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(54) **Container for a vascular prosthesis**

(57) A container for a vascular prosthesis incorporates a body portion having two separate compartments of which one compartment (1) is formed as a curved channel closed at both ends and open to one face of the container and the other compartment (2) is formed as a depression located between the limbs of the curved channel and open to the other face of the container, a sealing plate (3)

adapted to fit against said one face of the container to close hermetically the curved compartment and a readily removable flap (4) arranged to cover over and close said other compartment.

In use a vascular prosthesis is laid in the curved channel of the one compartment (1) and a sample portion of the prosthesis is laid in the depression of the other compartment (2). The sealing plate (3) and the flap (4) are then put in place to close both compartments.

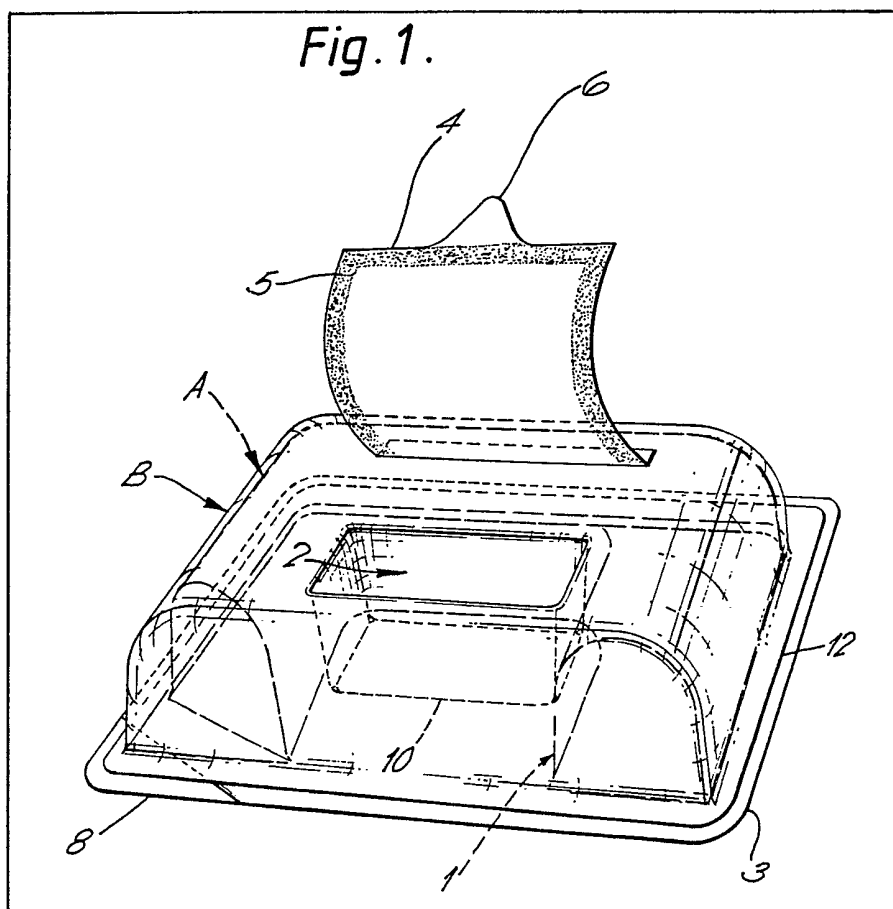


Fig. 1.

