

Sept. 22, 1959

S. E. LJUNGREN
CATAMENIAL TOWEL

2,905,177

Filed Oct. 8, 1956

2 Sheets-Sheet 1

Fig. 1

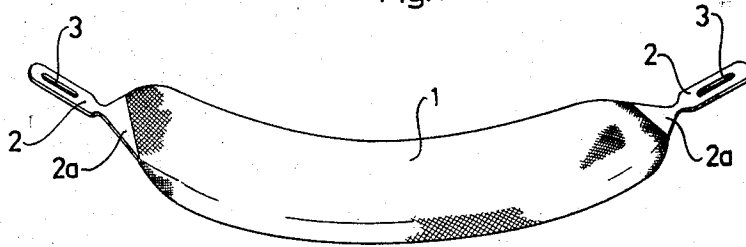


Fig. 2

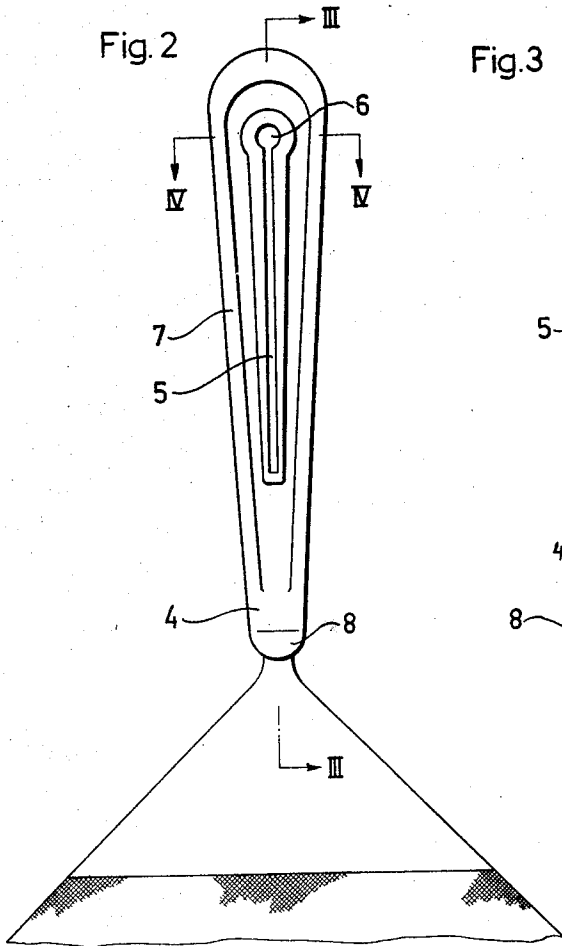


Fig. 3

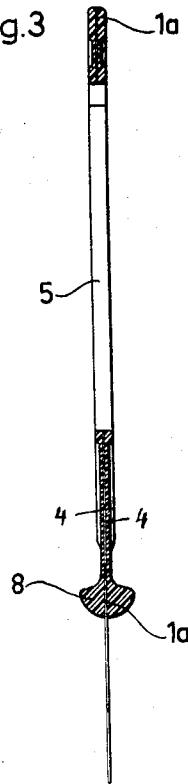
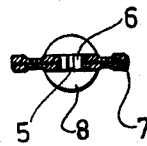


Fig. 4



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Fig. 5

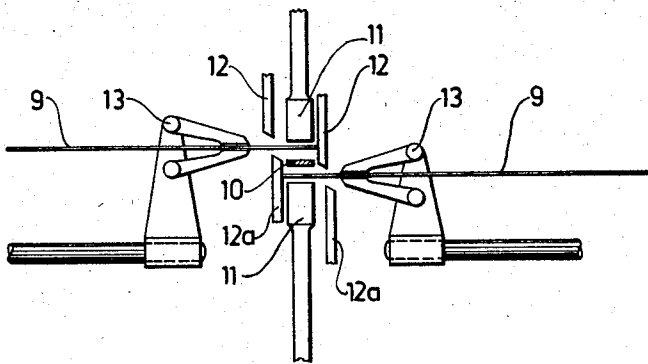
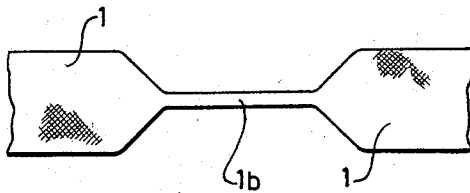


Fig. 6



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CATAMENIAL TOWEL

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Claims priority, application Sweden November 4, 1955

1 Claim. (Cl. 128—290)

The present invention relates to a catamenial towel and a method and a device for its production.

As a rule such towels comprise a pad of absorbent material and, encompassing the same, an envelope of gauze or other material, provided at the ends with fastening members for hooking on to a girdle or the like, suspending the towel. Up till now these fastening members generally have been formed by double-bending tying together the end portions of the envelope, or else the end portion has been twined to a string bent into a loop, at which the free end is retained by means of a strip of plastic or the like, bent around both parts.

