

Title (en)

METHOD FOR PRODUCING AT LEAST ONE WINDOW OPENING IN AN ELONGATE PAPER SUBSTRATE, AND APPARATUS

Title (de)

VERFAHREN ZUR HERSTELLUNG MINDESTENS EINER FENSTERÖFFNUNG IN EINEM LANGGESTRECKTEN PAPIERSUBSTRAT, SOWIE VORRICHTUNG

Title (fr)

PROCÉDÉ DE RÉALISATION D'AU MOINS UNE OUVERTURE EN FORME DE FENÊTRE DANS UN SUBSTRAT OBLONG EN PAPIER, ET DISPOSITIF CORRESPONDANT

Publication

**EP 2049425 B1 20150218 (DE)**

Application

**EP 07786397 A 20070727**

Priority

- EP 2007006686 W 20070727
- DE 102006037432 A 20060809

Abstract (en)

[origin: WO2008017392A2] The invention relates to a method and an apparatus for producing at least one window opening (7) in an elongate paper substrate (1) which is divided virtually into paper sheet sections transversely with respect to its longitudinal axis. The method comprises the following steps: a) the paper substrate (1) is provided with at least one watermark (2) per paper sheet section; b) the position of at least one watermark (2) on the paper substrate (1) is detected by means of at least one sensor unit (3); c) the paper substrate (1) is then fed to a unit for producing openings in the paper substrate (1), which unit is actuated in such a way that at least one window opening (7) per paper sheet section is produced in the paper substrate (1) on the basis of the position of the at least one watermark (2), which position is detected by the at least one sensor unit (3).

IPC 8 full level

**B65H 23/04** (2006.01); **B26D 5/00** (2006.01); **B26D 5/34** (2006.01); **B26F 1/38** (2006.01); **B31B 50/83** (2017.01)

CPC (source: EP US)

**B26D 5/007** (2013.01 - EP US); **B26D 5/34** (2013.01 - EP US); **B41F 33/00** (2013.01 - EP US); **B65H 23/046** (2013.01 - EP US); **B26F 1/384** (2013.01 - EP US); **B65H 2511/512** (2013.01 - EP US); **B65H 2701/1916** (2013.01 - EP US); **Y10T 83/0529** (2015.04 - EP US); **Y10T 83/145** (2015.04 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2008017392 A2 20080214**; **WO 2008017392 A3 20080417**; CA 2662028 A1 20080214; CA 2662028 C 20130910; CN 101522549 A 20090902; CN 101522549 B 20111026; DE 102006037432 A1 20080221; DE 102006037432 B4 20101118; DE 102006037432 C5 20140814; EP 2049425 A2 20090422; EP 2049425 B1 20150218; ES 2536763 T3 20150528; JP 2010534570 A 20101111; JP 5427605 B2 20140226; PL 2049425 T3 20150731; RU 2009108299 A 20100920; RU 2440922 C2 20120127; TW 200821113 A 20080516; US 2009320660 A1 20091231

DOCDB simple family (application)

**EP 2007006686 W 20070727**; CA 2662028 A 20070727; CN 200780036691 A 20070727; DE 102006037432 A 20060809; EP 07786397 A 20070727; ES 07786397 T 20070727; JP 2009523175 A 20070727; PL 07786397 T 20070727; RU 2009108299 A 20070727; TW 96127816 A 20070730; US 30996207 A 20070727