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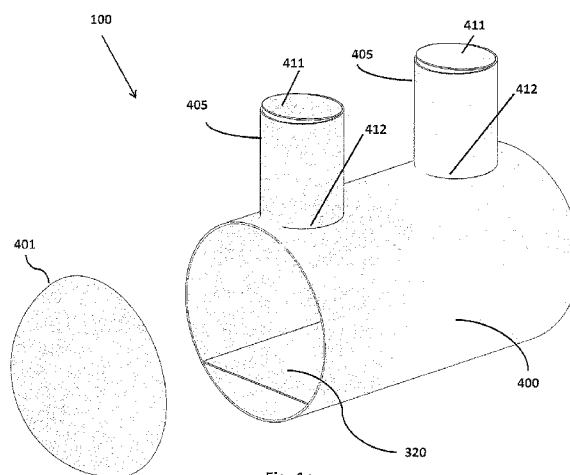


Fig. 1a

(57) Abstract: It is provided an underground structure, usable at least as a shelter, having a light weight substantially cylindrical portion, of a cylindrical casing having a weight to area ratio in the range of 8 to 30 kg /m². The casing has a strength level and an impermeability level high enough for serving as part a sealable underground liquid storage tank and at least one seaialbe opening connecting it to external spaces The casing may be made from fiberglass/glass reinforced plastic, carbon composite, combination of metallic elements and composite material, or high density polyethylene. The cylindrical portion includes openings for entering and exiting the interior of the portion, and passageways communicate the structure with outside spaces. A flat floor extends along the majority of said cylindrical portion. The surrounding ground provides a geo-thermal reservoir which is used to regulate by a flowing fluid the temperature of the shelter space, modules inside the shelter or aboveground structures. Human motion into and out of the structure is facilitated by a manual or mechanized apparatus for mobilizing people into and out of the structure. The structure includes provisions for receiving of variety of auxiliary systems like an air-treatment system, communication system water and power supply.

