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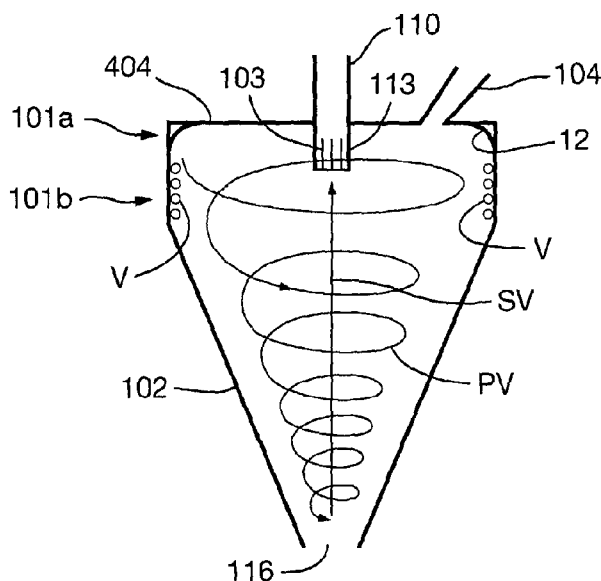
Declarations under Rule 4.17:

— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: A MATERIALS PROCESSING DEVICE AND METHOD

Fig. 6



(57) Abstract: A materials processing device comprises a chamber (101) having a first chamber region (101b) with a substantially circular inner wall (202) and being connected to materials feeding means (101a; 510), and a second chamber region (102) fluidly connected to and arranged below the first chamber region and having a downwardly extending frusto-conical shape and a bottom opening (116). A gas exhaust channel (110) is arranged concentrically with the chamber axis (c-c) and extending a distance into the chamber. The device comprises a plurality of more nozzles (501), each nozzle having an inlet (512), an internal bore and an exit opening (502a; 502b) in fluid communication with the first chamber region (101b), and a pulse generator (504, 503; 505, 507, 508) configured for imparting pressure pulses on a gas (F) flowing through the nozzle. In operating the device, pressure pulses are imparted on the gaseous flow (F) flowing through the nozzle and the resulting pulsed gaseous flow (E) is ejected tangentially into the first chamber region (101b) in order to generate a rotary array of vortices within the chamber. Typically, the device and method are useful for e.g. drying, separating, pulverizing and particle coating.

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INTERNATIONAL SEARCH REPORT

International application No

PCT/N02012/000007

A. CLASSIFICATION OF SUBJECT MATTER

INV. B02C19/06 B04C5/04 B04C5/103 B04C5/13
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B02C B04C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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