

Title (en)

Method and apparatus for processing material in a progressive die.

Title (de)

Verfahren und Vorrichtung zur Verarbeitung von Material in einem Folge-Verbund-Werkzeug.

Title (fr)

Méthode et dispositif de traitement de matériaux dans un outil à suivre.

Publication

EP 0615799 A1 19940921 (EN)

Application

EP 94300261 A 19940114

Priority

JP 3548593 A 19930224

Abstract (en)

A laser process machine 12 is disposed in front of a progressive die 3 in a press machine 1 in the feeding direction of material 9 to be processed. The head 13 of the laser process machine 12 is adapted to move at least in two directions such as the feeding direction and the transverse direction of the material to execute the accompanying processes such as a forward end cutting off process A or a process of making dummy holes 15 in the material to be processed 9. The accompanying process can be performed without unwanted deformation of the material 9 allowing the material 9 to be fed into the progressive die 3 steadily.

IPC 1-7

B21D 43/05; **B21D 37/08**

IPC 8 full level

B21D 37/08 (2006.01); **B21D 43/05** (2006.01); **B21D 43/09** (2006.01); **B23K 26/00** (2014.01); **B23K 26/082** (2014.01); **B23P 23/04** (2006.01); **B30B 13/00** (2006.01)

CPC (source: EP KR)

B21D 37/08 (2013.01 - EP); **B21D 43/05** (2013.01 - EP); **B30B 5/00** (2013.01 - KR)

Citation (search report)

- [A] FR 2556262 A1 19850614 - RESSEN COURT HUBERT [FR]
- [YA] PATENT ABSTRACTS OF JAPAN vol. 14, no. 177 (M - 960)<4120> 9 April 1990 (1990-04-09)
- [DYA] PATENT ABSTRACTS OF JAPAN vol. 16, no. 331 (M - 1282)<5374> 20 July 1992 (1992-07-20)
- [A] PATENT ABSTRACTS OF JAPAN vol. 11, no. 114 (M - 579)<2561> 10 April 1987 (1987-04-10)

Cited by

EP1002595A3; CN109127853A; US6775888B1; EP1002594A3; CN104353747A; CN106040907A; GB2341134A; CN106424230A; CN113453819A; CN103406453A; CN106140957A; CN109047476A; US6710291B1; US6355081B1; US6884375B2; US6579342B2; US11878410B2

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 0615799 A1 19940921; JP 3339899 B2 20021028; JP H06246498 A 19940906; KR 940019457 A 19940914

DOCDB simple family (application)

EP 94300261 A 19940114; JP 3548593 A 19930224; KR 19940003241 A 19940223