

Title (en)
METHOD FOR OPERATING A DEEP DRAW PACKAGING MACHINE

Title (de)
VERFAHREN ZUM BETRIEB EINER TIEFZIEHVERPACKUNGSMASCHINE

Title (fr)
PROCÉDÉ DE FONCTIONNEMENT D'UNE MACHINE D'EMBALLAGE PAR EMBOUTISSAGE

Publication
EP 3210896 B1 20181212 (DE)

Application
EP 16172828 A 20160603

Priority
• DE 202016000757 U 20160203
• EP 16167440 A 20160428

Abstract (en)
[origin: US2017217616A1] A thermoform packaging machine comprising a forming station for producing troughs in a bottom film, a sealing station for sealing troughs that contain a product, and at least one cutting station arranged on a machine frame. The thermoform packaging machine may include at least two clamp chains for holding and conveying the bottom film in a production direction through the packaging machine. The clamp chains may be guided by chain guides that extend at least from the forming station along an infeed line to the sealing station. Each chain guide may include an upper guide surface and a lower guide surface between which a respective one of the clamp chains is guided. In one embodiment, the chain guides are oriented horizontally at and along both the forming station and the sealing station and the chain guide ascends from the forming station to the sealing station along the infeed line.

IPC 8 full level
B65B 41/12 (2006.01); **B65B 9/04** (2006.01)

CPC (source: CN EP US)
B65B 9/045 (2013.01 - CN EP US); **B65B 35/10** (2013.01 - US); **B65B 35/246** (2013.01 - EP US); **B65B 41/02** (2013.01 - US); **B65B 41/14** (2013.01 - EP US); **B65B 47/04** (2013.01 - US); **B65B 61/06** (2013.01 - US); **B65B 65/02** (2013.01 - US)

Citation (opposition)
Opponent : GEA Food Solutions Germany GmbH,
• EP 2412632 A1 20120201 - MULTIVAC HAGGENMUELLER GMBH [DE]
• EP 2740677 A1 20140611 - MULTIVAC SEPP HAGGENMÜLLER GMBH & CO KG [DE]
• WO 2007125411 A2 20071108 - SALA GIANMARIO [IT]
• DE 202016000757 U1 20160310 - MULTIVAC SEPP HAGGENMÜLLER SE & CO KG [DE]
• WO 2013110667 A2 20130801 - GEA CFS GERMANY GMBH [DE]
• DE 10224237 A1 20031211 - CONVENIENCE FOOD SYS WALLAU [DE]
• DE 102006005405 A1 20070809 - MULTIVAC HAGGENMUELLER GMBH [DE]
• WO 03057602 A1 20030717 - CFS GMBH KEMPTEN [DE], et al
• EP 0422635 A1 19910417 - STREAM SRL [IT]
• EP 0186986 A1 19860709 - THURNE ENG CO LTD [GB]
• WO 9823510 A1 19980604 - FORMAX INC [US]
• EP 16167440 A 20160428

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)
DE 202016000757 U1 20160310; CN 107031883 A 20170811; DE 202016008849 U1 20200210; DE 202016008856 U1 20200227; EP 3202671 A2 20170809; EP 3202671 A3 20171004; EP 3202673 A1 20170809; EP 3202673 B1 20180912; EP 3210895 A2 20170830; EP 3210895 A3 20171129; EP 3210896 A2 20170830; EP 3210896 A3 20171004; EP 3210896 B1 20181212; ES 2688921 T3 20181107; ES 2714359 T3 20190528; US 2017217616 A1 20170803

DOCDB simple family (application)
DE 202016000757 U 20160203; CN 201710061150 A 20170125; DE 202016008849 U 20160603; DE 202016008856 U 20160428; EP 16167437 A 20160428; EP 16167440 A 20160428; EP 16167442 A 20160428; EP 16172828 A 20160603; ES 16167442 T 20160428; ES 16172828 T 20160603; US 201715422351 A 20170201