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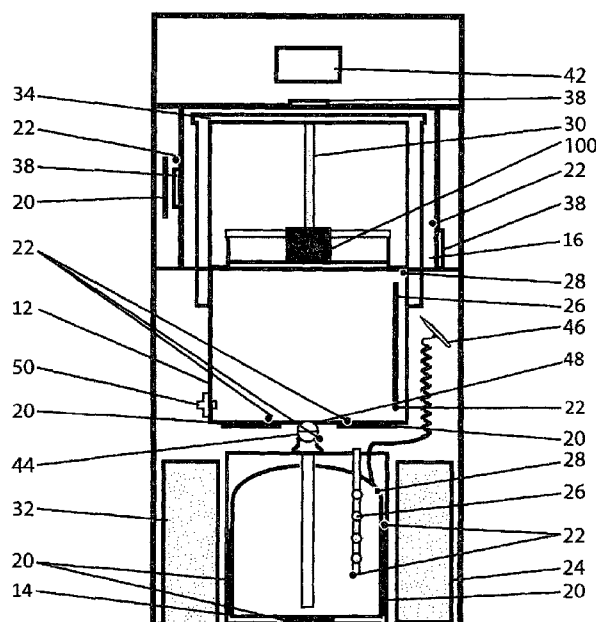
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(54) Title: A METHOD AND APPARATUS FOR INFUSING ADDITIVE MANUFACTURED OBJECTS AND THE LIKE

Fig 2



(57) Abstract: The invention relates to a method of infusing three dimensional printed, free-form fabricated, or additive manufactured objects; an apparatus for infusing three dimensional printed, free-form fabricated, or additive manufactured objects; and to objects infused by functional thermoplastic polymers, in the method the object is infused with a thermoplastic material introduced under controlled conditions of temperature and pressure, and the thermoplastic is caused to penetrate the object by immersing the object in the thermoplastic, controlling the frequency and amplitude of pressure oscillation to ensure sufficient infusion into the object to at least partially fill the pores or voids and bond particles or sheets of material from which the object is manufactured. In one embodiment the apparatus (100) facilitates this and comprises a) an infusion chamber (12), in which the object to be infused with a thermoplastic (110) is infused; b) a reservoir (14) which, in use, is filled with the thermoplastic; c) a curing chamber (16) for heating and curing the object; and d) a controller (18) for controlling the operative functions of the apparatus; the reservoir comprising a heating means (20) and sensors (22, 26, 28) such that the thermoplastic can be melted within defined parameters of temperature (T) and the controller enables the sequential steps of infusion and curing in the apparatus.

**Declarations under Rule 4.17:**

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