

Title (en)

Manual ratchet torque wrench with amplifier.

Title (de)

Ratschenartiger Hand-Drehmomentschlüssel mit Verstärker.

Title (fr)

Clé manuelle à cliquet avec amplificateur.

Publication

**EP 0142933 A1 19850529 (EN)**

Application

**EP 84306983 A 19841012**

Priority

US 55483083 A 19831123

Abstract (en)

A manual ratchet torque wrench comprises a ratchet gear (55) turnably mounted in a housing (50). The ratchet gear has a central portion (53) constructed to engage a polygonal member of a threaded connector for turning the member upon turning of the ratchet gear in one direction. An elongate handle (80) is connected to the housing (50) for manually turning the housing in the one direction to turn the polygonal member engaged by the central portion of the ratchet gear with a given force applied to the handle. The wrench includes further a manually operated amplifier arrangement incorporated in the housing for turning the ratchet gear in the one direction with a force greater than the given force. This arrangement may include a manually operated pump (73, 58) for pumping hydraulic fluid from a reservoir (89) into a pressure chamber (85a) defined between one end of a cylinder (57) and an end face (60 min ) of a piston (60) fluid-tightly guided therein along a forward stroke and a return stroke, and a drive pawl (65) operatively connected to the piston (60) which engages the teeth of the ratchet gear (55) to drive the latter in the one direction during the forward stroke of the piston (60). A fluid flow passage (95) between the pressure chamber (85a) and the reservoir (89), controlled by a manually operated valve (97) between an open and a closed position, permits movement of the piston (60) along the return stroke when the return flow passage (95) is opened.

IPC 1-7

**B25B 13/46**; **B25B 21/00**

IPC 8 full level

**B25B 13/46** (2006.01); **B25B 21/00** (2006.01)

CPC (source: EP KR)

**B25B 13/46** (2013.01 - EP KR); **B25B 13/467** (2013.01 - EP); **B25B 21/00** (2013.01 - KR); **B25B 21/005** (2013.01 - EP)

Citation (search report)

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Designated contracting state (EPC)

DE FR GB IT NL SE

DOCDB simple family (publication)

**EP 0142933 A1 19850529**; AU 3440584 A 19850530; IN 162585 B 19880611; KR 850003862 A 19850629; KR 920008675 B1 19921008

DOCDB simple family (application)

**EP 84306983 A 19841012**; AU 3440584 A 19841017; IN 734CA1984 A 19841019; KR 840006683 A 19841026