

Title (en)
CAPPING AND CAP SORTING DEVICE AND METHOD

Title (de)
VERSCHLUSS- UND VERSCHLUSSSORTIERVORRICHTUNG UND -VERFAHREN

Title (fr)
DISPOSITIF ET PROCÉDÉ DE TRI DE CAPUCHONS ET DE CAPSULAGE

Publication
EP 3626677 A1 20200325 (EN)

Application
EP 18460057 A 20180921

Priority
EP 18460057 A 20180921

Abstract (en)
Capping and cap sorting device comprising a capping machine, a cap transporter, a transporter and a sorter, characterised in that it comprises a robotic manipulator 27 located in the sorter 5, with a separation system 6 and a transporter 4 with platforms 38 coupled with the sorter 5, wherein all the elements of the device are coupled with each other with releasable or permanent couplings, wherein the sorter 5 comprises a primary transporter 19 belt mounted on a separate base or sharing a common base with a cap transporter 10 and/or the separation system 6, preferably with an illuminator 28 located under the primary transporter 19 or inside it, preferably with a second upper illuminator 29 above the primary transporter 19, whereas the transporter 4 with platforms 38 further comprises cells 36 with releasably-installed platforms 38 with container sockets 43, wherein the distance between the sockets 43 is uniform and corresponding to the distance between jaws 33 with vacuum grabs 34 on a grab 32 of a hexaxial robotic manipulator 44, and corresponding to the distance between capping heads 30, and equal to the length of a "puck"-type carrier, wherein a bottle 8 is transported to the packing line, wherein the shape of the sockets 43 corresponds to the shape of a cap 12 inserted into the device, preferably a trigger, atomiser or pump type cap, preferably with a dip tube 40, wherein the shape corresponds to the shape profile of the cap 12 inserted into the device, the cap 12 lying on its side, horizontally should it comprise a dip tube 40, with the dip tube 40 oriented perpendicularly to the direction of motion, towards the sorting manipulator, preferably for a trigger, atomiser, pump, flip top, cylindrical, press on, snap on or asymmetric type cap 12, preferably with a dip tube 40, preferably horizontally should it comprise a dip tube 40, with the dip tube 40 oriented perpendicularly to the direction of motion, towards the sorting manipulator.

IPC 8 full level
B67B 3/064 (2006.01); **B67B 3/20** (2006.01)

CPC (source: EP)
B67B 3/0645 (2013.01); **B67B 3/2053** (2013.01); **B67B 2201/017** (2013.01); **B67B 2201/12** (2013.01)

Citation (applicant)
• US 3905177 A 19750916 - HERZOG MICHAEL
• US 2017233233 A1 20170817 - JALBERT LUC [CA], et al
• US 2010275556 A1 20101104 - MICHELLI RICHARD D [US], et al

Citation (search report)
• [A] WO 2011125016 A1 20111013 - TIRELLI S R L [IT], et al
• [A] EP 1431181 A1 20040623 - MARCHESINI GROUP SPA [IT]
• [A] CN 103832953 A 20140604 - YUHUAN CNC MACHINE TOOL CO LTD
• [A] WO 2018109549 A1 20180621 - PHARMA INTEGRATION S R L [IT]

Cited by
CN115159419A; RU2767818C1; EP4389619A1

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 3626677 A1 20200325

DOCDB simple family (application)
EP 18460057 A 20180921