

(57) Abstract: A hydraulic operated tool includes a body B, a pair of jaws 21 mounted with respect to the body so that at least one of the jaws is movable between an opened jaw position and a closed jaw position so as to engage workpiece W between the jaws. A ram assembly 2 is disposed in the body and is operatively associated with the jaws. Spring structure 1 causes the ram assembly to move thereby causing the jaws to initially engage the workpiece with a first force. A pump assembly 7 exerts fluid on the ram assembly to move the ram assembly further, causing the jaws to exert a second force, greater than the first force, on the workpiece.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/13701

A. CLASSIFICATION OF SUBJECT MATTER

IPC: B21J 9/18(2006.01)

USPC: 72/453.16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 72/453.15-.16,453.04,449;81/356,357,363,367,368

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,806,362 A (DUBUGNON) 15 SEPTEMBER 1998 (15.09.1998), SEE ENTIRE DOCUMENT.	25, 28-29
A	US 2,224,708 A (VAN SITTE) 10 DECEMBER 1940 (10.12.1940), SEE ENTIRE DOCUMENT.	1-32



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

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