Aug. 14, 1962 E. N. BURNETT 3,049,228

DISPOSABLE BABY PANTS

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Fig. 1.

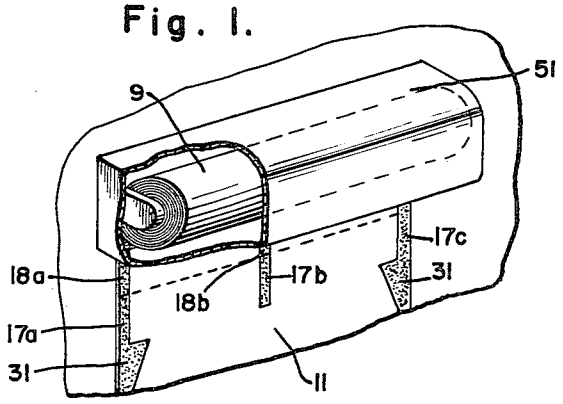


Fig. 2

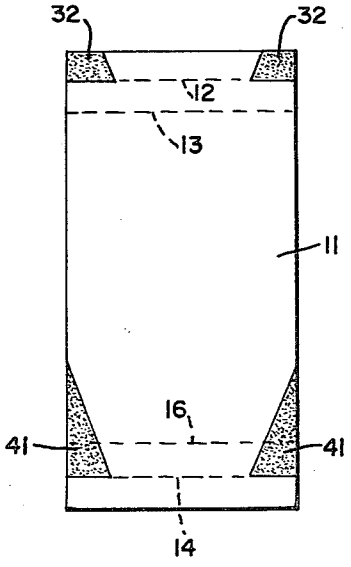
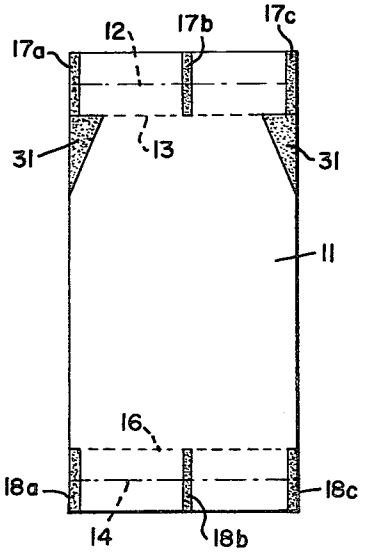


Fig. 3.



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Fig. 4.

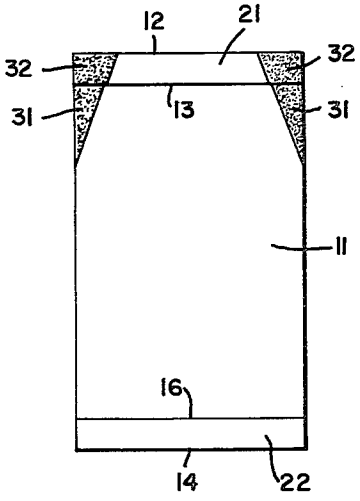


Fig. 5.

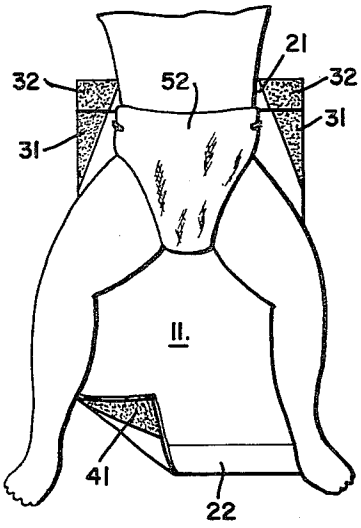


Fig. 6.

