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Datasheet for the decision of 2 March 2017

Case Number: T 0334/13 - 3.2.08

Application Number: 06759019.0

Publication Number: 1909987

IPC: B21D39/04, B25B27/10

Language of the proceedings: EN

Title of invention:
SYSTEM AND PROCESS FOR CRIMPING A FITTING TO A FLUID CONDUIT

Patent Proprietor:
Custom Machining Services, Inc.

Opponent:
Uniflex-Hydraulik GmbH

Headword:

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
Amendments - extension beyond the content of the application as filed (yes)

Decisions cited:

Catchword:

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Case Number: T 0334/13 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 2 March 2017

Appellant: (Patent Proprietor)	Custom Machining Services, Inc. 326 North 400 East Valparaiso IN 46383 (US)
Representative:	TLIP Limited Leeds Innovation Centre 103 Clarendon Road Leeds LS2 9DF (GB)
Appellant: (Opponent)	Uniflex-Hydraulik GmbH Robert-Bosch-Str. 50-52 61184 Karben (DE)
Representative:	Möhring, Friedrich Grättinger - Möhring - von Poschinger Patentanwälte Partnerschaft Postfach 16 55 82306 Starnberg (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 29 November 2012 concerning maintenance of the European Patent No. 1909987 in amended form.**

Composition of the Board:

Chairwoman	P. Acton
Members:	M. Foulger
	Y. Podbielski

Summary of Facts and Submissions

I. With the decision dated 29 November 2012, the opposition division held that the patent according to the then valid auxiliary request AR2' met the requirements of the EPC. Both appellant 1 (proprietor) and appellant 2 (opponent) filed appeals against this decision.

The appeals were filed in due form and within the given time limits.

II. Oral proceedings were held before the Board on 2 March 2017.

III. Appellant 1 (proprietor) requested:

- that the decision under appeal be set aside and that, having withdrawn the main request, that the patent be maintained in amended form according to one of auxiliary requests 1,2 or 3 filed with the statement setting out the grounds of appeal, auxiliary request 3 being that upheld by the opposition division ("AR2'"),
- that documents E10 (US 5,050,089 A1) and E11 (US 5,836,188 A1) be disregarded pursuant to Article 114(2) EPC.

Appellant 2 (opponent) requested:

- that the decision under appeal be set aside and that the patent be revoked,
- that documents E10 and E11 be admitted into the proceedings.

IV. Claim 1 of the 1st auxiliary request reads:

"A system (40) for crimping a fitting (14) to an end (16) of a fluid conduit (12), the system (40) comprising means (36,38) for inputting into the system (40) a targeted crimp diameter for the fitting (14) around the end (16) of the fluid conduit (12), and means (22) for crimping the fitting (14) to the end (16) of the fluid conduit (12), the crimping means (22) comprising a die set (24) and an actuating means (26,27) for applying a force to cause the die set (24) to travel toward and contract around the fitting (14) to obtain the targeted crimp diameter characterized in that:
the system (40) comprises controller means (36) for attaining the targeted crimp diameter for the fitting (14) by use of a position sensor (30) to sense the position of the die set (24) and the die set diameter, and simultaneously a pressure sensor (34) to monitor the force generated by the die set (24) and thereby automatically increasing the contraction of the die set (24) around the fitting (14) based on the force applied by the actuating means (26,27) at the targeted crimp diameter and thereby compensating for at least one of spring-back of the fitting (14) during crimping and deflection of the crimping means (22) during crimping."

Claim 1 of the 2nd auxiliary request reads:

"A system (40) for crimping a fitting (14) to an end (16) of a fluid conduit (12), the system (40) comprising means (36,38) for inputting into the system (40) a targeted crimp diameter for the fitting (14) around the end (16) of the fluid conduit (12), and means (22) for crimping the fitting (14) to the end (16) of the fluid conduit (12), the crimping means (22)

comprising a die set (24) and a piston (26,27) for applying a force to cause the die set (24) to travel toward and contract around the fitting (14) to obtain the targeted crimp diameter characterized in that: the system (40) comprises controller means (36) for attaining the targeted crimp diameter for the fitting (14) by use of a position sensor (30) to sense the position of the die set (24) and the die set diameter, and simultaneously a pressure sensor (34) to monitor the force generated by the die set (24) and thereby adjust the travel of the piston (26) based on the pressure sensed by the pressure sensor (34) to determine when the die set (24) arrived at the targeted die set diameter during crimping thereby automatically increasing the contraction of the die set (24) around the fitting (14) based on the force applied by the piston (26,27) at the targeted crimp diameter and thereby compensating for at least of one [*sic*] spring-back of the fitting (14) during crimping and deflection of the crimping means (22) during crimping."

