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2,048,392

COLOSTOMY APPLIANCE

Filed March 19, 1934

Fig. 1.

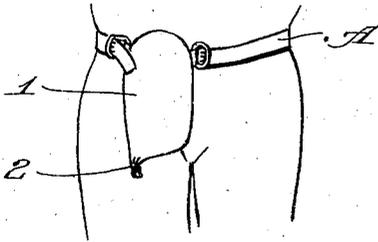


Fig. 2.

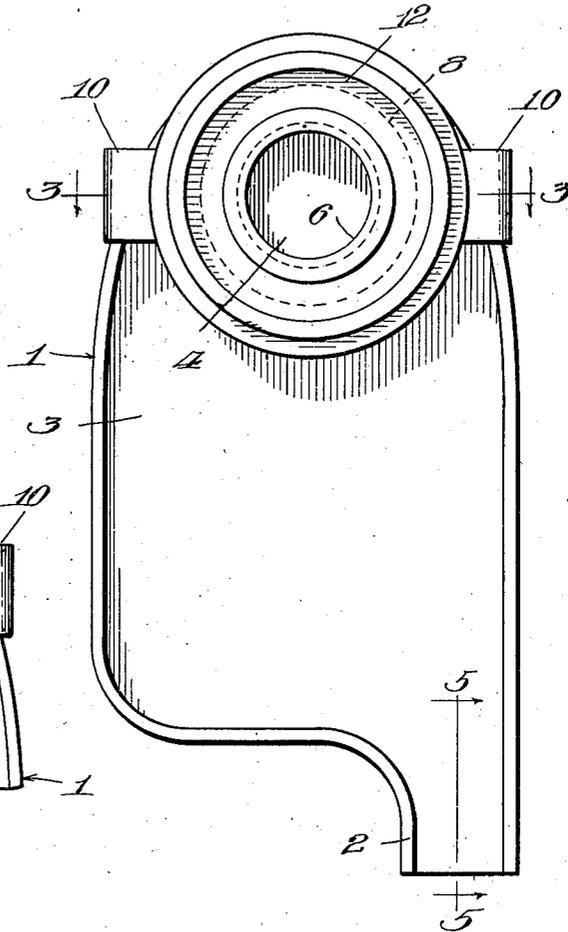


Fig. 4.

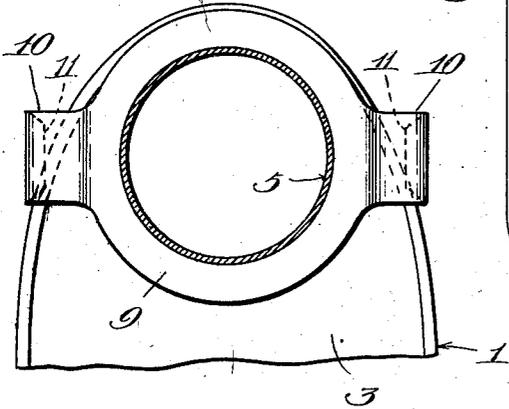


Fig. 3.

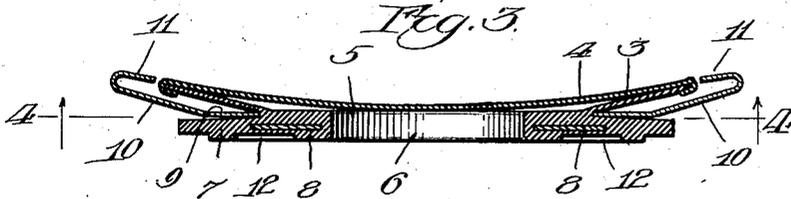
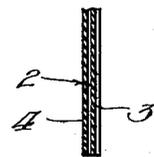


Fig. 5.



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COLOSTOMY APPLIANCE

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5 Claims. (Cl. 128—283)

The present invention relates to appliances in the form of receptacles or containers adapted to be associated with artificial orifices in abdominal walls, and has for its object to simplify and improve such appliances.

Heretofore appliances of this type have been bulky and rather cumbersome and, viewed in one of its aspects, the present invention may be said to have for its object to produce an appliance which will be thin and flat and thus produce no considerable outward projection from the abdominal wall.

Heretofore it has been practically impossible to secure a fluid-tight joint between the appliance and the abdominal wall and, viewed in another of its aspects, the present invention may be said to have for its object to provide a simple and novel means whereby, without undue pressure or other cause or act that may produce inconvenience or discomfort, all danger of outward leakage between the contacting surfaces of the appliance and the abdominal wall is prevented.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a more or less diagrammatic view showing one of my improved appliances being worn by a human being in one of the several positions in which it may be used; Fig. 2 is a rear view of the appliance, on a larger scale, the tie for the outlet being omitted; Fig. 3 is a section, on a still larger scale, taken on line 3—3 of Fig. 2; Fig. 4 is a section, on the same scale as Fig. 2, taken on line 4—4 of Fig. 3, only the upper part of the receptacle or pouch being shown; and Fig. 5 is a section on line 5—5 of Fig. 2.

