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D E C I S I O N
of 21 July 2005

Case Number: T 0974/03 - 3.2.3

Application Number: 99909470.9

Publication Number: 0968398

IPC: F41H 11/16

Language of the proceedings: EN

Title of invention:
Method and apparatus for destroying buried objects

Patentee:
Raytheon Company

Opponent:
Bundesrepublik Deutschland vertreten durch das Bundesamt für Wehrtechnik und Beschaffung - Team Z 3/3

Headword:
-

Relevant legal provisions:
EPC Art. 54, 100(a)
EPC R. 67, 68(2)

Keyword:
"Novelty (no)"
"Reasoned decision (yes)"

Decisions cited:
T 0763/89, T 0572/88

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0974/03 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 21 July 2005

Appellant: (Opponent)
Bundesrepublik Deutschland vertreten durch das
Bundesamt für Wehrtechnik und Beschaffung
Team Z 3/3
Postfach 30 01 65
D-56057 Koblenz (DE)

Representative:
R. Meurer
Team Z 3/3
Postfach 30 01 65
D-56057 Koblenz (DE)

Respondent: (Proprietor of the patent)
Raytheon Company
2000 E. El Segundo Blvd
El Segundo
California 90245-0902 (US)

Representative:
C. Steil
Witte, Weller & Partner
Postfach 10 54 62
D-70074 Stuttgart (DE)

Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 24 July 2003 rejecting the opposition filed against European patent No. 0968398 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: U. Krause
Members: G. Ashley
J. P. B. Seitz

Summary of Facts and Submissions

I. The grant of European patent 0 968 398, which concerns the destruction of buried objects such as landmines, was opposed by the appellant on the grounds that the invention lacks novelty and/or inventive step (Article 100(a) EPC). The opposition division did not agree with the appellant, and in its decision posted on 24 July 2003, it rejected the opposition.

The appellant filed a notice of appeal on 19 September 2003, paying the appeal fee on 24 September 2003; a statement containing the grounds of appeal was filed on 12 November 2003.

The Board appointed oral proceedings for 21 July 2005. In a letter dated 30 May 2005 the respondent (patentee) stated that he would not be attending the oral proceedings. The oral proceedings were duly held, but in the absence of the respondent.

II. Claim 1 of the granted patent reads as follows:

"1. Apparatus (20) for destroying an at least partially buried object (22), comprising
a targeting system (26),
a sensor (28) operable to detect the presence and location of an object (22) which is buried in the ground;
a gun system (30, 52) including a gun (30) operable to fire a projectile (32; 90) into the ground; and
a control system (34) that aims the gun (30) responsive to the presence and location of the object (22) as determined by the targeting system (26), characterised

in that the targeting system (26) includes the sensor operable, to detect the presence and location of an object which is at least partially buried in the ground."

Independent claim 10 is directed to a method for destroying a buried object. Dependent claims 2 to 9 and 11 concern preferred embodiments of the independent apparatus and method claims respectively.

III. The following prior art documents are considered to be relevant for this decision:

D1: EP-A-516007

D5: R.W. Stanfield, "The Mine Hunter / Killer", Proceedings of SPIE Detection and Remediation Technologies for Mines and Minelike Targets II, Vol.3079, edited by A.C. Dubey and R.L. Barnard, Orlando, USA, 21 to 24 April 1997, pages 420 to 431.

The appellant had cited D1 in the opposition proceedings and D5 was submitted with the statement containing the grounds of appeal.

IV. The arguments are briefly summarised as follows.

Document D1

The opposition division and the respondent had concluded that the claimed apparatus differs from D1 in that the targeting system and the sensor are combined onto a single carrier. According to the appellant, the

expression "Da jedoch der Träger nicht mit eigenen teueren Ortungseinrichtungen ausgestattet sein muß" (D1, column 4, line 57 to column 5, line 1) means that both alternatives (use of independent carriers or a single carrier for both functions) are disclosed, and hence the apparatus of claim 1 lacks novelty.

