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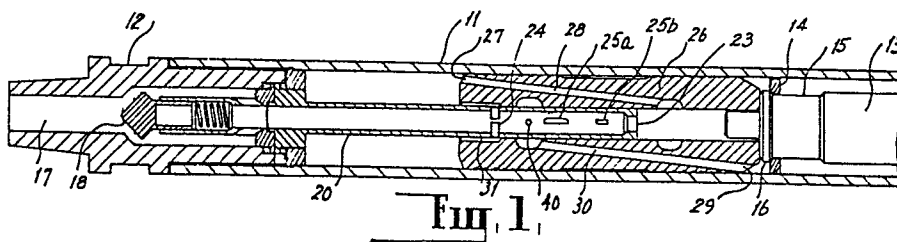
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54 Fluid operated hammer having drill bit clearance means.

57 A fluid operated hammer comprising a cylindrical casing (11) having a bore for slidably receiving a piston (26), a top sub (12) mounted at one end, a drill bit (13) mounted to the other end by means of a chuck (14), a feed tube (20) concentrically mounted within the upper end of the bore of the casing and extending downwardly into the casing, said feed tube being connectible to a fluid source through said top sub. The piston is slidably mounted within the bore of said casing over said feed tube (20). The feed tube (20) is provided with at least one aperture (24) in the walls of said feed tube, and at least one port (27,29) provided at each end of the piston. Each port opens at spaced locations into the

bore of the piston periodically communicate with said aperture (24) as a result of sliding movement of the piston over the feed tube to alternately drive the piston towards and away from the drill bit to impact thereon and to drive the piston away from the drill bit. A further aperture (40) is provided in said feed tube (20) to communicate with the space between said drill bit (13) and said piston (26) when said hammer is in the "blow-down" position. The drill bit (13) is mounted in the chuck (14) in such manner that when in the "blow-down" position there is communication between said space and the exterior of the hammer through the zone between the drill bit and the chuck.





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EUROPEAN SEARCH REPORT

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Application number

EP 82 30 7000

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
X	GB-A-1 552 975 (ATLAS COPCO) * Page 1, line 44 - page 3, line 37; figures 1-6 *	1,3,4	E 21 B 4/14
A	--- GB-A-2 054 705 (DRESSER INDUSTRIES) * Page 1, line 124 - page 2, line 129; figures 1-3 *	1,3	
A	--- GB-A-2 052 608 (DRESSER INDUSTRIES) * Page 2, line 15 - page 3, line 25; figures 1-3 *	1,3	
A	--- US-A-4 015 670 (I.G. REAR) * Column 2, line 38 - column 3, line 59; figures 5-7 *	1,3	
A	--- US-A-4 084 647 (W. LISTER)		TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
A	--- US-A-4 146 097 (A.R. CURINGTON)		E 21 B E 21 C
P,Y	--- EP-A-0 043 291 (I.G. REAR) * Page 15, line 20 - page 34, line 33; figures 1-9 *	1-3	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 07-06-1983	Examiner JAUNEZ X.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
P, Y	EP-A-0 048 142 (I.G. REAR) * Page 8, line 26 - page 9, line 18; page 14, line 23 - page 18, line 1; figures 5-7 * -----	1-3	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
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