Referring to the drawing, 1 represents a bag-like receptacle or container, or what may be termed a pouch, closed at the top and terminating on one side, at the bottom, in a contracted, spout-like portion 2 which constitutes the outlet. The receptacle or container is closed at the top and has its inlet through one of the side walls 3 near the top. The container is preferably composed of two thin sheets of flexible rubber lying flat upon each other and joined at their edges through being vulcanized. Consequently, when empty, the container is flat and very thin or, the container may be said to be formed of two thin, flexible walls 3 and 4 that tend normally to lie

flat against each other. The inlet opening 5 in the rear wall 3 may be of any suitable diameter as long as it is as great as the diameter of the opening 6 in a washer-like piece 7 adapted to contact with the abdominal wall of the wearer around an artificial orifice in the latter and produce a seal to prevent escape of fluid from the orifice outwardly along the external face of the abdominal wall. The member 7, while made of soft rubber, is thick so as to be comparatively stiff, and it is further stiffened by having embedded therein a flat reinforcing washer 8 of metal or other suitable material that surrounds and lies near the opening 6. The external diameter of the member 8 is considerably less than the external diameter of the contact piece 7, however. The member 7 is united directly to the wall 3 of the container by a wide annular joint adjacent to and surrounding the opening 5 and having an external diameter smaller than the diameter of the member 8. It will thus be seen that normally the flat, collapsed container will tend to lie directly against the contact element, so that the over-all thickness is comparatively small. It will also be seen that the inlet opening for the device may be made of any desired size or shape as it can be cut through the disk 7 and that part of the wall 3 which is joined to the disk, after vulcanization has been effected. In other words, the same pouch may be fitted to any artificial opening on the human body without having the inlet opening into the pouch too large or too small or improperly shaped. Looking at it in another way, the inlet opening is entirely independent of the supporting means for the pouch whether it be a plate such as will hereinafter be described or other means.

The container or pouch is supported by holding the same suspended from a ring 9 cut out of a flat sheet of metal or other suitable material and having a central opening having a diameter about as large as the external diameter of the annular joint between the container and the member 7. It will thus be seen that the pouch is supported from points far removed from the inlet openings 5 and 6, so that there is no tendency to distort these openings in the use of the device, and therefore the openings may be cut to just the proper size and shape to cover all of the skin immediately surrounding an artificial orifice, exposing only the mucosa into the inside of the pouch. Thus the suspending ring 9 may be said to overlap the core ring 8. The ring 9 is applied by passing the container or pouch bodily through the same, lower end first, thus bringing the ring

into position between the wall 3 and the contact element 7 and surrounding and in contact with the joint between the wall 3 and the element 7. The ring 9 has laterally projecting, diametrically opposed arms 10, 10, the free ends of which are bent inwardly toward each other into the form of hooks 11 for attachment to a strap or belt such as shown at A in Fig. 1. The arms 10 are preferably inclined outwardly or forwardly away from the contact element 7 so that the pull of the belt or band on the same will tend to draw the arms inwardly or backwardly and thus cause the ring to press the contact element uniformly against the abdominal wall.

I have found that, when the contact face on the element 7 is smooth and flat, moisture will creep outwardly between this face and the skin of the wearer, through capillary action. However, I have discovered that this wetting of the entire face of the contact element may be prevented and, at the same time, the contact element will be held securely against lateral displacement, by providing the contact face of the element 7 with one or more annular grooves surrounding the opening 6. It is not enough that there be a groove, but the groove must be so shaped that at no point will there remain a line of contact between the element 7 and the abdominal wall, extending uninterruptedly from the opening 6 to the periphery of the element 7. This interruption of contact between the meeting surfaces may be insured by causing the side walls of the groove in the face of the element 7 to form sharp angles with the bottom wall of the groove. This is the type of groove that I have illustrated, the same being indicated at 12. It will be seen that, where the side walls of the groove lie, say at right angles to the bottom wall, these three walls will not touch the skin of the wearer in the vicinity of the two angles or corners, because the annular projection or ridge created in the skin of the wearer upon pressing the element 7 against it will have a rounded contour and will not fit into the angles or corners of the groove. Consequently, while these ridges serve as mechanical interlocks to prevent lateral slipping of the appliance, they effectively interrupt the continuity of contact between the element 7 and the skin of the wearer along any radius of the element 7.

The various uses of these devices are well known and require no explanation. I may say, however, that while my improved appliance is being worn the discharge spout is closed by tying, by stretching a rubber band around the same, or in any other suitable manner. Upon removing and cleaning the appliance, the outlet spout is left open and is expanded by inserting, for example, a strip of metal bent into a hair pin shape and long enough to reach up to the vicinity of the inlet

opening into the container and thus hold the walls 3 and 4 apart. While hanging up in the condition just described, the container is effectively aerated by air circulating through the same.

It should be noted that the container can be finished by a single curing operation, the only core that is needed being a piece of fabric between the two sheets that are to form the bag or container proper. Consequently, the cost of manufacture is not high.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:

1. A device comprising a flexible rubber pouch closed at the top and having an opening in a side wall, a thick flat washer-like rubber element lying close to said wall with the opening therein registering with the opening in the wall, said wall and said element being directly united to each other along the boundary of the opening in said element, a thin flat stiffening ring embedded in said element around and near the opening in the latter, and a thin supporting plate for the pouch positioned between the said element and said wall and surrounding and fitting the joint between the same.

2. A device of the character described having a washer-like element for contact with an abdominal wall, the outer face of said element having therein a continuous groove surrounding and spaced apart from the central opening and surrounded by the marginal portion of said face.

3. A device of the character described having a washer-like element one face of which is adapted for contact with an abdominal wall, the said face of said element having therein a continuous groove surrounding and spaced apart from the central opening, said groove having side walls forming sharp corners with the bottom wall of the groove.

4. A device comprising a pouch having an opening in a side wall, a washer-like element lying flat against said wall with the opening registering with the opening in the wall, said wall and said element being directly united to each other over a wide annular area surrounding the opening in said element, and a supporting plate for the pouch positioned between the said element and said wall and surrounding the joint between the same.

5. A device comprising a pouch, a disk lying flat against a wall of said pouch, said disk and said wall having registering openings therethrough and being integrally united over a comparatively wide annular area surrounding said openings.

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