

Title (en)

DRAWING PRESS WITH DYNAMICALLY OPTIMIZED BLANK HOLDING AND DEEP DRAWING METHOD

Title (de)

ZIEHPRESSE MIT DYNAMISCH OPTIMIERTER BLECHHALTUNG UND VERFAHREN ZUM TIEFZIEHEN

Title (fr)

PRESSE D'EMBOUTISSAGE À MAINTIEN DYNAMIQUE OPTIMISÉ DE LA TÔLE ET METHODE D'EMBOUTISSAGE

Publication

EP 2629901 A1 20130828 (DE)

Application

EP 11770114 A 20111014

Priority

- DE 102010060103 A 20101021
- EP 2011068041 W 20111014

Abstract (en)

[origin: CA2814593A1] The drawing press (10) according to the invention has for driving its ram (15) a directionally reversing gear mechanism (22, 4), for example a coupling gear mechanism, and at least one servomotor (23). The servomotor (23) passes through the reversal point (Ut) of the ram movement, which is predetermined by the kinematics of the coupling gear mechanism, for example the extended position of an eccentric drive. During the closing of the die (18), that is to say during a press stroke, the servomotor (23) is activated in such a way that it first passes through this reversal point (Ut), then stops, reverses and then passes through it once again, in order to open the die (18) again. Consequently, the braking to a standstill and re-acceleration of the servomotor for the upper ram (15) takes place while the actual drawing operation is still or already being performed, i.e. during the forming of the metal blank, which significantly reduces the cycle time.

IPC 8 full level

B21D 22/22 (2006.01); **B21D 22/20** (2006.01); **B21D 24/12** (2006.01); **B30B 1/14** (2006.01); **B30B 1/26** (2006.01); **B30B 1/28** (2006.01); **B30B 15/14** (2006.01)

CPC (source: EP US)

B21D 22/20 (2013.01 - US); **B21D 22/22** (2013.01 - EP US); **B21D 24/12** (2013.01 - EP US); **B30B 1/14** (2013.01 - EP US); **B30B 1/261** (2013.01 - EP US); **B30B 1/266** (2013.01 - EP US); **B30B 1/28** (2013.01 - EP US); **B30B 15/148** (2013.01 - EP US); **B30B 15/20** (2013.01 - US)

Citation (search report)

See references of WO 2012062532A1

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 102010060103 A1 20120426; **DE 102010060103 B4 20130411**; BR 112013009639 A2 20160712; CA 2814593 A1 20120518; CA 2814593 C 20161213; CN 103402666 A 20131120; CN 103402666 B 20160120; EP 2629901 A1 20130828; EP 2629901 B1 20160720; ES 2587231 T3 20161021; MX 2013004469 A 20131030; MX 346221 B 20170309; US 2013333437 A1 20131219; US 9713832 B2 20170725; WO 2012062532 A1 20120518

DOCDB simple family (application)

DE 102010060103 A 20101021; BR 112013009639 A 20111014; CA 2814593 A 20111014; CN 201180061521 A 20111014; EP 11770114 A 20111014; EP 2011068041 W 20111014; ES 11770114 T 20111014; MX 2013004469 A 20111014; US 201113866107 A 20111014