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Springman et al.

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(54) **STORAGE SYSTEM FOR NUCLEAR FUEL**

(71) Applicant: **Holtec International**, Marlton, NJ (US)

(72) Inventors: **Richard M. Springman**, Drexel Hill, PA (US); **Stephen J. Agace**, Voorhees, NJ (US); **Krishna P. Singh**, Hobe Sound, FL (US)

(73) Assignee: **Holtec International**

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§ 371 (c)(1),
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G21F 5/12 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***G21F 5/12*** (2013.01); ***G21C 19/06*** (2013.01); ***G21F 5/008*** (2013.01); ***G21F 5/06*** (2013.01); ***G21F 9/34*** (2013.01); ***G21F 5/14*** (2013.01)

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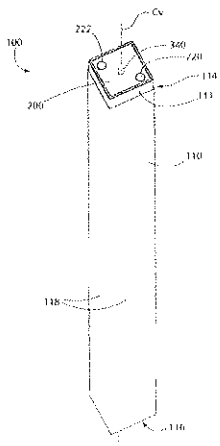
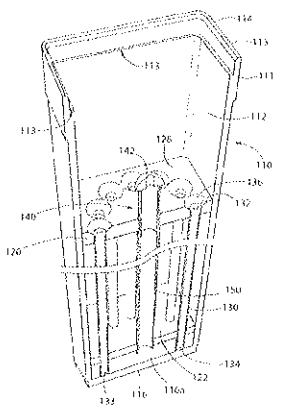
Primary Examiner — Anthony Stashick
Assistant Examiner — Robert Poon
(74) *Attorney, Agent, or Firm* — The Belles Group, P.C.

(57) **ABSTRACT**

A fuel storage system for storing and drying nuclear fuel rods includes a vertically oriented capsule defining an internal cavity. A plurality of fuel rod storage tubes is disposed in the cavity. In one embodiment, each storage tube has a transverse cross section configured and dimensioned to hold no more than one fuel rod. Intact or damaged fuel rods may be stored in the storage tubes. After the fuel rods are loaded into the capsule, a lid is attached to a previously open top end of the capsule. In one embodiment, the lid may be sealed welded to the capsule for forming a gas tight enclosure. The interior of the capsule and multiple fuel rods contained therein may be dried together simultaneously via flow conduits formed in the lid that can be fluidly connected to a suitable drying process such as a forced gas dehydration system.

18 Claims, 19 Drawing Sheets





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G21F 5/06	(2006.01)
G21F 9/34	(2006.01)
G21C 19/06	(2006.01)
G21F 5/14	(2006.01)

(58) **Field of Classification Search**
USPC 206/443; 376/272; 220/528, 555
See application file for complete search history.