Document D5

The appellant argued that the apparatus of claim 1 also lacks novelty with respect to D5. Document D5 describes mine hunter/killer (MH/K) technology, i.e. the detection and destruction of mines. The apparatus described on page 430 of D5 comprises a targeting system, a sensor, a gun system and a control system that aims the gun in response to the location of the object determined by the targeting system; the targeting system includes a sensor operable to detect objects (mines) that are at least partially buried. Thus D5 describes all the features of claim 1.

The respondent argued that D5 requires the intervention of a human operator to squeeze the trigger, hence does not disclose a control system that aims the gun responsive to the presence and location of the object. In addition, the MH/K of D5 is not concerned with buried objects, as the operator has to monitor a head-up display i.e. the objects must be viewed by the human eye. The respondent referred to the first sentence of the second paragraph of section 5 (page 430), which states that a "a stand-alone standoff mine detection system does not exist", concluding that D5 is only of a theoretical nature, disclosing options that may or may not be realised in practice.

Procedural Error

The appellant considered that the opposition division had failed to take into account his argument that the combination of general teaching and implicit features in D1 leads to a lack of inventive step for claim 1. Consequently, there is a procedural error in failing to comply with Rule 68(2) EPC, and the appeal fee should be refunded.

V. Requests

The appellant requested that the decision under appeal be set aside and that the patent be revoked. He also requested the reimbursement of the appeal fee.

The respondent requested in writing that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

Document D1

2. D1 discloses an apparatus for destroying buried objects. The apparatus comprises a targeting system (Ortungseinrichtung) that includes a sensor, such as a magnetic sensor, to detect the presence and location of a buried object. A gun system is aimed on the basis of the information received about the location of the buried object, and then it fires a projectile (20) into

the ground (see column 3, lines 37 to 42; column 4, line 57 to column 5, line 3 and the Figure); a control system is therefore present.

D1 does not explicitly mention that the sensor and the targeting system are combined on a single carrier; D1 really describes an apparatus in which a gun system receives information about the target from a separate source. Both the opposition division and the respondent considered the integration of the targeting system and sensor to distinguish the claim from D1. Although this feature is the tenor of the disputed patent, and Fig. 1 depicts an apparatus in which the sensor and gun system, which includes the targeting system, are mounted on a single carrier, this is not defined as such in claim 1. Rather, claim 1 merely requires a targeting system and a sensor, with the characterising portion further defining the targeting system as including the sensor. No difference can be seen between the apparatus, as set out in claim 1, and that of D1, in particular as the targeting system for aiming the gun in D1 is linked to the sensor for detecting the buried object; the targeting system of D1 can thus be said to "include" a sensor.

The apparatus of claim 1 therefore lacks novelty with respect to D1.

Document D5

3. D5 is a late-filed document, submitted for the first time with the statement containing the grounds of appeal. However, D5 is considered by the Board to be highly relevant, since it is prejudicial to the

maintenance of the patent, and is therefore admitted into the proceedings.

D5 is a paper reviewing the development of functional and operational requirements for mine hunter/killer systems. The expression "mine hunter/killer" is said to refer to the integration of mine detection and neutralisation technology (see the introduction to the article on page 420). A system in which the detection and destruction functions are integrated is discussed in section 5 on page 430. The system has the following features:

- a targeting system (target information is stored in the "system executive");
- a sensor capable of detecting a buried object (the sensor front end, which is based on radar, infra red etc., together with an algorithm to make the decision on target type and location);
- a gun system (the "neutralizer" e.g. a machine gun or cannon (see page 429, section 4.2));
- a control system that aims the gun in response to the location of the object determined by the targeting system (a fire control algorithm takes the target information from the system executive and autonomously aims the neutralizer);
- the targeting system of D5 includes a sensor operable (i.e. capable of being operated) to detect objects (mines) that are at least partially buried.

