Oct. 4, 1949. M. S. DAYAN 2,483,756

DIAPER

Filed Jan. 29, 1947

Fig. 1.

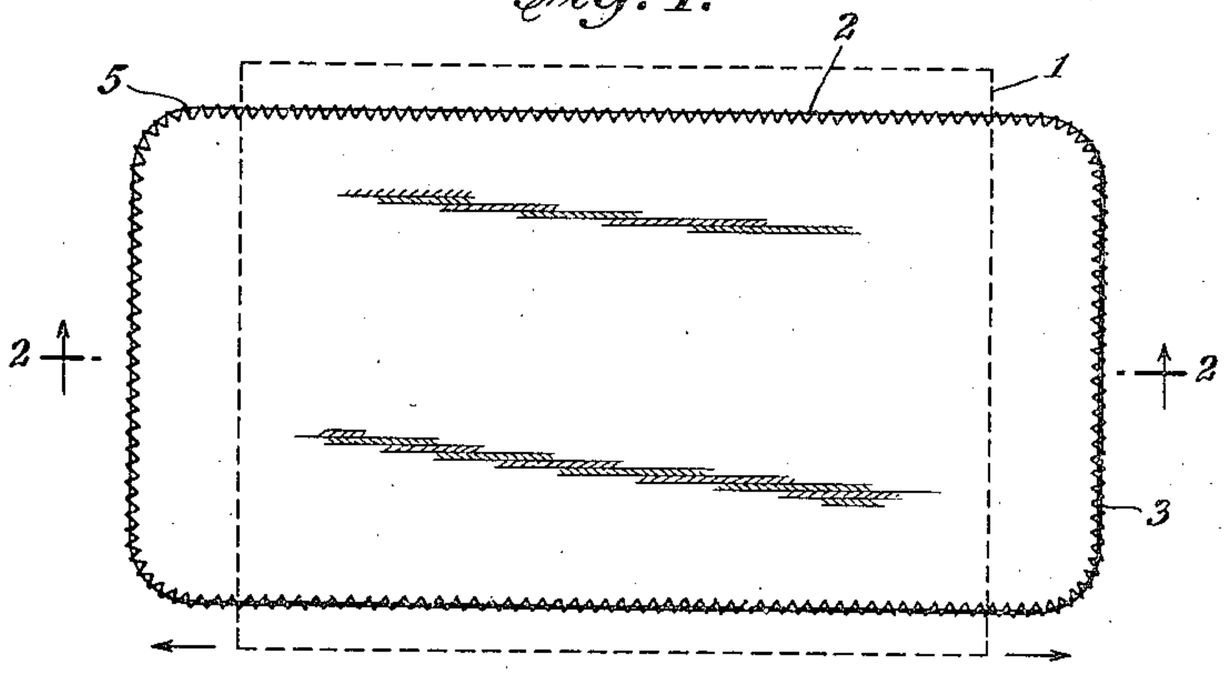


Fig. 2.

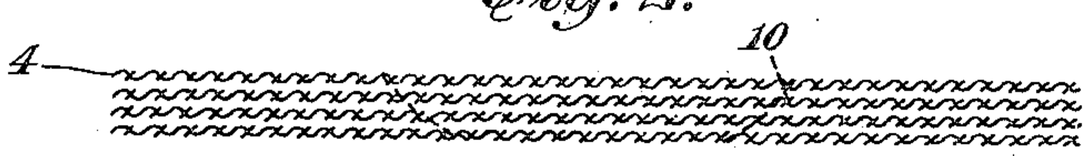


Fig. 3.