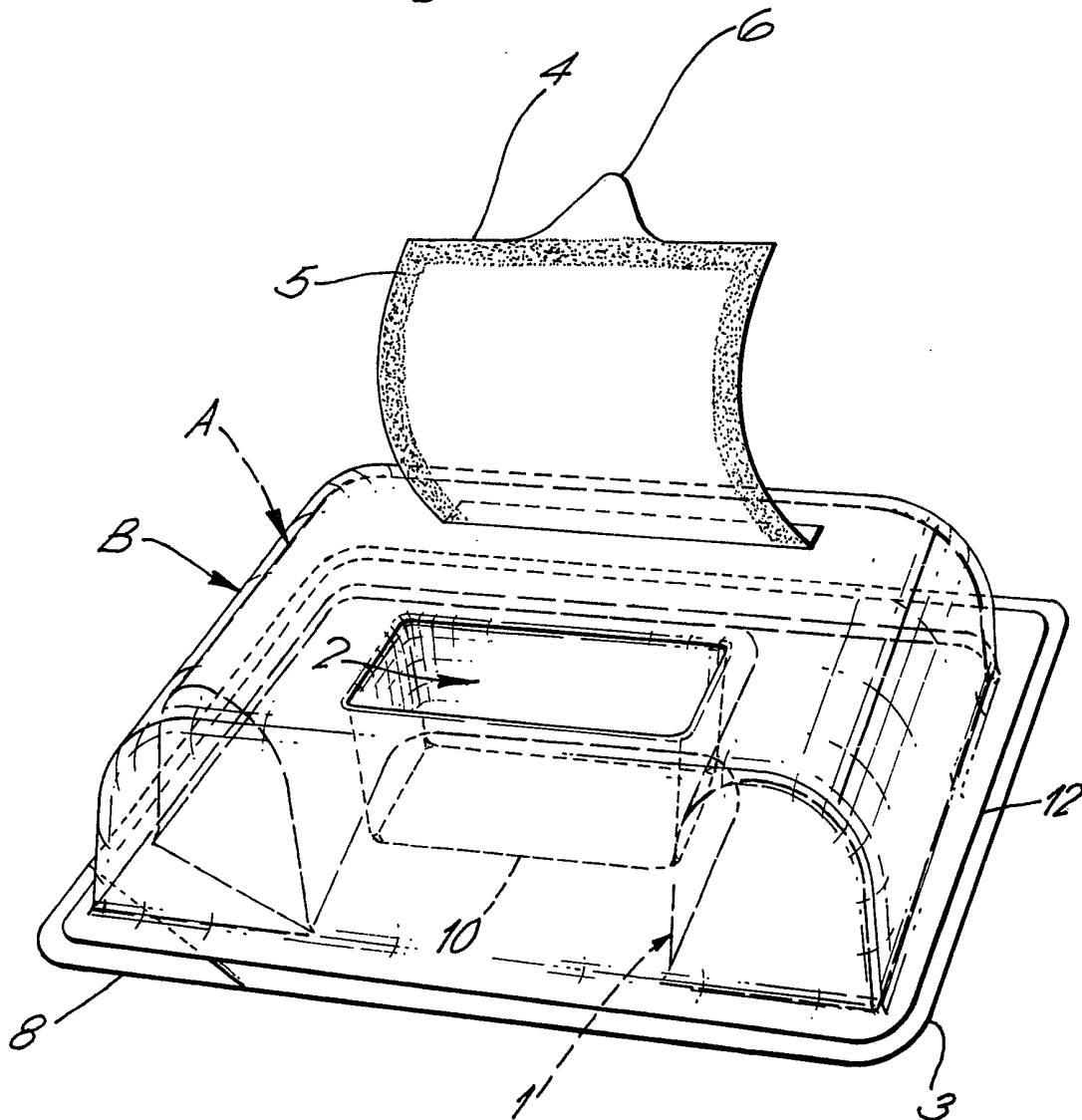
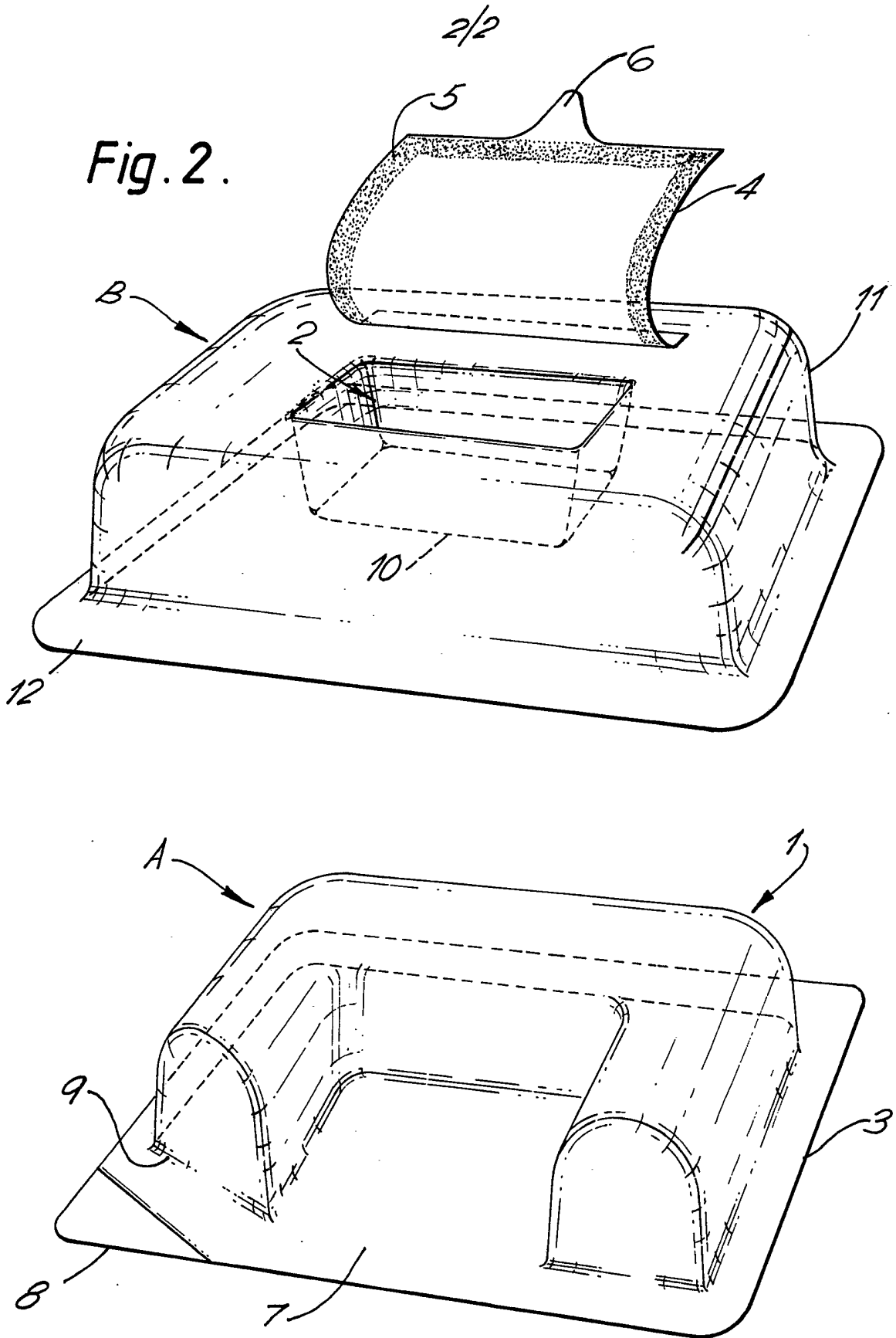


