

BESCHWERDEKAMMERN
DES EUROPÄISCHEN
PATENTAMTS

BOARDS OF APPEAL OF
THE EUROPEAN PATENT
OFFICE

CHAMBRES DE RECOURS
DE L'OFFICE EUROPEEN
DES BREVETS

Internal distribution code:

- (A) ☐ Publication in OJ
(B) ☐ To Chairmen and Members
(C) ☒ To Chairmen

D E C I S I O N
of 6 November 1995

Case Number: T 0986/91 - 3.2.3

Application Number: 86301590.5

Publication Number: 0195559

IPC: E21B 7/18, E21B 7/06

Language of the proceedings: EN

Title of invention:

Method and apparatus for installment of underground utilities

Patentee:

Flowmole Corporation

Opponents:

Smet Hole, naamloze vennootschap
Diamant Boart Craelius AB
Blis N.V.

Headword:

An underground utility installation apparatus

Relevant legal provisions:

EPC Art. 54

Keyword:

"Novelty (yes, after amendment) - anticipation of a chance nature"
"Parties to appeal - withdrawal of oppositions"

Decisions cited:

-

Catchword:

-



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Case Number: T 0986/91 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 6 November 1995

Appellant:
(Proprietor of the patent) Flowmole Corporation
21414-68th Ave. South
Kent
WA 98032 (US)

Representative:
Hartley, David
Whithers & Rogers
4 Dyer's Buildings
Holburn
London, EC1N 2JT (GB)

Respondent:
(Opponent 01) Smet Hole, naamloze vennootschap
Stenehei 30
B-2480 Dessel (BE)

Representative:
Debrabandere, René
BUREAU DE RYKER
Vereenigde Octrooibureaux Belgie N.V.
Arenbergstraat 13
B-2000 Antwerpen (BE)

Respondent:
(Opponent 02) Diamant
Boart
Craelius AB
S-19582 Märsta (SE)

Representative:
Jörneld, Bo
L.A. Groth & Co AB
P.O. Box 6107
S-102 32 Stockholm (SE)

Respondent:
(Opponent 03) Blis N.V.
Vuldershoek 18
B-3170 Herselt (BE)

Representative:
Callewaert, Jean
GEVERS Patents
Brussels Airport Business Park
Holidaystraat 5
B-1831 Diegem (BE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 6 November 1991
revoking European patent No. 0 195 559 pursuant to
Article 102(1) EPC.

Composition of the Board:

Chairman: C. T. Wilson

Members: J. B. F. Kollar
 L. C. Mancini

Summary of Facts and Submissions

- I. European patent No. 0 195 559 was granted on 24 May 1989 on European patent application No. 86 301 590.5.
- II. Notices of Opposition were filed on 15 February 1990 by Smet Hole N.V. (Opponent 1), on 22 February 1990 by Diamant Boart Craelius AB (Opponent 2) and on 23 February 1990 by Blis N.V. (Opponent 3), respectively, alleging lack of novelty and of inventive step (Article 100(a) EPC), insufficiency of disclosure (Article 100(b) EPC) as well as inadmissible extension of subject-matter (Article 100(c) EPC).

The oppositions were supported by the following documents:

OD1: GB-A-2 126 267
OD2: DE-A-2 911 419
OD3: US-A-4 396 073
OD4: US-A-4 431 069
OD5: FR-A-2 493 907
OD6: GB-A-1 191 739
OD7: DE-C-0 334 834
OD8: US-A-3 525 405
OD9: US-A-3 967 689
OD10: NL-A-7 902 758
OD11: US-A-3 746 108
OD12: US-A-4 401 170
OD13: WO-A-8 202 777
OD14: US-A-3 529 682
OD15: Page 27 Of NASSOVIA GmbH catalogue (1981)
OD16: US-A-4 361 192
OD17: US-A-3 720 272
OD18: US-A-3 746 106
OD19: US-A-2 018 007

OD20: US-A-2 500 267

OD21: US-A-3 878 903

OD22: US-A-2 324 102

OD23: US-A-2 350 986

OD24: EP-A-0 109 699

OD25: US-A-3 589 454

OD26: Oil & Gas Journal, Oct. 1, 1984, TECHNOLOGY,
pages 149 to 161: "Directional-drilling technique
is proposed for installing marine pipe-lines in
arctic areas"

OD27: DE-B-1 207 905.

