

CLAIMS

1. Injector for transcutaneously introducing a sensor into a patient, comprising a cannula (3), a sensor (6) arranged in the cannula (3), a base element (1), a sliding element (2) arranged displaceably on the base element (1) in an injection direction, for transcutaneously introducing the cannula (3) having the sensor (6) into the patient in an injection operation, wherein the cannula (3) at least in a proximal region has a slot in a longitudinal direction of the cannula (3), characterized in that the injector has a holding element (5) arranged displaceably on the base element (1) in order, in an ejection operation, when pulling the cannula (3) out of the patient, to prevent, by the holding element, the sensor from being pulled out, in that the holding element (5) engages in the region of a distal end of the sensor through the slot into the cannula (3), in that the holding element (5) and/or the base element (1) have at least one fixing means, and therefore, in the state of the cannula (3) introduced transcutaneously into the patient, the holding element (5) can be locked automatically indirectly or preferably directly on the base element (1), in that the holding element (5) and the sensor (6) are formed separably, preferably as separate units, in that the sensor remains on the patient when the injector is removed from a base plate of the base element.

2. Injector according to claim 1, characterized in that the fixing means is designed as a latching element, and one of the two elements – the holding element (5) and the base element (1) – has the latching element and the other of the two elements has corresponding depressions for the latching element.

3. Injector according to one of the preceding claims,

characterized

in that the cannula (3) is arranged with its distal end on a cannula upper part (4), which is arranged displaceably on the base element (1), and

in that sliding element and cannula upper part (4) are designed so as to interact in such a manner that, during the injection operation, the cannula upper part (4) is displaceable in an injection direction by the sliding element (2).

4. Injector according to Claim 3,

characterized

in that the holding element (5) is designed so as to interact with the cannula upper part (4) in such a manner that, during the injection operation, the holding element (4) is displaceable in the injection direction by the cannula upper part (4).

5. Injector according to either of Claims 3 and 4,

characterized in that

the cannula upper part (4) has a central element on which the cannula (3) is arranged and has at least one guide extension, and

the base element (1) has at least one guide wall (1b) with a guide slot (1a) for the guide extension of the cannula upper part (4), for guiding the cannula upper part in the injection direction,

in particular in that the guide extension penetrates the guide wall (16) of the base element (1), and the sliding element is designed so as to engage on the guide extension on that side of the guide wall (16) which faces away from the central element of the cannula upper part.

6. Injector according to one of the preceding claims,

characterized

in that the injector has an ejection spring (7) and an ejection spring holding element (8), wherein the ejection spring holding element (8) is designed to be fixable on the base element (1), and therefore the ejection spring (7) is fixable in a compressed or expanded state by the ejection spring holding element.

7. Injector according to Claim 6,
characterized
in that the sliding element (2) is designed so as to interact with the ejection spring holding element, and therefore, at the end of the injection operation, the ejection spring holding element (8) can be released by the sliding element from a fixing position, in particular by rotation of the ejection spring holding element about an injection axis.

8. Injector according to either of Claims 6 and 7
characterized
in that sliding element (2) and ejection spring holding element (8) are arranged on the base element (1) so as to be rotatable about a common injection axis.

9. Injector according to one of the preceding claims,
characterized in that
the base element (1) and/or the sliding element have at least one bevel (1c, 1d) which is arranged in such a manner that, during the injection operation, rotation of the sliding element relative to the base element (1) takes place in a proximal end region when the sliding element is displaced in the injection direction.

10. Injector according to either of Claims 7 and 9,
characterized in that
the sliding element (2) and the ejection spring holding element (8) have corresponding contact surfaces which are arranged in such a manner that, by rotation of the sliding element, the ejection element can be released from a fixing position, in particular in that the ejection spring holding element (8) has an extension and the sliding element (2) has a corresponding guide surface (2a).

11. Injector according to either of Claims 9 and 10,
characterized in that

the base element (1) and the sliding element have corresponding guide elements which are designed and arranged in such a manner that the sliding element (2) is rotatable relative to the base element (1) only in the proximal end region.

12. Injector according to either of Claims 4 and 9, characterized in that the sliding element has guide slots for the extension of the cannula upper part, said guide slots being arranged in such a manner that, after rotation of the sliding element in the proximal end region, the cannula upper part is displaceable counter to the injection direction.

13. Injector according to Claim 12, characterized in that the bevel (1c, 1d) is formed on the sliding element at a proximal end of the guide slots.

14. Injector according to one of the preceding claims, characterized in that the injector has a counterforce spring which is arranged between the base element (1) and the sliding element in a manner acting counter to a displacement of the sliding element in the injection direction.