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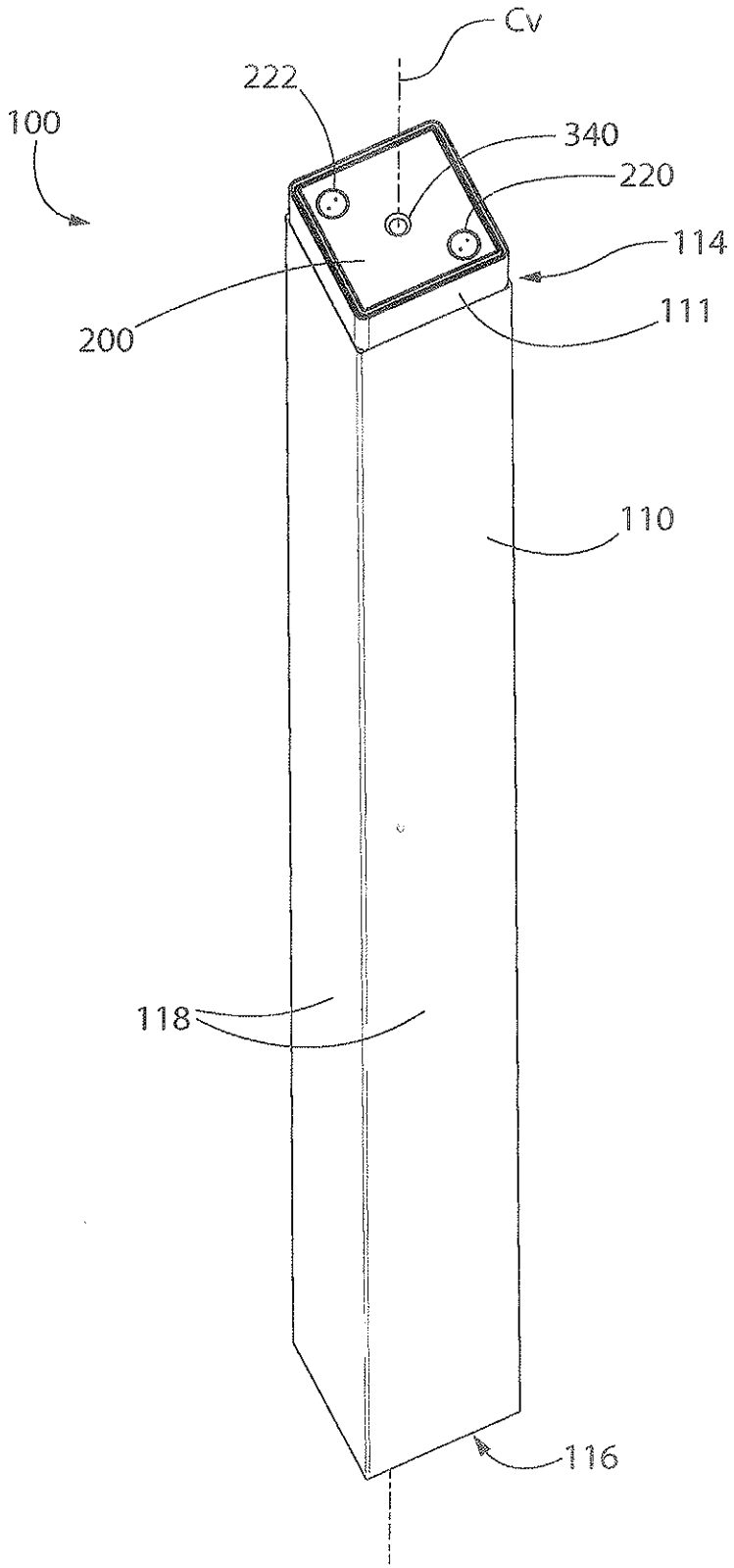

