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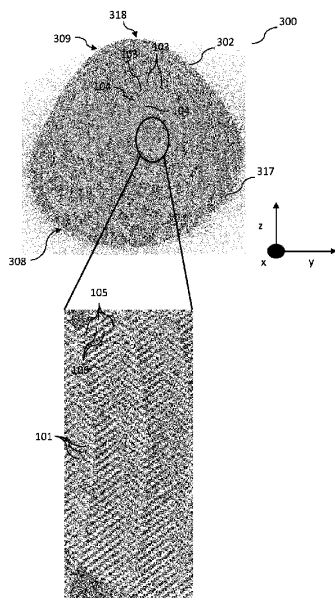


Fig. 3A

(57) Abstract: Embodiments herein relate to a three-dimensional implant for tissue re-
construction or tissue augmentation for insertion into a patient. The implant comprises a
plurality of strands forming a three-dimensional structure, which comprises a plurality of
hollow channels. Each hollow channel comprises a plurality of sidewalls. A sidewall com-
prises a plurality of strand segments and a plurality of gaps arranged alternately so that a
gap is formed between adjacent strand segments of the sidewall. The gap comprises a gap
length (gl) and a resting gap height (gh). The plurality of gaps are reversibly expandable
gaps. Adjacent strand segments comprise a deflection capability (δ) based on an object
to be received by the reversibly expandable gap. A radius (R) of the plurality of strands
and a gap lengths (gl) of a reversibly expandable gap is based on a yield strength (δ_{yield}),
the elastic modulus (E) of the material and a deflection capability δ of the adjacent strand
segments forming the reversibly expandable gap.

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