Since D5 describes all the features of claim 1, the apparatus of this claim lacks novelty.

The respondent argued that D5 requires intervention of a human operator to squeeze the trigger, hence does not disclose a control system that aims the gun responsive to the presence and location of the object. However, D5 does disclose a control system that aims the gun; the operator decides when to fire a gun that has already been aimed. Besides, the possibility of having an operator to fire the gun is not excluded by the definition of the apparatus of claim 1.

The respondent is of the view that the mine hunter/killer of D5 is not concerned with buried objects, as the operator has to monitor a head-up display i.e. the objects must be viewed by the human eye. D5, however, is directed to the detection and destruction of buried objects, namely mines, and the head-up display is there to provide information to be read by the operator, not to provide direct line of sight to the target.

The respondent also argues that D5 is of a theoretical nature, and refers to the first sentence of the second paragraph of section 5, which states that a "a stand-alone standoff mine detection system does not exist". The understanding of the Board is that stand-alone means that no human operator is present, and standoff means that the apparatus operates at some distance away from the mine. Thus, the first paragraph of section 5 of D5 describes a standoff system, whilst the second goes on to say that standoff system with no operator does not yet exist. Although the apparatus of the disputed patent clearly relates to a standoff system, there is no requirement in claim 1 for it to be stand-alone, and any statements in the prior art concerning

stand-alone systems have little relevance. In addition, one has to consider the teaching of D5 as a whole. The document provides detailed information about the type of vehicle required (see section 3.3 on page 426), the type of sensors and the type of gun systems (section 4.1 and 4.2 on page 429). The skilled person is therefore provided with sufficiently clear instructions for the construction of an apparatus that would have all the features of claim 1.

4. Since it is concluded that the apparatus of claim 1 lacks novelty, and the respondent has not filed any further requests, it is not necessary to consider the patentability of method claim 10.

Procedural Error

5. The appellant had argued during the proceedings that D1 implicitly discloses a single carrier for the detection, targeting and gun systems, and emphasised, citing T 763/89 and T 572/88, that implicit disclosure is important when assessing inventive step. The appellant alleges that, when determining inventive step, as set out in section 4 of the opposition decision, his argument concerning the implicit feature was ignored. Consequently, the decision is contrary to Rule 68(2) EPC and is a procedural violation warranting a reimbursement of the appeal fee.

Rule 67 EPC stipulates that the reimbursement of the appeal fee shall be ordered if it is equitable by reason of a substantial procedural violation. This usually applies to an objective procedural deficiency affecting the entire proceedings, in the sense that the

rules of procedure have not been applied in the manner prescribed in the EPC. However, the absence of adequate reasoning in the contested decision in accordance with Rule 68(2) EPC may also constitute a procedural violation justifying reimbursement of the appeal fee; this is typically when a decision does not contain any reasoning on the crucial points of dispute in a line of argumentation of an appellant, and thereby fails to give the party concerned a fair idea of why his submissions were not considered convincing (see Case Law, 4th edition 2001, VII.D.15.4.4).

In this case, the decision of the opposition division discusses the disclosure of implicit features in D1, as put forward by the appellant, in section 2 on page 3 of the decision, albeit in the context of novelty. The decision goes on to deal with inventive step with respect to D1 in section 4, on page 4. It is apparent from the decision that the opposition division took on board the appellant's arguments when considering D1; their analysis of features disclosed in the document is equally applicable for inventive step as it is for novelty.

It can therefore be concluded that the matter of implicit disclosure, which apparently formed an important part of the appellant's arguments, was duly considered in the reasons of the contested decision, and thereby the requirement of Rule 68(2) EPC has been fulfilled. Consequently no procedural error has occurred, and there is no reason to refund the appeal fee.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The request for reimbursement of the appeal fee is refused.

The Registrar: The Chairman:

A. Counillon U. Krause