

Title (en)

METHOD FOR SEPARATING A LOOSE MIXTURE IN A FLOWING MEDIUM AND DEVICE FOR CARRYING OUT SAID METHOD

Title (de)

VERFAHREN ZUR TRENNUNG EINER LOSEN MISCHUNG IN EINEM FLIESSENDEN MEDIUM UND VORRICHTUNG ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)

PROCÉDÉ DE SÉPARATION D'UN MÉLANGE PULVÉRULENT DANS UN MILIEU EN ÉCOULEMENT ET DISPOSITIF DE MISE EN UVRE

Publication

EP 3695911 A4 20210714 (EN)

Application

EP 18899852 A 20180716

Priority

- UA A201800397 U 20180115
- UA 2018000078 W 20180716

Abstract (en)

[origin: WO2019139557A1] A method for separating a loose mixture in a flowing medium involves gravity feeding particles, subjecting said particles to an aerodynamic, monotonically increasing action at an acute angle to the vertical by means of a cascade of planar jets, and removing the separated fractions. Prior to acting on the particles, each jet is expanded until it merges with the adjacent jets. In the space between adjacent jets, upstream of the merging point, two differently sized circulation zones are created, namely an upper zone and a lower zone. Initial expansion is carried out continuously and unidirectionally, i.e. upwards only, to form a stable lower circulation zone. The upper circulation zone is formed periodically by the self-oscillation of the boundary where adjacent jets merge, both along and transverse to the direction of movement of the combined flow. At its largest, the upper circulation zone is not greater in size than the lower circulation zone. The claimed device comprises: a hopper having a vibrating chute; a multi-jet generator disposed therebelow; and rigid plates which are arranged at an angle to the vertical and which are abutted at an angle of more than 90° by additional plates. The generator is surrounded by lateral walls having fraction collectors and is connected to an air supply. The additional plates together with their adjacent pairs of plates form slot-like gaps. The width of the additional plates is at least seven times greater than the width of the adjacent gaps and is at least twice the width of the adjoining rigid plates.

IPC 8 full level

B07B 4/02 (2006.01); **A01F 12/44** (2006.01)

CPC (source: EP)

B07B 4/02 (2013.01)

Citation (search report)

- [I] UA 45881 A 20020415 - SUKHIN VOLODYMYR STEPANOVYCH [UA], et al
- [I] RU 2340411 C1 20081210 - KOSILOV VLADIMIR MITROFANOVICH [RU]
- See also references of WO 2019139557A1

Designated contracting state (EPC)

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