Additional documents

OD28: US-A-3 356 151 and

OD29: US-A-4 306 427

were introduced into the appeal proceedings by
Opponent 1 with the submission dated 7 July 1992.

- III. With letter received on 3 August 1990, Opponent 3
withdrew his opposition.
- IV. By a decision given at the end of Oral Proceedings on
17 October 1991 and issued on 6 November 1991 the
Opposition Division revoked the patent on the grounds of
lack of novelty of the subject-matter of independent
Claim 1 in view of the disclosure of document OD22.
- V. The Appellant (Proprietor of the patent) filed a Notice
of Appeal against this decision by telefax on
18 December 1991. The appeal fee was paid on the same
date. The Statement of Grounds was received on 4 March
1992. It was accompanied by three sets of alternative
claims (ANNEX A, ANNEX B and ANNEX C).

- VI. In response to that, the Respondents (Opponents 1 and 2) expressed their view that the appealed decision was clearly correct but they withdrew their oppositions on 19 October 1995 and on 4 October 1995, respectively.
- VII. In a communication pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal, the Board expressed its provisional view that, contrary to the opinion of the Opposition Division, it could not find in document D22 the disclosure of the subject-matter of amended Claim 1. The Board raised a number of objections (Rule 29 and Articles 84 EPC) against the patent documents on file.
- VIII. In response, the Appellant filed with a letter dated 20 December 1993 new pages 2, 2A and 2B to replace line 40, column 1 (after the word "path") to line 15, column 2 ("...is obtained) of the patent specification and an amended Claim 1 to be followed by Claims 2 to 19 according to ANNEX A received 4 March 1992, and requested maintenance of the patent on the basis of these documents together with the granted drawings, and with the word "tip" replaced by "head" in line 17, column 2 of the patent specification.

Claim 1 reads as follows:

"1. An underground utility installation apparatus for drilling a steered underground passageway in soil or other soft material comprising a bendable tubular drill string (11) a nozzle (33, 38, 51, 104, 108) mounted on the front end of the drill string, linear drive means (3, 4) for advancing the drill string, rotary drive means (2) for rotating the nozzle (33, 38, 51, 104, 108), fluid supply means (6, 7, 8) for supplying pressurised drilling fluid to said nozzle, said nozzle being arranged to in use to generate a fluid cutting jet

(44) which cuts a path offset from the axis of rotation of the nozzle with the velocity component of the jet along the axis of rotation being greater than the velocity component of the jet transverse to the axis of rotation whereby the nozzle and drill string can proceed in a straight direction using the cutting jet if advanced with rotation of the nozzle and can deviate in the direction of offset if advanced without rotation of the nozzle and a smooth tapered guide surface being provided on the head (38, 51, 108) of the nozzle inclined to the axis of rotation of the nozzle on the side opposite the direction of offset said head being asymmetrical about the axis of rotation of the nozzle whereby said cutting jet and guide surface combine to cause said nozzle and drill string (11) to proceed in a curve through soil or other soft material if advanced without rotation, said fluid supply means (6, 7, 8) supplying cutting fluid to generate the fluid cutting jet (40) both when advancing said nozzle in a straight direction during rotation and when advancing said nozzle in said direction of offset without rotation."

- IX. Oral Proceedings, due to take place on 25 October 1995, were cancelled on the Appellant's request filed on 11 October 1995.

Reasons for the Decision

1. The appeal is admissible.

It complies, inter alia, with Rule 64(b) EPC as the notice of appeal must be taken to mean that the Appellant requests that the decision under appeal be cancelled in its entirety.

The Patentee's appeal against the decision to revoke his patent and his request to set aside this decision are not affected by the Respondents' having withdrawn their oppositions.

2. *Allowability of amended documents*

- 2.1 Present Claim 1 contains features which are disclosed and derivable from Figures 1 to 4 and the corresponding part of the description as originally filed.

