Through use, the lifeline could become worn, and the integrity of the self-retracting lifeline could become compromised therefore compelling replacement of the lifeline to optimize safety. Some self-retracting lifelines require that the entire device be sent in for repair to replace the lifeline while some self-retracting lifelines are "field-replaceable" because the lifelines can be replaced by the worker.

For the reasons stated above and for other reasons stated below, which will become apparent to those skilled in the art upon reading and understanding the present specification, there is a need in the art for a self-retracting lifeline with a disconnectable lifeline.

## Summary

The above-mentioned problems associated with prior devices are addressed by embodiments of the present invention and will be understood by reading and understanding the present specification. The following summary is made by way of example and not by way of limitation. It is merely provided to aid the reader in understanding some of the aspects of the invention.

~~In one embodiment, a self-retracting lifeline comprises a housing, a drum, a lifeline, and a locking member. The drum is rotatably operatively connected to the housing. The lifeline has a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end. The locking member is operatively connected to the drum and is moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline.~~According to a first aspect of the present invention, there is provided a self-retracting lifeline, comprising: a housing; a drum rotatably operatively connected to the housing; a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end; and a locking member operatively connected to the drum and moveable from an unlocked position to a locked position, the locking member operatively connecting the first end to the drum in the unlocked position, the locking member releasing the first end from the drum in the locked position and locking the drum relative to the housing to assist in replacement of the lifeline.

~~In one embodiment, a self retracting lifeline comprises a housing, a drum, a lifeline, a locking member, and a connector. The drum is rotatably operatively connected to the housing and includes a shoulder portion within a channel of the drum. The lifeline has a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end. The locking member is operatively connected to the drum and is moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline. The connector is operatively connected to the first end. The connector is configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.~~According to a second aspect of the present invention, there is provided a self-retracting lifeline, comprising: a housing; a drum rotatably operatively connected to the housing, and a shoulder portion within a channel of the drum; a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end; a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline; and a connector operatively connected to the first end, the connector being configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.

There is also disclosed~~In one embodiment,~~ a method of replacing a lifeline of a self-retracting lifeline having a housing, a drum rotatably operatively connected to the housing, a first end of the lifeline

We Claim:

1. A self-retracting lifeline, comprising:

a housing;

a drum rotatably operatively connected to the housing;

a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end; and

a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline.

2. The self-retracting lifeline of claim 1, wherein the housing includes a receiver portion with a receiving bore, the receiving bore being configured and arranged to receive the locking member when the locking member is in the locked position.

3. The self-retracting lifeline of claim 1, wherein the housing includes a side aperture providing access to the locking member.

4. The self-retracting lifeline of claim 1, wherein the housing and the drum include a channel through which the lifeline is routed during replacement of the lifeline.

5. The self-retracting lifeline of claim 1, wherein the housing includes a top aperture and a bottom aperture and the drum includes a channel through which the lifeline is routed during replacement of the lifeline.

6. The self-retracting lifeline of claim 1, wherein the locking member is a set screw.

7. The self-retracting lifeline of claim 1, further comprising:

a shoulder portion within a channel of the drum; and

a connector operatively connected to the first end, the connector being configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.

8. The self-retracting lifeline of claim 7, wherein the housing includes a top aperture and a bottom aperture through which the lifeline is routed during replacement of the lifeline.

9. The self-retracting lifeline of claim 7, wherein at least a portion of the connector is removable for replacement of the lifeline.

10. A self-retracting lifeline, comprising:

a housing;

a drum rotatably operatively connected to the housing, and a shoulder portion within a channel of the drum;

a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end;

a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline; and

a connector operatively connected to the first end, the connector being configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.

11. The self-retracting lifeline of claim 10, wherein the housing includes a receiver portion with a receiving bore, the receiving bore being configured and arranged to receive the locking member when the locking member is in the locked position.

12. The self-retracting lifeline of claim 10, wherein the housing includes a side aperture providing access to the locking member.

13. The self-retracting lifeline of claim 10, wherein the housing and the drum include a channel through which the lifeline is routed during replacement of the lifeline.

14. The self-retracting lifeline of claim 10, wherein the housing includes a top aperture and a bottom aperture and the drum includes a channel through which the lifeline is routed during replacement of the lifeline.

