) on the rear side of the bib at the top edge and covered with a release paper strip. The paper layer on the rear side of the bib extends from the top edge of the bib blank, but terminates spaced from the bottom edge of the bib blank by 2 to 8 inches. Therefore, the bottom portion of the bib blank has plastic exposed. The bottom portion of the bib blank is folded up to form a pocket 1 to 3 inches in depth on the rear side or face of the bib. Therefore, the exposed plastic layer is folded on itself and the side edges of the pocket are heat sealed together. The pocket formed has plastic, polyethylene, on the inside and paper on the outside with the edges of the folded up portion of the bib heat sealed along each of the folded up side edges to form a pocket in the bottom of the bib on the rear side that will be against the wearer. In use, the pocket is folded inside out, and comes to the front of the bib with the plastic now on the outside and paper on the inside. But more important, the pocket now is in a permanently open

condition and will catch any food that falls down on or adjacent to the bib while being worn by a user. With paper now on the inside of the pocket, there will be better absorption of food drippings.

The folded up portion can be from 1 to 4 inches deep to form a suitable pocket to catch the spills or droppings. If traveling webs are being used, the folding up of the lower portions of the bibs can take place before the bibs are cut at transversely spaced intervals with the cutting and the heat sealing of the folded up edges occurring simultaneously. However, it is preferred that the heat sealing of the edges of the pockets takes place either before or after the cutting into individual bibs.

A further embodiment concerns an improvement that consists of using webs that are a multiple of the length of the bib to be made, i.e. 2X, 3X, ....nX, and the adhesive sprayed onto or adjacent one edge of the polyethylene web as it travels or moves longitudinally. Thereafter, the adhesive stripes can be covered with a release tape; the webs, if more than 18 inches wide are cut longitudinally at 18 inch intervals and then are cut at predetermined transverse intervals, such as 13 inches to create sections that are bib wide. Thereafter, the cut web sections are finished by folding to form pockets as described in the foregoing, heat sealed to perfect the pockets and folded and/or stacked.

A further embodiment achieves a further object of the invention by providing a bib having a front side and a rear side, a top and a bottom and opposite side edges composed of a layer of plastic and two layers of absorbent paper laminated and together, an adhesive coated on the rear side of the bib adjacent its top and extending between the opposite side edges, a release tape covering the adhesive, and a pocket extending between the opposite side edges formed at the bottom of the bib on its rear side having plastic on the inside of the pocket and paper on the outside of the pocket, so that when the pocket is turned inside out, it comes to the front side of the bib and maintains an opened condition. The pocket of the bib may be 1 to 4 inches deep. The bib according to the above has the two layers of absorbent paper lying on one side of

the plastic layer. In an alternative embodiment, the two layers of absorbent paper lie on opposite sides of the plastic layer.

The bib according to the above has the two layers of absorbent paper embossed together. Also, the two layers of absorbent paper may have an array of spaced depressions heat sealed to the plastic film. Further, the depressions may be rectangular.

Where the plastic layer is between the paper layers, the paper layer lying on the rear side of the bib is terminated spaced from the bottom of the bib to accommodate the pocket.

A further embodiment has the further object of the invention of providing a method of making a bib comprising the steps of:

laminating a plastic layer of preselected geometry with two layer of absorbent paper with similar preselected geometry to form a laminated construction having a front side and a rear side, a top and a bottom and opposite side edges;

applying a stripe of an adhesive adjacent the top of the rear side of the lamination;

covering the stripe of adhesive with a release tape; and

forming a pocket on the rear side of the lamination at the bottom having plastic on the inside of the pocket and paper on the outside of the pocket, so that when the pocket is turned inside out, it comes to the front side of the lamination and maintains an opened condition.

In the method described above, the absorbent paper may be a tissue paper. In the method described above, the plastic layer may be polyethylene. Further, the paper layers may be embossed to form an array of spaced areas of a predetermined configuration. The preselected geometry of the bib may be rectangular.

Still further, in the method described above, the plastic layer and paper layers may be initially in the form of webs that are laminated together. Also, the laminated web may be a predetermined dimension wide. Still further, the laminated web may have a width that is a multiple of a predetermined bib length, The method may include the further steps of cutting the laminated web into longitudinal sections each of a width equal to bib blank length, and applying the stripe of adhesive adjacent one edge of each section.

The method may also include the further steps of folding the edge of the laminated web, opposite the edge to which the adhesive is applied, and heat sealing the edges of the folded laminated web to form pockets on the same side of the web as the adhesive. Alternatively, if bib blanks are individuated from the laminated web, pockets are formed by folding up the edge of the bib blank opposite the edge adjacent to which adhesive has been applied, and heat sealing the folded up side edges of the bib blanks.

In the method as described above, the absorbent paper used may be 19 gram tissue paper and the plastic may be polyethylene. Also, the paper layer that ends up on the front side of the bib may be imprinted with a design or motif.

Other and further objects and advantages of the present invention will become more apparent form the following detailed descriptions of preferred embodiments of the invention when taken with the appended drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows the front side of a bib made according to the present invention;

Fig. 2 shows the back side of the bib shown in Fig. 1;

Fig. 3 shows the back side of a variation of the adhesive pattern of the bib shown in Fig. 1;

Fig. 4 shows the back side of another variation of the adhesive pattern of the bib shown in Fig. 1;

Fig. 5 shows the front side of a bib like that shown in Fig. 1, but with the bottom edge folded up to form a pocket at the bottom of the bib;

Fig. 6 shows a side view of the bib shown in Fig. 5;

Fig. 7 shows in block diagram the method of making the bib shown in Figs. 1 and, alternatively shown in Fig. 5;

Figs. 8a and 8b show schematically the method for making the bibs as shown in Figs. 1 and 5;

Fig. 9 show a portion of the method of making the bib of Fig. 1; and

Fig. 10 shows a portion of the method of making the bib of Fig. 5.

Fig. 11 shows the front side of a bib made according to the present invention;

Fig. 12 shows the back side of the bib shown in Fig. 11;

Fig. 13 shows the front side of a variation of the bib shown in Fig. 11;

Fig. 14 shows the pocket of the bib shown in Fig. 11 folded inside out;

Fig. 15 shows the back side of a bib blank for forming the bib of Fig. 3 before the pocket has been formed;

Fig. 16 shows the back side of the bib shown in Fig. 15 after the pocket has been formed;

Fig. 17 shows in section the bib shown in Fig. 11;

Fig. 18 shows in section the bib shown in Fig. 13; and

Fig. 19 shows a block diagram of the method of making the novel bib of Figs. 11 and 13.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Referring now to the drawings, preferred embodiments will now be described. In Figs. 1 and 2 a bib 10 is shown consisting of a rectangular configuration composed of two overlying sheets of 19 gram cellular tissue 20 on the front side and polyethylene 22 on the rear side. The tissue 20 is imprinted with any suitable pattern or motif 24 and has been embossed with small rectangular depressions 26 that have been heat sealed to the polyethylene sheet 22. On the rear side of the bib, the polyethylene sheet 22 has an adhesive 28 coated along its top edge 30 covered with a release tape in the form of a removable cover strip 32, e.g. glassine paper. To use the bib, the cover strip 32 is removed and the bib 10 attached or stuck to the user by the adhesive 28. The cellular tissue sheet 20 is facing outwardly to catch and absorb any food or liquid that may spill. Figs. 3 and 4 show alternative adhesive patterns for the adhesive 28. In Fig. 3, the adhesive is coated or sprayed on in a stippled pattern 36, whereas in Fig. 4 the adhesive 28 is coated or sprayed on at spaced horizontal or transverse intervals, as shown by reference numeral 38.

In Figs 5 and 6 is shown a modified bib that is provided with a pocket at the bottom to aid in catching drippings. As shown the bib 10 has the same construction of a 19 gram cellular tissue sheet 20 on the front side and a polyethylene sheet 22 on the rear side. The top is finished as described with the adhesive 28 along the top edge 30 cover by strip 32 on the polyethylene sheet 22. At the bottom, the polyethylene sheet 22 is folded up and heat sealed at 44 along its folded up edges 40 to form a pocket 42 to catch foods or liquids. The fold is designated as reference numeral 46. By folding up in this manner, the cellular tissue is inside the pocket 42 to assist in containing spills.

