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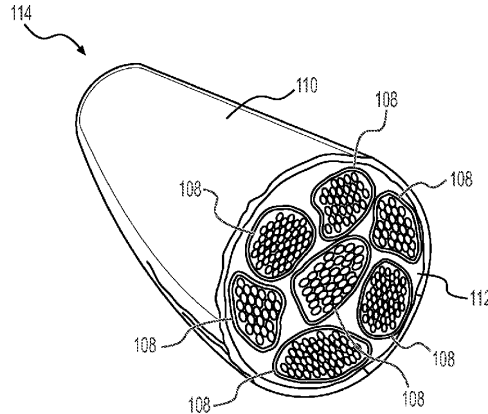


FIG. 4

(57) Abstract: The present disclosure provides fasciculated nerve grafts of customizable lengths and diameters, and methods of preparing the same. The grafts are made by digesting native extracellular matrix (ECM) around the nerve fascicles of a nerve tissue, and the epineurial sheath. One or more of the individual fascicles may then be entubulated in an entubulation material, embedded in or coated with a coating material, or both, to form a fasciculated nerve graft. The fasciculated nerve grafts are customizable and designed to bridge nerve gaps; the modularity of the fasciculated nerve graft allows for restoring continuity to nerve defects of virtually any length and allows for matching the diameter of the patient's recipient nerve.

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WO 2022/087192 A1

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