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(54) Tool in sheet metal working machine

(57) A tool of a machine for working sheet metal comprises an operative portion (1a) destined to operate on the sheet metal, and a securing portion or spigot (1b) destined to be coupled to the machine in removable fashion, and is characterised in that the spigot (1b) has at least a ferromagnetic projecting element (3) which de-

fines an abutment surface inclined relative to the axis of the spigot, shaped in such a way as to be coupled with a magnet (5) associated to the machine. The inclination of said surface is such that the magnet exerts an attraction force with a horizontal component and a vertical component.

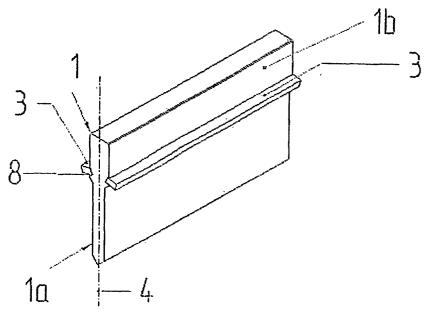


Fig. 2



EUROPEAN SEARCH REPORT

Application Number

EP 02 02 8321

	DOCUMENTS CONSIDE	RED TO BE RELEVANT				
Category	Citation of document with in of relevant passa	dication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)		
Α	FR 2 791 590 A (BRIS 6 October 2000 (2000 * page 4, line 27 -	0-10-06)	1,2,10	B21D5/02		
Α	PATENT ABSTRACTS OF vol. 1997, no. 12, 25 December 1997 (19 & JP 09 220618 A (TO KIYOSHI), 26 August * abstract *	997-12-25) DUPURE KK;TAKAGI	1,2,10			
Α	US 3 782 166 A (WHIS 1 January 1974 (1974 * the whole document	4-01-01)	1,2,10			
				TECHNICAL FIELDS SEARCHED (Int.CI.7)		
				B21D		
	The present search report has b	peen drawn up for all claims				
	Place of search	Date of completion of the search		Examiner		
	THE HAGUE	2 September 2003	Ger	Gerard, O		
X:par Y:par doo A:ted	CATEGORY OF CITED DOCUMENTS ticularly relevant if taken alone ticularly relevant if combined with anothument of the same category hnological background n-written disclosure	E : earlier patent doct after the filing date ner D : document cited in L : document cited for	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 8: member of the same patent family, corresponding			

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 02 02 8321

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

02-09-2003

Patent documen cited in search rep	t ort	Publication date		Patent family member(s)		Publication date	
2791590	Α	06-10-2000	F	R	2791590	A1	06-10-2000
09220618	Α	26-08-1997	N	ONE			
				P P	49050571 52049789	A B	16-05-1974 20-12-1977
	2791590 09220618 3782166	09220618 A 3782166 A	cited in search report date 2791590 A 06-10-2000 09220618 A 26-08-1997	cited in search report date 2791590 A 06-10-2000 FI 09220618 A 26-08-1997 No 3782166 A 01-01-1974 JI J J J	cited in search report date 2791590 A 06-10-2000 FR 09220618 A 26-08-1997 NONE 3782166 A 01-01-1974 JP JP JP	cited in search report date member(street) 2791590 A 06-10-2000 FR 2791590 09220618 A 26-08-1997 NONE 3782166 A 01-01-1974 JP 49050571 JP 52049789	cited in search report date member(s) 2791590 A 06-10-2000 FR 2791590 A1 09220618 A 26-08-1997 NONE 3782166 A 01-01-1974 JP 49050571 A JP 52049789 B

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82