

CLAIMS

1. A medical needle with a protector comprising:
 - a hub at a front end supporting a rear end of a needle tube;
 - a cylindrical protector that is capable of storing the needle tube by sliding the hub;
 - a first lock unit that locks the hub to the protector in a manner capable of unlocking in a first state that the needle tube protruded from the protector; and
 - a second lock unit that locks the hub to the protector in a manner incapable of at least a transition to the first state in a second state that the needle tube stored in the protector, characterized in that
 - a front end side part of the hub includes a step shape that forms an end surface facing to the front end side by separating at least a part of outer peripheral surface in a direction away from an axial line of the hub,
 - the protector includes:
 - a large cylindrical portion extending in a needle axis direction;
 - a protrusion piece that is provided on a rear end side of the large cylindrical portion, extends to a rear end side of the protector, and is elastically deformable in a direction away from an axial line of the protector;
 - a width-increased portion that is provided on an outer peripheral side of the protrusion piece on the rear end side of the large cylindrical portion, has a larger diameter than the large cylindrical portion, and has a minor axis and a major axis when viewed along the needle axis direction,
 - the second lock unit is configured such that a rear end side of the protrusion piece contacts with the end surface of the step shape in the second state, and
 - the protrusion piece is formed integrally with the large cylindrical portion on the major axis side of the width-increased portion.
2. The medical needle with the protector according to claim 1, wherein
 - the protrusion piece has a surface inclined to the axial line of the protector on a side of the axial line of the protector.

3. The medical needle with the protector according to claim 1 or 2, wherein the first lock unit is configured such that, a window provided on the major axis side of the width-increased portion is locked to the hub,
the window is provided to open the outer peripheral side of at least a part of the protrusion piece.
4. The medical needle with the protector according to claim 1 or 2, wherein the hub includes a connection tube portion connected to a flexible tube, the first lock unit is configured such that, a window provided on the major axis side of the width-increased portion is locked to an arm provided on the hub, and at least a part of the connection tube portion is located on a rear end side from a rear end of a part along a length of the hub with a space from the hub of the arm.
5. The medical needle with the protector according to any one of claims 1 to 4, wherein the protector includes a recessed portion provided on the minor axis side of the width-increased portion.
6. The medical needle with the protector according to claim 1, 2, 3 or 5, wherein the hub includes:
a needle tube support portion supporting the needle tube;
a connection tube portion connected to a flexible tube; and
a hollow portion connecting the needle tube support portion and the connection tube portion.
7. The medical needle with the protector according to any one of claims 1 to 6, wherein the protector has a wing-like member extending to the major axis side of the width-increased portion.