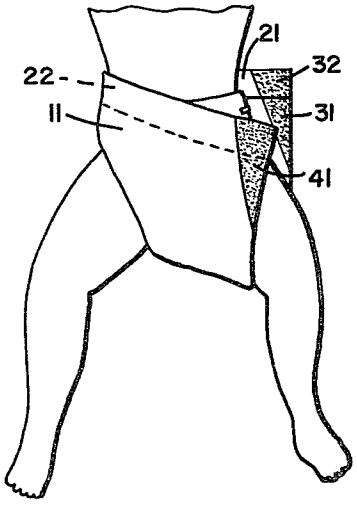
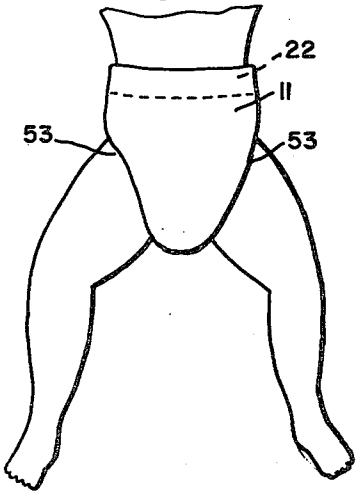


Fig. 7.



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DISPOSABLE BABY PANTS

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6 Claims. (Cl. 206—58)

This invention relates to the new and useful improvements in disposable baby pants. More particularly, the invention relates to baby pants of the type fitted around the outside of a diaper and is characterized by the fact that the pants are formed from a rectangular piece of paper stock similar to paper toweling. Preferably the rectangular blanks for the pants are formed by perforations on a roll so that the roll may be used in conjunction with a conventional paper towel dispenser.

A principal object and advantage of the invention is the fact that the pants are disposable, thereby eliminating the disadvantages of plastic and rubber pants, which must be washed between uses. Additionally the present invention eliminates the inconvenience of washing, and further eliminates an objectionable feature of washing, namely that it is difficult, if not impossible, to thoroughly clean the pants because of the nature of the plastic material and the extreme difficulty in cleaning the areas near seams or the gatherings where elastic bands are employed at the waist and leg openings.

Further, the invention is economical in that the cost of each of the paper pants, hereinafter described, is considerably less than the cost of plastic pants which are relatively fragile and do not survive repeated usages.

Another feature of the invention is the fact that irritation of the skin of the infant is prevented. The paper is preferably treated with lanolin to reduce such irritation. Further, by reason of the construction of the pants ventilation is automatically accomplished. One of the difficulties with plastic pants is the fact that they are non-porous and heat is retained, and this results in irritation of the baby's skin. Attempts to ventilate plastic pants by punching holes and various other venting means have not proven satisfactory.

A further feature of the invention is the fact that the paper is made soft and absorbent and has a high, wet strength, thereby retaining its usefulness for a relatively prolonged period of time. The outer surface of the pants is preferably treated with silicone, which makes the material impervious to moisture, and yet retains porosity and breathing features over the entire area.

Another feature of the invention is the fact that it requires no external means for fastening in place on the infant. Thus, conventional pants use elastic bands of various sorts or snaps or pins, all of which are sources of inconvenience and add to the expense. The present invention uses self-sealing adhesive placed in predetermined spots on the blank whereby when the blank is placed in position the user can adjust the size to the particular infant. One of the difficulties with conventional plastic pants is the fact that irritation or leakage occurs if the pants are too small or too large for the infant, and there is only limited adjustability in the conventional item. The present invention allows precise fitting to the particular child and hence eliminates these disadvantages both at the waist and at the leg holes.

A further feature of the invention is the fact that the pants are completely sanitary and fresh at each application, and the necessity for washing and storing unsanitary plastic pants is completely eliminated.

The pants which are the subject of this invention are made of absorbent paper stock similar to the type used for paper toweling. The stock is preferably lanolin treated, and one surface, namely the outside, is silicone treated to provide moisture resistance for at least

two to three hours. The silicone treatment does not affect the porosity of the paper. The pants are preferably formed on rolls which are approximately eleven inches in width. Each blank is approximately twenty-two inches in length, and the individual blanks are separated from each other by perforations which are shear cut every twenty-two inches during manufacture. Obviously such a roll of pants is similar to a roll of paper towels, and it can be fitted into a conventional paper towel dispenser.