Fig. 7 shows a block diagram of the novel method of the present invention. In block 50 a web of polyethylene is fed to block 52 where it is laminated with a web of cellular

tissue paper by a heated embossing cylinder that impressed an array of spaced small rectangular depressions into the tissue paper to heat seal the tissue paper to the polyethylene web. The depressions may have other geometry. The webs are a predetermined width, for example 18 inches. Next, the laminated web is fed to block 54 where a stripe of glue or adhesive is sprayed onto one edge of the laminated web on the polyethylene side as the web moves past the sprayer. Then, the stripe of glue is covered by a release tape as the web moves past the roll carrying the release tape in block 56. Next, in block 58, the laminated web is cut transversely at a predetermined longitudinal interval equivalent to the width of the finished bib, for example 13 inches. Finally, the cut bibs are then stacked in block 66. If a multiple of the bib length is used for a web, the longitudinal cutting into appropriate sections is done in block 70.

In a variation of the method shown in Fig. 7, the cut bibs can then be folded up at their bottoms in a known way in block 60, as described in conjunction with Figs. 5 and 6, to produce pockets, as described, and the edges of the pockets heat sealed, as described, in block 62. The bibs with pockets are then collected or stacked in a known way, in block 64. In this variation, it is possible to do the folding before the cutting in block 58, as the mechanism for folding is known, and then to effect the transverse cutting simultaneously with the heat sealing of the edges, or alternatively, the heat sealing of the edges and then the transverse cutting.

Figs. 8a and 8b and Fig. 9 show the novel method of Fig. 7 in more detail and in a schematic manner. As shown, a web of polyethylene 80 is fed from roll of polyethylene 82, together with a web of cellular tissue paper 84 from a roll of tissue paper 86, to a laminator 88 that heat seals the paper to the polyethylene by an array of spaced rectangular depressions, or other geometry. The laminated web 90 is then turned counterclockwise 90 degrees , according to the drawing, by roll 92 to present the polyethylene side to a sprayer 94 so that suitable glue or adhesive may be sprayed onto the edge of the laminated web on the polyethylene side. Then, roll 96 turns the laminated web 90 counterclockwise 90 degrees, according to the drawing, so that the polyethylene side is facing upwardly. A suitable release tape 100 from roll 102 is then

applied to the web 90 to cover the glue or adhesive. Next, the laminated web is passed onto a conveyor 104 and continued in its longitudinal direction and transversely cut, see Fig. 9 reference 120, by transverse cutter 106 at predetermined longitudinal intervals, for example, a preferred 13 inches to form the finished bibs, which are then stacked on receiving platform 108.

The method shown in Fig. 8a can be used with webs having a predetermined width (equal to bib length), such as a preferred 18 inches, so that the finished bibs are 13 inches wide and 18 inches long. However, it is possible to use multiples of the finished length of the bibs and cut the webs longitudinally into longitudinal sections having widths that are the desired bib length. To this end, a longitudinal cutter 110 is provided to section the web into 2, 3 .... N sections, each having a width equivalent to the finished bib length. As 18 inches is a preferred length, the web can be 36, 54, 72, etc. inches wide. Fig. 10 shows a 54 inch web that has been cut into three sections 150, 160 and 170. The longitudinal cut lines are referenced 140. The transverse cut lines are referenced 120.

As a further improvement, the finished bibs can be provided with pockets as described with reference to Figs. 5 and 6. To this end, a folder 112 needs to be added to the method and located either before or after the transverse cutter. Likewise, a heat sealer 114 needs to be added following the folder 112 to heat seal the edges of the pockets formed by the folding. Preferably, the heat sealing takes place before the transverse cutting. The addition of the folder 112 and the heat sealer 114 is shown in Fig. 8b. However, if the bibs are first cut to size and then the pockets are formed, then the heat sealing of the edges will take place after the transverse cutting.

Referring now to Figs. 11, 12, 14 and 17, another embodiment of a bib 210 is shown front and rear consisting of a rectangular configuration composed of two overlying sheets (layers) of 19 gram cellular tissue 220a and 220b on the front side and polyethylene (layer) 222 on the rear side. The tissue 220 is imprinted with any suitable pattern or motif 224 and has been embossed with small rectangular depressions 226

that have been heat sealed to the polyethylene sheet 222. On the rear side of the bib, see Fig. 12, the polyethylene sheet 222 has an adhesive 228 stripe coated along or adjacent to its top edge 230 extending from one side edge 221 to the other side edge 223, and is covered with a release tape in the form of a removable cover strip 232, e.g. glassine paper. To use the bib, the cover strip 232 is removed and the bib 210 attached or stuck to the user by the adhesive 228. The cellular tissue sheet 220a is facing outwardly to catch and absorb any food or liquid that may spill. Formed at the bottom of the bib is a pocket 225. The pocket 225 is formed by folding up the bib from the bottom on itself at the rear side as shown in Fig. 12, so that the polyethylene 222 overlies itself. The side edges 221 and 223, at the bottom are heat sealed at 227 to form the pocket 225.

In use of the bib, the pocket 225 is turned inside out, which has the effect of bringing the pocket to the front side or face of the bib, and also causing the pocket to stay permanently opened as shown in Fig. 14. Now, the pocket has plastic on the outside and paper on the inside. Thus, the effectiveness of the pocket is greatly improved and enhanced.

An alternative variation is shown in Fig. 13, 15, 16 and 18. The embossed lamination or bib 210 now consists of a sandwich of paper-plastic-paper. The rear side of the bib is shown in Fig. 13 with the release covering 232.removed, revealing adhesive 228 extending from side 221 to side 223. The front face paper layer 234 extends from top edge 230 to bottom edge 236 of the bib blank, as shown in Fig. 15. On the other hand, the rear paper layer 238 terminates short of the bottom from 2 to 8 inches, and that leaves the intermediate plastic layer 235 exposed. When the bottom of the bib blank is folded up with the plastic layer 235 folded on itself, and the edges 221 and 223 at the bottom heat sealed 227, a pocket 225 will be formed, as shown in Fig. 16 with plastic inside and paper outside. When the pocket is turned inside out, the bib will look like that shown in Fig. 14, with paper on the inside and plastic on the outside of the pocket 225. The only difference between the bibs of Fig. 11 and Fig. 13 is that in Fig. 11, the rear face of the bib is plastic, whereas in Fig. 13, the rear face of the bib is paper.

The method for making the novel bib is shown in Fig. 19 and comprises laminating a layer of plastic, most preferably, a polyethylene film, block 250, with at least two absorbent tissue paper layers, block 252, most preferably, a cellular tissue paper, which previously has been printed with a printed decoration or motif. Although the paper layer may not be embossed, it is preferred that they are. The resulting lamination or bib blank occurs by an embossing technique, using a heated embossing roll, carried out so that an array of spaced depressions is made in the tissue layers while heating the polyethylene layer to cause impregnation of the tissue layers, at least where the embossing takes place. The array of embossed tissue depression portions of the tissue layers are pressed into the heated plastic layer, and the layers adhere together. The portions of the tissue layers surrounding the pressed tissue portions, i.e. the unpressed portions, are left substantially unaffected, and therefore, they retain their original characteristics for absorption of liquids and other foods. The lamination is next followed by a step of applying, preferably by continuously spraying, a biocompatible adhesive or glue across the top edge, or adjacent the top edge, block 254, of the exposed polyethylene layer on the rear side of the bib blank from one side edge to the opposite side edge, i.e. in a transverse direction relative to top to bottom of the bib. If the bibs are being made using traveling webs, then, in the direction of travel of the web. The adhesive chosen is one that will adhere to clothes or human skin and yet be easily removed with slight pulling with no adverse effects to the clothes or the skin. Such adhesives are well known in the art. Next, the adhesive stripe applied to the web is covered with a removable sealing tape or release paper, block 256, a strip of suitable material so that the adhesive is not exposed and is fully covered and yet the covering release paper is easily removable. Such materials are well known for several applications, such as, self-sealing envelops or Telfa$^{tm}$ bandages. Finally, the laminated structure is folded from the bottom to form a pocket on the back side of the bib blank, see block 260, with the plastic side edges of the pocket now brought together face to face and they are heat sealed, block 262. If the laminated structure is a moving laminated web, it is cut transversely at space intervals, block 258, and the resulting cut pieces (now bibs) are stacked. The webs are 18 inches wide (if wider, they are cut at 18

inch intervals transversely, block 270), and cut at 13 inch intervals longitudinally to produce bibs that are 13 inches wide and 18 inches long with the adhesive at the top edge of the inside rear face or side of the bib. As the bib is composed of a double layer of tissue laminated to single plastic layer, preferably polyethylene, the adhesive is on the polyethylene film side, the rear side of the bib. The pocket is formed on the inside rear face or side of the bib, also, on the polyethylene film side.