There is therefore no objections to present Claim 1 under Article 123(2) EPC.

- 2.2 Claim 1 also meets the provisions of Article 123(3) EPC, since it contains all features of granted Claim 1 together with the restrictions that

- (a) the nozzle now is defined to generate in use a fluid cutting jet "with the velocity component of the jet along the axis of rotation being greater than the velocity component of the jet transverse to the axis of rotation",
- (b) the nozzle and drill string can proceed in a straight direction "using the cutting jet",
- (c) a smooth tapered guide surface "being...inclined to the axis of rotation of the nozzle",
- (d) the nozzle "head being asymmetrical about the axis of rotation of the nozzle", and
- (e) "cutting jet and guide surface combine to cause said" nozzle and drill string to proceed in a curve.

The Board is also satisfied that the patent specification in its present amended form meets the remaining formal requirements of the EPC.

3. *Novelty*

3.1 The Opposition Division has based its decision on the disclosure of document OD22, finding that said document discloses all of the features of independent Claim 1, "both the technical features defining the "hardwave" making up the drilling apparatus, and the functional features specifying the tasks the hardwave should be capable of performing" (see last paragraph of Section 4.1 of the decision).

3.2 In Figures 7 to 10 of document OD22 a means for directional drilling is shown which bears a resemblance to the apparatus described in the valid Claim 1 and which comprises a first passage (36) and a second passage (37) provided with a nozzle (38). It is clear that through the first passage a suitable drilling fluid is circulated to maintain the cutting edges of the cutting elements in a clear condition and wash the cuttings to the surface. The essential question to be examined is whether the second passage with its nozzle (38) also constitutes a nozzle arranged to generate a fluid cutting jet with parameters specified in Claim 1 i.e. whether a person skilled in the art would understand the nozzle 38 to serve this purpose.

3.3 In considering this question it has to be borne in mind that document OD22 relates to directional drilling through hard formations and is concerned with weakening the formation by means of a chemical, which constitutes a problem totally different from that stated in the

patent in suit, viz to provide a viable commercially exploitable technique whereby steered underground passageways can be drilled with accuracy through soft/surface strata for the purpose of installing utility lines.

- 3.4 In particular, in cases where the anticipation is of a chance nature in that what is disclosed in a prior document could accidentally fall within the wording of a claim to be examined for novelty without there being a common technical problem, a particularly careful comparison has to be made between what can fairly be considered to fall within the wording of the claim and what is effectively shown in the document.
- 3.5 When carrying out the comparison in the present case it is found that in the device shown in document OD22 no nozzle generating fluid cutting jet which cuts the path offset from the axis of rotation of the nozzle "with the velocity component of the jet on the axis of rotation being greater than the velocity component of the jet transverse to the axis of rotation" is present and that the chemical dispensing nozzle according to OD22 is disposed so as to direct the chemical at a very steep angle in order to weaken the wall of the well bore. This practicality excludes the possibility of regarding the nozzle 38 as a cutting jet generating nozzle arranged in the manner now claimed in Claim 1, as a shallow "angle of attack" would reduce rather than enhance chemical penetration of the wall of the well bore.
- 3.6 Accordingly, the Board is of the opinion that the apparatus according to the valid Claim 1 has to be regarded as novel over the cited OD22 specification.

Therefore, the novelty objection on which the contested decision was based, does not apply to present Claim 1.

4. The Respondents did not file any observations with respect to the patentability of the claims according to the present request, so that inventive step of the subject-matter of these claims was not challenged.

After withdrawal of the opposition and without prima facie evidence that these claims would not involve an inventive step, the Board sees no reason to examine this issue of its own motion under Article 114(1) EPC, beyond pointing out that OD22, being an anticipation of chance nature, is irrelevant for the question of inventive step.

5. It follows from the above that there is no ground which would prejudice the maintenance of the patent with the claims according to Appellant's latest request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent with the documents specified in point VIII. of this decision.

The Registrar:



N. Maslin

The Chairman:



C. Wilson