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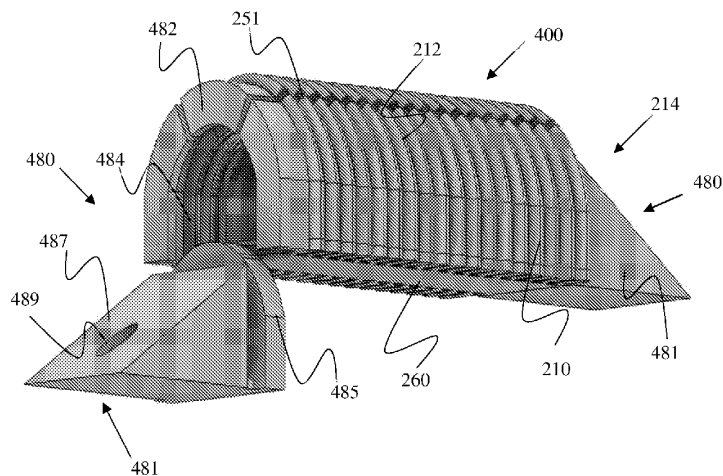


FIG. 7

(57) Abstract: The present invention describes soft robotic actuators (300, 400). Each robotic actuator (300, 400) is made up of a corrugated sleeve (110, 110a, 210, 210a), an expandable bladder (120, 220) and a lock member (370, 480). The corrugated sleeve (110, 110a, 210, 210a) has a hollow passageway (111, 211) with a plurality of folds (112, 212) extending along the passageway, with the hollow passageway extending along a length of the corrugated sleeve. The expandable bladder (120, 220) is detachably inserted inside the hollow passageway (111, 211) and being kept inside the corrugated sleeve (110, 110a, 210, 210a) by the lock member (370, 480). In a use application, a fluid medium is communicable into the bladder under pressure through a tubing opening formed on the lock member (370, 480) results in reversible inflation of the bladder (120, 220). Inflation of the bladder causes the bladder to press against and deform the corrugated sleeve, thereby generating a force output and controlled extension/bending of the robotic actuators (300, 400).

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