

Title (en)  
HAND SHRINK APPARATUS

Publication  
**EP 0460500 A3 19920415 (DE)**

Application  
**EP 91108658 A 19910528**

Priority  
DE 9006308 U 19900605

Abstract (en)  
[origin: US5156542A] A gas-fired heat gun has a housing, a nozzle in the housing for directing a stream of a combustible gas in a predetermined direction along an axis in the housing, and at least two mixing tubes including an upstream tube and a downstream tube in the housing coaxial with the nozzle and downstream therefrom. Each tube has a large-diameter upstream end and a small-diameter downstream end with the downstream end of the upstream tube spacedly received within the upstream end of the downstream tube so that air is entrained axially into both upstream ends by the combustible-gas stream. A combustion chamber is provided in the housing coaxial with and immediately downstream of the downstream end of the downstream tube.

IPC 1-7  
**B65B 53/06**; **F23D 14/64**

IPC 8 full level  
**F23D 14/04** (2006.01); **B65B 53/06** (2006.01); **F23D 14/64** (2006.01)

CPC (source: EP US)  
**B65B 53/06** (2013.01 - EP US)

Citation (search report)  
• [X] EP 0099828 A2 19840201 - RAFFINAGE CIE FRANCAISE [FR]  
• [Y] GB 1599662 A 19811007 - QUIETFLO ENG LTD  
• [A] DE 2822192 A1 19791122 - MSK VERPACKUNG SYST GMBH  
• [A] US 2386978 A 19451016 - RUHL CHARLES L  
• [X] GB 615822 A 19490112 - ALBERT HORACE GREAVES, et al  
• [Y] US 3990835 A 19761109 - BURTON III ROBERT S  
• [Y] BE 841708 A 19761112  
• [Y] GB 1337121 A 19731114 - AIROIL BURNER  
• [A] US 2063396 A 19361208 - PARRIGIN HOMER P

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB IT LI NL SE

DOCDB simple family (publication)  
**US 5156542 A 19921020**; AT E104230 T1 19940415; CS 168791 A3 19920219; CZ 279516 B6 19950517; DE 59101353 D1 19940519; DE 9006308 U1 19900809; EP 0460500 A2 19911211; EP 0460500 A3 19920415; EP 0460500 B1 19940413; ES 2051048 T3 19940601; HU 211011 B 19950928; HU 911847 D0 19911230; HU T59474 A 19920528; JP 3112979 B2 20001127; JP H05132038 A 19930528; PL 166594 B1 19950630; PL 290534 A1 19920210; RU 2011118 C1 19940415; YU 48308 B 19980515; YU 95691 A 19950327

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