FIG. 1

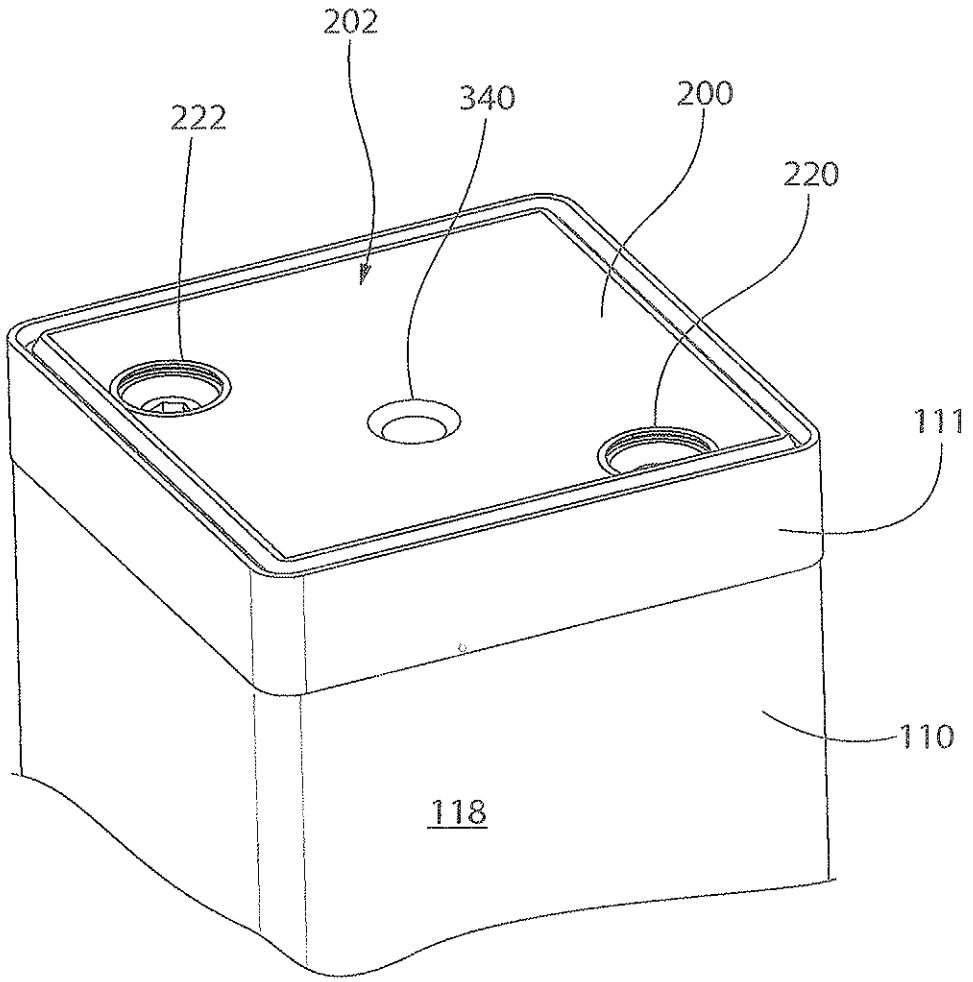

FIG. 2

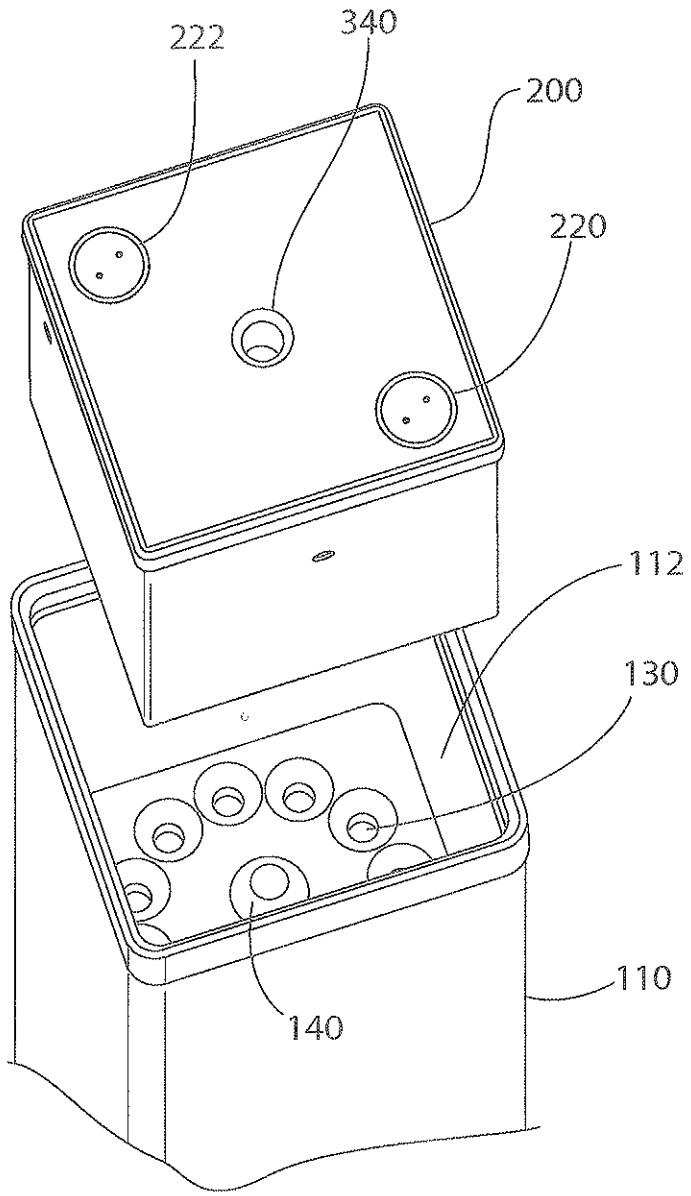

