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VENTILATED INFANT'S GARMENT

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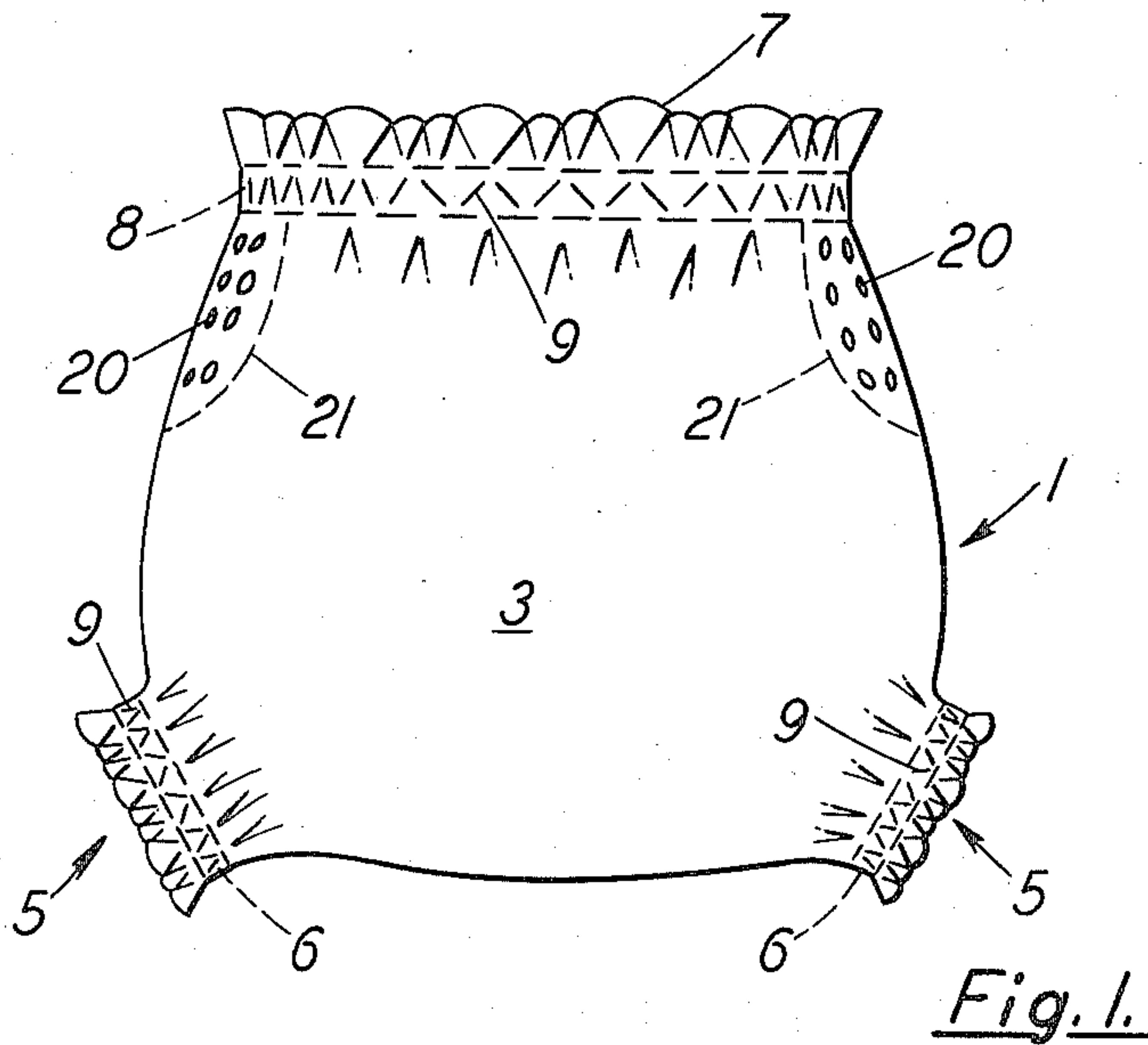


Fig. 1.

