

①9



Europäisches Patentamt
European Patent Office
Office européen des brevets

①1

Publication number:

0 097 211
A3

①2

EUROPEAN PATENT APPLICATION

②1

Application number: **82306191.6**

⑤1

Int. Cl.4: **F 02 D 5/02, F 02 D 35/02**

②2

Date of filing: **22.11.82**

③0

Priority: **21.06.82 GB 8217928**

⑦1

Applicant: **FROUDE CONSINE LIMITED, Gregory's Bank, Worcester, WR3 8AD (GB)**

④3

Date of publication of application: **04.01.84**
Bulletin 84/1

⑦2

Inventor: **Hitchcock, Keith Norman, 2, Norton Close, Worcester (GB)**

⑧4

Designated Contracting States: **AT DE FR IT NL SE**

⑧8

Date of deferred publication of search report: **30.10.85 Bulletin 85/44**

⑦4

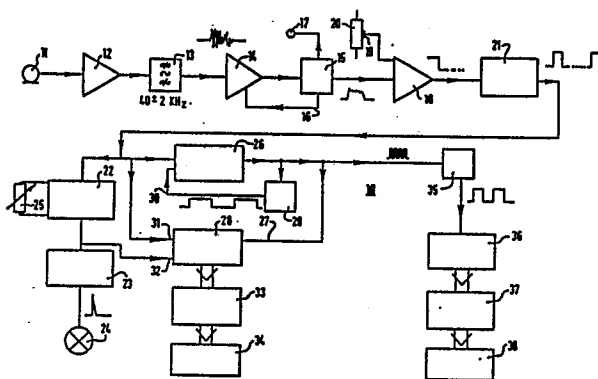
Representative: **White, Martin David et al, Marks & Clerk 57/60 Lincoln's Inn Fields, London WC2A 3LS (GB)**

⑤4

Stroboscopic engine fuel-injection timing.

⑤7

Fuel injection is detected by listening for pulses of sound at or near 40 KHz from the region of the fuel injection and used to produce a first series of pulses representing the instants of fuel injection. A second series of pulses is derived from the first series and used to control a strobe lamp flashing on a rotating timing marker of the engine. The timing of the second series of pulses is adjusted until the strobe lamp flashes at the instants that the timing marker passes a stationary reference marker. The timing relationship between the first and second series of pulses then indicates the timing of the fuel injection.



EP 0 097 211 A3



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	DE-A-2 537 219 (DAIMLER-BENZ) * Figures 1-5; page 3, line 25 - page 4, line 21; page 6, lines 1-24; page 10, line 3 - page 13, line 24 *	1, 2, 4, 6, 7, 9, 10, 12-14	F 02 D 5/02 F 02 M 35/02 F 02 M 65/00
X	DE-A-2 658 253 (AUTOIPARI KUTATO INTEZET) * Figure 1; page 3, line 21 - page 5, line 18 *	1-14	
X	DE-A-2 639 133 (BRÜCKL) * Page 4, lines 1-23 *	1-14	
A	US-A-3 580 092 (T.J. SCARPA) * Whole document *	1, 6	TECHNICAL FIELDS SEARCHED (Int. Cl. ³) F 02 D F 02 M
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26-06-1985	Examiner GODIN CH.G.
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			