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**Datasheet for the decision
of 13 September 2024**

Case Number: T 1040/21 - 3.2.05

Application Number: 15734252.8

Publication Number: 3280551

IPC: B21D39/04

Language of the proceedings: EN

Title of invention:

Plant for manufacturing of assembled hydraulic hoses

Patent Proprietor:

Intertraco (Italia) S.p.A.

Former Opponent:

Uniflex-Hydraulik GmbH

Relevant legal provisions:

EPC Art. 54, 56, 100(a), 100(b)

Keyword:

Opposition withdrawn during the appeal proceedings
Grounds for opposition - insufficiency of disclosure (no) -
lack of novelty (no) - lack of inventive step (no)



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Case Number: T 1040/21 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 13 September 2024

Appellant: Intertraco (Italia) S.p.A.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 7 May 2021
revoking European patent No. 3 280 551 pursuant
to Article 101(2) and 101(3) (b) EPC**

Composition of the Board:

Chairman P. Lanz
Members: M. Holz
M. Blasi

Summary of Facts and Submissions

- I. The patent proprietor (appellant) appealed against the opposition division's decision revoking European patent No. 3 280 551 (the patent).

Notice of opposition had been filed based on the grounds for opposition under Article 100(a) EPC for lack of novelty and lack of inventive step as well as Article 100(b) EPC for lack of sufficiency of disclosure.

In the decision under appeal, in relation to the patent as granted the opposition division concluded that the patent disclosed the invention defined in claim 1 in a manner sufficiently clear and complete for it to be carried out by a skilled person, but that the subject-matter of claim 1 as granted was not novel in view of document E1. The subject-matter of claim 1 of auxiliary request 1 and 2 was not considered to involve an inventive step with regard to document E1 as the closest prior art.

The granted claims as well as claim sets of auxiliary requests were enclosed with the appellant's statement of grounds of appeal.

- II. The then opponent (respondent) replied to the appellant's statement of grounds of appeal. With its reply, it submitted the following document:

E9: Excerpt from the web page uniflex.de
of 26 March 2012, downloaded on

15 December 2021 from waybackmachine.com,
[http://web.archive.org/web/20120326174418/
http://www.uniflex.de/produkte/zubehoer/
pfm/?tt_products%5BbackPID%5D=15](http://web.archive.org/web/20120326174418/http://www.uniflex.de/produkte/zubehoer/pfm/?tt_products%5BbackPID%5D=15)

III. The parties were summoned to oral proceedings to be held before the board on 13 September 2024.

On 13 June 2024, the board issued a communication under Article 15(1) RPBA providing, *inter alia*, its preliminary opinion that none of the grounds for opposition raised by the then respondent seemed to prejudice the maintenance of the patent as granted.

By letter dated 18 July 2024, the then respondent filed further submissions. By letter dated 11 September 2024, it withdrew its opposition.

By letter of the same day, the appellant conditionally withdrew its auxiliary request for oral proceedings.

Subsequently, the oral proceedings scheduled before the board were cancelled.

IV. Requests

The appellant requests that the decision under appeal be set aside and the patent be maintained as granted, i.e. the opposition be rejected (main request), or, alternatively, that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claim set of one of the first, second, third or fourth auxiliary request filed with the statement of grounds of appeal.

In its statement of grounds of appeal, the appellant had requested oral proceedings as a precautionary measure should the board not set aside the decision under appeal and maintain the patent as granted or as amended on the basis of one of the sets of claims of the auxiliary requests.

By letter dated 11 September 2024, the appellant withdrew its request for oral proceedings on the condition that the board's preliminary opinion was confirmed and the decision under appeal was set aside and the patent was maintained as granted.

V. The following documents submitted during the proceedings before the opposition division are cited in this decision:

E1: US 6,237,204 B1
E2: US 2013/0160284 A1
E3: US 2010/0242276 A1
E4: US 2007/0028660 A1
E5: UNIFLEX News, Ausgabe: Januar 2000.
E5a: UNIFLEX News, Issue: January 2000.

