

We claim:

1. A delivery apparatus for implanting a medical device in a patient's body comprising:
a handle having a longitudinal axis;
at least a first element, a second element, and a third element extending from the handle;
an actuation knob configured to actuate at least one of the elements; and
a toggle configured to toggle the actuation knob between a first state and a second state,
wherein when the actuation knob is in the first state, rotation of the actuation knob moves the first
and second elements axially relative to the third element, and wherein when the actuation knob is in
the second state, rotation of the actuation knob moves the first element axially relative to the
second and third elements, wherein the toggle is movable axially along the longitudinal axis of the
handle relative to the actuation knob from a first toggle position to a second toggle position to
toggle the actuation knob from the first state to the second state, and vice versa.

2. The delivery apparatus of claim 1, wherein the toggle comprises a toggle knob
which can be rotated in a first direction to move from the first toggle position to the second toggle
position.

3. A delivery apparatus for implanting a medical device in a patient's body comprising:
a handle;
at least a first element, a second element, and a third element extending from the handle;
an actuation knob configured to actuate at least one of the elements;
a toggle configured to toggle the actuation knob between a first state and a second state,
wherein when the actuation knob is in the first state, rotation of the actuation knob moves the first
and second elements axially relative to the third element, and wherein when the actuation knob is in
the second state, rotation of the actuation knob moves the first element axially relative to the
second and third elements;

a rotatable component disposed in the handle, wherein the actuation knob is operatively
coupled to the first element and the rotatable component is operatively coupled to the second
element, but not the first element, such that when the actuation knob is in the first state, rotation of
the actuation knob causes corresponding rotation of the rotatable component, the rotation of the
actuation knob causing axial movement of the first element and the rotation of the rotatable
component causing axial movement of the second element and further comprising one or more
plungers disposed between the toggle and the actuation knob, wherein the toggle is configured to

move the one or more plungers between a first plunger position and a second plunger position upon movement of the toggle toward and away from the actuation knob, wherein when the one or more plungers are in the first plunger position, the one or more plungers extend through the actuation knob and into the rotatable component such that rotation of the actuation knob causes rotation of the rotatable component and when the one or more plungers are in the second position, the one or more plungers are withdrawn from the rotatable component such that rotation of the actuation knob does not cause corresponding rotation of the rotatable component.

4. The delivery apparatus of claim 3, wherein when the actuation knob is in the second state, rotation of the actuation knob causes axial movement of the first element but does not cause corresponding rotation of the rotatable component and axial movement of the second element.

5. The delivery apparatus of claim 3, further comprising one or more springs configured to bias the one or more plungers to the second plunger position.

6. The delivery apparatus of claim 3, wherein each of the plungers extends through an aperture in the actuation knob and into an opening in the rotatable component when the plungers are in the first plunger position, and each of the plungers is withdrawn from the corresponding opening in the rotatable component when the plungers are in the second plunger position.

7. The delivery apparatus of claim 3, further comprising:
a first nut threadably engaging a corresponding threaded portion of the actuation knob and coupled to a proximal end portion of the first element; and
a second nut threadably engaging a corresponding threaded portion of the rotatable component and coupled to a proximal end portion of the second element;
wherein rotation of the actuation knob causes corresponding axial movement of the first nut and the first element and rotation of the rotatable component causes corresponding axial movement of the second nut and the second element.

8. The delivery apparatus of claim 7, wherein the first element extends axially through an aperture in the second nut.

9. The delivery apparatus of claim 3, wherein when the actuation knob is in the second state, rotation of the actuation knob:

causes axial movement of the first element;
does not cause corresponding rotation of the rotatable component, and
does not cause axial movement of the second element.

10. A delivery apparatus for implanting a medical device in a patient's body, in combination with a prosthetic heart valve, wherein the delivery apparatus comprises:
a handle;
at least a first element, a second element, and a third element extending from the handle;
an actuation knob configured to actuate at least one of the elements;
a toggle configured to toggle the actuation knob between a first state and a second state, wherein when the actuation knob is in the first state, rotation of the actuation knob moves the first and second elements axially relative to the third element, and wherein when the actuation knob is in the second state, rotation of the actuation knob moves the first element axially relative to the second and third elements, and wherein:
the prosthetic heart valve comprises a radially expandable and compressible frame that is expandable from a radially compressed, delivery state to a radially expanded state;
the first, second, and third elements have respective distal end portions releasably coupled to the frame; and
rotation of the actuation knob when in the first state is effective to radially expand the frame from the delivery state to the expanded state, and rotation of the actuation knob when in the second state is effective to release the frame from the distal end portions of the first, second, and third elements.

11. The delivery apparatus of claim 10, wherein:
the frame comprises at least one expansion and locking unit comprising first and second members, the first member being configured to apply a proximally directed force to the frame and the second member being configured to apply a distally directed force to the frame such that relative axial movement between first and second members is effective to radially expand or compress the frame;
the first and second members comprise respective, matable locking features configured to retain the frame in the expanded state when the locking feature of the first member engages the locking feature of the second member;

the distal end portion of the first element extends between the first and second members and prevents the locking feature of the first member from engaging the locking feature of the second member;

the distal end portion of the second element is releasably connected to the first member;

the distal end portion of the third element is releasably connected to the second member;

rotation of the actuation knob when in the first state is effective to move first member relative to the second member to radially expand the frame to the expanded state; and

rotation of the actuation knob when in the second state is effective to retract the distal end portion of the first element from between the first and second members to allow the locking features to engage each other and retain the frame in the expanded state and to release the frame from the second and third elements.