

Title (en)
BLANK SUPPLY APPARATUS AND BLANK SUPPLY METHOD USING THE SAME

Title (de)
ROHLINGZUFÜHRUNGSVORRICHTUNG UND ROHLINGZUFÜHRUNGSVERFAHREN DAMIT

Title (fr)
APPAREIL D'ACHEMINEMENT DE DÉCOUPES ET PROCÉDÉ D'ACHEMINEMENT DE DÉCOUPES L'UTILISANT

Publication
EP 3753854 A1 20201223 (EN)

Application
EP 20190039 A 20150828

Priority
• JP 2014072547 W 20140828
• EP 15836822 A 20150828
• JP 2015074503 W 20150828

Abstract (en)
The invention is related to a blank supply apparatus (8) adapted to supply blank (10) used to form a box (14) of a package (1) to a packaging machine (12), the supply apparatus (8) comprising: a transfer path (26) adapted to transfer the blank (10) piece by piece along a transfer surface (40) by extending from a supply source (4) of the blank (10) to the packaging machine (12); a pair of rollers (30) rotatably placed on opposite sides of the transfer surface (40) and provided with a pressing region (46) on an outer circumferential surface (42c, 44c) to feed the blank (10) while pressing a strip region (24) of the blank (10) corresponding to a square edge (16) of the box (14); and a preliminary folding station (38) placed at a preliminary folding position established downstream of the pair of rollers (30) and adapted to preliminarily fold the strip region (24) of the blank (10) and give a preliminary folding angle to the strip region (24) when the blank (10) is placed at the preliminary folding position, wherein the preliminary folding station (38) includes: a preliminary folding guide (60) placed on the transfer path (26) and provided with a lateral edge (68) extending along the transfer path (26), where when the blank (10) is placed at the preliminary folding position the blank (10) is superimposed under the preliminary folding guide (60) and a flap section (22) of the blank (10) protrudes from the lateral edge (68), the flap section (22) being provided with the strip region (24); and a folding element (64A, 64B) placed in a neighborhood of the lateral edge (68) of the preliminary folding guide (60) and provided with an axis extending along the lateral edge (68), wherein the folding element (64A, 64B) folds the flap section (22) by pressing the strip region (24) along the lateral edge (68) and thereby establishes the preliminary folding angle of the flap section (22) with respect to the blank (10), the flap section (22) includes an inside flap (22a) located inside the box (14) during forming of the box (14) and an outside flap (22b) located outside the box (14) during the forming of the box (14), the folding element (64A, 64B) includes a first folding member (67a) adapted to fold the inside flap (22a) and a second folding member (67b) adapted to fold the outside flap (22b), and the first and second folding members (67a, 67b) give different preliminary folding angles to the inside and outside flaps (22a, 22b).

IPC 8 full level
B65B 19/22 (2006.01); **B31B 50/25** (2017.01); **B31B 50/26** (2017.01); **B31B 50/28** (2017.01); **B31F 1/10** (2006.01); **B65B 43/00** (2006.01); **B65B 43/22** (2006.01); **B65B 61/02** (2006.01)

CPC (source: EP KR RU)
B31B 50/256 (2017.08 - EP); **B31B 50/26** (2017.08 - EP); **B31B 50/28** (2017.08 - EP); **B31F 1/10** (2013.01 - EP); **B65B 19/22** (2013.01 - EP KR); **B65B 19/228** (2013.01 - EP RU); **B65B 43/10** (2013.01 - RU); **B65B 43/22** (2013.01 - EP); **B65B 43/225** (2013.01 - EP KR); **B65B 61/02** (2013.01 - EP KR); **B65B 61/06** (2013.01 - RU)

Citation (applicant)
WO 2013037463 A1 20130321 - FOCKE & CO [DE], et al

Citation (search report)
• [XA] EP 0200087 A1 19861105 - FOCKE & CO [DE]
• [A] DE 19957058 A1 20010531 - FOCKE & CO [DE]
• [A] DE 517301 C 19310205 - JAKOB WOJCIECHOWSKI, et al

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

DOCDB simple family (publication)
EP 3176097 A1 20170607; **EP 3176097 A4 20180919**; CN 107074382 A 20170818; CN 107074382 B 20200303; EP 3753854 A1 20201223; JP 6295336 B2 20180314; JP WO2016031984 A1 20170427; KR 101979129 B1 20190515; KR 20170047350 A 20170504; RU 2017109963 A 20181001; RU 2672343 C2 20181113; WO 2016031010 A1 20160303; WO 2016031984 A1 20160303

DOCDB simple family (application)
EP 15836822 A 20150828; CN 201580055859 A 20150828; EP 20190039 A 20150828; JP 2014072547 W 20140828; JP 2015074503 W 20150828; JP 2016545653 A 20150828; KR 20177008436 A 20150828; RU 2017109963 A 20150828