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(54) Title: A CONTINUOUS FREEZE DRYER, HOPPER AND METHOD OF FREEZE-DRYING

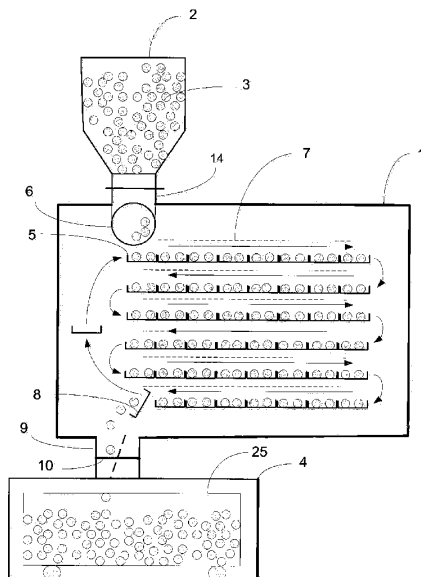


Figure 1

(57) Abstract: A continuous freeze dryer having a hopper for supplying product to the inlet of the freeze-drying chamber via a sealed coupling with the inlet. A hopper valve allows the hopper to be sealed and evacuated with product to be freeze-dried inside. An inlet valve of the freeze-drying chamber and a hopper valve may both be opened to provide a pathway between the hopper and the chamber whilst the hopper and chamber are maintained in an evacuated condition. The hopper may include an internal shell within an external shell with an evacuation port for evacuating a cavity between the shells. A hopper valve allows the supply of product to the freeze dryer via a hopper port. Product may be loaded into a hopper, coupled with the inlet of the freeze-drying chamber, evacuated, a hopper valve opened to supply product to the freeze-drying chamber, and the product conveyed through the freeze-drying chamber.

WO 2020/091607 A1