

Title (en)  
EMBOSSING DEVICE FOR AT LEAST TWO-LAYERED PLANAR PRODUCTS SUCH AS TOILET PAPER, TISSUES, OR SIMILAR

Title (de)  
PRÄGEVORRICHTUNG FÜR MINDESTENS ZWEILAGIGE FLÄCHENPRODUKTE WIE TOILETTENPAPIER, TASCHENTÜCHER ODER DERGLEICHEN

Title (fr)  
DISPOSITIF DE GAUFRAGE POUR PRODUITS PLATS AU MOINS DOUBLE COUCHE, TELS QUE PAPIER HYGIÉNIQUE, MOUCHOIRS EN PAPIER OU ANALOGUES

Publication  
**EP 1991411 A2 20081119 (DE)**

Application  
**EP 07711816 A 20070307**

Priority

- EP 2007001945 W 20070307
- DE 102006010709 A 20060308

Abstract (en)  
[origin: US2009226670A1] The aim of the invention is to create an embossing device for at least two-layered planar products such as toilet paper, tissues, or similar, which makes it possible to easily make high-quality planar products that are provided with decorative patterns. Said aim is achieved by an embossing device for at least two-layered planar products such as toilet paper, tissues, and similar, comprising at least one first and at least one second couple of rollers, each of which is composed of an embossing roller and a squeezer. The embossing roller of the first couple is provided with a plurality of embossing points at a number of about 20 to 70 per cm<sup>2</sup>, preferably up to about 45 per cm<sup>2</sup>, said embossing points being evenly distributed across the entire embossing area of the embossing roller, in order to create a planar microembossed design on at least one layered web. The embossing roller of the second couple encompasses first and second areas that are distributed across the embossing area thereof. The first areas are equipped with a plurality of embossing points at a number of about 45 to about 70 per cm<sup>2</sup> in order to create a planar microembossed design on at least one additional layered web while the second areas have no embossing points, form a maximum of 40 percent of the entire embossing area, and are not interconnected. The inventive embossing device further comprises at least one gluing station which is arranged adjacent to the embossing roller of the second couple, downstream from the respective squeezer, and by means of which glue is applied to the embossing points of the embossing roller. The embossing rollers are placed relative to one another so as to form a nip for joining the embossed layered webs. A joining roller is positioned downstream from the nip, adjacent to the embossing roller of the first couple, in order to connect the layered webs.

IPC 8 full level  
**B31F 1/07** (2006.01); **D21H 27/40** (2006.01)

CPC (source: EP US)  
**B31F 1/07** (2013.01 - EP US); **D21H 27/02** (2013.01 - EP US); **A47K 10/16** (2013.01 - EP); **B31F 2201/0725** (2013.01 - EP US); **B31F 2201/0733** (2013.01 - EP US); **B31F 2201/0738** (2013.01 - EP US); **B31F 2201/0764** (2013.01 - EP US); **B31F 2201/0787** (2013.01 - EP US); **D21H 21/16** (2013.01 - EP US); **D21H 21/28** (2013.01 - EP US); **D21H 23/56** (2013.01 - EP US); **D21H 27/30** (2013.01 - EP US); **Y10T 156/1023** (2015.01 - EP US); **Y10T 156/1741** (2015.01 - EP US); **Y10T 428/24463** (2015.01 - EP US)

Citation (search report)  
See references of WO 2007101668A2

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)  
**US 2009226670 A1 20090910**; **US 8708020 B2 20140429**; AT E430653 T1 20090515; CA 2644534 A1 20070913; CA 2644534 C 20121030; CN 101394992 A 20090325; CN 101394992 B 20110223; DE 102006010709 A1 20070913; DE 502007000705 D1 20090618; DK 200600197 U3 20070622; EP 1991411 A2 20081119; EP 1991411 B1 20090506; EP 1991411 B2 20181226; ES 2325606 T3 20090909; FI 7266 U1 20061031; FI U20060311 U0 20060731; IT RM20060167 U1 20070909; JP 2009528928 A 20090813; JP 4942772 B2 20120530; NO 20083960 L 20080916; PL 1991411 T3 20090831; PL 1991411 T5 20190628; PT 1991411 E 20090616; RU 2008139897 A 20100420; RU 2408463 C2 20110110; SI 1991411 T1 20090831; UA 96968 C2 20111226; WO 2007101668 A2 20070913; WO 2007101668 A3 20080313

DOCDB simple family (application)  
**US 28203407 A 20070307**; AT 07711816 T 20070307; CA 2644534 A 20070307; CN 200780007912 A 20070307; DE 102006010709 A 20060308; DE 502007000705 T 20070307; DK BA200600197 U 20060720; EP 07711816 A 20070307; EP 2007001945 W 20070307; ES 07711816 T 20070307; FI U20060311 U 20060731; IT RM20060167 U 20060922; JP 2008557659 A 20070307; NO 20083960 A 20080916; PL 07711816 T 20070307; PT 07711816 T 20070307; RU 2008139897 A 20070307; SI 200730034 T 20070307; UA A200907127 A 20070307