Fig. 2.



SPECIFICATION

Container for a vascular prosthesis

The subject of this invention is a container for storing vascular prostheses and particularly a package for storing vascular prostheses in a sterile condition while providing the prospective user of a prosthesis with all the information necessary for ensuring that the prosthesis is suitable for the position in which it is to be used without impairing the sterility of the prosthesis.

Because of the large variation in the diametral dimensions of blood vessels it is necessary that vascular prostheses for use as grafts should be the correct size for fitting to a particular blood vessel. This normally means trying the prosthesis or a portion of the same size of prosthesis against the blood vessel to which it is to be fitted. The difficulty arises that the prosthesis must be kept in a sterile condition until it is used. In consequence if the package is opened to try the prosthesis for suitability and it is found that the prosthesis does not fit it cannot be used on a later occasion and is wasted.

What is required is some method of making it possible to check that the correct size of prosthesis has been chosen without endangering in advance the sterility of the chosen prosthesis and it is an object of the present invention to make it possible to provide a packaged prosthesis which will satisfy this requirement.

A container for a vascular prosthesis according to the invention incorporates a body portion having two separate compartments of which one compartment is formed as a curved channel closed at both ends and open to one face of the container to receive a vascular prosthesis and the other compartment is formed as a depression located between the limbs of the curved channel and open to the other face of the container to receive a sample portion of the prosthesis, a sealing plate adapted to fit against said one face of the container to close hermetically the curved compartment and a readily removable flap arranged to cover over and close said other compartment.

The flap may be coated at least around the edges with a self adhesive surface which will adhere to the material forming the body portion of the container.

In one construction the body portion of the container is formed from two fitting components of which one component is formed with the curved channel and with the tops of the inner ends of the sides of the channel connected by a web of material of which the component is formed whereby to leave a cavity on the reverse side of the component and the other component is formed with the depression, the two components being fitted together so that the convex portion of the component constituting the depression on the other side lies in the cavity in the other component.

The boundary edge portions of the component formed with the depression may be curved

towards the convex side of said component so that when the components are fitted together the component formed with the depression encloses the reverse face of the other component, i.e. the face opposite the face presenting the open top of the curved channel.

The body portion may be formed with a surrounding flange to facilitate fitting and attachment of the sealing plate. Where the body portion is formed of two components each component may be formed with a surrounding flange to facilitate attachment of the components to one another and to the sealing plate.

The sealing plate may be a sheet of flexible material and may carry self adhesive strips by which it is attachable to the body portion.

A practical embodiment of the invention is illustrated in the accompanying drawings in which Fig. 1 shows a complete container with the two components assembled but without a prosthesis or a sample in place and Fig. 2 is an exploded view of the container showing the two components separated from one another.