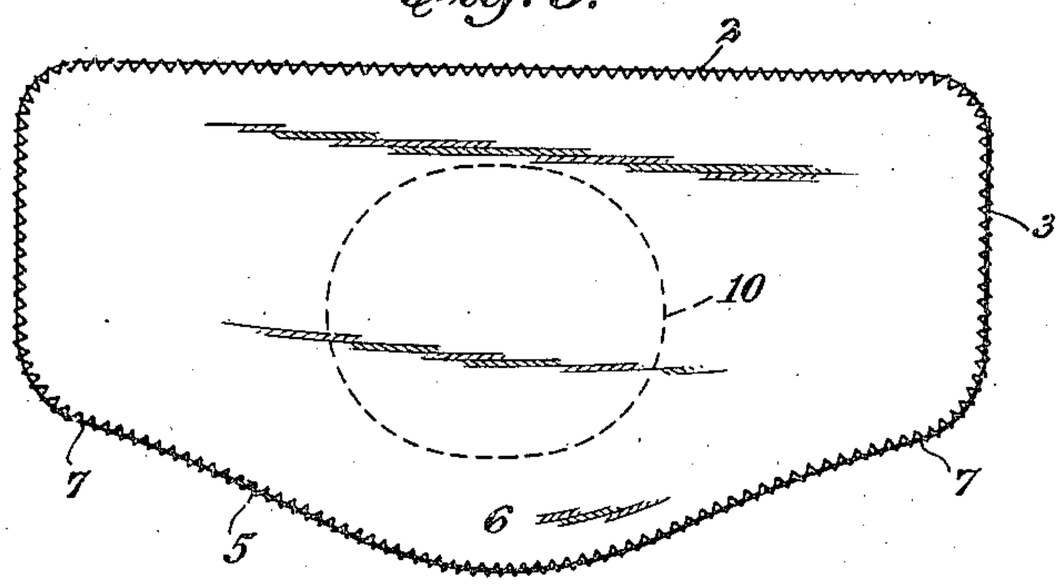
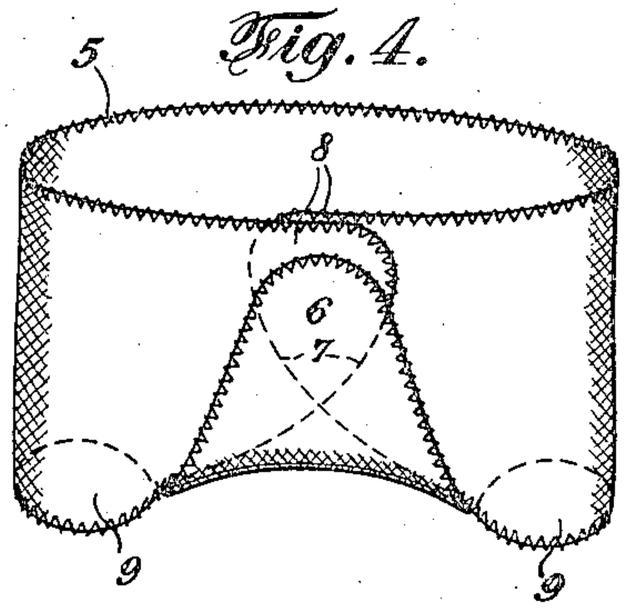


Fig. 4.



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UNITED STATES PATENT OFFICE

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DIAPER

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Application January 29, 1947, Serial No. 725,104

1 Claim. (Cl. 128—284)

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This invention is an improvement in loin cloths or diapers, particularly diapers for infants.

An object of the invention is to provide a diaper of special texture and superior adaptability, exceedingly easy to manipulate and attach; and having maximum absorptive power and capacity for retaining the contents.

The advantages and nature of the invention are explained in the following specification, taken with the accompanying drawings, which show a preferred embodiment of the invention. But I do not wish to be limited to the exact structural features herein set forth, and I reserve the right to make alterations that are consistent with the spirit and principle of the invention and fall within the general meanings of the terms in which the appended claim is expressed.

On said drawings:

Figure 1 is a plan of the diaper of this invention laid out flat;

Figure 2 is a section on line 2—2 of Figure 1;

Figure 3 is a top plan of the diaper after it has been manipulated and made ready for use; and

Figure 4 shows the diaper with its parts in the relative positions they assume when the diaper is wrapped round the waist and thighs of a baby.

