

Title (en)
FILLING APPARATUS

Title (de)
FÜLLVORRICHTUNG

Title (fr)
APPAREIL DE REMPLISSAGE

Publication
EP 3680210 A1 20200715 (EN)

Application
EP 19212592 A 20191129

Priority
JP 2018243580 A 20181226

Abstract (en)
To provide a filling apparatus (1) capable of filling a liquid (5) containing solids (5A) into a container (3) without hindrance. When a liquid (5) containing solids (5A) in a liquid tank (13) is introduced into a manifold (8), the liquid (5) containing the solids is supplied to filling nozzles (4) through distribution pipes (9) connected to respective distribution ports (8a), and is filled into a container (3) through the filling nozzles (4). On an upper surface (8Ba) of a bottom plate (8B) in the manifold (8), guide grooves (8E) are radially formed to extend from a center portion to the respective distribution ports (8a). Each of the guide grooves (8E) is formed to be gradually deepened from the center portion toward the distribution port (8a). When the liquid (5) containing the solids is introduced into the manifold (8), the solids (5A) contained in the liquid (5) enter the guide grooves (8E), and are arranged in a radial direction and guided to the respective distribution ports (8a) and then sent into the respective distribution pipes (9). Then, the liquid (5) containing the solids is filled into the container (3) through the filling nozzles (4) without hindrance. The plurality of solids (5A) can be prevented from being simultaneously collected in the distribution port (8a), and the distribution port (8a) can be prevented from being clogged with the plurality of solids (5A).

IPC 8 full level
B67C 3/22 (2006.01)

CPC (source: CN EP)
B65B 3/04 (2013.01 - CN); **B67C 3/22** (2013.01 - EP)

Citation (applicant)
JP 2011084324 A 20110428 - HITACHI SHIPBUILDING ENG CO

Citation (search report)
• [A] DE 885662 C 19530806 - SEITZ WERKE GMBH
• [A] EP 2030942 A1 20090304 - KRONES AG [DE]
• [A] DE 860762 C 19521222 - HOLSTEIN & KAPPERT MASCHF

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3680210 A1 20200715; **EP 3680210 B1 20211006**; CN 111377074 A 20200707; JP 2020104868 A 20200709; JP 7277702 B2 20230519

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