As an alternative to the above, a novel bib is made by laminating a layer of plastic, most preferably, a polyethylene, sandwiched in between at least two absorbent tissue paper layers, most preferably, a cellular tissue paper (sandwich construction). Thus, one paper layer will lie on the front side of the bib and the other paper layer will lie on the rear side of the bib with the plastic layer sandwiched between them. The layer on the front side of the bib is previously printed with a printed decoration or motif. A stripe of adhesive is placed (sprayed) on the rear side of the bib, from side to side, at or adjacent the top edge and covered with a release paper strip. The paper layer on the rear side of the bib extends from the top edge of the bib blank, but terminates spaced from the bottom edge of the bib blank by 2 to 8 inches. Therefore, the bottom portion of the bib blank has plastic exposed. The bottom portion of the bib blank is folded up to form a pocket 1 to 4 inches in depth on the rear side or face of the bib. Therefore, the exposed plastic layer is folded on itself and the side edges of the pocket are heat sealed together. The pocket formed has plastic, polyethylene, on the inside and paper on the outside with the edges of the folded up portion of the bib heat sealed along each of the folded up side edges to form a pocket in the bottom of the bib on the rear side that will be against the wearer. In use, the pocket is folded inside out, and comes to the front of the bib with the plastic now on the outside and paper on the inside. But more important, the pocket now is in a permanently opened condition, see Fig. 14, and will catch any food and drippings that falls down on or adjacent to the bib while being worn by a user. With paper now on the inside of the pocket, there will be better absorption of food and drippings. When the wearer is finished eating, the bib can be removed and used as a napkin because paper is on both sides of the bib.

The folded up portion can be from 1 to 4 inches deep to form a suitable pocket to catch the spills or droppings. If traveling webs are being used, the folding up of the lower portions of the bib blanks can take place before the bib blanks are cut transversely at longitudinally spaced intervals with the cutting and the heat sealing of the folded up edges occurring simultaneously. However, the folding up to form the pockets and the heat sealing of the edges of the pockets can take place either before or after the cutting into individual bib blanks.

A further improvement consists of using a laminated web that is a multiple width of the length of the bib to be made, i.e. 2X, 3X, ....nX, and the adhesive sprayed onto or adjacent one edge of the polyethylene web, at the appropriate transversely space locations, as the web travels or moves longitudinally. Thereafter, the adhesive stripes can be covered with a release tape; the webs, if more than 18 inches wide are cut longitudinally at 18 inch intervals to divide the web into bib length sections, and then, the web can be cut at predetermined transverse intervals, such as 13 inches to create blanks that are bib wide. Thereafter, the cut web blanks are finished by folding to form pockets as described in the foregoing, heat sealed to perfect the pockets and folded and/or stacked.

Although the bibs have been shown and described as rectangular, the bibs can be of any geometry. Also, the top edge of the bibs can be straight, as shown, or curved in any manner, such as, to form a round neck or scoop neck, to fit a wearer more comfortably.

Although the invention has been described and shown in terms of preferred embodiments, nevertheless changes and modifications will occur to those of skill in the art from knowledge of the teachings herein. Such changes and modifications are deemed to fall within the purview of the invention as expressed in the claims hereto.

**WHAT IS CLAIMED IS:**

1. A method of making bibs comprising the steps of

a. laminating an elongated web of absorbent paper with an elongated web of plastic film to form a laminated web by embossing the absorbent paper and heat sealing the embossed area with the plastic film, the embossed areas constituting an array of spaced areas of a predetermined geometry;

b. applying a stripe of an adhesive along an edge of the laminated web of absorbent paper and plastic film on the plastic film side thereof;

c. covering the stripe of adhesive with a release tape;

d. severing the laminated web transversely at predetermined longitudinal intervals to form individual bibs; and

e. collecting the severed individual bibs.

2. The method of claim 1 wherein the absorbent paper is a tissue paper.

3. The method of claim 1 wherein the plastic film is polyethylene.

4. The method of claim 1 wherein the bibs are individuated at 13 inch intervals.

5. The method of claim 1 wherein the webs are 18 inches wide.

6. The method of claim 1 wherein the laminated web is a multiple of a predetermined bib length, and includes the further steps of cutting the laminated web into longitudinal sections of a width equal to bib length, and applying the stripe of adhesive to the edge of each section.

7. The method of claim 1 including the further steps of folding the edge of the laminated web, opposite the edge to which the adhesive is applied, and heat sealing the edges of the folded laminated web to form a pocket.

8. The method of claim 7 wherein the heat sealing of the edges of the folded laminated web takes place before severing to individuate the bibs.

9. The method of claim 1 including the further steps of folding the bottom portion of the individuated bibs onto the main portion of the bibs and heat sealing the folded edges of the bottom portion to the main portion to form a pocket at the bottom of the bib.

10. The method of claim 1 wherein the absorbent paper is 19 gram tissue paper and the plastic film is polyethylene.

11. The method of claim 1 including imprinting the absorbent paper with a design or motif.

12. A bib comprising a sheet of laminated material composed of absorbent paper laminated with a plastic film, the sheet having a predetermined shape with a top edge, a bottom edge, absorbent paper exposed on one side and the plastic film exposed on the other side, an adhesive received on the top edge of the plastic film side of the sheet, and a release tape covering the adhesive received on the top edge of the plastic film.

13. A bib according to claim 12 wherein the absorbent paper is imprinted with a design.

14. A bib according to claim 12 wherein the absorbent paper has an array of spaced depressions heat sealed to the plastic film.

15. A bib according to claim 14 wherein the depressions are rectangular.

16. A bib according to claim 12 wherein the sheet is rectangular 13 inches wide and 18 inches long.

17. A bib according to claim 12 wherein the bottom edge of the sheet is folded over the sheet and heat sealed along its edges to form a pocket.

18. A bib having a front side and a rear side, a top and a bottom and opposite side edges composed of a layer of plastic and two layers of absorbent paper laminated and together, an adhesive coated on the rear side of the bib adjacent its top and extending between the opposite side edges, a release tape covering the adhesive, and a pocket extending between the opposite side edges formed at the bottom of the bib on its rear side having plastic on the inside of the pocket and paper on the outside of the pocket, so that when the pocket is turned inside out, it comes to the front side of the bib and maintains an opened condition.

19. A bib according to claim 18 wherein the two layers of absorbent paper lie on one side of the plastic layer.

20. A bib according to claim 18 wherein the two layers of absorbent paper lie on opposite sides of the plastic layer.

21. A bib according to claim 18 wherein the two layers of absorbent paper are embossed together.

22. A bib according to claim 21 wherein the two layers of absorbent paper have an array of spaced depressions heat sealed to the plastic film.

23. A bib according to claim 22 wherein the depressions are rectangular.

24. A bib according to claim 20 wherein the paper layer lying on the rear side of the bib terminates spaced from the bottom of the bib to accommodate the pocket.

25. A bib according to claim 18 wherein the pocket is 1 to 4 inches deep.

26. A method of making a bib comprising the steps of

laminating a plastic layer of preselected geometry with two layer of absorbent paper with similar preselected geometry to form a laminated construction having a front side and a rear side, a top and a bottom and opposite side edges;

applying a stripe of an adhesive adjacent the top of the rear side of the lamination;

covering the stripe of adhesive with a release tape;

forming a pocket on the rear side of the lamination at the bottom having plastic on the inside of the pocket and paper on the outside of the pocket, so that when the pocket is turned inside out, it comes to the front side of the lamination and maintains an opened condition.

27 The method of claim 26 wherein the absorbent paper is a tissue paper.

28. The method of claim 26 wherein the plastic layer is polyethylene.

29. The method of claim 26 wherein the paper layers are embossed to form an array of spaced areas of a predetermined configuration.