The diaper is made of several superposed layers of cloth, each having the general shape of a rectangle indicated in broken lines at 1 on Figure 1. Each layer is stretched in a direction parallel to the longitudinal edges 2, as indicated by the arrows, but not crosswise in the direction of the transverse edges of the ends 3. The several layers, preferably four in number, are illustrated at 4. All the layers are sewed together along their entire edges by lock-stitching which runs along a zigzag line and crosses the edges, as indicated at 5.

The textile material of each layer 4 is thread or yarn not woven but knitted in either a latch machine or a spring needle circular machine (14 to 30 courses per inch) and then cut across to give the layer two separate ends. The cloth is preferably stretched lengthwise first and then cut into pieces for the layers; these are then put on one another and sewed as stated; the longitudinal lock stitching giving the thread a zigzag course through the cloth and across the edges of the layers 4 at all points. After this operation the garment virtually cannot be stretched lengthwise any further; but is elastic and fully stretchable across the width thereof. Figure 1 merely depicts the direction in which the stretching is accomplished. The stretching, as stated above,

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is done before cutting into pieces for the layers 4, so that the whole cloth is stretched at one time.

This properly enables the rectangular cloth to be easily manipulated and shaped to cover the waist, thighs and crotch of the infant, and when the baby needs the diaper, it is pulled and stretched transversely till one of the longer edges along the sides acquires the form presented in Figure 3. Said edge is thus given more or less of a central bulge as shown at 6, taking up a substantial part of the length of the diaper between the adjacent rounded edges 7. In this state the diaper can readily be fitted and put on the child and secured by pins or other fastening devices, as required.

When so attached the diaper is arranged as depicted in Figure 4. The opposite ends are overlapped as indicated at 8, at the front of the infant's body, about the region of the waist, and then the bulge 6, which is in back, under and below the wearer's buttocks, is drawn between the thighs and pulled up to overlie the two ends 8. The three parts 6 and 8 are then made fast, as by means of a safety pin of the usual type. At each side along the lower edges are the openings 9 for the protruding legs. These openings are really larger, and much closer together, but the general arrangement is plainly illustrated on Figure 4.

The diaper thus fits snugly and its stretchability in a transverse direction facilitates the handling and adjustment of all parts to obviate any discomfort. The cloth is readily and quickly made wide enough to give the bulge 6 and to permit one to draw this bulge forward and up to be joined to the two ends 8.

The knitted texture of the layers of cloth provides numerous small interstices between the looped threads; and the yarn itself is soft enough for the fibres to have plenty of capillary attraction for moisture. The absorptiveness of the diaper is exceedingly high and if it receives nothing but liquid voided by the wearer, none of the liquid can run out; but all of it is absorbed by one layer after another, and the maximum effect is nothing more than a moist area 10 which may only appear as a damp patch on the outside, like a spot on a piece of blotting paper. The rubber sheet or other covering usually fastened on over the diaper is thus never made wet and nothing ever runs out of the diaper. Further, when the infant defecates, any liquid is fully absorbed as before and the remainder of the deposit is fully contained. The soft layers of cloth can be bound tightly enough,

though remaining quite comfortable, to prevent any extrusion of the fecal discharge by the infant under the edges of the openings 9, or at any other point.

The merit of the invention is now made clear, and it will be seen that all the objects thereof are fully attained by a diaper having the characteristics above described.

Having described my invention, what I believe to be new is:

A diaper comprising superposed knitted layers of material made of soft yarn, the diaper being substantially rectangular, said layers being stretched in the direction of their greatest dimension but not transversely thereof; said layers being stitched together around the entire peripheral edges thereof with the layers in stretched condition, and being extensible transversely of the greatest dimension to facilitate

handling and adjusting into position for wear, so that the diaper fits the wearer's body snugly without causing discomfort, said layers being absorptive in high degree.

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