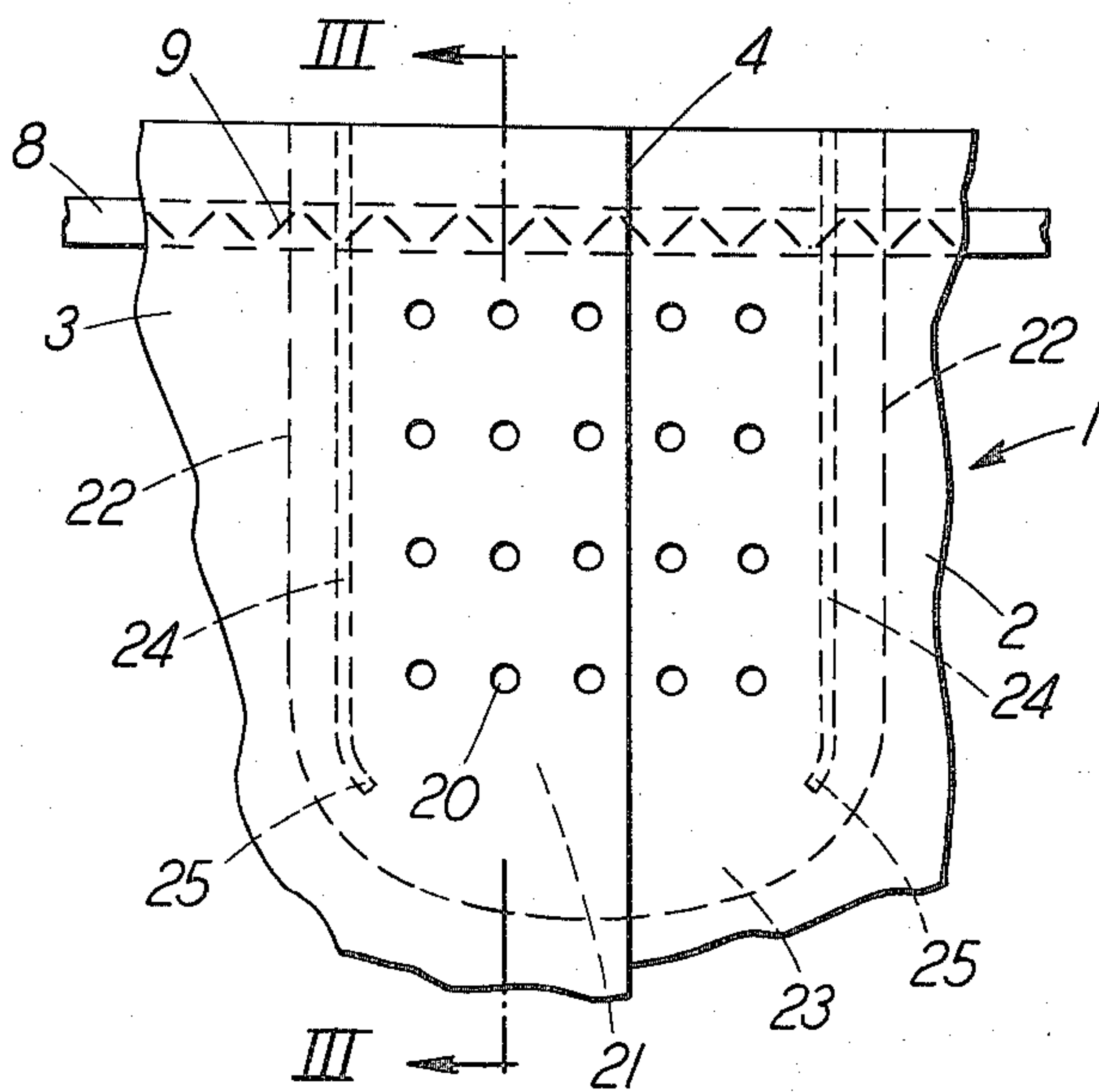


Fig. 2.