30. The method of claim 26 wherein the preselected geometry is rectangular.

31. The method of claim 26 wherein the plastic layer and paper layers are initially in the form of webs that are laminated together.

32. The method of claim 31 wherein the laminated web is a predetermined dimension wide.

33. The method of claim 31 wherein the laminated web has a width a multiple of a predetermined bib length, and includes the further steps of cutting the laminated web into longitudinal sections each a width equal to bib length, and applying the stripe of adhesive adjacent one edge of each section.

34. The method of claim 31 including the further steps of folding the edge of the laminated web, opposite the edge to which the adhesive is applied, and heat sealing the edges of the folded laminated web to form pockets on the same side of the web as the adhesive.

35. The method of claim 31 wherein bib blanks are individuated from the laminated web, and pockets are formed by folding up the edge of the bib blank opposite the edge adjacent to which adhesive has been applied, and heat sealing the folded up side edges of the bib blanks.

36. The method of claim 26 wherein the absorbent paper is 19 gram tissue paper and the plastic is polyethylene.

37 The method of claim 26 including imprinting the absorbent paper with a design or motif.

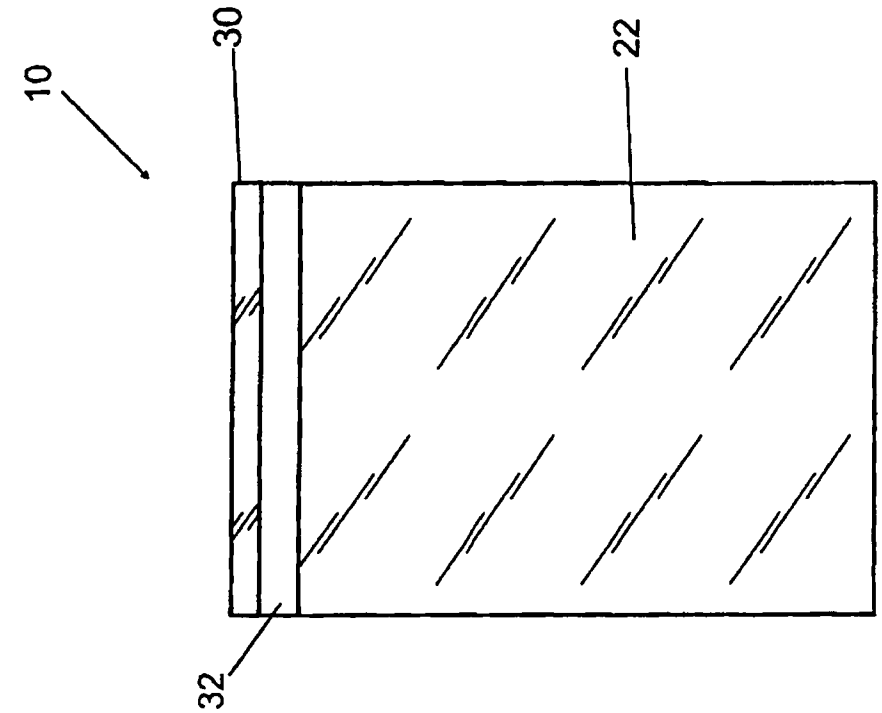



FIG. 2

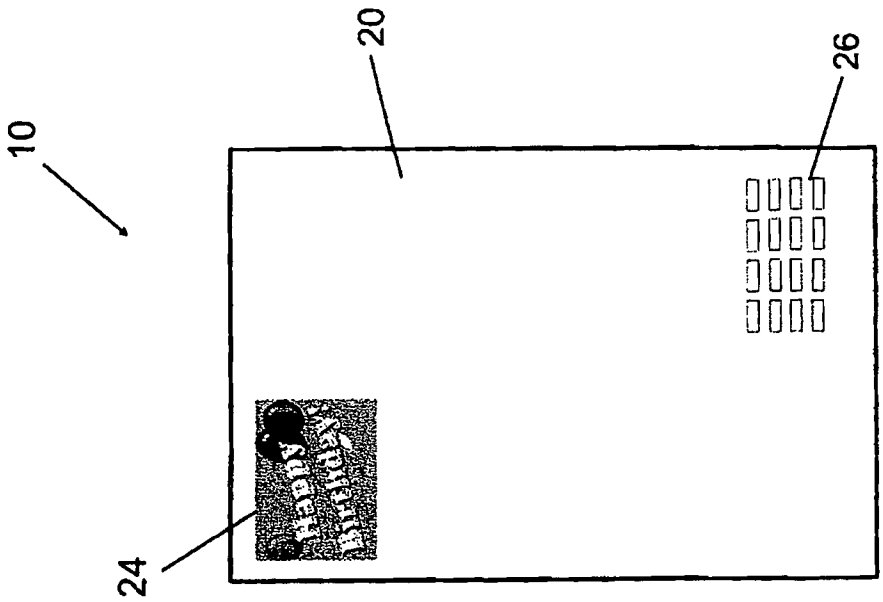



FIG. 1

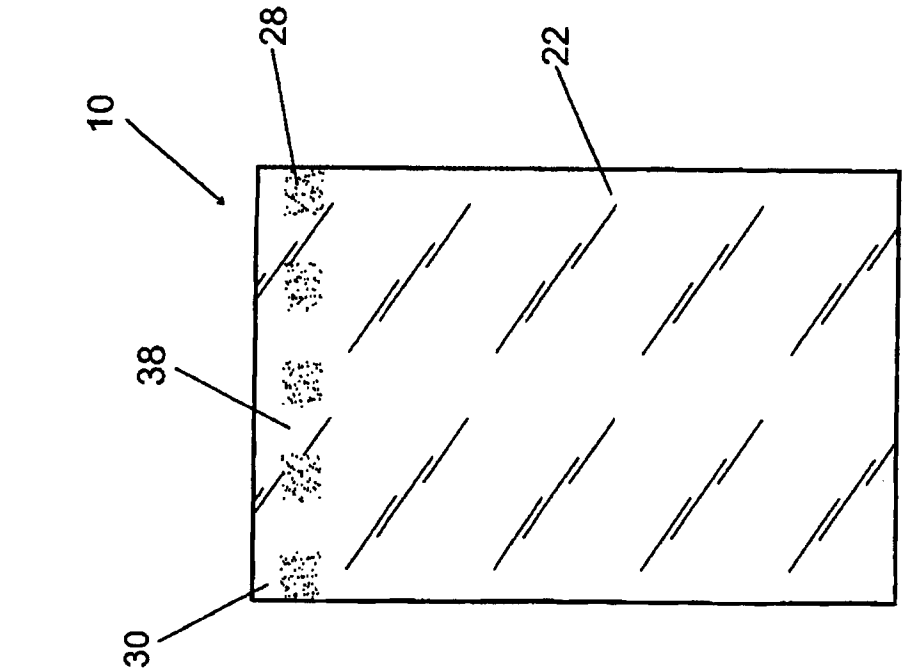



FIG. 4

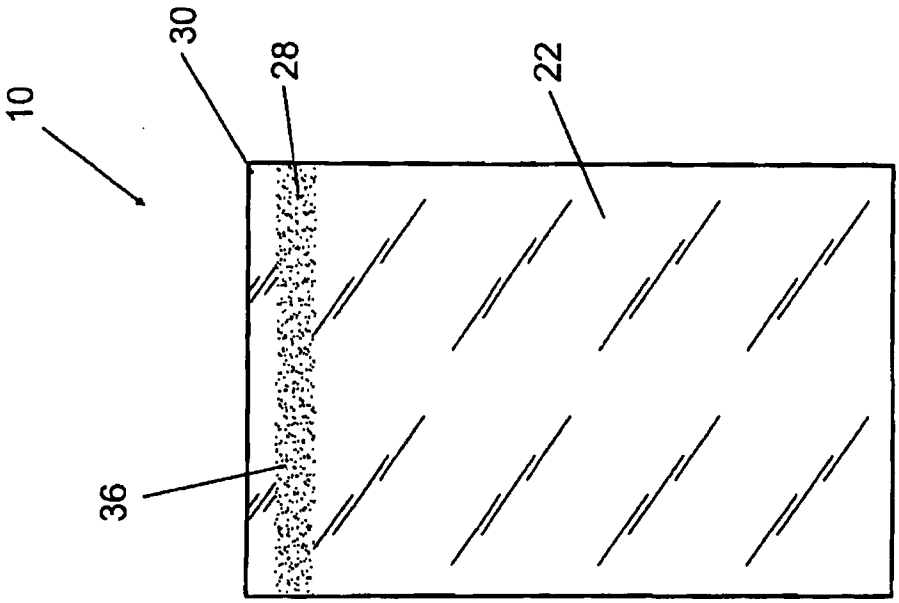



FIG. 3

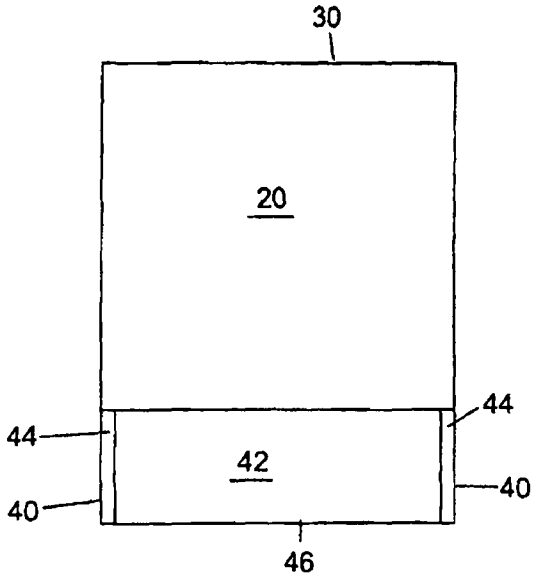



FIG. 5

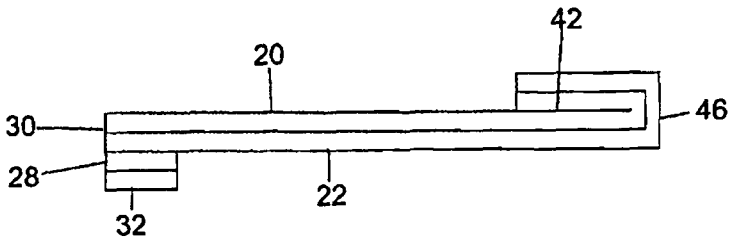



FIG. 6

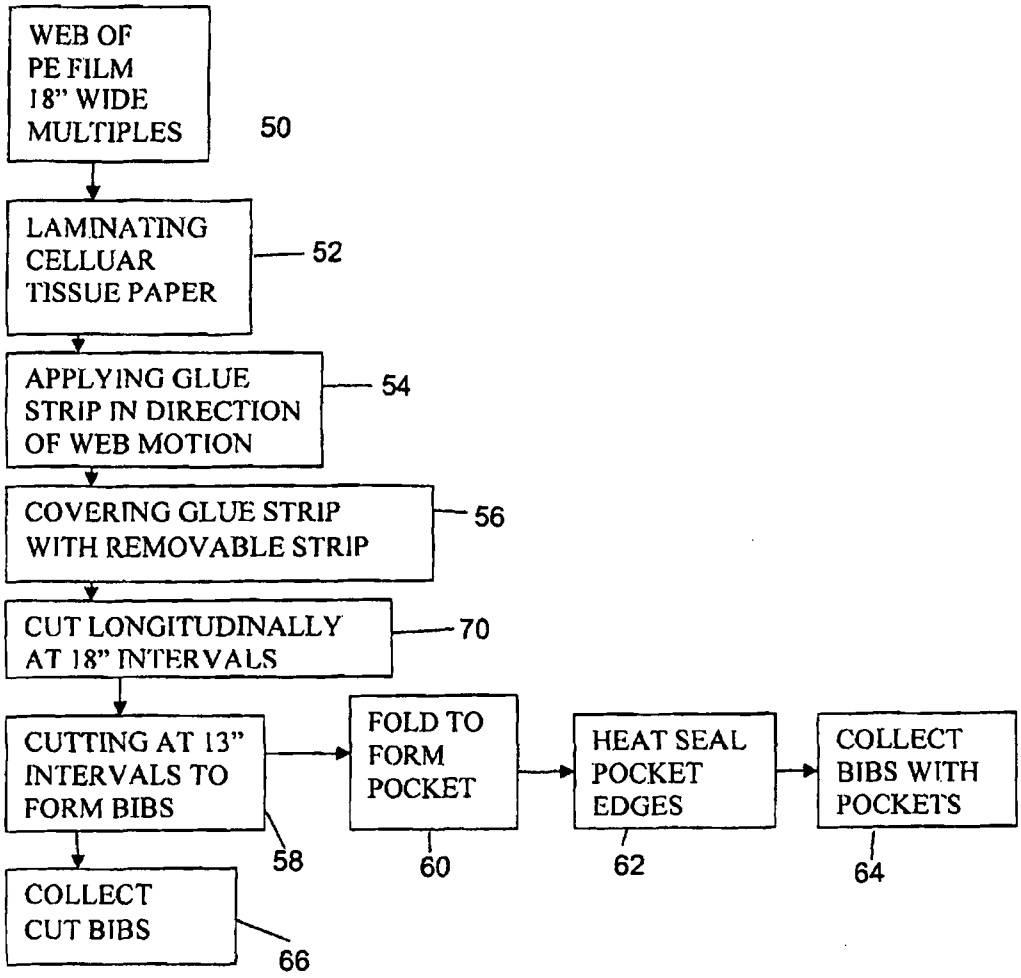

WEB OF PE FILM 18" WIDE MULTIPLES
50
LAMINATING CELLUAR TISSUE PAPER
52
APPLYING GLUE STRIP IN DIRECTION OF WEB MOTION
54
COVERING GLUE STRIP WITH REMOVABLE STRIP
56
CUT LONGITUDINALLY AT 18" INTERVALS
70
CUTTING AT 13" INTERVALS TO FORM BIBS
58
FOLD TO FORM POCKET
60
HEAT SEAL POCKET EDGES
62
COLLECT BIBS WITH POCKETS
64
COLLECT CUT BIBS
66

