

13

-1-

OSTOMY COUPLING

This invention relates to a coupling for releasably connecting a bag or pouch for receiving discharged waste to a pad. The pad is attached to the body of a wearer. Such bags are often called ostomy bags.

As is explained in UK Patent No. 2 121 902, desirable features of an ostomy coupling are that it is easily coupled and uncoupled for changing or emptying of the bag, has good security of attachment and sealing, and has a flat design so that the bag is unobtrusive when worn under light garments or sports clothing. It has been proposed that an ostomate should wear a pad of medical/surgical adhesive material surrounding his stoma and that an ostomy bag or pouch should be connected thereto. In British Patent Numbers 1 021 145 and 1 099 455 there are proposals for achieving this. A simple coupling using relative rotation of its two parts for connection and disconnection is disclosed in British Patent No. 1 579 875.

According to the present invention there is provided a three-part ostomy coupling which has a first part having a flange, a central chute, and an array of spaced projections; a second part having a peripheral seal for engaging and surrounding the outer wall of the chute and an outwardly-projecting rim capable of a snap-fit with the spaced projections; and a third part which is rotatable to engage the projections in order to effect a positive lock between the rim and the projections.

In another aspect, the invention provides a three-part ostomy coupling in which rotation of a cam ring to one position prevents the disengagement of two parts of the coupling and to another position allows the parts to be sprung apart manually.

The invention will be better understood from a non-limiting description of one example given with reference to the accompanying diagrammatic drawings, in which:

Figure 1 shows in cross-sectional view one example of a first part which is preferably but not necessarily a body side coupling element,

Figure 2 is a similar view of a second part usable in an example of the invention,

Figure 3 is a similar view of a third part, the common axis of the stomal aperture being shown in these figures as a vertical chain-dotted line; and

Figures 4 and 5 are respectively diagrammatic views mutually at right angles of an assembled coupling according to the invention, Figure 4 being a cross-section on the line A-A seen in Figure 5.

The illustrated ostomy coupling includes a first coupling element 10, a second coupling element 12, and a locking ring 14 also called a cam ring herein. The first coupling element 10 is the body side member and has a flange 16, a central chute 18, and a series of spaced projections 20 surrounding the chute. Preferably the first coupling element is made in one piece as a moulding of synthetic plastics material. The projections 20 are arranged to surround the chute 18 and so are arcuate in form, see Figure 4. The projections 20 are spaced from one another in a peripheral direction. They are spaced from one another by a distance greater than, preferably slightly greater than, the arcuate extent of each projection; preferably the projections are all of equal arcuate length but this is not essential. The chute 16 is shown as cylindrical surrounding the stomal orifice 22 but minor departures from circularity are considered to be within the present invention.

The second element of the coupling illustrated in Figure 2 is the bag side of coupling element in this embodiment of the invention and it is in essence similar to such that described and illustrated in British Patent 2 121 902, Figure 5, to which the reader is referred for a detailed description. The bag side coupling element 12 includes a filter housing 24. This may take the form shown in UK Patent Application No. 8531257, Serial No. 2 177 926 published 4th February 1986. The housing 24 is intended to contain filter media 23 and has a lid or cover 25. The disclosure of the said Serial No. 2 177 926 is hereby incorporated in its entirety in the present application. The presence of a filter housing is not

18

-3-

essential to the present invention. The advantages of locking the two coupling elements together in the manner described are also obtained in ostomy couplings which do not have a filter housing. The second coupling element 12 includes a flexible seal strip 36. This part 36 on the second coupling element is a flexible and deflectable sealing means, and may be of the kind disclosed and illustrated in British Patent No. 1568860.

The coupling ring 14 is a plain flat ring having ears 26, Figure 4, and having a central hole therein bounded by a wall 28 which is part circular with the part circular portions being joined by straight portions 30, Figure 4. These straight portions 30 in effect act as cams and in one rotary position of the ring 14, namely the position shown in Figure 4, prevent the projections 20 being forced radially outwardly and in another rotary position, that is to say in a position where the flat portions 30 are located in the spaces between the projections 20, the restraint against outward movement of the projections 20 is removed.

It will be understood from this that the function of the ring is to provide a positive locking, and the lock position (to which it is moved by the wearer of the bag gripping the ears 26 and twisting about the axis of the stomal orifice) is that shown in Figure 4. In the unlocked position of the ring, the first and second parts of the coupling can be separated from each other manually by an axial pull which results in a slight deformation of the projections 20 permitting the rim 32 to spring past the inwardly extending parts 34 of the respective projection.

It has been previously suggested, for example in British Patent Specifications Nos. 1021145 and 1579875 to employ a relative rotation to effect a locking between two parts of an ostomy coupling. It is believed that neither of these prior proposals was effective in practice because of difficulty in operation and unreliability of sealing against egress of liquid. On the other hand, the invention disclosed herein embodies well tried techniques which have proven successful, coupled with the valuable extra feature of a cam ring or locking ring which provides a positive assurance that the parts of the coupling cannot be separated except when desired by the wearer.



11

-4-

CLAIMS

1. A three-part ostomy coupling which has a first part having a flange, a central chute, and an array of spaced projections; a second part having a peripheral seal for engaging and surrounding the outer wall of the chute and an outwardly-projecting rim capable of a snap-fit with the spaced projections; and a third part which is rotatable to engage the projections in order to effect a positive lock between the rim and the projections.
2. A three-part ostomy coupling in which rotation of a cam ring to one position prevents the disengagement of two parts of the coupling and to another position allows the parts to be sprung apart manually.
3. A coupling according to claim 2 in which the said two parts are of resilient plastics material and consist of a first part forming a wall around a stomal orifice and having an outwardly projecting rim extending from the wall away from the stomal orifice and a second part formed by a plurality of arcuate walls each having an inwardly projecting portion which can be sprung past the rim to separate the two parts due to the resilience of the material.
4. A coupling according to claim 1 in which the said third part is formed by a cam ring.
5. A coupling according to claim 2 or 4 in which the cam ring has a cam surface formed by cylindrical surfaces alternating with flat surfaces.
6. A coupling according to claim 1 or any claim dependent thereon in which the third part is operative to deform the spaced projections so that they overlap the said rim.

17



-5-

7. An ostomy coupling substantially as herein described with reference to and as illustrated in the accompanying drawings.