

Title (en)
Device for singeing yarns

Title (de)
Vorrichtung zum Absengen von Fäden

Title (fr)
Dispositif de flambage de fils

Publication
EP 1013815 A2 20000628 (DE)

Application
EP 99109590 A 19990514

Priority
US 22063898 A 19981224

Abstract (en)

The appts. (V) to singe synthetic twisted carpet yarns (1), pref. as a band of yarns, has a heated stretch (18) where the yarns pass through before and/or after the singeing flame (7), independently of the burner (5). The temp. of the heated stretch is set to affect the macro mol. structure of the plastics yarn material. The heated stretch (18) uses the energy of the singeing flame (7) for the heating action, with a plate heating body (19) along the line of the yarn (1) path. The heated stretch has pref. two heating bodies (19), with a gap (20) between them for the yarn path where the yarns (1) pass through without contact with the heated bodies (19). The heated bodies (19) are of a ceramic material, and their position can be adjusted in relation to the yarn path along or across the line of yarn movement. The singeing flame (7) strikes the heating bodies (19) at their surfaces towards the moving yarns (1). A burner (5) is on both sides of the yarn path. The heating action on the yarns (1) can be varied by setting the length of the heating bodies (19) and the yarn movement speed. The yarns (1) pass through the same heating stretch (18) twice or more times. The yarns (1) pass through the heating stretch (18) towards (y) the burner (5) and also on the return path (z) from the burner (5). The forwards and returning yarns (1) are offset from each other on the yarn band plane within the heating stretch (18). The burner (5) has a ramp block (26) forming a singeing slit (27). In operation of the burner (5), the surface (29) towards the yarns (1) forms an included acute angle with the singeing slit (27). The ramp block (26) has a section (28) with a triangular base contour across the plane of the band of yarns. A suction chamber (25) with an extraction fan is in front of the heated stretch (18), in the yarn forward feed direction (y). The air movement generated by the extraction fan draws the singeing flame (7) into the heated stretch (18) zone. Diverging base walls (30) with air entry slits (32) are between the suction chamber (25) and the heated stretch (18), tapering into the heated stretch (18). A deflection guide roller (15) is after the burner (5), in the direction of yarn forward movement (y), to assist in bringing the yarns into position. The deflection roller (15) is at the free end of a vertical lifter to be lowered from a feed and take-off movement direction point to a singe/heat setting position. The inwards and outwards movement point is set by upper guide rollers (13,14). A displacement comb is after the deflection roller (15), and the deflection roller (15) is fitted with yarn guide grooves. The deflection roller (15) can be composed of a number of separate rollers, each moved by its own lifter. A dedicated drive acts on at least part of the yarn guide roller system (13,14,16) and the deflection roller (15). An Independent claim is included for a yarn singeing process where the yarns (1) pass through the singeing flame (7) and the heated stretch (18) at a speed of 500-1500 m/min. Preferred Features: The singeing flame is at a temp. of 1200 degrees C and the heated stretch has a temp. of 400-500 degrees C.

Abstract (de)

Die Erfindung betrifft eine Vorrichtung (V) zum Absengen von Fäden (1), vorzugsweise einer Fadenschar, beispielsweise zur Verwendung bei der Herstellung eines Teppichs, wobei die Fadenschar aus verdrehten Fäden aus einem Kunststoffmaterial wie Nylon (Polyamide), Polyester und ähnlichem besteht, welche Vorrichtung (V) einen eine Sengflamme (7) ausbildenden Brenner (5) aufweist, und schlägt zur Sicherung der Drillstruktur und einer verbesserten Rückstellwirkung der Fäden vor, daß die Fäden (1) vor- und/oder nachgeordnet zu der Sengflamme (7) eine unabhängig von dem Brenner (5) ausgebildete Wärmestrecke (18) durchlaufen, welche auf eine das Kunststoffmaterial in seiner makromolekularen Struktur beeinflussende Temperatur eingestellt ist. <IMAGE>

IPC 1-7
D06C 9/02; **D06C 7/02**

IPC 8 full level
D06C 7/02 (2006.01); **D06C 9/02** (2006.01)

CPC (source: EP US)
D06C 7/02 (2013.01 - EP US); **D06C 9/02** (2013.01 - EP US)

Cited by
CN103541090A; CN108049066A; CN108035105A; CN103614889A

Designated contracting state (EPC)
CH DE IT LI

DOCDB simple family (publication)
EP 1013815 A2 20000628; **EP 1013815 A3 20001220**; US 6151764 A 20001128

DOCDB simple family (application)
EP 99109590 A 19990514; US 22063898 A 19981224