FIG. 7

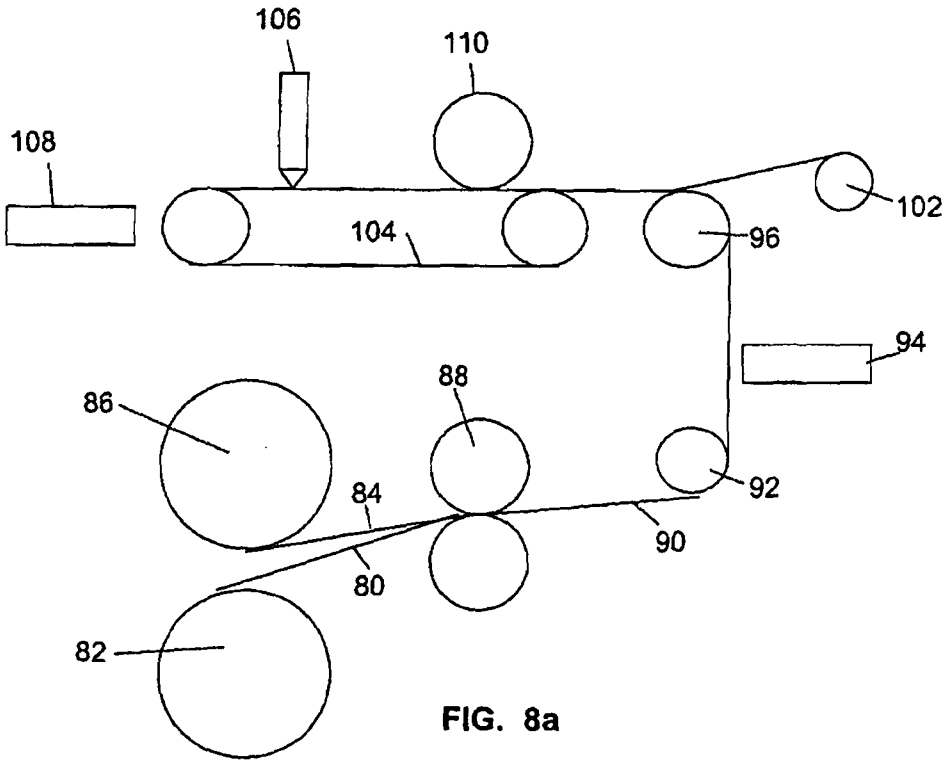



FIG. 8a

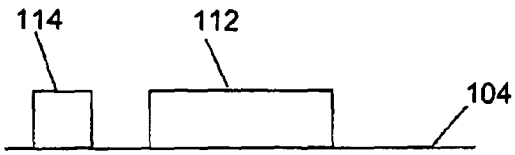



FIG. 8b

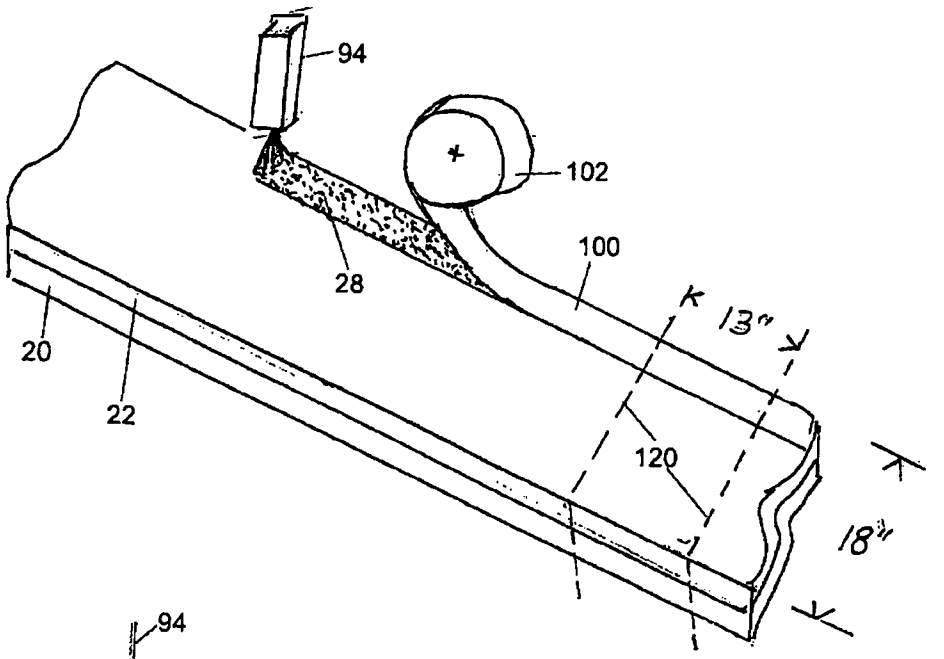

94
102
100
28
13"
20
22
120
18"

