



(11)

EP 2 347 861 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
22.11.2017 Bulletin 2017/47

(51) Int Cl.:  
**B25B 27/00** (2006.01)      **B25B 27/02** (2006.01)

(43) Date of publication A2:  
27.07.2011 Bulletin 2011/30

(21) Application number: 10195923.7

(22) Date of filing: 20.12.2010

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO  
PL PT RO RS SE SI SK SM TR**

Designated Extension States:

**BA ME**

(30) Priority: 25.01.2010 JP 2010012905

(71) Applicant: **Mitsubishi Jidosha Kogyo Kabushiki Kaisha**  
Tokyo 108-8410 (JP)

(72) Inventors:  

- Sakagami, Nobuyuki**  
Tokyo Tokyo (JP)
- Kameda, Hideaki**  
Tokyo Tokyo (JP)
- Miyashita, Hiroshi**  
Tokyo Tokyo (JP)

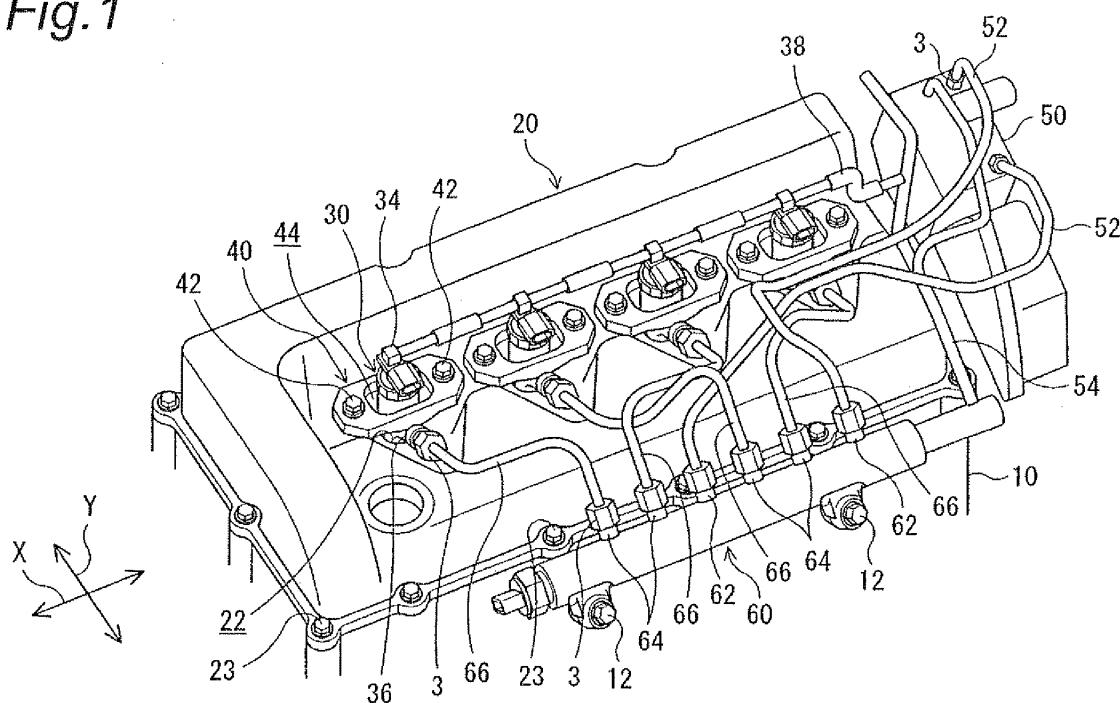
(74) Representative: **Vossius & Partner**  
Patentanwälte Rechtsanwälte mbB  
Siebertstrasse 3  
81675 München (DE)

### (54) Injector removal tool

(57) There is provided an injector removal tool for removing an injector from a cylinder head. A support platform is fixed to the cylinder head. A pivot portion is mounted on the support platform. A arm portion is provided so as to rotate on the pivot portion as a fulcrum. A transfer

portion is supported on the arm portion at one end in a position lying spaced away from the pivot portion and is locked on the injector at the other end thereof. A force exerted on the one end to rotate the arm portion is transferred as a force to remove the injector at the other end.

Fig. 1





## EUROPEAN SEARCH REPORT

Application Number

EP 10 19 5923

5

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
10	A DE 20 2008 012338 U1 (KLANN SPEZIAL WERKZEUGBAU GMBH [DE]) 20 November 2008 (2008-11-20) * abstract; figure 3 *	1	INV. B25B27/00 B25B27/02
15	A,D JP 2008 261273 A (HONDA MOTOR CO LTD) 30 October 2008 (2008-10-30) * figures 1,2 *	1	
20	A US 2003/033714 A1 (KING KENNETH E [US]) 20 February 2003 (2003-02-20) * abstract; figures 4a-5b *	1	
25	A DE 91 11 245 U1 (KLANN, HORST [DE]) 21 November 1991 (1991-11-21) * figures 1-3 *	1	
30			TECHNICAL FIELDS SEARCHED (IPC)
35			B25B
40			
45			
50	1 The present search report has been drawn up for all claims		
55	Place of search The Hague	Date of completion of the search 12 October 2017	Examiner Pothmann, Johannes
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			

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

EP 10 19 5923

5 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.

12-10-2017

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
	DE 202008012338 U1	20-11-2008	DE 202008012338 U1	20-11-2008
			EP 2163347 A2	17-03-2010
15	JP 2008261273 A	30-10-2008	JP 4361574 B2	11-11-2009
			JP 2008261273 A	30-10-2008
	US 2003033714 A1	20-02-2003	NONE	
20	DE 9111245 U1	21-11-1991	NONE	
25				
30				
35				
40				
45				
50				
55				

EPO FORM P0459

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