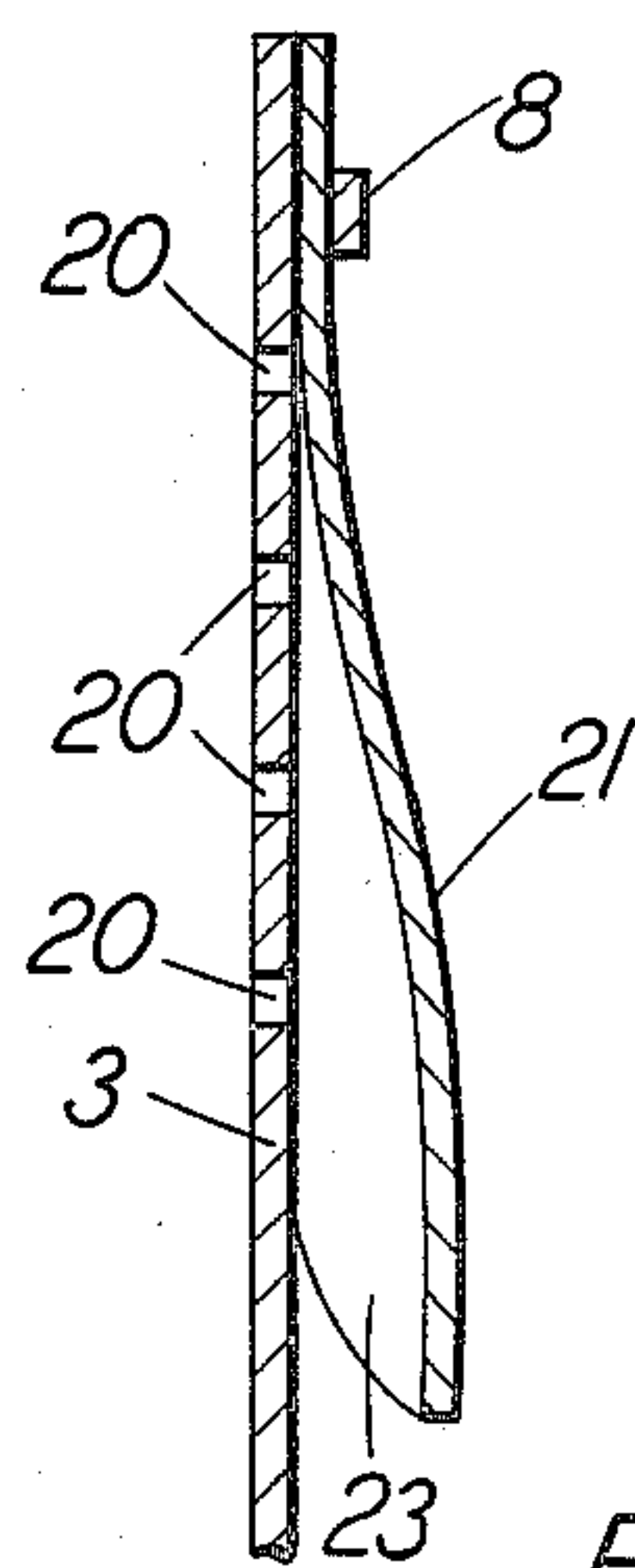


Fig. 3.

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VENTILATED INFANT'S GARMENT

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4 Claims. (Cl. 128—287)

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This invention relates to nonleaking baby pants and more particularly to such pants provided with substantially leakageproof ventilating means.

In recent years the availability of rubber and certain plastics suitable for use in the form of a thin film has greatly accelerated the development of moisture impervious garments for infants and particularly of moistureproof baby pants. Normally these pants are provided with snaps, elastic bands or similar means at the waist and at the legs whereby any liquid discharged into the pants will be securely confined within the pants and will not leak onto bedding or garments upon which the baby is placed.

Although such leakproof infant's pants have been a desirable step forward in preventing soiling of clothing and bedding, they have, from a health standpoint, been recognized as undesirable because, being in effect a sealed container, they are also air proof. When these pants are sealed against the leakage of liquids they have heretofore been sealed against the passage of air. Thus, breathing by the skin pores has been impaired or stopped over a substantial portion of the baby's body. Thus, despite their other desirable characteristics this type of garment has fallen into disfavor with large numbers of people.

To overcome this difficulty some of these pants have heretofore been provided with air holes or vents near the top of the garment. However, although these holes have provided the desired ventilation, they have also permitted leakage of liquids, thus, to a large extent, defeating their basic purpose.

