

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 25 September 2023**

Case Number: T 2136/22 - 3.2.01

Application Number: 13843467.5

Publication Number: 2904200

IPC: E21B43/26

Language of the proceedings: EN

Title of invention:

MOBILE, MODULAR, ELECTRICALLY POWERED SYSTEM FOR USE IN
FRACTURING UNDERGROUND FORMATIONS USING LIQUID PETROLEUM GAS

Applicant:

Typhon Technology Solutions, LLC

Headword:

Relevant legal provisions:

EPC Art. 56
EPC R. 137(3)

Keyword:

Inventive step - main request (no) - auxiliary request (no)
Amendments of application - discretion of examining division
Basis of decision
Substantial procedural violation
Reimbursement of appeal fee
Remittal to the department of first instance

Decisions cited:

T 1105/96

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2136/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 25 September 2023

Appellant: Typhon Technology Solutions, LLC
(Applicant) 3 Hughes Landing
1780 Hughes Landing Blvd., Suite 100
The Woodlands, TX 77380 (US)

Representative: Fuchs Patentanwälte Partnerschaft mbB
Tower 185
Friedrich-Ebert-Anlage 35-37
60327 Frankfurt am Main (DE)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 31 March 2022
refusing European patent application No.
13843467.5 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Wagner
Members: M. Geisenhofer
O. Loizou

Summary of Facts and Submissions

I. The appeal was filed by the appellant (applicant) against the decision of the examining division to refuse the patent application pursuant to Article 97(2) EPC.

II. The examining division *inter alia* decided that both the subject-matter of claim 1 of the "new main request" and the subject-matter of claim 1 of the "new main request (2)", both filed by e-mail during oral proceedings as they were conducted as videoconference before the examining division, are not inventive over a combination of document

D1 US 2007/0204991 A1 with document
D2 US 2012/0085541.

III. Together with the "new main request" and the "new main request (2)", the appellant submitted another seven auxiliary requests during oral proceedings before the examining division, stating in the accompanying e-mail the following:

"New Auxiliary Requests 1-7 (might be filed during further proceedings, if necessary)."

In the decision of the examining division, these additional requests have not been dealt with and are not part of the examining division's decision under appeal refusing the application.

According to the minutes of the oral proceedings (page 4) there was a discussion on their admissibility and

after a break the examining division decided not to admit them into the proceedings.

- IV. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request, in the alternative that a patent be granted on the basis of auxiliary request I or one of auxiliary requests II.1 - II.7 (all requests filed with the statement of grounds of appeal).

Furthermore, the appellant requested reimbursement of the appeal fee.

- V. The appellant with the grounds of appeal requested oral proceedings. This request was withdrawn with letter dated 13 June 2023 such that the present decision was taken in written proceedings.

- VI. Independent claim 1 of the main request reads as follows:

*"A method of delivering fracturing fluid to a wellbore, the method comprising the steps of:
providing a dedicated source of electric power at a site containing a wellbore to be fractured;
providing one or more electric fracturing modules (20) at the site, the electric fracturing module (20) comprising an electric motor (21) and a coupled fluid pump (22), the electric motor (21) operatively associated with the dedicated source of electric power (30);
providing the fracturing fluid for pressurized delivery to a wellbore, wherein the fracturing fluid comprises a liquefied petroleum gas; and*

operating the fracturing modules (20) using electric power from the dedicated source (30) to pump the fracturing fluid to the wellbore, characterized in that the dedicated source of electrical power (30) is a turbine generator, wherein the dedicated source of electric power (30) is disposed at a remote location from the one or more electric fracturing modules (20), so that the dedicated source of electric power is located in a region (C) on the site, which is located a remote distance (D) from another region (B) where the fracturing modules are located, for safety reasons."