VI. Claim 1 as granted reads as follows (the feature identification used by the board is indicated in square brackets):

"[1] A plant (10) for realising fitted hydraulic hoses (H) which comprises:
[1.1] - a storage station (60) of a plurality of hydraulic fittings (F), each of which is able to be fixed to an end of a portion of hose (H1) into which the hydraulic hose (H2) is cut;
[1.2] - a crimping station (80) provided with a crimping press (81) configured such as to crimp a

hydraulic fitting (F) to an end of the portion of hose (H1); characterised by:

[1.3] - a cutting station (20) provided with a cutter (21) configured such as to cut a hydraulic hose (H2) into a plurality of portions of hose (H1); and

[1.4] - a control and command unit (100)

[1.4.1] operatively connected to the crimping press (81) of the crimping station (80) for determining a blocking force of the crimping press (81) according to an indicative parameter of the type of hydraulic hose (H2) cut in the cutting station (20), [1.4.2] wherein the control and command unit (100) is operatively connected also to the cutter (21) of the cutting station (20) and is configured such as to determine a length of the portion of hose (H1) and command the cutter (21) so as to operate a cut of the hydraulic hose (H2) so as to realise a portion of hose (H1) of the determined length."

VII. The relevant submissions are as follows:

(a) Patent as granted - ground for opposition under Article 100(b) EPC

(i) Former respondent

The patent did not disclose the invention defined in claim 1 as granted in a manner sufficiently clear and complete for it to be carried out by a skilled person. In view of paragraph [0106] of the patent, claim 1 as granted did not specify whether the blocking force was an input to or an output from the control and command unit. The term "determining" could furthermore have different meanings in this context, such as setting or establishing the blocking force.

(ii) Appellant

The patent disclosed the invention defined in claim 1 as granted in a manner sufficiently clear and complete for it to be carried out by a skilled person, as set out in the reasons for the decision under appeal.

(b) Patent as granted - ground for opposition under Article 100(a) EPC in conjunction with Article 54 EPC

(i) Opposition division

The subject-matter of claim 1 as granted was not novel in view of document E1. Column 1, lines 29 to 37 of document E1 implied that the programmable process computer was inevitably operatively connected to the crimping press of the crimping station for determining a blocking force of the crimping press according to an indicative parameter of the type of hydraulic hose cut in the cutting station. Although document E1 did not define any specific relationship between the blocking force and the type of hydraulic hose, it was implicit that such a relationship existed in an automatic process, for example with at least a limited maximum blocking force preventing the destruction of the hoses during crimping being determined. The operator mentioned in that passage was only needed for determining a production order, so that the computer knew which kind of hoses had to be produced automatically.

(ii) Appellant

The subject-matter of claim 1 as granted was novel in view of document E1. This document did not disclose

feature 1.4.1, either explicitly or implicitly. A prior-art document provided an implicit disclosure if, in carrying out the teaching of the prior-art document, the skilled person would have inevitably arrived at a result falling within the terms of the claim. In order to "inevitably" arrive at a result it was necessary for the skilled person, following the teaching of that prior-art document, to have necessarily reached the claimed result as a unique possibility (i.e., following a one-way street). In order to carry out an automatic crimping process using the plant in document E1, the skilled person would have had a variety of options that differed from that claimed. For instance, the skilled person could have programmed the controller in order to set a final diameter value of the crimper die provided by the manufacturer of the tube or the fitting. This was the most common method for performing a crimping process. Document E1 made no mention of any possibilities and ways of controlling the crimping process. The skilled person thus had not been in a "one-way-street situation" pointing to the claimed solution. The term "to determine" meant establishing a value (for instance by calculating, by retrieving from a map or a table, or by estimating according to computational methods) or setting the value. In the skilled person's understanding, feature 1.4.1 required the control and command unit to be configured so that a functional relationship (stored in the control program) between the blocking force value (output by the control program) and the parameter indicative of the type of hydraulic hose (input into the control program) was established (for instance by calculating, estimating or associating one value with the other), in such a way that, for each input value, the control unit retrieved a proper output value (with which the crimping press was commanded to operate). Therefore, even assuming

that the automatic crimping press in document E1 operated with a particular blocking force value, this would not imply that this blocking force value was determined (i.e., established, calculated, estimated, retrieved or set) by the control unit (of the plant) on the basis of the particular hose cut in the cutting station.

