

Title (en)

Method and Apparatus for Expanding a Product Containing Starch

Title (de)

Verfahren und Vorrichtung zur Expansion eines stärkehaltigen Produktes

Title (fr)

Procédé et appareil pour étendre un produit contenant de l'amidon

Publication

EP 2745716 A1 20140625 (EN)

Application

EP 12008494 A 20121220

Priority

EP 12008494 A 20121220

Abstract (en)

The invention provides a method and apparatus for expanding a product containing starch which provides a more efficient expansion of the product while reducing or avoiding undesired impacts on the taste or quality of the product. The method for expanding a product containing starch comprises the steps of subjecting the product to hot process gas in a high temperature zone (6) flowing in a downstream direction, such that the product is expanded by means of a thermal shock while the product is conveyed in the process gas in the downstream direction; and lowering the temperature of the process gas by injecting cooling medium through cooling medium inlets (7) while further conveying the product in the process gas.

IPC 8 full level

A24B 3/18 (2006.01)

CPC (source: CN EP)

A24B 3/182 (2013.01 - CN EP)

Citation (search report)

- [X] US 3881498 A 19750506 - WOCHNOWSKI WALDEMAR
- [X] US 4646760 A 19870303 - EGRI LASZLO [CH]
- [X] DE 3130778 A1 19830303 - BAT CIGARETTENFAB GMBH [DE]

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 2745716 A1 20140625; AR 094162 A1 20150715; BR 112015014485 A2 20170711; BR 112015014485 B1 20210720; CN 104853627 A 20150819; CN 104853627 B 20171212; EP 2934196 A1 20151028; EP 2934196 B1 20200909; JP 2016500269 A 20160112; JP 6742094 B2 20200819; KR 102247254 B1 20210504; KR 20150095750 A 20150821; PL 2934196 T3 20210111; RU 2015129519 A 20170125; RU 2640980 C2 20180112; WO 2014095059 A1 20140626

DOCDB simple family (application)

EP 12008494 A 20121220; AR P130104888 A 20131219; BR 112015014485 A 20131218; CN 201380065719 A 20131218; EP 13811796 A 20131218; EP 2013003835 W 20131218; JP 2015548280 A 20131218; KR 20157018058 A 20131218; PL 13811796 T 20131218; RU 2015129519 A 20131218