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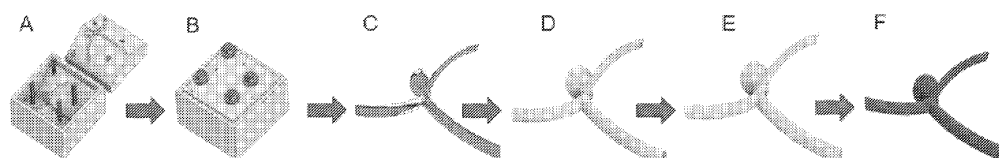
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(54) Title: SYSTEM AND METHOD FOR CRATING AN OBJECT WITH A CONDUIT WITH PARTICULAR VASCULAR APPLICATIONS



Two 3-D printed mold pieces (A) are compressed together (B) and molten gallium is cast into the cavity. The solidified gallium (C) is removed from the mold and nanofibers are electrospun onto it (D). The gallium is melted out, leaving only the hollow nanofibrous scaffold (E) in the desired shape which is then seeded with cells and matured (F) in a bioreactor.

FIG. 1

(57) Abstract: According to an embodiment of the disclosure, a method of creating an object with a conduit is disclosed. A material is deposited on a sacrificial collector; and, the sacrificial collector is then removed to create the object with the conduit. Both the object and the sacrificial collector can approximate the shape of desired blood vessel. The method can also include a 3-D printing of the desired shape of the mold and utilization of Gallium as the sacrificial collector. The sacrificial object is created by insertion of the gallium in the mold. After removal of the gallium from the mold, fibers are electrospun onto the gallium. The gallium is removed through melting - leaving a scaffold, the object with the conduit. In addition to the gallium, an extra sacrificial layer of a water-soluble material may be utilized.

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