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[Continued on next page]

(54) Title: PUSH-CABLE FOR PIPE INSPECTION SYSTEM

(57) Abstract: In accordance with the present invention a push-cable comprises a central core including a least one conductor, a plurality of non-metallic resilient flexible stiffness members surrounding the core, and a layer of sheathing surrounding the stiffness members.

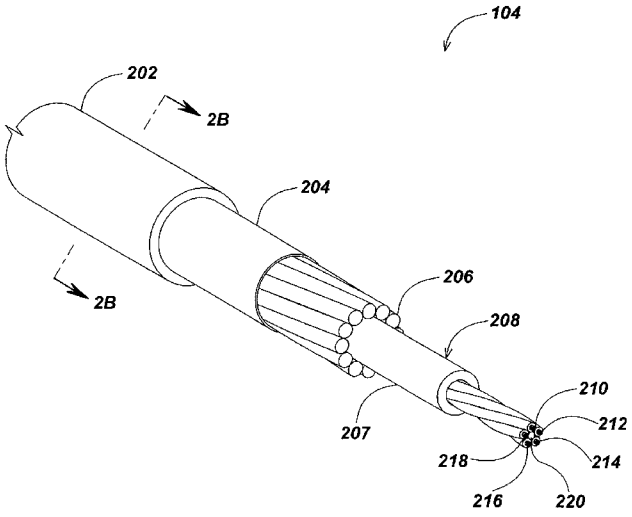

FIG. 2A

WO 2010/092478 A4

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AMENDED CLAIMS
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CLAIMS

1. A push-cable (104) comprising:

a central core (208) including a least one conductor (210);

a plurality of non-metallic resilient flexible stiffness members (206) surrounding the core (208); and

a layer of sheathing (204) surrounding the stiffness members (206);

wherein the stiffness members (206) are rods.

2. A push-cable (104) as claimed in Claim 1, wherein the stiffness members (206) are helically wrapped around the central core (208).

3. A push-cable (104) as claimed in Claim 1 or Claim 2, wherein the stiffness members (206) are made of fiberglass.

4. A push-cable (104) as claimed in Claim 1 or Claim 2, wherein the stiffness members (206) are made of carbon fiber.

5. A push-cable (104) as claimed in any preceding claim, wherein the stiffness members (206) have round cross-section.

6. A push-cable (104) as claimed in any of Claims 1 to 4, wherein the stiffness members (206) have a pie-shaped cross-section.

7. A push-cable (104) as claimed in any of Claims 1 to 4, wherein the stiffness members (206) have a rectangular cross-section.

8. A push-cable (104) as claimed in any preceding claim, wherein the central core (208) includes a plurality of insulated wires (210, 212, 214, 216, 218).

9. A push-cable (104) as claimed in any preceding claim, wherein the central core (208) includes a polymer member (220) about which the conductor (210) is helically wrapped.

10. A pipe inspection system (100) comprising:

a camera head (210);

a push-cable (104) as claimed in any preceding claim; and

a termination adaptor (302) that couples to a stiff portion of the push-cable (104) and permits the conductor(s) (210) to be operatively connected to the camera head (102).

11. In combination:

a camera head (102);

a resilient flexible push-cable (104) having a central core (208) including a plurality of conductors (210, 212, 214, 216, 218) and a plurality of fiberglass rods (206) helically wrapped around the core (208); and

a termination adaptor (302) that couples to a stiff portion of the push-cable (104) and permits the conductors (210, 212, 214, 216, 218) to be operatively connected to the camera head (102).

12. A pipe inspection system (100) comprising the combination of parts as claimed in Claim 11.

13. A combination of parts as claimed in Claim 11, or a pipe inspection system (100) as claimed in Claim 12, wherein the camera head (102) comprises:

an outer housing (402, 404) having a transparent window (430); and

a camera module (600) mounted within the housing (402, 404) behind the window (430) including a camera circuit board (424) including a plurality of contact devices (604) for making direct removable connections with the plurality of conductors (210, 212, 214, 216, 218) of the resilient flexible push-cable (104).

AMENDED SHEET (ARTICLE 19)

14. A method of inspecting a pipe (110), the method comprising pushing a push-cable (104) down the pipe (110), the push-cable (104) being as claimed in any of Claims 1 to 9.

15. A method of inspecting a pipe (110), the method comprising pushing a pipe inspection system (100) down the pipe (110), the pipe inspection system (100) being as claimed in Claim 10, Claim 12 or Claim 13.

16. A camera head (102) for a pipe inspection system (100), the camera head (102) comprising:

an outer housing (402, 404) having a transparent window (430); and

a camera module (600) mounted within the housing (402, 404) behind the window (430) including a camera circuit board (424) including a plurality of contact devices (604) for making direct removable connections with a plurality of conductors (210, 212, 214, 216, 218) of a resilient flexible push-cable (104);

wherein the camera circuit board (424) has an integrated circuit image sensor (434) mounted on one side and the plurality of contact devices (604) on the other side, the contact pads (604) being arranged to be contacted by spring-loaded pins (408) attached to the plurality of conductors (210, 212, 214, 216, 218).

17. A push-cable substantially as herein described with reference to and as illustrated in any combination of the accompanying drawings.

18. A pipe inspection system substantially as herein described with reference to and as illustrated in any combination of the accompanying drawings.

19. A camera head substantially as herein described with reference to and as illustrated in any combination of the accompanying drawings.

20. A method of inspecting a pipe substantially as herein described with reference to and as illustrated in any combination of the accompanying drawings.