It is, therefore, a primary objective of my invention to provide baby pants of a material impervious to liquids and so designed as to have a liquid tight seal about the waist and legs, yet provided with means for air ventilation which will normally prevent the discharge of liquid from the interior of the pants.

It is a further object of my invention to provide such a leakproof ventilating means which is simple in design and economical to manufacture.

It is a further object of my invention to provide a ventilation means which not only permits the passage of air to and from the interior of the pants but which accelerates this ventilating operation by a pumping action.

These and other objects of my invention will be immediately seen by those acquainted with the design of infant's wear upon reading the following specification and the accompanying drawings.

In the drawings;

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Figure 1 is a front elevation view of a pair of baby pants equipped with my improved ventilating means.

Figure 2 is an enlarged, fragmentary, side elevation view of my improved ventilating means for baby pants, showing the ventilating means and the pants as though they were stretched out on a flat plane.

Figure 3 is a fragmentary, sectional, elevation view of my improved ventilating means for baby pants taken along the plane III—III of Figure 2.

In executing the objects and purposes of my invention, I have provided a pair of baby pants having a plurality of ventilating openings formed in two groups, one on each side of the pants adjacent the waist band. Each of these groups of ventilating openings is covered on the inside of the pants by a dam sealed to the pants along each of its sides and across the top, but open to the interior of the pants along its bottom edge.

The terms "upper" and "lower" are frequently used in the following description. The term "upper" is to be considered as toward the top in Figure 1 and as the garment is normally worn and "lower" as away therefrom. The terms "inside" and "outside" are also frequently used and are to be taken as meaning "inside" toward the interior of the garment and "outside" as away therefrom.

Referring to the drawings in greater detail the numeral 1 refers to a pair of baby pants formed of a single piece of moisture impervious material having a back portion 2 and a front portion 3 joined together along each side at a seam 4. A pair of suitable openings 5 are provided in the lower portion of the pants to receive the infant's legs. Each of the openings 5 is surrounded by an elastic band 6 whereby the pants will gently but firmly grip the leg of the infant and form a leak resistant seal. The upper portion of the pants 1 is provided with a waist opening 7 surrounded by an elastic band 8 for forming a firm but gentle leak resistant seal about the baby's waist when the pants are in place. The elastic bands 6 and 8 are each attached to the body portions 2 and 3 by means of stitching 9. The back portion 2 and front portion 3 together, form the body of the garment.

On each side of the pants a plurality of holes 20 are punched through both the back portion 2 and the front portion 3 of the pants 1. These holes 20 are of a size suitable to provide adequate ventilation but small enough to prevent the holes, as a group, excessively weakening the garment. The holes 20 are arranged in any suitable grouping, starting immediately below the waist band

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and extending down the side of the pants a substantial distance, such as approximately one-third of the distance between the waist band 8 and the leg openings 5.

Each of the groups of openings 20 is covered by a dam 21 of the same waterproof material as the body of the garment. The dams 21 are mounted on the inside of the garment whereby they will be positioned between the wearer and the garment proper. The top of the dam 21 extends up to a point coextensive with the top edge of the body portions 2 and 3 and is sewn to the body portions 2 and 3 by the same stitching 9 used to attach the waist band 8. The dam 21 extends down from the waist band a substantial distance below the lower most of the openings 20. The sides 22 of the dam are, when the dam 21 is stretched out flat, straight and parallel and the lower end of the dam is curved to form a downwardly extending tab 23. The sides of the dam are welded, cemented or otherwise suitably attached to the back portion 2 and the front portion 3, respectively, of the garment 1 from the top of the dam down to a point substantially below the lower most of the openings 20. The seal 24 thus formed must be proof against the passage of liquids whereby no liquid may enter the area between the dam 21 and the apertured outer wall of the pants, other than from the bottom. Preferably, these seals at their lower ends 25 are curved to follow the contour of the tab 23 for a short distance. This curving of the seals adds materially to the strength of the tab, particularly in its ability to resist tearing.