FIG. 3

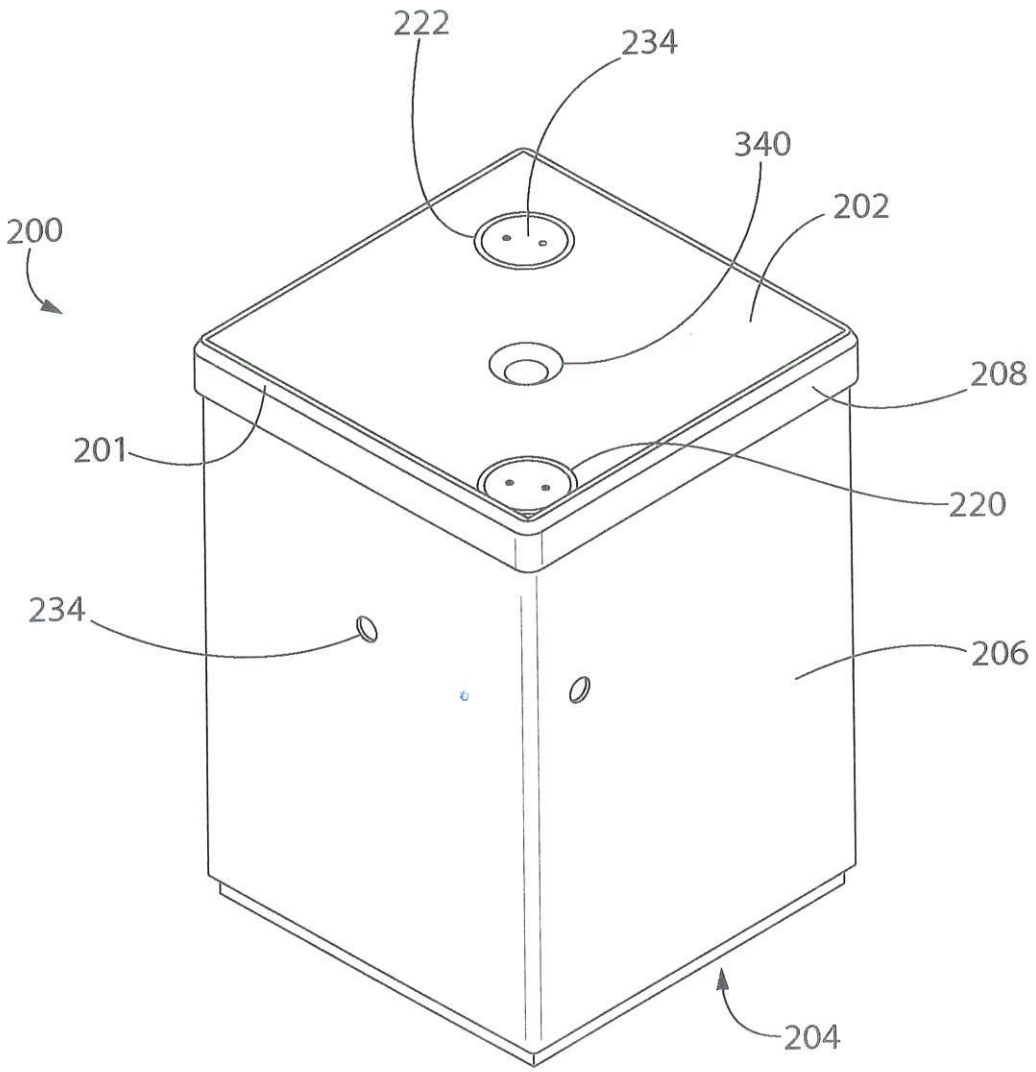

FIG. 4

