

Title (en)

Apparatus for forming container bodies which utilizes a reinforced composite ram.

Title (de)

Maschine zum Formen von Dosenzargen mit einem aus verstärkter Kunststoff gebildeten Tiefziehstempel.

Title (fr)

Appareil pour former des corps de boites qui utilise un poinçon en matériau composite renforcé.

Publication

EP 0584789 A1 19940302 (EN)

Application

EP 93113503 A 19930824

Priority

US 93501592 A 19920825

Abstract (en)

An apparatus for forming container bodies utilizing a ram which is formed at least in part from a reinforced composite material (e.g., rams having a combination of structural components with at least one component being formed from an appropriate metal(s) and another component being formed from the composite material, rams formed entirely of the composite material). In one embodiment, the ram is incorporated into a bodymaker for drawn and ironed containers and includes first and second ram portions, the first ram portion being formed from an appropriate metal, the second ram portion being formed from the composite material. The first ram portion has first and second ends with an interconnecting portion therebetween such that a punch and ram drive assembly may be connected to such first and second ends, respectively. The second ram portion is thus positioned about the interconnecting portion to reduce the weight of the ram, as well as to allow for an improvement of the rigidity thereof. Consequently, the speed at which the ram may be advanced through the ironing rings may be increased and the deflection of the ram when passing therethrough may be reduced to enhance the container body formation process. <IMAGE>

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CPC (source: EP)

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Citation (search report)

- [Y] US 3733881 A 19730522 - GRIGORENKO D
- [Y] DE 3215795 A1 19831117 - FESTO MASCHF STOLL G [DE]
- [A] EP 0069579 A1 19830112 - DEERE & CO [US]

Cited by

US11597001B2; EP3038768A4; EP4066957A1; US8091403B2; US2018354018A1; CN110740823A; JP2020523200A; US10792725B2; EP3638431A4; CN114210807A; JP2022119965A; US2023182196A1; WO2008037617A1; US9868146B2; US10814376B2

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