Fig. 9

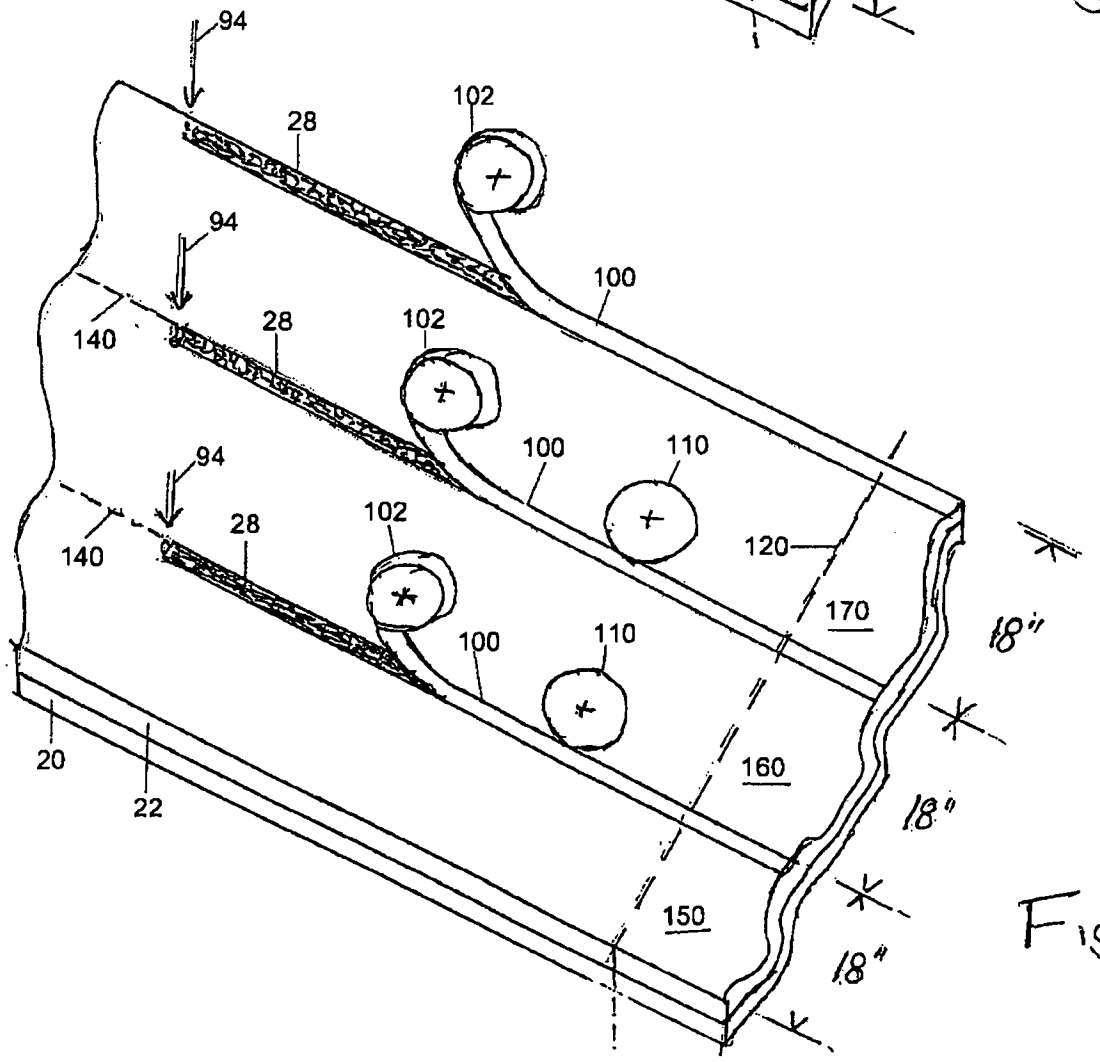

94
102
28
100
140
110
120
170
160
150
18"
20
22

Fig. 10

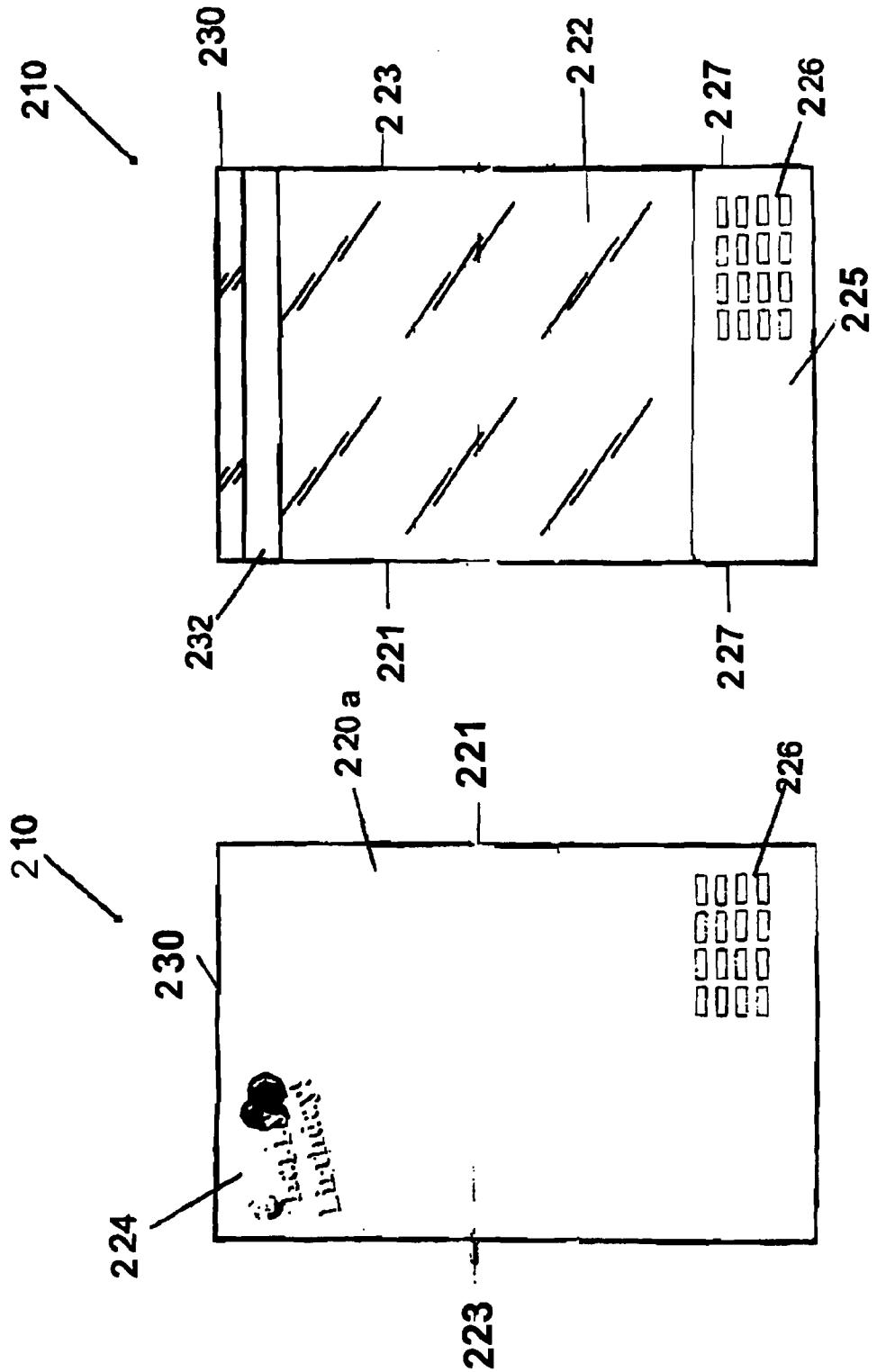

210
230
223
222
227
226
225
232
221
227
220a
221
226
210
230
224
223

FIG. 12

FIG. 11

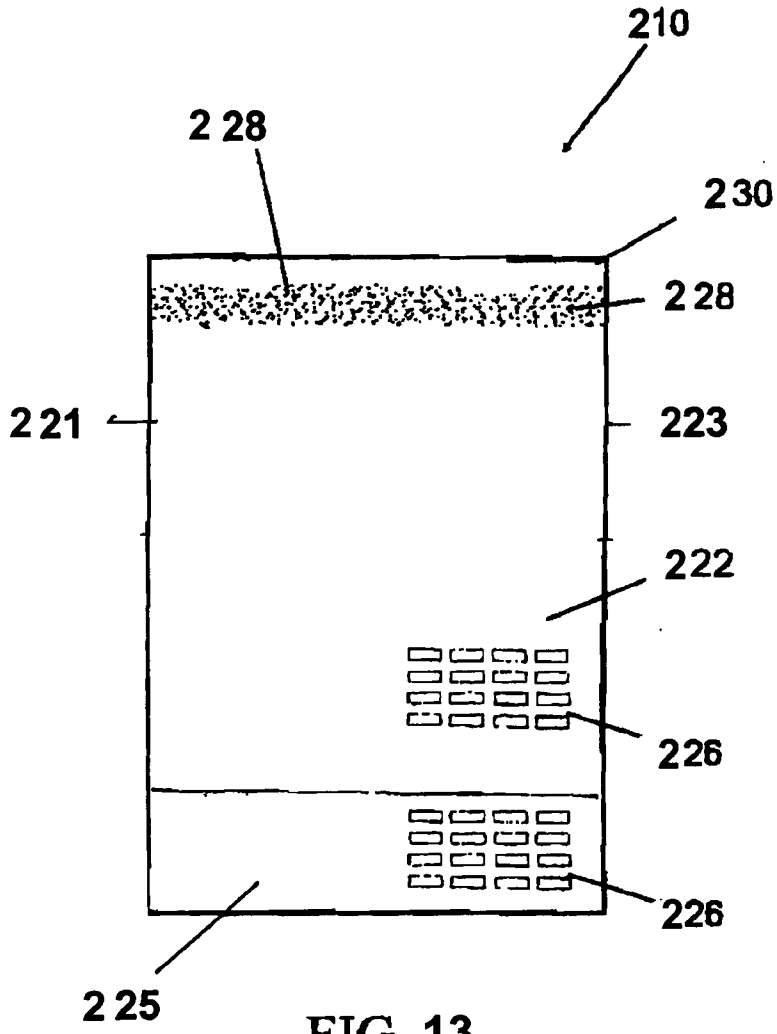



FIG. 13

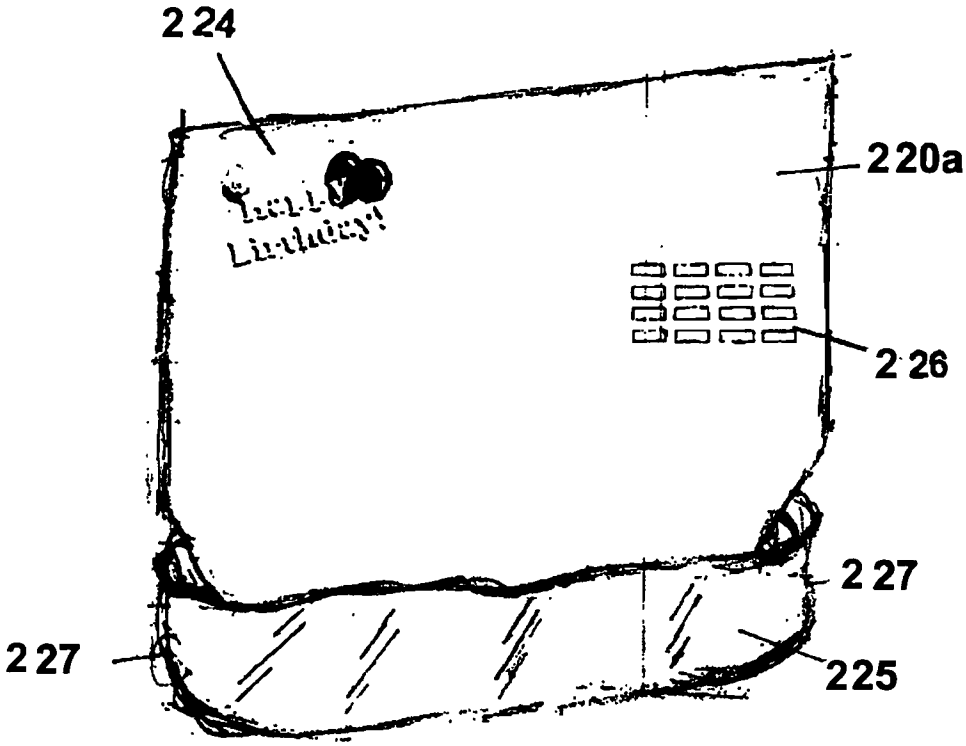



FIG. 14

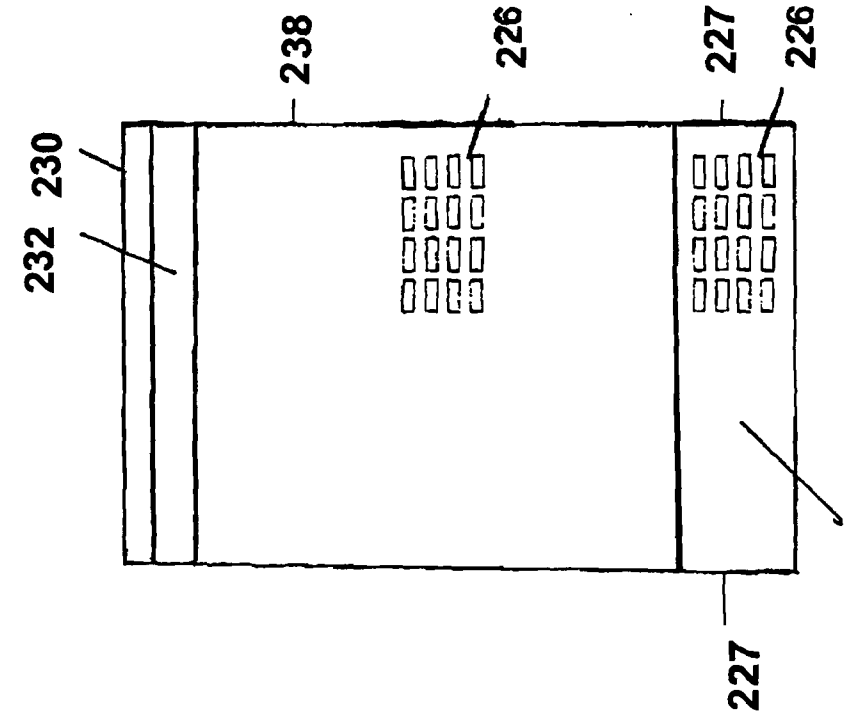