The operation of my nonleaking, ventilated baby pants is simple. Any liquid which is discharged into the pants is retained therein because there is no escape for this liquid when the pants are properly in place. When the pants are in place on the baby they will not be stretched flat but will be partially gathered at the waist. Since the dam 21 has the same width of material in it as the sides of the pants in the area between the seals 24, the gathering of the pants will cause the dam 21 and the outer wall of the pants formed by the back portion 2 and the front portion 3 to separate, with the dam tending to move away from the body of the garment. This separation of the dam 21 and the body of the garment exposes the openings 20. This is true because the dam 21 is securely attached to the front portion 3 and the back portion 2 of the pants whereby gathering of these parts will cause the dam to be gathered into wrinkles or channels 9 forming air passage channels. There would be little or no separation of the dam 21 from the body of the pants were the sides of the dam 21 not securely attached to the sides of the pants. With the dam 21 thus removed from the sides of the pants, the openings 20 will be exposed permitting the free movement of air from the inside to the outside of the pants and vice versa. Each time the infant moves the dam will be caused to fluctuate, whereby it will act in the nature of a diaphragm pumping the air back and forth through the holes 20. Thus, not only is ventilation permitted, but the movements of the infant accelerate the ventilation by generating air circulation.

Since the liquid confined within the pants will migrate to the lowest point in the pants, when the baby is lying on its stomach or back, the liquid will tend to lie in the middle of the front portion 3 or the back portion 2, respectively.

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Since the liquids will be either at the front or the back of the pants there will be no tendency for these liquids to pass out through the uncovered openings 20. However, should the baby roll on either of its sides and the liquid migrates to that portion of the pants which is then on the bottom, the weight of the infant on the garment will press down against the dam 21 forcing it against the body portion of the garment. In this position, the dam 21 will seat securely over the openings 20, forming a seal against the escape of liquid through these openings 20. Since the dam 21 has a moisture tight seal 24 along its sides, any liquids moving around the garment, as the baby rolls, will be restrained from getting between the dam 20 and the sides of the pants in the area in which the sides are perforated. Since normally the waist of the baby will be slightly higher than the thighs and hips of the baby, there is little tendency for the liquids to run up between the unattached lower tab 23 of the dam 21 and the body of the pants. Whatever tendency there is for the liquid to flow into this area, will be prevented by the weight of the infant pressing the dam 21 securely against the body of the garment. This sealing effect is facilitated by the fact that only the tab 23 need be pressed against the body of the garment to bar the passage of liquids. While the ventilating openings 20 on one side of the garment are thus rendered inactive, the ventilating holes on the other side of the garment will, of course, be opened since they will be projecting upwardly and the dam will tend to fold inwardly by its own weight leaving a substantial gap between the dam 21 and the sides of the garment. Again the movements of the baby will cause fluctuations in the position of the dam making it function as a pumping diaphragm for circulating air through the openings 20.

I have described a baby pants having an effective ventilating means designed to restrain the leakage of liquids while providing adequate ventilation. Although the location of the openings 20 and their associated dams 21 on each side of the garment is considered a preferable location, since it is normal for babies to be placed either on their backs or on their stomachs, it is possible to place the ventilating openings 20 and their associated dams 21 at the front and back of the garment rather than at the sides. Such a change in location will not depart from the principle of my invention.

These and other modifications which do not change the principle of my invention are to be considered as included in the hereinafter appended claims except where the language of said claims expressly provides otherwise.

I claim:

1. A ventilated, infant's garment comprising: a body member having a waist opening and leg openings; the walls of said body member defining groups of openings through the upper portion of said body member; a dam mounted to the inside of said garment for covering each of said groups of openings; means for attaching the top and a substantial portion of each of the sides of said dam to said garment.

2. In an infant's garment as described in claim 1 wherein the ends of said means for attaching the sides of said dam to said garment are curved toward each other.

3. In an infant's garment having a body member of waterproof material, said body member including a waist opening and leg openings each

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surrounded by means for contracting said openings, the improvement in said garment comprising: the walls of said body member defining oppositely directed groups of openings through said member; a dam of waterproof material for covering each of said groups of openings, said dam mounted to the inside of said body at its upper end and along a substantial portion of its sides and open along its lower end whereby when said dam is free to move inwardly of said garment **10**

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said openings will be uncovered for permitting the passage of air through said openings.

4. In an infant's garment as described in claim 3 wherein the lower end of each of said dams extends substantially beyond said groups of openings.

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No references cited.