The main object of the invention is to cheapen and simplify the manufacture of towels of this type and especially the invention relates to said end portions of the towel. According to the invention each of these end portions is provided on each side with a layer of plastic or the like which is intimately connected with the fibrous material of said end portion of the towel, for instance by cementing with an adhesive or by welding, so that the fibres, the threads, or the material of this end portion are joined together and reinforced. Either before or after, or possibly during said connecting operation, the plastic layers are suitably provided with apertures right through the plastic material, whereby a strong fastening loop is obtained.

One of the great advantages of the invention is that the end portions of the towel in a simple manner may be produced mechanically in a continuous procedure. For this purpose each end portion of the towel may, for instance, be positioned between two spaced plastic sheets or plastic foils which thereupon are secured in the manner described above, to the end portion of the towel by welding or the like and thereby also with one another.

However, the plastic layers may not necessarily be formed as sheets provided with apertures but may also be formed as beads on the end portions in question of the towel. This bead is caused to engage a suspender-like fastener on the girdle or other supporting member.

Instead of applying plastic sheets or plastic foils, at least the surface layers of the end portions may also be impregnated or coated with plastic which, if desired, is pressed in the shape of a sheet or in the shape of a bead.

The invention also relates to a machine for performing the method.

Some embodiments of the inventions are shown on the accompanying drawings, in which:

Figure 1 illustrates a perspective view of one embodiment of the towel,

Figure 2 shows a construction of the end portion on a larger scale,

Figure 3 is a section along the line III—III of Fig. 2,

Figure 4 shows a cross section along the line IV—IV of Fig. 2,

Figure 5 shows diagrammatically an embodiment of a machine for producing the end portions of the towel, and

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Figure 6 shows a part of the towel during the procedure of production.

The towel 1 according to Figure 1 consists of a pad with an envelope of, for instance, gauze reinforced at the end portions by plastic layers 2 having apertures 3, passing through the same. Such a plastic layer in the shape of a plastic sheet is, for instance, applied to each side of the end portion so that the latter will be situated between the plastic sheets whereupon the latter will be situated between the plastic sheets whereupon the latter are welded or cemented together with an adhesive. The aperture 3 is formed at a suitable stage of the manufacture and serves as a fastening eyelet. The plastic layer 2 may possibly extend by a neck portion 2a a distance towards the middle portion of the towel in order to reinforce the same, but this is not essential. Likewise the plastic layers 2, provided at both ends, may be interconnected by means of an intermediate thin, flexible plastic foil or the like, extending along one side of the towel and serving as a moisture-proof protection for the outer surface of the towel.

Figures 2-4 show another construction of the plastic layers 4 which are applied to either sides of the material 1a of the end portion of the towel so that said portion is intimately connected with and embedded between the plastic layers. The plastic layers may possibly be a little thickened at the edges 7 in order to obtain greater strength. The aperture 5 may be shaped like a keyhole with a wider part 6 in order to facilitate the hooking on to the girdle fastener. Figures 2 and 3 also show a construction with a bead 8 which can be applied instead of or together with the aperture 5. The bead may also be formed by a plastic element put around the end portion 1a of the towel, for instance in the shape of a plastic socket or a plastic strip enclosing the portion 1a.

Different kinds of plastic or artificial resin material may be employed provided that they are pliable and able to be easily cemented or welded on to the end portions of the towel. In the case impregnation with plastic substances a solution of a suitable plastic is utilized. Examples of plastic materials are thermosetting artificial resins. The plastic material may consist of polyethylene.

The machine shown diagrammatically in Figure 5 consists of two pair of pliers or grasping means 13, each seizing and feeding its separate plastic foil 9 above and underneath, respectively, that portion 10 of the towel which is situated between said plastic foils. The otherwise completed towels 1 are interconnected with each other during this stage by an intermediate portion 1b (Figure 6) corresponding to the portion 10 shown in Figure 1. The interconnecting towels are fed lengthwise through the machine and when the intermediate portion 1b reaches the point where the plastic foils 9 are situated, said foils being directed transversely to the length of the towel, the plastic foils 9 are pressed against the portion 10 of the towel by means of tools 11, which simultaneously by high-frequency fields or the like weld the foils together right through the material of the towel. Subsequently the knives 12, 12a cut off the two foils and the pliers 13 move back freely from the plastic foils so as to feed new pieces of foil towards the towels. The towels are fed on to the next station where the plastic foils welded on are punched clean, formed, and provided with apertures, whereupon the two adjacent towels are cut apart from one another.

Of course this arrangement may also be carried into effect in many other different ways.

What I claim is:

A catamenial towel including an elongated pad of absorbent material and a surrounding envelope of fibrous

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material, the ends of the envelope of fibrous material being interposed between opposite layers of plastic material, the said opposite layers being intimately connected with the ends of the envelope of fibrous material and with each other through meshes in the fibrous material so as to form a compact towel end portion, said end portion having a thickened bead-shaped reinforcing part for engagement with a clasping fastening element, and another thickened reinforcing part surrounding an aperture for engagement with a button-like fastening element, the bead-shaped reinforcing part being positioned between the aperture surrounding part and the absorbent pad.

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