FIG. 16

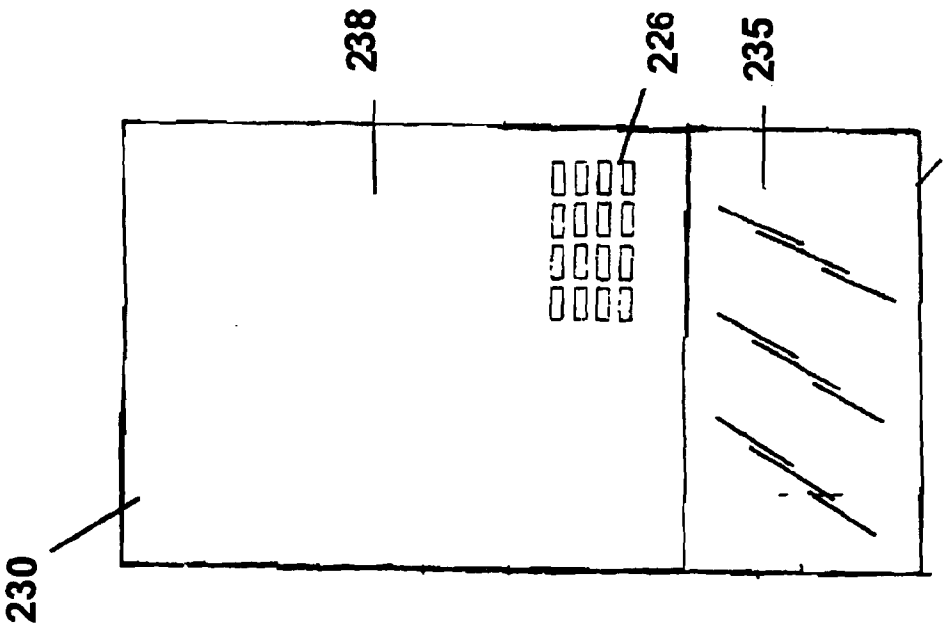



FIG. 15

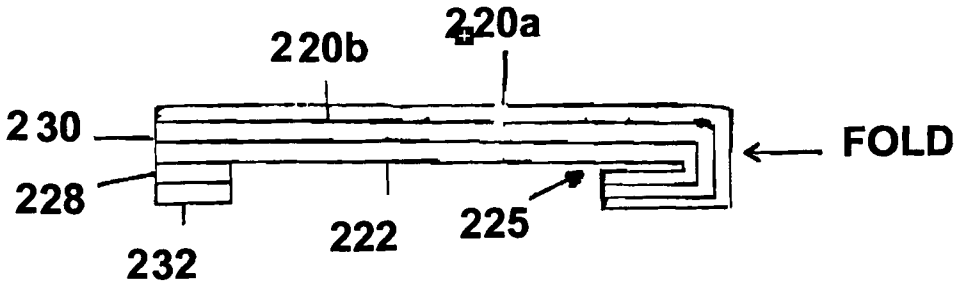

220b
220a
230
FOLD
228
222
225
232

FIG. 17

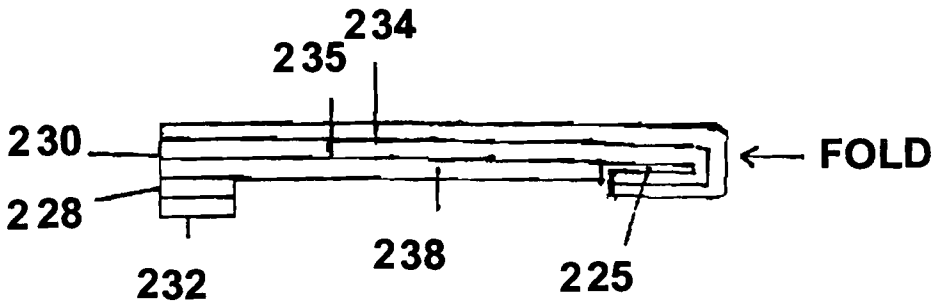
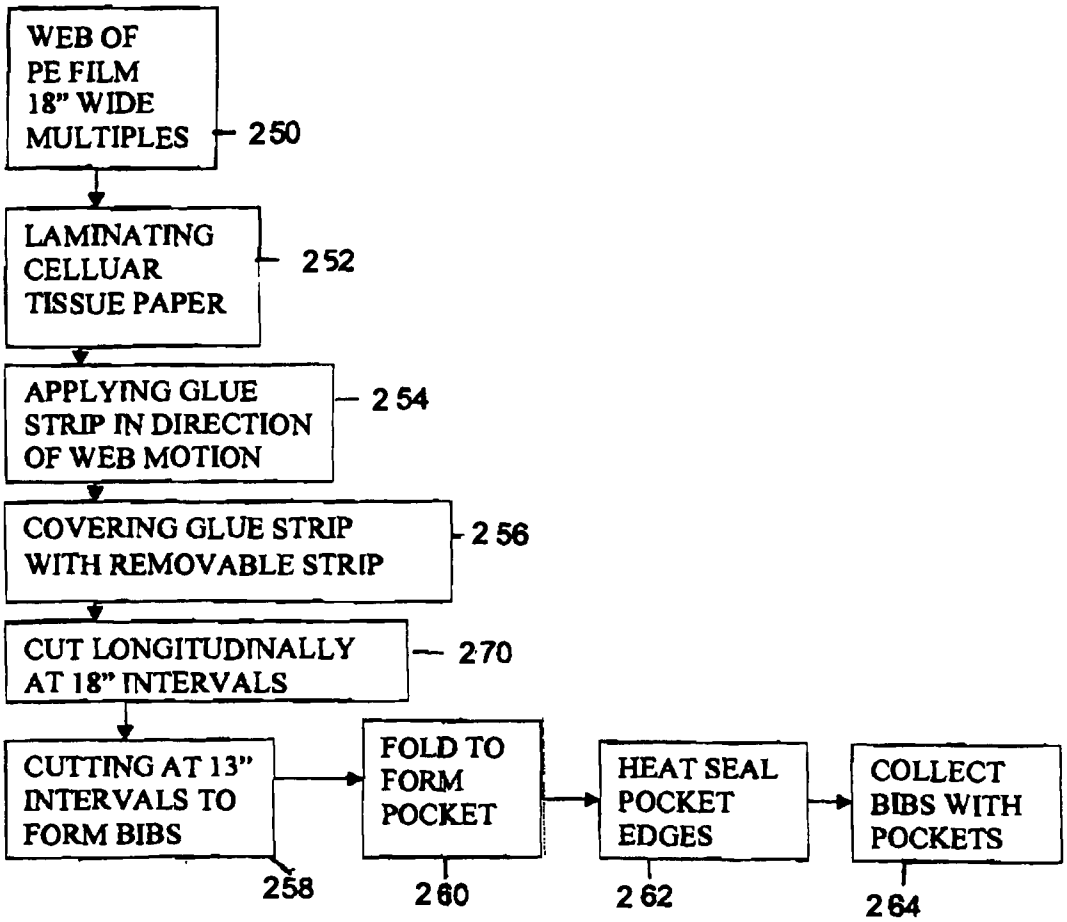

234
235
230
FOLD
228
238
225
232

FIG. 18


WEB OF PE FILM 18" WIDE MULTIPLES
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264

FIG. 19