Description

Assembly for a drug delivery device and drug delivery device

The present disclosure relates to an assembly for a drug delivery device and a drug delivery device.

Drug delivery devices may be used for self-administration of a drug contained in the device by a patient. For this purpose, the user may set a dose of drug to be delivered and deliver the dose subsequently. As the amount of drug present in the device may be limited, it may occur that the user sets a desired dose which exceeds the actually available amount of drug in the device. Accordingly, if the user administers this set dose, the user might be of the wrong opinion that the desired amount was administered.

Embodiments~~It is an object~~ of the present disclosure seek to provide for an assembly that facilitates provision of an improved drug delivery device and a drug delivery device comprising such an assembly.

An embodiment provides~~This object is achieved by~~ an assembly according to the independent claim. Advantageous embodiments and refinements may be the subject matter of dependent claims.

According to one aspect, an assembly for a drug delivery device comprises a housing having a proximal end and a distal end, a dose member which is displaceable in the proximal direction with respect to the housing for setting of a dose of a drug, a clutch member which is displaced in the proximal direction with respect to the housing when setting the dose and a stop member configured to define a clutch stop position for the proximal displacement of the clutch member with respect to the housing, with the clutch member, when in the clutch stop position, being prevented from further displacement in the proximal direction with respect to the housing. Preferably, the clutch member and the dose member are configured to mechanically cooperate with one another when the clutch member is

Claims

1. An assembly for a drug delivery device, comprising:
- a housing ~~(13)~~ having a proximal end ~~(17)~~ and a distal end ~~(15)~~;
- a dose member ~~(23)~~ which is displaceable in the proximal direction with respect to the housing for setting of a dose of a drug ~~(5)~~;
- a clutch member ~~(28)~~ which is displaced in the proximal direction with respect to the housing when setting the dose; and
- a stop member ~~(30)~~ configured to define a clutch stop position for the proximal displacement of the clutch member with respect to the housing, with the clutch member, when in the clutch stop position, being prevented from further displacement in the proximal direction with respect to the housing,
wherein
- the clutch member and the dose member are configured to mechanically cooperate with one another when the clutch member is in the clutch stop position, thereby preventing further displacement of the dose member in the proximal direction with respect to the housing during setting of the dose.

2. An assembly according to claim 1,
wherein a clutch spring member ~~(43)~~ prevents the dose member ~~(23)~~ from cooperating mechanically with the clutch member when the clutch member is out of the clutch stop position.

3. An assembly according to claim 2,
wherein the clutch spring member ~~(43)~~ biasses the dose member ~~(23)~~ and the clutch member ~~(30)~~ away from one another.

4. An assembly according to any of the preceding claims,
wherein the dose member ~~(23)~~ is threadedly connected to the housing ~~(13)~~ and wherein the dose member is rotated in a first direction with respect to the housing and displaced in the proximal direction with respect to the housing for setting of the dose.

5. An assembly according to claim 4,
wherein rotation of the dose member ~~(23)~~ in the first direction with respect to the housing for setting of the dose is prevented or stopped when the dose member and the clutch member ~~(28)~~ cooperate mechanically.

6. An assembly according to any of the preceding claims,
wherein the clutch member ~~(28)~~ is secured against rotation with respect to the housing ~~(13)~~.

7. An assembly according to any of claims 4 to 6,
wherein, during mechanical cooperation of the dose member ~~(23)~~ and the clutch member ~~(28)~~, rotational movement of the dose member with respect to the clutch member in the first direction is prevented, whereas rotational movement of the dose member with respect to the clutch member in a second direction opposite to the first direction is allowed.

8. An assembly according to any of the preceding claims,
wherein the clutch member ~~(28)~~ follows displacement of the dose member ~~(23)~~ in the proximal direction with respect to the housing ~~(13)~~ during setting of the dose.

9. An assembly according to any of the preceding claims,
wherein the clutch member ~~(28)~~ is connected to the dose member ~~(23)~~.

10. An assembly according to any of the preceding claims,
wherein the stop member ~~(30)~~ is displaced in the distal direction with respect to the housing when delivering the dose, thereby displacing the clutch stop position towards the clutch member ~~(28)~~.

11. An assembly according to any of the preceding claims,
which comprises a piston rod ~~(12)~~ configured to be displaced in the distal direction with respect to the housing ~~(13)~~ for delivering the dose, wherein the clutch stop position is displaced in the distal direction with respect to the housing together with the piston rod.

12. An assembly according to claim 11,
wherein the stop member ~~(30)~~ is integrated in or connected to the piston rod ~~(12)~~.

13. An assembly according to claim 11 or 12,
wherein the stop member ~~(30)~~ is provided for by means of the distal end of a drive thread ~~(27)~~ of the piston rod ~~(12)~~.

14. An assembly according to any of the preceding claims,
which comprises a dose dial member ~~(48)~~, wherein the dose dial member rotates and is displaced in the proximal direction with respect to the housing ~~(13)~~ for setting of the dose, and wherein the dose member ~~(23)~~ is splined to the dose dial member during setting of the dose.

15. A drug delivery device, comprising an assembly according to any previous claim and a cartridge ~~(4)~~ containing the drug ~~(5)~~,
the cartridge having a proximal end and a distal end, a piston ~~(10)~~ being retained within the cartridge, the piston being displaceable in the distal direction with respect to the cartridge for dispensing a dose of the drug from the cartridge, wherein
the position of the stop member ~~(30)~~ with respect to the distal end of the cartridge is indicative of the amount of drug currently available in the cartridge and the assembly is an end stop assembly which is configured to prevent setting of a desired dose of the drug which desired dose would exceed the amount of drug which is currently available in the cartridge for delivery.