15. The self-retracting lifeline of claim 10, wherein the locking member is a set screw.

16. The self-retracting lifeline of claim 10, wherein the housing includes a top aperture and a bottom aperture through which the lifeline is routed during replacement of the lifeline.

17. The self-retracting lifeline of claim 10, wherein at least a portion of the connector is removable for replacement of the lifeline.

18. A method of replacing a lifeline of a self-retracting lifeline having a housing, a drum rotatably operatively connected to the housing, a first end of the lifeline operatively

connected to the drum, an intermediate portion of the lifeline being windable about the drum, and a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline, comprising:

paying out substantially all of the lifeline from the drum;

moving the locking member from the unlocked position to the locked position thereby locking the drum relative to the housing;

disconnecting the first end of the lifeline from the drum;

obtaining a replacement lifeline having a replacement first end and a replacement intermediate portion;

connecting the replacement first end to the drum;

moving the locking member from the locked position to the unlocked position thereby unlocking the drum relative to the housing; and

winding the replacement intermediate portion about the drum.

19. The method of claim 18, further comprising inserting a tool through a first aperture in the housing and through a second aperture in the drum to lock the drum after substantially all of the lifeline has been paid out from the drum.

20. The method of claim 18, the housing having a top aperture and a bottom aperture, the drum having a channel, and a connector operatively connected to the first end, further comprising:

routing the first end of the lifeline through the channel and the top aperture of the housing;

removing at least a portion of the connector from the first end; and

routing the first end through the top aperture, the channel, and through the bottom aperture.

21. The method of claim 18, the housing having a side aperture providing access to the locking member, further comprising inserting a tool through the side aperture to move the locking member.

AMENDED CLAIMS
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1. A self-retracting lifeline, comprising:

a housing;

a drum rotatably operatively connected to the housing;

a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end; and

a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline.

2. The self-retracting lifeline of claim 1, wherein the housing includes a receiver portion with a receiving bore, the receiving bore being configured and arranged to receive the locking member when the locking member is in the locked position.

3. The self-retracting lifeline of claim 1, wherein the housing includes a bore providing access to the locking member.

4. The self-retracting lifeline of claim 1, wherein the housing and the drum include a channel through which the lifeline is routed during replacement of the lifeline.

5. The self-retracting lifeline of claim 1, wherein the housing includes a top bore and a bottom aperture and the drum includes a channel through which the lifeline is routed during replacement of the lifeline.

6. The self-retracting lifeline of claim 1, wherein the locking member is a set screw.

7. The self-retracting lifeline of claim 1, further comprising:

a shoulder portion within a channel of the drum; and

a connector operatively connected to the first end, the connector being configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.

8. The self-retracting lifeline of claim 7, wherein the housing includes a top bore and a bottom aperture through which the lifeline is routed during replacement of the lifeline.

9. The self-retracting lifeline of claim 7, wherein at least a portion of the connector is removable for replacement of the lifeline.

10. A self-retracting lifeline, comprising:

a housing;

a drum rotatably operatively connected to the housing, and a shoulder portion within a channel of the drum;

a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end;

a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline; and

a connector operatively connected to the first end, the connector being configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.

11. The self-retracting lifeline of claim 10, wherein the housing includes a receiver portion with a receiving bore, the receiving bore being configured and arranged to receive the locking member when the locking member is in the locked position.

12. The self-retracting lifeline of claim 10, wherein the housing includes a bore providing access to the locking member.

13. The self-retracting lifeline of claim 10, wherein the housing and the drum include a channel through which the lifeline is routed during replacement of the lifeline.

14. The self-retracting lifeline of claim 10, wherein the housing includes a top bore and a bottom aperture and the drum includes a channel through which the lifeline is routed during replacement of the lifeline.

15. The self-retracting lifeline of claim 10, wherein the locking member is a set screw.

16. The self-retracting lifeline of claim 10, wherein the housing includes a top bore and a bottom aperture through which the lifeline is routed during replacement of the lifeline.

17. The self-retracting lifeline of claim 10, wherein at least a portion of the connector is removable for replacement of the lifeline.