(c) Patent as granted - ground for opposition under Article 100(a) EPC in conjunction with Article 56 EPC

(i) Former respondent

The subject-matter of claim 1 as granted did not involve an inventive step in view of document E1 alone, a combination of document E1 and the common general knowledge demonstrated by documents E2, E3, E4 and E5 or a combination of document E1 and one of documents E2, E3, E4 and E5. The mere automation of functions previously performed by human operators was in line with the general trend in technology and thus could not be considered inventive. Documents E2 (see paragraph [0034]), E3 (see paragraph [0034]), E4 (see paragraph [0008]) and E5 (see page 3) demonstrated that pressing units including feature 1.4.1 had been commonly known to the skilled person. Paragraphs [0050] and [0092] of the patent disclosed that the cutters and crimping presses used for implementing the invention corresponded to those commonly used in non-automated plants.

(ii) Appellant

The subject-matter of claim 1 as granted involved an inventive step in view of document E1 as the closest

prior art. None of documents E2, E3, E4 and E5 disclosed feature 1.4.1, nor did document E1 or any of these documents suggest the claimed solution.

Reasons for the Decision

1. Withdrawal of opposition and decision in the written proceedings

1.1 As a consequence of withdrawing its opposition, the former opponent (respondent) ceased to be party to the appeal proceedings as no issues other than the patent as granted or as amended as proposed by the appellant were within the scope of the appeal.

1.2 The withdrawal of the opposition has no direct procedural consequences for the appeal proceedings because the contested patent was revoked by the decision under appeal and the appellant is seeking to have the decision reviewed and set aside. In such cases, the board must carry out a substantive examination of the opposition division's decision, and can only set aside this decision and reject the opposition if the grounds for opposition considered in the decision do not prejudice the maintenance of the granted patent. The board can, however, also consider facts, arguments and evidence submitted by the respondent prior to the withdrawal of the opposition.

1.3 The appellant requested oral proceedings as an auxiliary measure. Since, with the outcome of the present decision, the board accedes to the appellant's main request that the decision under appeal be set aside and that the patent be maintained as granted, i.e. that the opposition be rejected, the scheduled

oral proceedings were able to be cancelled and the decision issued in written proceedings.

2. Patent as granted - ground for opposition under Article 100(b) EPC
 - 2.1 In the decision under appeal, the opposition division had concluded that the ground for opposition under Article 100(b) EPC did not prejudice the maintenance of the patent as granted.
 - 2.2 This had been contested by the then respondent. It referred to paragraph [0106] of the patent and submitted that, in view of this passage, claim 1 as granted did not specify whether the blocking force (see feature 1.4.1: "*for determining a blocking force*") was an input to or an output from the control and command unit. According to the former respondent, the term "determining" could furthermore have different meanings.
 - 2.3 A successful objection of insufficient disclosure presupposes that there are serious doubts, substantiated by verifiable facts (see also "Case Law of the Boards of Appeal of the European Patent Office", 10th edition, July 2022 (Case Law), II.C.9).

Even assuming that the term "determining" had different meanings, this in itself does not give rise to serious doubts that the skilled person, using common general knowledge, is able to carry out the invention specified in claim 1 as granted. This would merely indicate that there are different ways in which the claimed plant could be implemented.

For the same reasons, even assuming that claim 1 as granted did not specify whether the blocking force was an input to or an output from the control and command unit, the former respondent's submissions do not give rise to serious doubts that the skilled person is able to put either alternative into practice. Having said this, paragraph [0106] of the patent discloses that the control and command unit 100 is operatively connected to the monitoring device 83 of the crimping press 80 so as to obtain, as input values, the blocking pressure values and/or diameter detected by the monitoring device and to control them such that they comply with determined preset reference values. When read in the context of claim 1 as granted, the control process disclosed in this passage does not contradict feature 1.4.1 and does not prevent the skilled person from putting the invention defined in claim 1 as granted into practice.

The ground for opposition under Article 100(b) EPC thus does not prejudice the maintenance of the patent as granted.

3. Patent as granted - ground for opposition under Article 100(a) EPC in conjunction with Article 54 EPC
 - 3.1 In the decision under appeal, the opposition division had concluded that the subject-matter of claim 1 as granted was not novel in view of document E1 (see point 2.3 of the Reasons for the decision).
 - 3.2 The appellant disputes that document E1 discloses feature 1.4.1.