When used each blank is torn off from the roll along the perforations leaving a rectangular blank eleven inches wide and twenty-two inches long.

Each blank is formed with certain fold lines and with patches of adhesive of the type which seals only to other adhesive of a similar nature and may be termed mutually cohesive material. Such adhesive is well understood in the art, and is of the type used for envelopes, bags and the like.

One of the features of the invention is that it is produced in packaged roll form for convenient storage, shipment and dispensing. The sheets are joined to one another in end-to-end relationship for selective removal so that one pants blank may be removed from the roll at a time and as desired by the user. The economy and efficiency of roll production of disposable pants is obvious from the point of view of sale, distribution, shipment, storage and use. The continuous high speed production of perforated roll stock is well known in the art and is best exemplified by such articles as toilet paper and paper towels.

Other objects and advantages of the invention will become apparent upon reference to the accompanying drawings in which similar marks of reference represent corresponding parts in the several views:

FIG. 1 is a perspective view of a dispenser carrying a roll of disposable pants;

FIG. 2 is a bottom plan view of the blank;

FIG. 3 is a top plan view thereof;

FIG. 4 is a top plan view after the blank has been folded into operative position for application to the infant;

FIG. 5 is a view indicating how the pants are applied to the infant;

FIG. 6 is a further view thereof; and,

FIG. 7 is a view showing the pants as applied to the infant.

As shown in the accompanying drawings, the blank **11** has a front surface which is absorbent, and an outer surface which is preferably made water resistant by treatment with silicone or other suitable substance. Considering the front surface, a pair of fold lines **12** and **13** are marked off parallel to the top edge. Fold line **12** is approximately one and one-half inches from the top edge of the blank and fold line **13** is approximately one and one-half inches below line **12**. At the bottom of the blank fold lines **14** and **16** are marked, fold line **14** being approximately one and one-half inches up from the bottom edge of the blank, and fold line **16** being one and one-half inches above line **14**. The purpose of the fold lines is to guide the folding of the pants to provide a reinforced waist band. Accordingly, patches of self adhering adhesive **17***a*, **17***b*, **17***c*, are applied at the top of the blank. Each of the patches extends longitudinally in a narrow band from the top edge to line **13**, the patches being preferably ⅜ to ½ inch in width, and three inches long. Similarly, at the bottom edge of the blank, patches **18***a*, **18***b*, **18***c* are applied which are substantially identical in dimension to patches **17**. One of the patches is at each outer edge and one approximately in the center, although this exact spacing of the patches is not critical. Accordingly, when the top edge of the blank is folded down to line **13** the patches adhere to each other and form a

reinforcing band at the top edge. Similarly, when the bottom edge is folded up to line **16** a similarly reinforcing band is provided at the bottom. The top band is denominated in the accompanying drawings as reference numeral **21**, and the bottom band with reference numeral **22**.

Immediately below line **13** on each side of the blank is an adhesive patch **31** which is preferably triangular in shape having a length of approximately three and one-half inches along the side edge of the blank extending immediately below line **13**, and having its leg along line **13** approximately one and one-half inches in length. On the reverse side of the blank at the top corner is a trapezoidal patch **32** having its length along the side edge approximately one and one-half inches, and its length along the top edge approximately one and one-half inches, so that its length along the bottom edge of the blank which is immediately underlying line **12** is approximately two inches in length.

At the bottom, on the reverse side of the blank, is a triangular patch **41** of self sealing adhesive which extends immediately below the reverse of line **14**. Each patch **41** is triangular and has a side extending along the side edge of the blank approximately five inches in length from beginning at a point at line **14**, and having a width along line **14** of approximately two inches.

In use, after the blank has been torn off the roll, preferably from a paper towel dispenser **51**, the waist bands **21** are formed by folding the top edge down to line **13** and pinching the strips of adhesive **17***a*, **17***b*, **17***c* together to hold the band in place. It will be seen that when this operation is completed the patch **31** constitutes an extension of the patch **32** so that a composite triangular patch approximately five inches in length along the side edge of the blank is provided and approximately two inches along the top. Simultaneously, the bottom waist band **22** is formed by folding the bottom edge up to line **16**, and pinching the strips of adhesive **18***a*, **18***b*, **18***c* together to seal and hold the waist band in place.

