[0007] Embodiments of the present invention aim to solve the above-described conventional problem, and to provide an adapter that can be connected to a female connector without the need to apply a large force.

Means for Solving Problem

[0008] According to an aspect of the present invention, there is provided an adapter comprising: a male member; an arm that faces the male member; and a claw that is provided on the arm so as to protrude toward the male member. The adapter is configured to be connected to a female connector with the male member being inserted into the female connector and the claw engaging with the female connector. The arm is elastically deformable so that the claw can move away from the male member. The claw includes a slidable portion that slides on the female connector during a process in which the adapter is connected to the female connector. The slidable portion is configured to move the claw in a direction away from the male connector while the slidable portion slides on the female connector. A contour shape of the slidable portion seen in a direction that is orthogonal to a central axis that passes through the male member includes a smooth convex curve, and the slidable portion is provided on a rib that extends along a plane that is parallel with a plane that includes the central axis.

Effects of the Invention

[0009] According to embodiments of the present invention, the contour shape of the slidable portion includes a smooth convex curve. With this configuration, the force that is applied to the adapter toward the female connector can be effectively used to move the claw in a direction away from the male member. Therefore, it is possible to connect the adapter to the female connector without applying a large force to the adapter. Also, the range of diameters of female connectors to which the adapter can be connected is increased.

Brief Description of Drawings

[0010] [FIG. 1A] FIG. 1A is a perspective view showing an adapter according to Embodiment 1 of the present invention seen from above.

[FIG. 1B] FIG. 1B is a perspective view showing the adapter according to Embodiment 1 of the present invention seen from below.

[FIG. 1C] FIG. 1C is a cross-sectional perspective view showing the adapter

CLAIMS

1. An adapter comprising: a male member; an arm that faces the male member; and a claw that is provided on the arm so as to protrude toward the male member,

wherein the adapter is configured to be connected to a female connector with the male member being inserted into the female connector and the claw engaging with the female connector,

the arm is elastically deformable so that the claw can move away from the male member,

the claw includes a slidable portion that slides on the female connector during a process in which the adapter is connected to the female connector,

the slidable portion is configured to move the claw away from the male member while the slidable portion slides on the female connector,

a contour shape of the slidable portion seen in a direction that is orthogonal to a central axis that passes through the male member includes a smooth convex curve, and

the slidable portion is provided on a rib that extends along a plane that is parallel with a plane that includes the central axis.

2. The adapter according to claim 1, wherein the smooth convex curve is an arc or a portion of an ellipse.

3. The adapter according to claim 1 or 2, wherein the male member is a puncture needle that has a sharp leading end.

4. The adapter according to any one of claims 1 to 3,

wherein the female connector includes a plug member of a vial bottle, and

the claw engages with a flange that has an expanded diameter and surrounds the mouth of the vial bottle.