Document E1 does not explicitly disclose that a blocking force of the crimping press is determined according to an indicative parameter of the type of hydraulic hose cut in the cutting station as defined in feature 1.4.1.

- 3.3 An alleged disclosure can only be considered "implicit" if it is immediately apparent to the skilled person that nothing other than the alleged implicit feature forms part of the subject-matter disclosed (see also Case Law, I.C.4.3).

The decision under appeal refers to column 1, lines 29 to 37 of document E1. According to the opposition division, this passage implied that the programmable process computer was inevitably operatively connected to the crimping press of the crimping station for determining a blocking force of the crimping press according to an indicative parameter of the type of hydraulic hose cut in the cutting station. Although document E1 did not define any specific relationship between the blocking force and the type of hydraulic hose, it was implicit that such a relationship existed in an automatic process, for example with at least a limited maximum blocking force preventing the destruction of the hoses during crimping being determined. The operator mentioned in that passage was only needed for determining a production order, so that the computer knew which kind of hoses had to be produced automatically.

The appellant submits that, in order to carry out an automatic crimping process using the plant in document E1, the skilled person had had a variety of options that differed from that claimed. For instance, the skilled person could have programmed the controller

in order to set a final diameter value of the crimper die provided by the manufacturer of the tube or the fitting. The skilled person was thus not in a "one-way-street situation" pointing to the claimed solution.

Column 1, lines 29 to 37 of document E1 discloses that the programmable process computer 1 is intended to control all process steps for production of the tube, such that production is implemented completely automatically and such that the operator, via a commanding desk, gives the process computer orders about tube dimension, tube length, nipple dimension, nipple angle and the number of tubes. It cannot be unambiguously and directly derived from this passage that a maximum blocking force is determined at all, i.e. that nothing other than such a determination forms part of the subject-matter disclosed. As set out by the appellant, the skilled person had had other options for controlling the machine disclosed in document E1. The fact that document E1 does not (explicitly) mention that the operator inputs a maximum blocking force does not imply that the programmable process computer 1 must necessarily determine a maximum blocking force.

Document E1 thus does not disclose feature 1.4.1, and therefore the subject-matter of claim 1 as granted is novel in view of this document. The same applies to dependent claims 2 to 21 as granted, which, by way of their references to claim 1, include all the features of claim 1 as granted.

The ground for opposition under Article 100(a) EPC in conjunction with Article 54 EPC therefore does not prejudice the maintenance of the patent as granted.

4. Patent as granted - ground for opposition under Article 100(a) EPC in conjunction with Article 56 EPC

4.1 The former respondent submitted that the subject-matter of claim 1 as granted did not involve an inventive step in view of document E1 alone, a combination of document E1 and the common general knowledge allegedly demonstrated by documents E2, E3, E4 and E5 or a combination of document E1 and one of documents E2, E3, E4 and E5. This view is contested by the appellant.

The former respondent considered the objective technical problem to be that of implementing the control of the pressing unit disclosed in document E1. The appellant has not suggested a different formulation of the objective technical problem.

Even if the above formulation of the objective technical problem is accepted, the subject-matter of claim 1 as granted involves an inventive step starting from document E1 for the following reasons.

4.2 The former respondent submitted that the mere automation of functions previously performed by human operators was in line with the general trend in technology and thus could not be considered inventive.

As set out above, document E1 does not disclose that a blocking force of the crimping press is determined according to an indicative parameter of the type of hydraulic hose cut in the cutting station (see feature 1.4.1) at all, either by an operator or by the programmable process computer. Hence, even assuming that the skilled person had been prompted to consider an automatic input of the parameters disclosed in column 1, lines 32 to 37 of document E1 (instead of an

operator manually inputting the parameters), this would not have pointed the skilled person to feature 1.4.1.

4.3 The former respondent submits that documents E2, E3, E4 and E5 demonstrated that pressing units including feature 1.4.1 had been commonly known to the skilled person. The appellant submits that feature 1.4.1 was not disclosed in any of these documents.

