

Title (en)  
ELECTROMAGNETIC DRIVING TOOL

Publication  
**EP 0104360 B1 19871028 (DE)**

Application  
**EP 83107492 A 19830729**

Priority  
DE 3232120 A 19820828

Abstract (en)  
[origin: US4515303A] To prevent bounce of a hammer or plunger element coupled to an insertion blade of a stapling or nailing gun upon return of the plunger element to rest position by a spring (11), the plunger element (4) is in cup shape, sliding about a hollow cylinder (6) which is vented to ambient air (8) at one end, but closed at its other end by a flap-type check valve (9). Upon downward movement of the plunger element, for example under electromagnetic force of a solenoid (2), air can flow freely from the vent opening (8) into the hollow interior and through the then open check valve (9); upon return movement under force of a spring (11), the flap valve (9) will close, however, thus forming an air cushion or air damper and preventing rapid, uncontrolled return of the plunger element to rest position, due to an air throttling path (19) between the outside of the hollow cylinder and the inner surface of the plunger element (4), said air throttling path being defined by the operating clearance between the plunger (4) and the hollow cylinder (6). The hollow cylinder (6) may be constructed as a guide element, unitary with the valve, and made of plastic, the valve being secured by a living hinge to the remainder of the hollow cylinder.

IPC 1-7  
**B25C 1/06**

IPC 8 full level  
**B25C 1/06** (2006.01)

CPC (source: EP US)  
**B25C 1/06** (2013.01 - EP US)

Cited by  
FR2583715A1; DE102004008959A1; CN105451944A; FR2571294A1; WO2015169167A1

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**DE 3232120 A1 19840301**; BR 8304632 A 19840403; DE 3374184 D1 19871203; EP 0104360 A2 19840404; EP 0104360 A3 19850703; EP 0104360 B1 19871028; JP H0474149 B2 19921125; JP S5959361 A 19840405; US 4515303 A 19850507

DOCDB simple family (application)  
**DE 3232120 A 19820828**; BR 8304632 A 19830826; DE 3374184 T 19830729; EP 83107492 A 19830729; JP 15654983 A 19830829; US 50317683 A 19830610