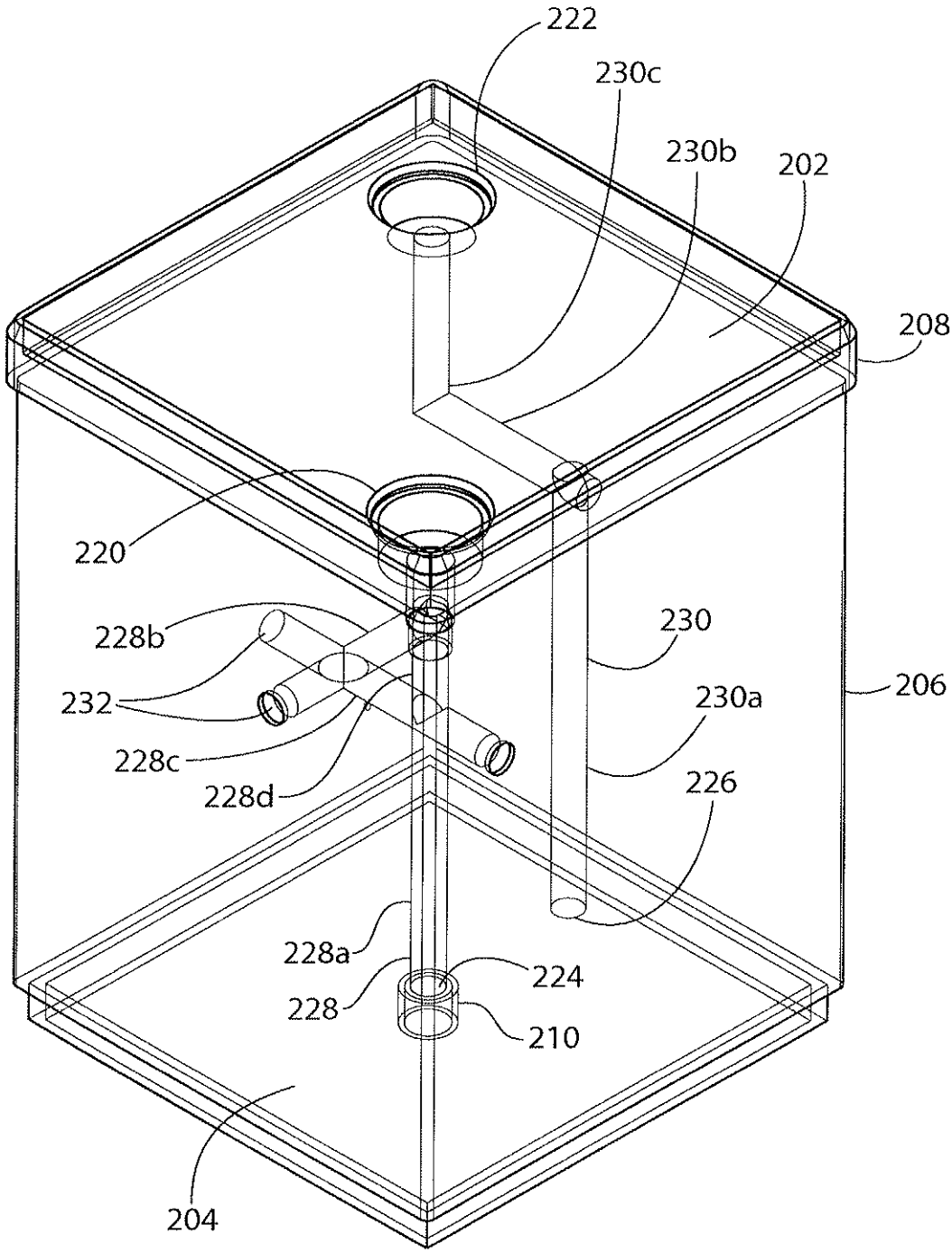
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FIG. 5

