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(54) **Title:** A MULTIFUNCTIONAL DEVICE FOR MINIMALLY INVASIVE SURGERIES AND A METHOD THEREOF

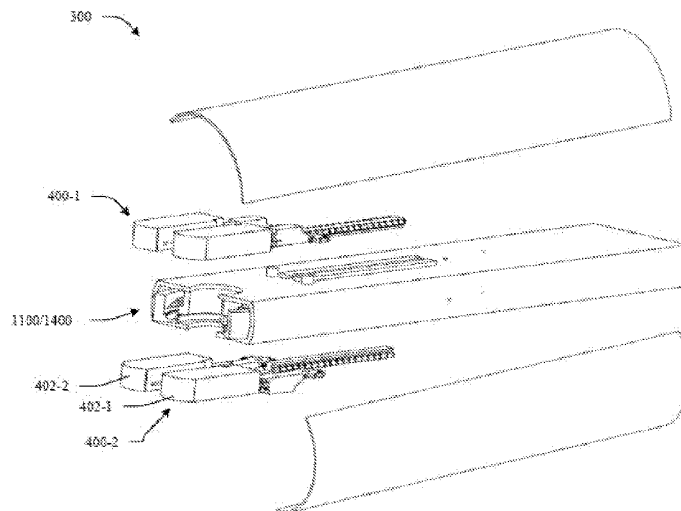


FIG. 3

(57) **Abstract:** Multifunctional device for MIS includes handle (200), a shaft (700), a multifunctional head assembly (300) and an articulation joint (800). The head assembly (300) includes a suturing unit (1100)/(1400) and an upper and a lower grasper unit (400) located in planes above and below the suturing unit. Each grasper unit (400n) comprises a pair of graspers (402) configured to pivotally move in the plane of the grasper unit (400) about axis (414) to grasp tissues or a suturing thread, as well as to move pivotally perpendicular to the plane of the grasper unit (400) about axis (412) to pull the grasped suturing thread for knot tightening. Configuration of the head assembly (300) causes loose end portion of thread, when grasped by grasper unit (400), to be located within a circular zone of needle, which enables looping of needle side portion of thread around loose end portion.

[Continued on next page]

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