4.3.1 Paragraph [0034] of document E2 discloses that the controller may automatically determine whether to stop the crimping operation based on an amount of force applied to the crimped components; however, this does not imply that a blocking force of the crimping press is determined according to an indicative parameter of the type of hydraulic hose cut in the cutting station (see feature 1.4.1). Paragraph [0038] of document E2 discloses that a compensation curve is used to determine a deflection of the first plate of the crimping machine based on the applied force; however, document E2 does not disclose or suggest that the (measured) applied force is compared with a blocking force, let alone a blocking force determined according to an indicative parameter of the type of hydraulic hose. It is technically possible and not excluded in this document that, instead, in a first step, a deflection is determined based on the applied force and that the determined deflection is then compared with a reference value (i.e. a maximum deflection). Feature 1.4.1 is neither disclosed nor suggested by document E2.

4.3.2 Paragraph [0034] of document E3 discloses that the movement of the jaws 4 is stopped if the pressure has, within certain limits, reached a predetermined level or value set in the control system 16; however, this

passage does not disclose how the predetermined level or value is determined or, for that matter, that a blocking force is determined according to an indicative parameter of the type of hydraulic hose cut in the cutting station. Paragraph [0040] of document E3 discloses that the pressure that triggers crimping being stopped can be stored in the control system 16. It is neither disclosed nor suggested that the pressure mentioned in this paragraph is determined according to an indicative parameter of the type of hydraulic hose, nor is it disclosed or suggested that it is the control system 16 that makes such a determination. It is technically possible and not excluded in document E3 that the maximum pressure is instead determined by another entity and then stored in the control system 16. According to feature 1.4.1, however, the control and command unit is operatively connected to the crimping press for determining the blocking force, the same control and command unit being further defined by feature 1.4.2.

- 4.3.3 Paragraph [0008] of document E4 discloses that crimpers typically utilise either pressure or position of the hydraulic cylinder to adjust the crimp diameter; however, this does not imply that a control and command unit (as further defined in feature 1.4.2) is operatively connected to a crimping press for determining a blocking force of the crimping press according to an indicative parameter of the type of hydraulic hose cut in the cutting station. Moreover, the subsequent sentence in paragraph [0008] of document E4 suggests that monitoring pressure is usually only effective for "very light and small fittings". The former respondent has not convincingly demonstrated that document E1 would relate to such "very light and small fittings". Document E4 (see, in

particular, paragraphs [0008] and [0009]) suggests using positional feedback instead of a pressure-controlled pressing unit, thus providing teaching leading away from the claimed solution.

- 4.3.4 Page 3 of document E5 (see also document E5a) merely mentions the term pressure-controlled or force-controlled pressing ("Druck / Kraftgesteuertes Pressen") without indicating any details. In particular, this term in itself does not imply that a control and command unit (as further defined by feature 1.4.2) is operatively connected to the crimping press for determining a blocking force of the crimping press according to an indicative parameter of the type of hydraulic hose cut in the cutting station.
- 4.3.5 Consequently, none of documents E2, E3, E4 and E5 discloses or suggests feature 1.4.1. At least for the same reasons, these documents are inadequate for establishing that the skilled person would have been prompted by their common general knowledge to implement this feature in the machine disclosed in document E1.
- 4.4 The former respondent also referred to paragraphs [0050] and [0092] of the patent; however, these passages do not belong to the prior art and therefore could not have prompted the skilled person to use the products mentioned in these passages when starting from document E1. Moreover, it is not apparent from the former respondent's submission that the use of these products in the context of document E1 would have rendered the claimed invention obvious to the skilled person.
- 4.5 The subject-matter of claim 1 as granted therefore involves an inventive step starting from document E1.

The same applies to dependent claims 2 to 21 as granted, which, by way of their references to claim 1, include all the features of claim 1 as granted.

Consequently, the ground for opposition under Article 100(a) EPC in conjunction with Article 56 EPC does not prejudice the maintenance of the patent.

5. Conclusion

Since none of the grounds for opposition on which the decision under appeal is based prejudices the maintenance of the patent as granted, the decision under appeal has to be set aside and the opposition rejected.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The opposition is rejected.

The Registrar:

The Chairman:



N. Schneider

P. Lanz

Decision electronically authenticated