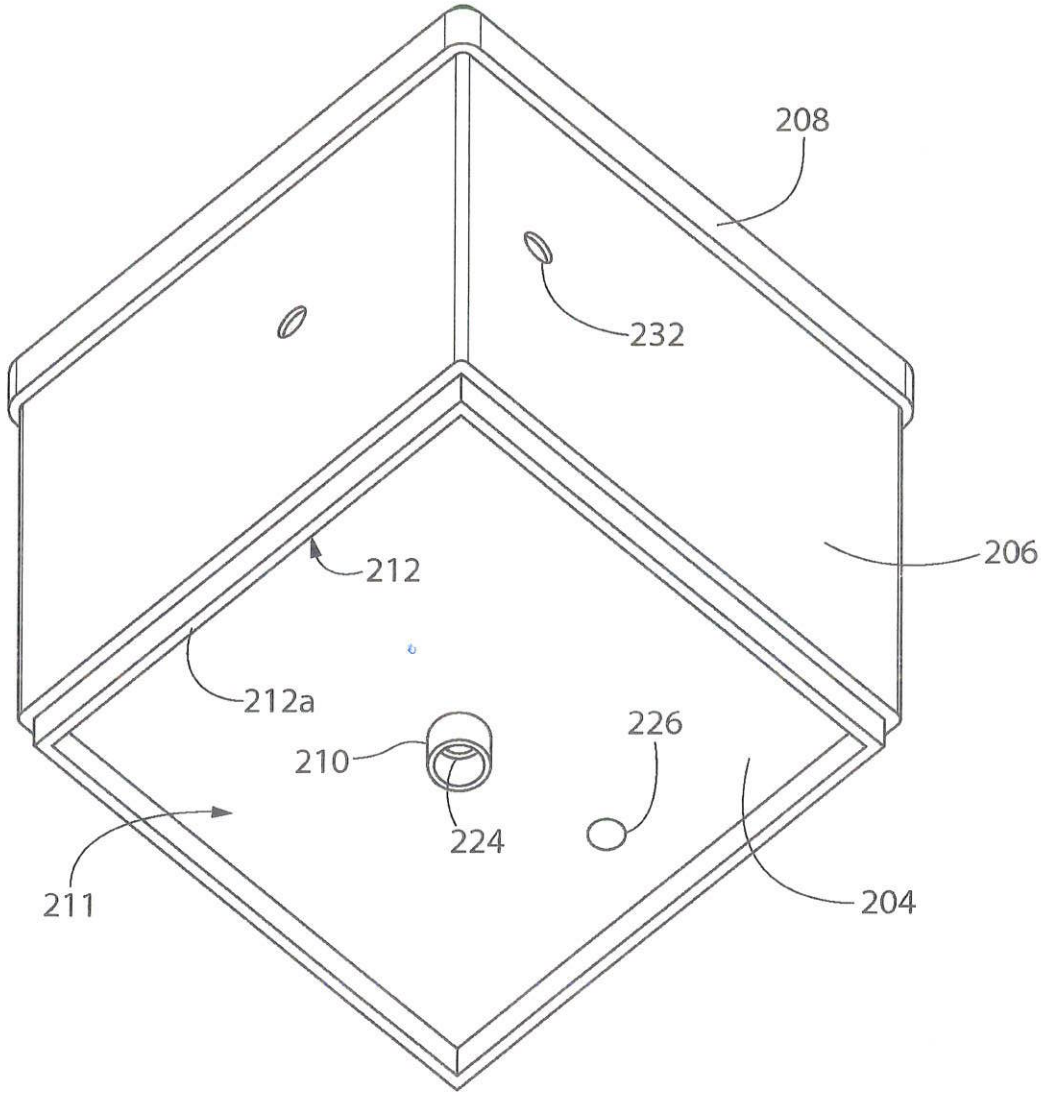

FIG. 6

