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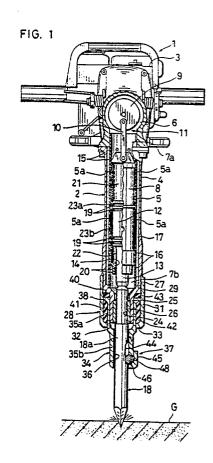
- **EUROPEAN PATENT APPLICATION**
- (21) Application number: **88102374.1**

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- 71 Applicant: YAMADA JUKI CO., LTD. 1508 Furusato Aza-Fukuyoshi Nishi lwaoka-cho Nishi-ku Kobe(JP)
- (72) Inventor: Miyagawa, Shigeru 7-2, Kasugadai 9-chome Nishi-ku Kobe(JP)
- (4) Representative: Reinhard, Skuhra, Weise Leopoidstrasse 51 D-8000 München 40(DE)
- Percussion apparatus with tool holder.
- (57) A percussion apparatus comprises a vertically extending tubular housing (2), an end cap (28) removably mounted to the lower end of the housing, and a tool holder (34) extending through the end cap as elastically supported thereby and slidably movable axially of the housing. A chisel (18) extends through the holder and has a head located within the housing to be hit by a hammer rod (13) axially reciprocated in the housing. A tool holding device (37) is mounted on the holder outside the end cap for selecting a first condition in which the chisel is prevented from falling off the holder while being allowed to move axially within a limited range, and a second condition in which the chisel is allowed to be completely removed from the holder.





EUROPEAN SEARCH REPORT

EP 88 10 2374

ا ,	Citation of document with indi	ERED TO BE RELEV		
Category	of relevant passa	cation, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)
X	FR-A-1 090 212 (KANG LTD) * Figures 4,3; page 2 column, lines 9-27; p column, line 57 - pag column, line 16 *	, left-hand page 2, right-hand	1-5,8, 11-14, 16	B 25 D 17/08 B 25 D 17/24
Υ			6,7,15	
Y	US-A-2 298 719 (0'FA * Page 1, right-hand column 2, line 25 *		6,7	
A			1,3,4,8	
Y,D	US-A-4 103 747 (FINN * Column 2, lines 42-	IEY) -45 *	15	
A	DE-A-2 243 939 (KANG LTD) * Whole document *	GO ELECTRIC HAMMERS	1-5,8	
A	GB-A-2 032 829 (B0S0 * Page 2, lines 108-1	CH GmbH) 123; abstract *	1-4,6,8 ,11-14	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	GB-A- 618 546 (TIEF * Whole document *	RNEY)	1,8,11- 14,16	B 25 D
A	GB-A- 399 773 (HILL * Whole document *	.\$)	1,8,11- 14,16	
A	CH-A- 211 989 (BOSC * Whole document *	CH GmbH)	1,7,9, 11-14	
A	US-A-3 179 185 (O'FA * Whole document *	ARRELL)	1,4,7-	
I	The present search report has been	ı drawn up for all claims		
THE	Place of search HAGUE	Date of completion of the searce 28-12-1989	1	Examiner O M.G.

EPO FORM 1503 03.82 (P0401)

X: particularly relevant if taken alone
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EUROPEAN SEARCH REPORT

Application Number

EP 88 10 2374

	Citation of document with :	DERED TO BE RELEVA	T		
Category	of relevant pa	ssages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)	
A	US-A-2 432 331 (OS * Whole document *	GOOD)	1-4,7,8		
A	US-A-2 823 040 (FI * Whole document *	SCHER)	1,11-14		
				TECHNICAL FIELDS SEARCHED (Int. Cl.5)	
•					
	The present search report has l	een drawn up for all claims			
TH	Place of search E HAGUE	Date of completion of the search		Examiner O M.G.	
X : par Y : par doc	CATEGORY OF CITED DOCUME ticularly relevant if taken alone ticularly relevant if combined with an ument of the same category hnological background n-written disclosure	E : earlier pater after the fili other D : document c L : document ci	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		