Further independent claim 3 of the main request reads as follows:

*"A system for use in delivering pressurized fluid to a wellbore, the system comprising:
a well site comprising a wellbore and a dedicated source of electricity;
an electrically powered fracturing module (20) operatively associated with the dedicated source of electricity (30), the electrically powered fracturing module (20) comprising an electric motor (21) and a fluid pump (22) coupled to the electric motor (21);
a source of treatment fluid (48), wherein the treatment fluid comprises a liquefied petroleum gas; and
a control system for regulating the fracturing module (20) in delivery of treatment fluid from the source of treatment fluid (48) to the wellbore, characterized in that the pump (22) is directly coupled to the electrical motor (21)."*

VII. Independent claims 1 and 3 of the auxiliary request I further require the following feature:

"wherein different safety measures are maintained in the two regions"

VIII. The appellant's arguments can be summarized as follows:

- (a) The subject-matter of claim 1 of the main request is inventive over a combination of D1 with D2 since a physical separation between the location of power generation and the location of the fracturing modules is neither mentioned in D1 nor in D2.
- (b) This reason also applies to auxiliary request I, since D1 and D2 both do not even refer to safety requirements, in particular not to different safety measures for the turbine generator and the fracturing module(s).
- (c) Auxiliary requests II.1 - II.7 correspond to the auxiliary requests 1 - 7 filed during oral proceedings before the examining division, which were not taken into account by the examining division and no reasons were given neither regarding their admissibility nor patentability. The examining division hence committed a substantial procedural violation, justifying reimbursement of the appeal fee.

Reasons for the Decision

Main request

1. The main request corresponds to the "new main request" filed during oral proceedings before the examining division.

2. As found by the examining division, the subject-matter of claim 1 according to the main request lacks an inventive step over a combination of document D1 with the teaching of document D2.

2.1 Document D1 can be considered as a suitable starting point for an argument on inventive step, which is not disputed by the appellant (applicant).

Document D1 discloses a method of delivering fracturing fluid to a wellbore using one or more electric fracturing modules with pumps (10, 110) mounted on trucks (see paragraph [0019] and [0048]), the modules comprising each an electric motor driving the fluid pump (see paragraph [0019]: "electrically powered Triplex piston pump"). The electric motor implicitly requires to be connected to a source of electrical power, this source however being not specified in D1.

This was likewise not disputed by the appellant.

2.2 The method of claim 1 differs from the method disclosed in D1 in that the electric power is provided by a turbine generator at the site, wherein the turbine generator is disposed at a remote location from the one or more electric fracturing modules, so that the turbine generator is located in a region on the site which is located a remote distance from another region where the fracturing modules are located, for safety reasons.

2.3 When starting from D1, the skilled person is confronted with the problem of how to provide the necessary electrical power in a safe and economic manner. It is rendered obvious by D2 (see in particular paragraph

[0029]) to arrange a power source module with a turbine generator producing the electric energy for the fracturing modules on site. This allows to reduce costs since electricity can be produced locally on site using gas directly obtained from the fracturing operations. The skilled person hence would use a turbine generator on site as a source of electricity to avoid long connecting cables to the power grid when the fracturing site is in a sparsely populated area.

The modules carrying central installations (such as storage modules for diesel, sand and chemicals) are shown in figure 3 of D2 at the lower right corner. The skilled person would hence arrange also the electricity producing module in the vicinity of the modules carrying central installations.

The modules carrying central installations are located at a distance from the fracturing module(s) shown at the upper side of figure 3. Since the term "*remote*" is vague, any distance separating the modules can be considered to be a "*remote distance*".

2.4 The appellant argues that neither D1 nor D2 disclosed a physical separation between the location of power generation and the location of the fracturing modules conducting the fracturing operation, this distance being the result of safety requirements.

2.4.1 D2 discloses in paragraph [0029] that the pumps are mounted on skids being "*adapted for moving individually*" (see figure 4A). Furthermore, the electrical generator powered by a turbine is "*mounted on sled 43*" (see figure 4C). The electrical generator and the pumps are hence distinct modules.

- 2.4.2 These modules can be arranged as set out in e. g. figure 3, the different modules being provided at a certain distance. Without specifying what is meant by a "remote distance", each and every distance can be considered to be such a remote distance.
- 2.4.3 Since each and every industrial site must comply with the pertinent safety requirements, this also applies to the sites shown in figure 7 of D1 and figure 3 of D2 including minimum distances between particular components of the industrial site. Complying with mandatory safety requirements, however, is not inventive but a cogent and inevitable requirement to run the fracturing site.
- 2.4.4 When using a turbine generator as dedicated source of electricity as suggested by D2 to run the pumps of D1, the skilled person thus will choose suitable distances exceeding the legal minimum distances between the power module and the fracturing module(s), thus arriving at the subject-matter of claim 1 of the main request without inventive activity.
- 2.5 The same applies *mutatis mutandis* to independent claim 3. The Board therefore shares the examining division's decision on inventive step with regard to the main request.

