

within it, it may be necessary and desirable to separate the working channels **60** from the cover **24** along the entire length of the cover **24**, attached only beyond the articulated section of shaft **34**. The working channels **60** in this case may be separate extrusions, bonded to the disposable cover **24** at its tip, or to the ferrule **59**, if used. The working channels **60** may also be attached to the cover **24** at a second point **63** near the proximal end of the cover **24** so that they do not tangle or get in the user's way.

Although the preferred embodiments and practical alternatives to the invention are described above by way of example, it will be understood that modifications may be made to the disclosed embodiments without departing from the scope of the invention, which is defined by the appended claims.

What is claimed:

1. A flexible fiber-optic endoscope comprising:

a plurality of independently removable modules wherein:

a first module comprises a hollow body assembly containing a hollow, flexible, tubular member having a steerable articulation section at a distal end thereof, said hollow body assembly including handle means for holding said endoscope during operation thereof and control means for remotely manipulating said steerable articulation section;

a second module captivated at a proximal end within said hollow body assembly and independently removable therefrom as a module comprises a tubular fiber optic assembly incorporating an objective lens at its distal end, and an optical image guide for conducting an image formed by said objective lens to a proximal end of said fiber optic assembly; and

a third module captivated within and independently removable from said hollow body assembly comprises an optical eyepiece assembly located at a proximal end of said hollow body assembly for viewing images carried by said image guide.

2. An endoscope according to claim **1** wherein said control means for remotely manipulating said steerable articulation section comprises a joystick.

3. An endoscope according to claim **1** wherein said steerable articulation section comprises a tubular polymer member having circumferential voids for articulation.

4. An endoscope according to claim **1** wherein said steerable articulation section comprises a bellows member for providing articulation.

5. An endoscope according to claim **1** wherein said first module comprises at least two control wires coupled to said steerable articulation section for providing four-way articulation thereof.

6. An endoscope according to claim **1** wherein said first module comprises at least three control wires coupled to said steerable articulation section for providing four-way articulation thereof.

7. An endoscope according to claim **1** and further comprising a disposable cover assembly fastened over said steerable articulation section and having an optical window at its distal tip.

8. An endoscope according to claim **7** in which said disposable cover is stretched over said flexible shaft and is held in stretched configuration by a barb assembly provided on said first module adjacent said hollow body assembly and engaging a proximal end of said cover.

9. An endoscope according to claim **8** wherein said disposable cover further comprises working channels formed in the walls thereof.

10. An endoscope according to claim **9** wherein said disposable cover further comprises working channels attached to the walls thereof.

11. An endoscope according to claim **1** wherein said first module further comprises illumination optical fibers for carrying illumination light to said distal end of said assembly and means for coupling a source of illumination light to a proximate end of said illumination optical fibers.

12. An endoscope according to claim **1** wherein said second module further comprises illumination optical fibers for carrying illumination light to said distal end of said assembly and means for coupling a source of illumination light to a proximate end of said illumination optical fibers.

13. A flexible fiber-optic endoscope comprising:

a plurality of independently removable modules wherein:

a first module comprises a hollow body assembly containing a hollow, flexible, tubular member having a steerable articulation section at a distal end thereof, said hollow body assembly including handle means for holding said endoscope during operation thereof and control means for remotely manipulating said steerable articulation section;

a second module captivated at a proximal end within said hollow body assembly and independently removable therefrom as a module comprises a tubular fiber optic assembly incorporating an objective lens at its distal end, and an optical image guide for conducting an image formed by said objective lens to a proximal end of said fiber optic assembly;

a third module captivated within and independently removable from said hollow body assembly comprises an optical eyepiece assembly located at a proximal end of said hollow body assembly for viewing images carried by said image guide; and

wherein said steerable articulation section comprises a tubular polymer member having a pattern of circumferential slits formed therein which are thereafter caused to form vertebrae for articulation by heating and stretching said tubular member.

14. A flexible fiber-optic endoscope comprising:

a plurality of independently removable modules wherein: a tubular carrier and optical eyepiece module comprises a hollow body assembly containing an optical eyepiece assembly coupled to a proximal end of said hollow body assembly, said hollow body assembly including handle means for holding said endoscope during operation thereof; and

an articulation section and control module captivated at a proximal end within said hollow body assembly and independently removable therefrom as a module comprises a hollow, flexible, tubular member having a steerable articulation section at a distal end thereof, and control means for remotely manipulating said steerable section; and

a fiber-optic module captivated at a proximal end within said hollow body assembly and independently removable therefrom as a module comprises a tubular fiber optic assembly incorporating an objective lens at its distal end, and-a optical image guide for conducting an image formed by said objective lens to a proximal end of said fiber optic assembly, said image being viewable through said optical eyepiece assembly.

15. An endoscope according to claim **14** wherein said steerable articulation section comprises a tubular polymer member having circumferential voids for articulation.

16. An endoscope according to claim **14** wherein said steerable articulation section comprises a bellows member for providing articulation.