

Title (en)  
PUSHER GRATE INSTALLATION FOR THE HEAT TREATMENT OF BULK MATERIAL

Publication  
**EP 0378821 A3 19910508 (DE)**

Application  
**EP 89123308 A 19891216**

Priority  
DE 3844493 A 19881230

Abstract (en)  
[origin: US4966548A] The heat treatment of solids by combustion, cooling, or the like with the aid of gas may take place on a grate conveying such solids while the gas is passed through openings in the surface of the grate. In order to provide lateral clearances of such grates with the same order of narrowness as the majority of the grate's openings, the mobile framework of the grate is suspended by tension elements inclined at an angle of at least 3 degrees relative to the perpendicular. If the mobile frame deviates from a straight course, the inclined suspension creates a centering force guiding the mobile frame without mechanical contact and wear. As a result, the lateral clearances for thermal expansion and building tolerances are reduced from about 20 to 2 mm.

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**F27D 15/02**

IPC 8 full level  
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Citation (search report)  
• [A] GB 1138660 A 19690101 - FULLER CO  
• [A] GB 842507 A 19600727 - FULLER CO  
• [A] DE 3332592 C1 19850515 - WEDEL KARL VON DIPL ING DIPL W

Cited by  
EP1099923A1; DE19906262A1; DE4320725A1; US6345580B1; WO9510014A1

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