

Title (en)

METHOD OF MAKING COMPLICATED SHEET METAL PARTS, AND DEVICE FOR CARRYING OUT THE METHOD

Publication

EP 0288705 A3 19900627 (DE)

Application

EP 88103937 A 19880312

Priority

DE 3709181 A 19870320

Abstract (en)

[origin: EP0288705A2] Method of making complicated sheet metal parts in one, two or more operation/operations, at least one operation comprising a plurality of processing steps. The sheet-metal blank is placed on the tool and the pressure is then increased continuously up to, for example, 800 bar, passing through different pressure phases, in the first phase a continued flow of the material into the recesses of the form tool taking place and, in the subsequent phase, the forming blank being trimmed in an intermediate stage at relatively low points of the tool, the material flowing further into the recess, corners and undercuts. The pressure is then increased until the end phase and the workpiece then undergoes final stamping, final trimming, perforation and/or edging. The pressure is then reduced and the sheet-metal part removed. (Figure 3). <IMAGE>

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IPC 8 full level

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Citation (search report)

- [X] US 2377664 A 19450605 - BERGER JOHN L
- [Y] US 2490695 A 19491206 - ANDREW LEUTHEUSER
- [X] US 2308998 A 19430119 - MISFELDT CHARLES C
- [X] US 2133445 A 19381018 - GUERIN HENRY E
- [X] DE 2258790 A1 19740620 - MAK MASCHINENBAU GMBH
- [Y] FR 1433385 A 19660401
- [A] US 4483170 A 19841120 - OGAWA NITSUO [JP], et al

Cited by

RU2502574C2; EP0879657A3; CN1095705C; DE102004019693A1; DE102004019693B4; US9393606B2; US8047036B2; US8650921B2; US6178796B1; WO03097268A1; WO2004028719A1; WO9962652A1; US8250892B2; US8322175B2; US6418607B1; US8875553B2; US7093470B2; US8939743B2; US7155948B2; US8252210B2; US8713982B2

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