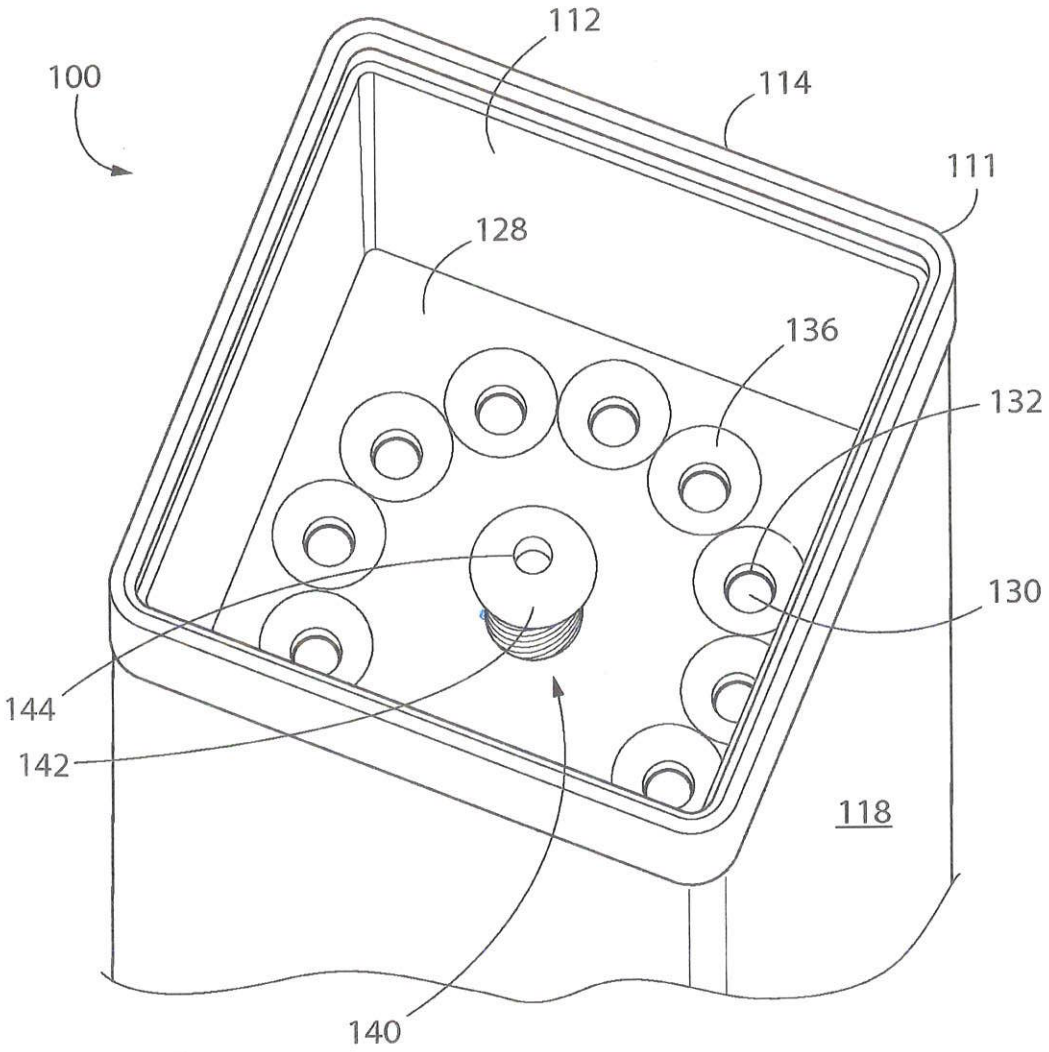

FIG. 7

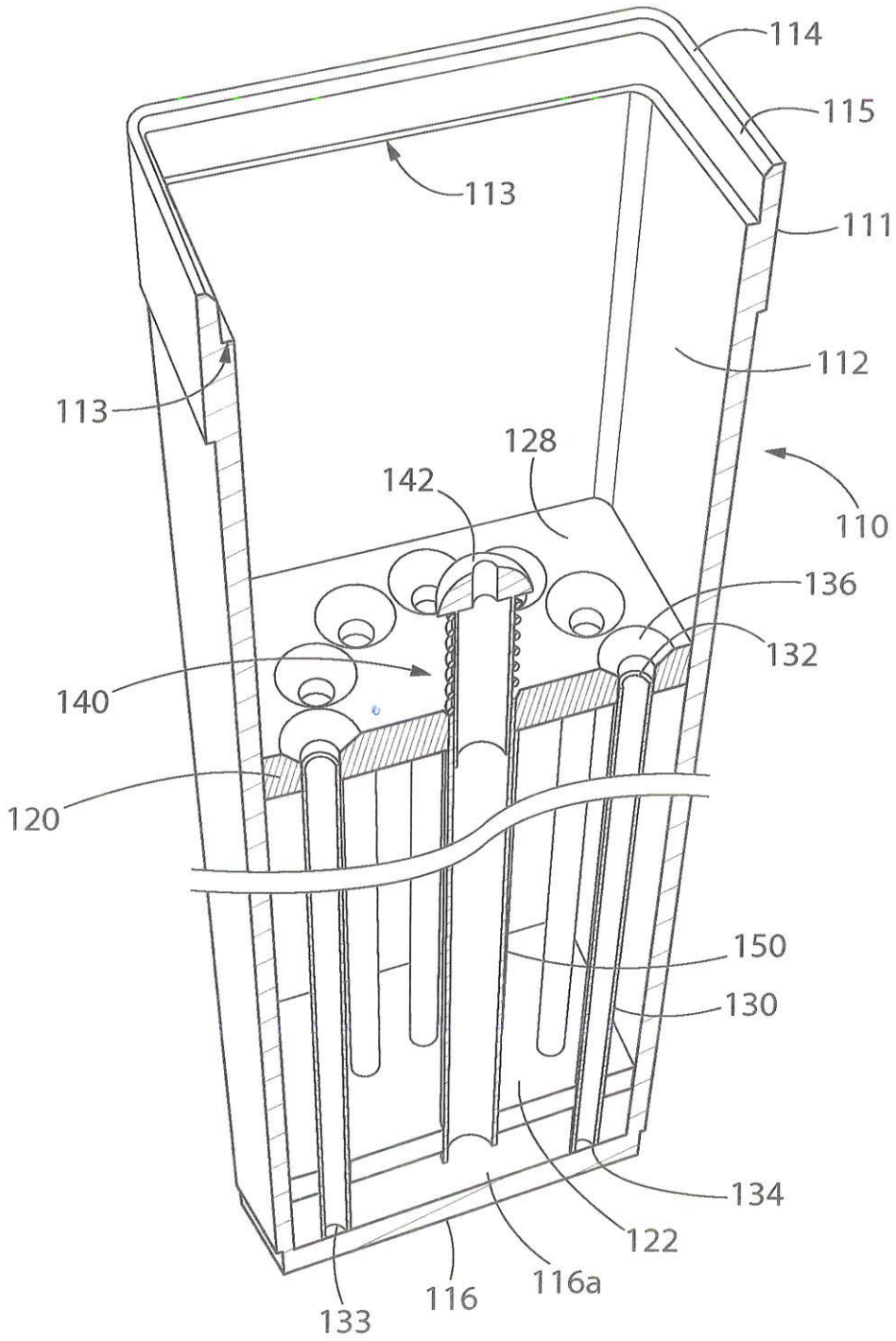
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FIG. 8