In the drawings 1 denotes a curved prosthesis-holding compartment in the form of a U-shaped channel. In use a prosthesis, curved to fit the channel, lies in this channel. 2 denotes a sample-holding compartment in the form of a depression, 3 denotes a sealing plate closing and sealing the curved compartment 1 (in practice after a prosthesis has been placed therein) and 4 denotes a flexible flap formed with an edging of self-adhesive 5 which will adhere to the material forming the rim of the sample containing compartment 2 when the flap is pressed against the rim of the compartment, (in practice after a sterilized sample has been placed therein). The flap is formed with a tab 6 to facilitate opening of the sample compartment. As is shown in the lower illustration in Fig. 2 the U-shaped compartment 1 is pressed from one piece of sheet material constituting one component A of the body portion with a web 7 connecting the limbs of the U. 8 denotes a sealing plate of sheet material fastened across the opening of the U-shaped compartment to seal it. One limb of the U is angled at the extremity as shown at 9 with respect to the extremity of the other limb of the U. This is to facilitate removal of the sealing sheet sealing the U-shaped compartment. It will be noted that the sheet 8 projects at that corner beyond the sheet forming the U-shaped compartment. This is so that the tab thus presented at this corner may be readily grasped for pulling away from the U-shaped compartment for removal of the prosthesis. The upper illustration of Fig. 2 shows the other component B which is formed by pressing the centre portion of another piece of sheet material to a convex contour 10 whereby to leave an indentation on the other side, said indentation constituting the depression 2 for receiving a sample portion of the prosthesis. The boundary edge portions 11 of the component B are curved to the convex side of the component B. The component B is fitted over the component A,

the convex contour 10 forming the depression 2 fitting into the gap between the limbs of the U-shaped channel. It will be noted that a sterilized prosthesis contained in the compartment 1 will be completely sealed and isolated from the sample-containing compartment 2. 12 denotes flanges presented by the components of the body portion to facilitate fitting of the sealing plate and assembly of the components A and B.

- 10 In use and when a prosthesis is to be fitted to a patient the surgeon making the graft selects a container holding a prosthesis which he thinks will be most likely to fit. To test whether the prosthesis is suitable before breaking the seal and taking out the prosthesis he pulls back the flap 4 by means of the tab 5 to gain access to the sample. He can then examine the sample for size and any other important characteristics and if this test indicates that the prosthesis will be suitable he removes the sealing plate 8 to open the U-shaped compartment so that the fully sterilized prosthesis may be removed.

- If a sample is removed from the compartment 2 and it is found that the prosthesis in the other compartment would be unsuitable, although the sterility of the prosthesis is unimpaired and the prosthesis is still usable nevertheless the sterility of the compartment 2 is now lost and the benefit conferred by the invention is lost. To avoid this difficulty each sterilized sample piece of prosthesis may be encapsulated in its own container and one or more such containers placed in the compartment 2 which need not then be sterile. If a sample is removed and the prosthesis found to be unsuitable another similar sample in its capsule may be put in the compartment 2 and the lid 4 closed leaving the complete container as it was originally. Two or more samples may be put into a compartment 2 providing the opportunity for making two or more preliminary tests of the suitability of the prosthesis before it is necessary to replenish the compartment 2 with more samples.

CLAIMS

- 45 1. A container for a vascular prosthesis characterized in that it incorporates a body portion having two separate compartments of which one compartment is formed as a curved channel closed at both ends and open to one face of the

- 50 container to receive a vascular prosthesis and the other compartment is formed as a depression located between the limbs of the curved channel and open to the other face of the container to receive a sample portion of the prosthesis, a sealing plate adapted to fit against said one face of the container to close hermetically the curved compartment and a readily removable flap arranged to cover over and close said other compartment.

- 60 2. A container according to claim 1, characterized in that the flap is coated at least around the edges with a self adhesive surface which will adhere to the material forming the body portion of the container.

- 65 3. A container according to claim 1, characterized in that the body portion is formed from two fitting components of which one component is formed with the curved channel and with the tops of the inner ends of the sides of the channel connected by a web of material of which the component is formed whereby to leave a cavity on the reverse side of the component and the other component is formed with the depression, the two components being fitted together so that the convex portion of the component constituting the depression on the other side lies in the cavity in the other component.

- 80 4. A container according to claim 3, characterized in that the boundary edge portions of the component formed with the depression are curved towards the convex side of said component so that when the components are fitted together the component formed with the depression encloses the reverse face of the other component, i.e. the face opposite the face presenting the open top of the curved channel.

5. A container according to claim 1, characterized in that the body portion is formed with a surrounding flange to facilitate fitting and attachment of the sealing plate.

- 95 6. A container according to claim 3, characterized in that each component is formed with a surrounding flange to facilitate attachment of the components to one another and to the sealing plate.

7. A container according to claim 1, characterized in that the sealing plate is a sheet of flexible material and carries self adhesive strips by which it is attachable to the body portion.