

Title (en)

MICROWAVE DEVICE FOR WARMING AND/OR DRYING FLAT MATERIALS PASSING THROUGH THE DEVICE

Publication

EP 0071123 B1 19851002 (DE)

Application

EP 82106440 A 19820717

Priority

DE 3130358 A 19810731

Abstract (en)

[origin: EP0071123A1] 1. Apparatus for uniformly heating and/or drying wide, thin, sheet-like webs of paper, plastics, textiles or photographic materials using an energy transmitter supplied with microwaves which consists of waveguides which are arranged parallel to each other and are divided into two symmetric parts between which the material can be passed and which are interconnected and whose length is made to equal an integral number of half-waves ($\text{LAMBDA}/2$), the waveguide elements being alternately displaced by a quarter of a waveguide wavelength ($\text{LAMBDA}/4$) for the avoidance of undesired electromagnetic coupling between the waveguide elements and separate microwave generators being used, in conjunction with circulators, to supply each of the individual waveguide elements, characterised in that a) the individual waveguide elements (3) are, in their longitudinal direction, arranged parallel to or at a small angle (α) to the direction of travel of the web (2), b) the number of waveguide elements (3) is selected so as to be proportional to the width of the web (2), the proportionality factor being based on the required conditions, c) the width (b) of the individual waveguide elements (3) is of a size corresponding to the configuration of the H10 mode and d) magnetically-acting adjustable iris couplers (4) are provided for adjusting the microwave power acting in each waveguide element (3), which couplers allow a uniform or any desired pattern of the supplied microwave power transversely to the direction of travel of the web.

IPC 1-7

H05B 6/64; **F26B 23/08**

IPC 8 full level

D21F 5/16 (2006.01); **F26B 3/347** (2006.01); **F26B 13/10** (2006.01); **F26B 23/08** (2006.01); **H05B 6/64** (2006.01); **H05B 6/78** (2006.01)

CPC (source: EP)

D21F 5/167 (2013.01); **F26B 3/347** (2013.01); **F26B 13/10** (2013.01); **H05B 6/78** (2013.01); **H05B 2206/046** (2013.01)

Citation (examination)

- US 3449836 A 19690617 - SCHREIBER HENRY, et al
- US 3475827 A 19691104 - GOERZ DAVID J JR

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EP0580100A3; EP1319914A3; CN105202882A; US6323470B2; US6901683B2; US6938358B2

Designated contracting state (EPC)

BE DE FR GB

DOCDB simple family (publication)

EP 0071123 A1 19830209; **EP 0071123 B1 19851002**; DE 3130358 A1 19830217; DE 3266685 D1 19851107; JP S5826979 A 19830217

DOCDB simple family (application)

EP 82106440 A 19820717; DE 3130358 A 19810731; DE 3266685 T 19820717; JP 13233882 A 19820730