

Title (en)

Automatic machine and automatic method for bending and calendaring spacer profiles to obtain spacer frames for an insulating glazing unit

Title (de)

Automatische Maschine und automatisches Verfahren zum Biegen und Kalandrieren von Abstandsprofilen zum Erhalten von Abstandhalterrahmen für eine Isolierverglasungseinheit

Title (fr)

Machine automatique et procédé automatique pour le cintrage des profilés d'écartement de calandrage pour obtenir des trames d'espacement pour une unité de vitrage isolant

Publication

EP 2862644 A1 20150422 (EN)

Application

EP 14189153 A 20141016

Priority

IT TV20130167 A 20131017

Abstract (en)

An automatic machine for bending and/or calendaring spacer profiles (1) intended to form spacer frames (4, 4', 4'') for an insulating glazing unit (5) composed of: a carriage or a belt feeder (300) for the synchronous movement of the spacer profile (1) upstream of a bending head (400); a bending head (400) composed of a matrix that consists of jaws (401a, 401p) that are adjustable as a function of the width of the spacer profile (1) and of a punch (402) that can be moved toward the inside curve of the profile; a bending lever (403) directly downstream of the punch (402) that is provided with a synchronous rotary motion (co); the coordinated operation of all these mechanisms actuating the bending and/or calendaring according to the background art, downstream of the bending head (400) there being a mechanism (100) that mates with the initial portion (2) of the spacer frame (3, 3', 3''), supporting it and guiding it during all the operating steps of bending and/or calendaring along a path that is synchronous with the geometric position described by the initial portion (2) of the spacer frame during the forming of the spacer frame (3, 3', 3'') performed by the feeder (300) and by the bending head (400).

IPC 8 full level

B21D 43/10 (2006.01); **B21D 53/74** (2006.01); **E06B 3/673** (2006.01)

CPC (source: EP)

B21D 7/022 (2013.01); **B21D 7/08** (2013.01); **B21D 43/10** (2013.01); **B21D 53/74** (2013.01); **E06B 3/67313** (2013.01)

Citation (applicant)

EP 1285708 B1 20031029 - LISEC PETER [AT]

Citation (search report)

- [XA] US 5136871 A 19920811 - LISEC PETER [AT]
- [XI] FR 2449222 A1 19800912 - KAEUFERLE STAHLBAU J [DE]
- [A] EP 1285708 A1 20030226 - LISEC PETER [AT]
- [A] DE 102004060805 A1 20060511 - LENHARDT MASCHINENBAU [DE]

Citation (third parties)

Third party : **anonymous**

- US 5136871 A 19920811 - LISEC PETER [AT]
- DD 271657 A1 19890913 - SEEFAHRT INGHOCHSCHULE [DD]

Cited by

WO2020070245A1; EP3495067A1; IT202100017432A1; CN112453119A; CN113926950A; JP2016196041A; FR3074434A1; US11352831B2; WO2023275906A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2862644 A1 20150422; **EP 2862644 B1 20210630**; EP 3912748 A1 20211124; IT TV20130167 A1 20150418

DOCDB simple family (application)

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