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(30) Priority: **24.01.2000 IL 13418900**

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(54) **Missile tracking device**

(57) A device for seeking and tracking targets from airborne missiles, which comprises one or two optical sensing units, each comprising a sensor barrel covered by a dome, a detector, drive means for rotating the sensor barrel about two perpendicular axis, and a processor for processing the signals produced by the detector and guiding the missile accordingly. The drive means comprise two motors for imparting to the barrel a pitching and a rolling motion. To eliminate aerodynamic drag, each sensing unit may be displaceable between a position retracted within the missile envelope and an extended position, in which part of its dome extends from the missile envelope. When two sensing units are provided, a target is tracked by operating only one of them, and when the target moves out of its field-of-regard, deactivating it and activating the other unit to continue tracking the target. When the sensing units are displaceable, they are in retracted position when the missile is launched, and, when the intended target is at close enough range, the unit on the side of the target is extended outside the missile envelope.

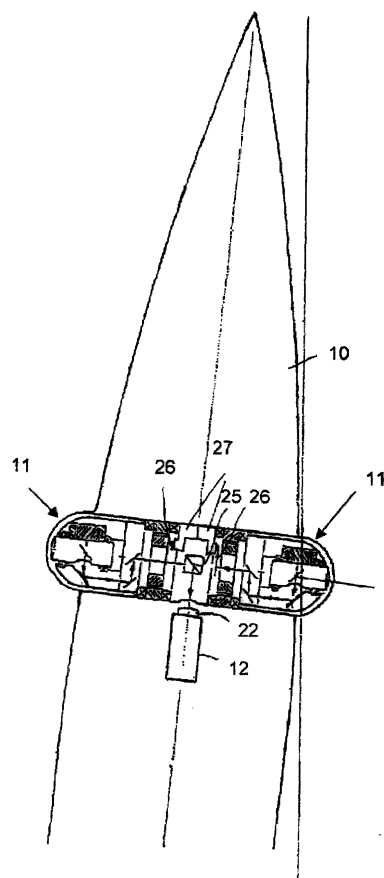


Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 0262

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.7)
X,D	US 3 974 985 A (CAMPBELL JOHN M ET AL) 17 August 1976 (1976-08-17) * abstract *	1	F41G7/22
A	* column 2, line 48 - column 4, line 44; figures 1-4 *	2-5	
A	EP 0 714 013 A (BODENSEEWERK GERAETETECH) 29 May 1996 (1996-05-29) * abstract * * page 3, line 13 - page 6, line 13; figures 1-9 *	1	
A,D	US 5 529 261 A (IDDAN GABRIEL) 25 June 1996 (1996-06-25) * abstract * * column 2, line 24 - column 3, line 41; figures 1-3 *	1-5	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) F41G
Place of search		Date of completion of the search	Examiner
THE HAGUE		17 August 2001	Blondel, F
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			

EPO FORM 1503 03/82 (P04C01)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-13



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**LACK OF UNITY OF INVENTION
SHEET B**

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-13

Seeker and tracker for missile with at least one optical sensor.

2. Claim : 14

Method of tracking targets from missiles by alternatively activating and deactivating two optical sensors.

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

EP 01 20 0262

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
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17-08-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3974985 A	17-08-1976	NONE	
EP 0714013 A	29-05-1996	DE 4442134 A US 5647560 A	30-05-1996 15-07-1997
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82