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(54) ULTRASONIC OBSTACLE DETECTION IN ALARM DEVICES

(57) An alarm device (1) detects smoke and has a housing having a longitudinal axis and containing a sensor and having vents (3) for access by ambient air to the sensor, a signal processing circuit (15) with a processor linked with the sensor, a power supply for the circuit and the sensor. An obstacle detector detects presence of an unwanted obstacle to flow of ambient air to the sensor. The obstacle detector has an ultrasonic transducer (16) mounted to reflect emitted ultrasonic waves in radial directions relative to the longitudinal axis. The guide comprises a dish-shaped guide element (6) mounted to the housing (2) so that a single ultrasonic transducer can emit radially to cover a very large field of view, but also that the guide element (60) can act as a secondary source directing ultrasonic waves axially, and also to direct waves through the vents (3) so that there is immediate and effective detection of inadvertent blocking of the vents by tape. Also, there is in-built determination as to whether the air is stable enough for accurate obstacle detection.

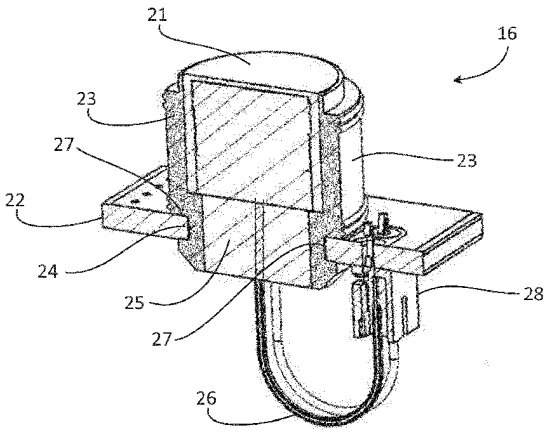

Fig. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 24 15 9784

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G08B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	17 June 2024	Russo, Michela

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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17-06-2024

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