Title (en)

Method and device for thermal processing of loose materials, particulary organic plant materials

Title (de)

Verfahren und Vorrichtung zur thermischen Behandlung von losen Materialen, insbesondere organischen Pflanzenmaterialen

Title (fr)

Procédé et dispositf pour le traitement thermique de matières en vrac, en particulier matériaux végétaux organiques

Publication

**EP 1759601 A1 20070307 (EN)**

Application

**EP 06119168 A 20060818**

Priority

PL 37684905 A 20050831

Abstract (en)

The present invention relates to a method and a device for thermal processing of loose materials, particularly organic plant materials. In every step of the method according to the invention proper, preferable, local conditions for thermal processing of the material are established, by delivering a process gas, the temperature of which is adjusted independently for each of the steps of the method, the temperature of the hydrodynamic medium in a form of a process gas, preferably pure air and/or air saturated with another gas, ranging from 20° to 400°C. The gas is delivered via a set of one or several nozzles, positioned and controlled in each of the process sections independently, under an absolute pressure in the range from 0,2 hPa to 1 MPa, while the processed material is put into rotary motion, preferably in each of the steps, with a speed adjusted separately for each of the steps and a layer of the processed material is formed at the inner surface of the section, the rotary motion of the material is generated around axes, inclination angle of which relative to the horizontal direction is adjusted separately for every section, depending on desired quality parameters of the final product, the process gas being fed concurrently and/or backwardly relative to the rotating processed material, at an angle of adjusted magnitude, and glued together fibers of the processed material are defibrated. In the device according to the invention, at least one additional nozzle (3) for the process gas is located in at least one of the process sections (2, 4, 5), the nozzle being directed at an angle relative to the direction of rotation of the process section (2, 4, 5) and situated at an adjusted angle ´ relative to a tangent to the cross-section of the process section (2, 4, 5) and at an angle ² relative to the horizontal axis, measured in the plane of this cross-section, and the distance Rn between the outlet of the nozzle (3) and the axis of rotation of process sections (2, 4, 5) is smaller than the radius R of the section's cross-section drawn in the plane of the location of the nozzle.

IPC 8 full level

**A24B 3/04** (2006.01); **A24B 3/12** (2006.01)

CPC (source: EP)

**A24B 3/04** (2013.01); **A24B 3/12** (2013.01)

Citation (search report)

- [AX] EP 0273596 A1 19880706 - REYNOLDS TOBACCO CO R [US]
- [A] WO 9727766 A1 19970807 - BROWN & WILLIAMSON TOBACCO [US]
- [A] DE 19945892 A1 20010405 - BAT CIGARETTENFAB GMBH [DE]
- [A] EP 0917828 A2 19990526 - BAT CIGARETTENFAB GMBH [DE]
- [A] US 4572218 A 19860225 - HINE EDWIN W [US], et al

Cited by

GB2513609A; CN104445036A; CN104522868A; CN111165857A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

**EP 1759601 A1 20070307**; **EP 1759601 B1 20100428**; AT E465649 T1 20100515; DE 602006013910 D1 20100610; PL 1759601 T3 20100930; PL 376849 A1 20070305

DOCDB simple family (application)

**EP 06119168 A 20060818**; AT 06119168 T 20060818; DE 602006013910 T 20060818; PL 06119168 T 20060818; PL 37684905 A 20050831