The top waist band **21** is then placed beneath the back of the baby, and the bottom band **22** is drawn up between the legs the same as when applying a diaper. The lower left hand corner of the rectangular piece of the pants is pulled up to the baby's waist and sealed at the left side much the same as applying a diaper, the left-hand patches of adhesive **31** and **32** adhering to the patch of adhesive **41**. The user then takes the opposite corner and adjusts the waist dimension to fit the particular size of the baby simply by pulling the band **22** across the baby's stomach the same as in applying a diaper, and sealing the right-hand patches **32** and **31** to the patch **41**. This step likewise automatically forms the leg holes in the pants, and it is obvious that the waist dimension and leg hole dimension can be adjusted to any desired size. The rectangular structure of the pants is such that when applied over the diaper **52** the leg holes **53** take the contour of the baby's leg, and the waist band can be adjusted to the precise snugness for the baby's waist. Thus, a uniform blank may be used to tailor-make a pair of pants for the particular baby. The rectangular construction permits the leg holes to follow the same contour as the diaper applied to the baby and to fit snugly around the leg and to form a **V** the same as the diaper up the thigh of the leg. This is particularly true in that the paper used with lanolin treatment and silicone treatment has the texture and feel similar to diaper cloth.

While the invention has been described in more or less specific detail by way of illustration of use, construction and application for purposes of clarity of understanding and example, it is to be understood that various changes,

modifications and alterations in structure, use and application may be practiced within the spirit of the invention and the scope of the appended claims.

I claim:

1. A blank for baby pants of substantially rectangular shape formed of absorbent paper stock coated on the rear face with a substantially moisture resistant coating porous to air and capable of "breathing," having a first patch of self-adhering adhesive on the front face of each of two corners of the blank and a second patch of self-adhering adhesive on the rear face of each of the other two corners of the blank, each said patch being substantially in the shape of a right triangle having its shortest side extending parallel to one transverse edge of said blank, and its next longest side along one longitudinal edge of said blank.

2. A blank according to claim 1 which further comprises fourth patches of self-adhering adhesive on said front face of said blank adjacent the upper end of said blank and fifth patches of self-adhering adhesive on said front face of said blank adjacent the lower end thereof, whereby said upper and lower ends may be folded inward to form relatively narrow double-thickness waist bands at the top and bottom of said blank.

3. A blank for baby pants of substantially rectangular shape comprising a first patch of self adhering adhesive on the front face of said blank adjacent but spaced downwardly from each of the two upper corners, a second patch of self-adhering adhesive on the rear face of said blank at each of said two upper corners above said first patch, and a third patch of self-adhering adhesive on the rear face of each of the two lower corners of said blank.

4. A blank according to claim 3 in which each of said first and third patches is triangular and said second patch is trapezoidal.

5. A blank according to claim 3 which further comprises fourth patches of self-adhering adhesive on said front face of said blank adjacent the upper end of said blank and fifth patches of self-adhering adhesive on said front face of said blank adjacent the lower end thereof, whereby said upper and lower ends may be folded inward to form relatively narrow double-thickness waist bands at the top and bottom of said blank.

6. A web of absorbent paper stock coated on one surface with a moisture resistant coating porous to air and capable of "breathing" and formed with a plurality of transverse perforations dividing said web into a plurality of rectangular baby pants blanks connected end to end to one another, and patches of adhesive on said web adjacent each of the four corners of each said blank, said patches of adhesive cooperating to cause adherence of said blank about the body of an infant around the waist and both legs of said infant when said blank is placed over a conventional diaper, and second patches of adhesive in a plurality of locations adjacent each end of each said blank to cause adherence of the ends of said blank to form a double-thickness waist band at each end of the blank surrounding the waist of said infant.

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