18. A method of replacing a lifeline of a self-retracting lifeline having a housing, a drum rotatably operatively connected to the housing, a first end of the lifeline operatively

connected to the drum, an intermediate portion of the lifeline being windable about the drum, and a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline, comprising:

paying out substantially all of the lifeline from the drum;

moving the locking member from the unlocked position to the locked position thereby locking the drum relative to the housing;

disconnecting the first end of the lifeline from the drum;

obtaining a replacement lifeline having a replacement first end and a replacement intermediate portion;

connecting the replacement first end to the drum;

moving the locking member from the locked position to the unlocked position thereby unlocking the drum relative to the housing; and

winding the replacement intermediate portion about the drum.

19. The method of claim 18, further comprising inserting a tool through a first aperture in the housing and through a second aperture in the drum to lock the drum after substantially all of the lifeline has been paid out from the drum.

20. The method of claim 18, the housing having a top bore and a bottom aperture, the drum having a channel, and a connector operatively connected to the first end, further comprising:

routing the first end of the lifeline through the channel and the top bore of the housing;

removing at least a portion of the connector from the first end; and

routing the first end through the top bore, the channel, and through the bottom aperture.

21. The method of claim 18, the housing having a bore providing access to the locking member, further comprising inserting a tool through the bore to move the locking member.

## CLAIMS

1. A self-retracting lifeline, comprising:

a housing;

a drum rotatably operatively connected to the housing;

a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end; and

a locking member operatively connected to the drum and moveable from an unlocked position to a locked position, the locking member operatively connecting the first end to the drum in the unlocked position, the locking member releasing the first end from the drum in the locked position and locking the drum relative to the housing to assist in replacement of the lifeline.

2. The self-retracting lifeline of claim 1, wherein the housing includes a receiver portion with a receiving bore, the receiving bore being configured and arranged to receive the locking member when the locking member is in the locked position.

3. The self-retracting lifeline of claim 1, wherein the housing includes a side aperture providing access to the locking member.

4. The self-retracting lifeline of claim 1, wherein the housing and the drum include a channel through which the lifeline is routed during replacement of the lifeline.

5. The self-retracting lifeline of claim 1, wherein the housing includes a top aperture and a bottom aperture and the drum includes a channel, the lifeline being routed through the top and bottom apertures and the channel during replacement of the lifeline.

6. The self-retracting lifeline of claim 1, wherein the locking member is a set screw.

7. The self-retracting lifeline of claim 1, further comprising:

a shoulder portion within a channel of the drum; and

a connector operatively connected to the first end, the connector being configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.

8. The self-retracting lifeline of claim 7, wherein the housing includes a top aperture and a bottom aperture through which the lifeline is routed during replacement of the lifeline.

9. The self-retracting lifeline of claim 7, wherein at least a portion of the connector is removable for replacement of the lifeline.

10. A self-retracting lifeline, comprising:

a housing;

a drum rotatably operatively connected to the housing, and a shoulder portion within a channel of the drum;

a lifeline having a first end operatively connected to the drum, an intermediate portion windable about the drum, and a second end;

a locking member operatively connected to the drum and moveable from an unlocked position to a locked position for locking the drum relative to the housing to assist in replacement of the lifeline; and

a connector operatively connected to the first end, the connector being configured and arranged to be received within the channel and sandwiched between the shoulder portion and the locking member and between the drum and the housing, wherein moving the locking member into the locked position moves the locking member away from the connector and allows the connector to be slid through the channel.

11. The self-retracting lifeline of claim 10, wherein the housing includes a receiver portion with a receiving bore, the receiving bore being configured and arranged to receive the locking member when the locking member is in the locked position.

12. The self-retracting lifeline of claim 10, wherein the housing includes a side aperture providing access to the locking member.

13. The self-retracting lifeline of claim 10, wherein the housing and the drum include a channel through which the lifeline is routed during replacement of the lifeline.

14. The self-retracting lifeline of claim 10, wherein the housing includes a top aperture and a bottom aperture and the drum includes a channel through which the lifeline is routed during replacement of the lifeline.

15. The self-retracting lifeline of claim 10, wherein the locking member is a set screw.

16. The self-retracting lifeline of claim 10, wherein the housing includes a top aperture and a bottom aperture through which the lifeline is routed during replacement of the lifeline.

17. The self-retracting lifeline of claim 10, wherein at least a portion of the connector is removable for replacement of the lifeline.