

Title (en)

METHOD AND DEVICE FOR OPTICALLY INSPECTING CONTAINERS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR OPTISCHEN INSPEKTION VON BEHÄLTERN

Title (fr)

PROCÉDÉ ET DISPOSITIF D'INSPECTION OPTIQUE DE CONTENANTS

Publication

EP 3980761 A1 20220413 (DE)

Application

EP 20711089 A 20200306

Priority

- DE 102019208299 A 20190606
- EP 2020056019 W 20200306

Abstract (en)

[origin: WO2020244818A1] The invention relates to a method (100) for optically inspecting containers (2), wherein the containers (2) are transported (101) to an inspection unit (10) with an illumination unit (3) and with a camera (4), wherein the illumination unit (3) emits (102) light from a flat light-emitting surface (30), wherein the light is transmitted or reflected (104) via the containers (2), wherein the camera (4) captures (105) a respective at least one of the containers (2) and the light transmitted or reflected via same in at least one camera image (I), and wherein the at least one camera image (I) is analysed by an image processing unit (6) for intensity information in order to identify (107) foreign bodies (8) and/or defects (7) in the container, wherein the light is emitted (103) from emission locations (31-42) on the flat light-emitting surface (30) in respective different emission directions (A1, A2, A3) with differing wavelength ranges, and captured by the camera (4) in such a way that the different wavelength ranges can be differentiated (106) from one another in the at least one camera image (I), and that the image processing unit (6) analyses the at least one camera image (I) for the different wavelength ranges in order to differentiate (108) the defects (7) from the foreign bodies (8).

IPC 8 full level

G01N 21/88 (2006.01); **G01N 21/90** (2006.01)

CPC (source: EP US)

G01N 21/8806 (2013.01 - EP US); **G01N 21/90** (2013.01 - EP); **G01N 21/9018** (2013.01 - EP); **G01N 21/9036** (2013.01 - EP US); **G01N 21/9045** (2013.01 - EP); **G01N 2021/8845** (2013.01 - EP US)

Citation (search report)

See references of WO 2020244818A1

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)

WO 2020244818 A1 20201210; CN 114127545 A 20220301; DE 102019208299 A1 20201210; EP 3980761 A1 20220413; US 2022307987 A1 20220929

DOCDB simple family (application)

EP 2020056019 W 20200306; CN 202080043086 A 20200306; DE 102019208299 A 20190606; EP 20711089 A 20200306; US 202017596265 A 20200306