

Title (en)

Apparatus and method for detection and removing foreign material

Title (de)

Vorrichtung und Verfahren zum Erkennen und Ausscheiden von Fremdmaterial

Title (fr)

Appareil et procédé pour détecter et éliminer des matériaux étrangers

Publication

EP 0987355 A1 20000322 (DE)

Application

EP 98810914 A 19980914

Priority

EP 98810914 A 19980914

Abstract (en)

The apparatus to detect and separate foreign matter (F) from material (M) carried in an air stream, and especially cotton fibers, has a detector and at least one ejection opening in the carrier channel with a unit to generate a pressure burst to blow the foreign matter (F) out through the opening. The apparatus (1) to detect and separate foreign matter (F) from material (M) carried in an air stream, and especially cotton fibers, has a detector (3) and at least one ejection opening (4) in the carrier channel (2) with a unit (5) to generate a pressure burst to blow the foreign matter (F) out through the opening (4). A unit (21) generates an auxiliary gas flow (H) generally parallel to the carrier gas flow (G), to pass at least partially over the ejection opening (4). The auxiliary gas flow (H) is generated through at least one air opening (21), in front of the ejection opening (4) in the direction (R) of material travel. The air opening (21) is linked to a compressed air supply, or it draws in air by suction from the atmospheric pressure in the passage channel (2). A throttle flap controls the auxiliary gas flow (H). The air opening (21) for the auxiliary gas flow (H) is set so that the flow joins the main carrier gas flow (G). A guide surface in front of the ejection opening (4) carries the auxiliary flow (H) on the side towards the passage channel (2). An Independent claim is included for a cotton fiber cleaning action, where the auxiliary gas flow (H) is interrupted at least partially while a lateral pressure burst blows foreign matter through the ejection opening.

Abstract (de)

In einem Verfahren und einer Vorrichtung zum Erkennen und Ausscheiden von Fremdmaterial wird Material, beispielsweise Fasermaterial wie Baumwolle pneumatisch durch einen Kanal(2) geführt. Im Kanal (2) sind Mittel (3) zum Detektieren von Fremdmaterial (F) angeordnet. Sobald Fremdmaterial (F) detektiert wird, wird ein transversaler Druckstoß im Kanal (2) erzeugt, und das Fremdmaterial (F) wird durch eine Ausstossöffnung (4) im Kanal ausgeschieden. Die Vorrichtung (1) ist mit Mitteln (11, 21) zum Erzeugen eines Hilfsgasstroms (H) versehen. Der Hilfsgasstrom (H) verläuft etwa parallel zum Fördergasstrom (G) und überstreicht die Ausstossöffnung (4). Der Hilfsgasstrom (H) wirkt als Luftvorhang, welcher den unerwünschten Austritt von Material (M) durch die Ausstossöffnung (4) vermeidet. <IMAGE>

IPC 1-7

D01G 31/00; **D01G 23/08**

IPC 8 full level

D01G 23/08 (2006.01); **D01G 31/00** (2006.01)

CPC (source: EP)

D01G 23/08 (2013.01); **D01G 31/003** (2013.01)

Citation (search report)

- [XA] WO 9635831 A1 19961114 - JOSSI HANS PRAEZISIONSMECHANIK [CH], et al
- [A] DE 4129883 A1 19920319 - TRUETZSCHLER & CO [DE]
- [A] DE 3900450 A1 19900712 - HERGETH HUBERT [DE]
- [A] DE 4415959 A1 19951109 - HERGETH HUBERT A [DE]

Cited by

DE102006047038A1; DE10347006B4; WO2006079426A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0987355 A1 20000322

DOCDB simple family (application)

EP 98810914 A 19980914