Auxiliary request I

3. Auxiliary request I corresponds to the "new main request (2)" filed during oral proceedings before the examining division.
4. The subject-matter of claim 1 according to the auxiliary request I also lacks an inventive step over a

combination of document D1 with the teaching of document D2.

- 4.1 For the same reason as set out above with regard to the main request, it cannot be considered to be inventive when complying with the relevant safety requirements including providing for certain minimum distances between the power module with turbine generator and the fracturing module(s) with pumps.
- 4.2 Since different safety measures apply to power module and fracturing module(s), the skilled person will maintain automatically these different safety measures, thus arriving at the subject-matter of claim 1 without inventive skill.
- 4.3 The appellant argues that D2 lacks disclosure of safety requirements that differ for a turbine generator and a pump such that D2 cannot render it obvious to apply different safety measures for the two regions.
 - 4.3.1 In the Board's view, it is obvious for a skilled person that different safety requirements must apply to a power module and a fracturing module since a turbine generator running on gas can more easily burst into flames whereas an electrically driven pump is less likely to burn albeit this is not explicitly mentioned in D2. It is therefore evident that the legal standards defined by the supervising authorities for sites where fracturing is carried out differ for power module and fracturing module(s).
 - 4.3.2 When applying the teaching of D2 to the method of D1, the skilled person hence automatically will maintain different safety measures in the region of the power module and the region of the fracturing module(s).

- 4.4 The same applies *mutatis mutandis* to independent claim 3. The Board therefore also shares the examining division's decision on inventive step with regard to the auxiliary request I.

Auxiliary requests II.1 - II.7

5. Auxiliary requests II.1 - II.7 correspond to the auxiliary requests 1 - 7 filed and received by e-mail together with the "new main request (2)" during oral proceedings before the examining division.
- 5.1 It is to be noted that the examining division has no power to refuse the filing of a request. It is the applicant's right to file new requests at any stage of the examining proceedings. As soon as a set of claims on paper is submitted to the examining division, or - as in the present case - is sent by e-mail intended for filing during oral proceedings by videoconference, the claims are duly filed and pending.
- 5.2 Despite the fact that in the accompanying e-mail of the requests it was stated that these requests "*might be filed during further proceedings, if necessary*", it is undisputed that the requests were correctly transmitted and received (see minutes, point 5.1).
- 5.3 In the absence of a statement that sending these requests by e-mail was unintended and that they therefore should be disregarded, or that the requests are actively withdrawn, the requests were in the present case correctly submitted before the examining division and hence were pending when the examining division decided to refuse the application.

6. Whether the auxiliary requests were actually admitted into the proceedings is however a matter that ought to have been decided by the examining division.
- 6.1 The examining division has a discretion to admit late filed requests into the proceedings according to Rule 137(3) EPC. Furthermore, the examining division must ensure that the amended claims relate to searched matter that together with the originally claimed invention, form a single general inventive concept pursuant to Rule 137(5) EPC.
- 6.2 In the present case, it appears from the minutes that a discussion on admissibility of the requests took place during the oral proceedings. The applicant was informed with the preliminary opinion of the examining division that the auxiliary requests would not be admitted if filed (minutes point 5.3). After the break, the examining division decided not to admit them (minutes point 6.1).
- 6.3 The decision and the reasoning for this decision is however not reflected in the decision under appeal.
- 6.4 The decision therefore is deficient.

Either the examining division considered the auxiliary requests 1 - 7 not pending and did not decide on their admissibility or they decided to not admit these requests but did not provide a written reasoning with regard to their decision.

7. Both ways constitute a substantial procedural violation which justifies reimbursement of the appeal fee (cf. Case Law of the Boards of Appeal, 10th edition, V-A-11.6.11 c) (i) and Leitsatz of T1105/96) as well as

the remittal to the examining division as a remedy of the deficiency primarily in order to decide on the issue of the admissibility of the auxiliary requests 1 to 7 and any other outstanding issues regarding the application.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further prosecution.
3. The appeal fee is reimbursed.

The Registrar:

The Chair:



A. Voyé

A. Wagner

Decision electronically authenticated