

Title (en)  
Multiple speed transmission for hand held power tool

Title (de)  
Mehrganggetriebe für Handwerkzeugmaschine

Title (fr)  
Transmission à plusieurs vitesses pour un outil à main motorisé

Publication  
**EP 0847837 A3 20020102 (DE)**

Application  
**EP 97117384 A 19971008**

Priority  
DE 19651828 A 19961213

Abstract (en)  
[origin: EP0847837A2] The hand tool has a multi-speed gearbox with a spindle (19) driving the tool (18a), coupled to a ring gear (20). The ring gear can be coupled in at least two gear states with a drivable layshaft (13) supporting the sun wheel (23) of a planetary gear unit (22). A pinion (21) on the layshaft meshes with the ring gear and can be coupled alternatively with the planetary gear unit or the layshaft. Preferably, the pinion is free to rotate and is axially displaceable to connect with the planet carrier or to form a fixed attachment to the layshaft.

IPC 1-7  
**B25F 5/00**; **B25D 16/00**

IPC 8 full level  
**B23B 45/16** (2006.01); **B25D 16/00** (2006.01); **B25F 5/00** (2006.01); **F16H 3/54** (2006.01)

CPC (source: EP)  
**B25D 16/00** (2013.01); **B25F 5/001** (2013.01); **B25D 2211/061** (2013.01)

Citation (search report)

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Designated contracting state (EPC)  
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DOCDB simple family (application)  
**EP 97117384 A 19971008**; DE 19651828 A 19961213; JP 34003597 A 19971210