

AN ENHANCED FLEXIBLE ROBOTIC ENDOSCOPY APPARATUS**ABSTRACT**

5 An enhanced flexible robotic endoscopy apparatus includes a main body and flexible
elongate shaft. The main body comprises a proximal end, a distal end and a housing
that extends to the proximal end and the housing comprises a plurality of surfaces and
a plurality of insertion inlets which reside on at least one of the surface of the housing
at the proximal end of the main body, through which a plurality of channels for
10 endoscopy are accessible. The flexible elongate shaft has a proximal end extending
away from the distal end of the main body and the flexible elongate shaft comprises a
distal end, a central axis, the plurality of channels therewithin for carrying portions of
flexible elongate assemblies and an opening disposed at the flexible elongate shaft's
distal end for each of the plurality of channels. Each of the insertion inlets has
15 insertion axis corresponding thereto, along which the flexible elongate assemblies are
insertable, with the insertion axes of the insertion inlets being parallel to the central
axis of the flexible elongate shaft at the proximal end of the flexible elongate shaft.

20 FIG. 4A