

Title (en)  
FREEZE-DRYING SYSTEM SLIDE AND FREEZE DRYING SYSTEM

Title (de)  
GEFRIERTROCKUNGSANLAGEN-SCHLITTEN UND GEFRIERTROCKNUNGSANLAGE

Title (fr)  
CHARIOT POUR LYOPHILISATEURS ET LYOPHILISATEUR

Publication  
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Application  
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Abstract (en)  
[origin: WO2013064266A1] A freeze-drying system (1) consists among other things of an arrangement of individual storage shelves (19) that are vertically guided in a frame (20) and can each be transferred into a displacement plane in which lateral guides (20, 21) intended for receiving a carriage (15) are fixedly arranged horizontally, cooperating with the guides (16, 18) of the loading and unloading device located outside the drying chamber in order to guide the carriage (15). The arrangement of the storage shelves (19) relative to the displacement plane is designed with the condition that drying containers can be pushed onto the storage shelf (19) in the displacement plane by means of the back side (24) of the carriage (15) functioning as the first guiding edge, all storage shelves (19) of the drying chamber being fillable by cyclical repetition of this process. In order to unload the drying chamber, the arrangement of storage shelves (19) is moved into a position in which the carriage (15) can be moved across the displacement plane into its rear limit position inside the drying chamber, travelling in the process under each loaded storage shelf (19), wherein after lowering of the next higher storage shelf (19) into the displacement plane, the carriage (15) can then be used for pushing out the drying containers supported thereon by means of its front side (23) acting as the guiding edge. The unloading process for the drying chamber is completed by moving the carriage (15) cyclically in the displacement plane into the aforementioned rear limit position and pushing out the drying containers on the subsequently lowered storage shelf (19) by means of the carriage (15). It is a particular advantage that aseptic conditions are easily provided because the carriage travels only under loaded storage shelves (19).

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CPC (source: EP US)  
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Citation (opposition)  
Opponent : David Molnia  
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EP 3144618 B2 20200401; ES 2624146 T3 20170713; ES 2638237 T3 20171019; ES 2638237 T5 20210118; US 11236942 B2 20220201;  
US 11236943 B2 20220201; US 2014230265 A1 20140821; US 2017059246 A1 20170302; WO 2013064266 A1 20130510

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US 201615299803 A 20161021