Claim 1 of the 3rd auxiliary request reads:

"A system (40) for crimping a fitting (14) to an end (16) of a fluid conduit (12), the system (40) comprising means (36,38) for inputting into the system (40) a targeted crimp diameter for the fitting (14) around the end (16) of the fluid conduit (12), and means (22) for crimping the fitting (14) to the end (16) of the fluid conduit (12), the crimping means (22) comprising a die set (24) and a piston (26,27) for applying a force to cause the die set (24) to travel toward and contract around the fitting (14) to obtain the targeted crimp diameter characterized in that: the system (40) comprises controller means (36) for attaining the targeted crimp diameter for the fitting

(14) by use of a position sensor (30) to sense the position of the piston (26) and the die set (24) and the die set diameter and simultaneously a pressure sensor (34) to monitor the force generated by the die set (24) and thereby adjust the travel of the piston (26) based on the pressure sensed by the pressure sensor (34) to determine when the die set (24) arrived at the targeted die set diameter during crimping thereby automatically increasing the contraction of the die set (24) around the fitting (14) based on the force applied by the piston (26,27) at the targeted crimp diameter and thereby compensating for at least of one [*sic*] spring-back of the fitting (14) during crimping and deflection of the crimping means (22) during crimping."

All requests contained a further independent method claim but this is not relevant for the final decision.

V. Note that, in the following, paragraph and page references refer to the published application WO 2007/018649 A1.

VI. Appellant 1 (proprietor) argued essentially the following:

i) Auxiliary request 1

The subject-matter of claim 1 was disclosed in the application as originally filed.

The invention was illustrated by Figs. 13 and 14 wherein a pressure sensor 34 and a position sensor 30 were used as inputs to the controller means. The object of the invention was to consistently achieve a targeted crimp diameter for the fitting (see paragraph [0001]).

In this respect manufacturers designated a final crimp diameter "D_C" (paragraph [0002], final sentence). The advantage of the invention was that the influence of spring-back on die set diameter and pressure was factored in (see paragraph [0016]). According to paragraph [0031] the invention made use of a position sensor and, simultaneously, of a pressure sensor which monitored the force generated by the die set. Line 8 of paragraph [0039] was to be read in conjunction with this and therefore the feature "automatically increasing the contraction of the die set (24) around the fitting (14) based on the force applied by the actuating means (26,27) at the targeted crimp diameter" was derivable from the application as originally filed.

Hence, the requirements of Article 123(2) EPC were fulfilled.

ii) Auxiliary requests 2 and 3

The above arguments applied equally to auxiliary requests 2 and 3.

VII. Appellant 2 (opponent) argued essentially the following:

i) Auxiliary request 1

The feature "automatically increasing the contraction of the die set (24) around the fitting (14) based on the force applied by the actuating means (26,27) at the targeted crimp diameter" was not disclosed in the application as originally filed.

The application as filed merely mentioned that the travel of the piston could be modified based on the

pressure required as the die set approached the crimp diameter (lines 3-5 of paragraph [0039]). Moreover paragraph [0033], line 7 through to line 10 (line 2 of page 10), made it clear that the pressure was measured as the piston approached the crimping position rather than at the crimping position as claimed.

Line 8 of paragraph [0039] merely reflected the prior art practice of using the piston position as an input to the system and did not mention the force applied at the targeted crimp diameter.

Thus the application as originally filed did not provide a basis for the disputed feature. Consequently the claim did not comply with Article 123(2) EPC.

ii) Auxiliary requests 2 and 3

The above arguments applied equally to auxiliary requests 2 and 3.

Reasons for the Decision

1. Auxiliary request 1 - Article 123(2) EPC

At dispute is whether the feature "automatically increasing the contraction of the die set (24) around the fitting (14) based on the force applied by the actuating means (26,27) at the targeted crimp diameter" was disclosed in the application as originally filed. It is common ground that the exact wording of this phrase is not explicitly to be found in said application.

Paragraph [0016] sets out the advantage of the invention whereby spring-back is compensated for in order to arrive at the desired crimp diameter but does not specify how this is achieved.

It is true that lines 2-3 on page 9 (part of paragraph [0031]) state that the invention uses a pressure sensor to monitor the force generated by the die set. This passage does not however disclose at what point the pressure is used.

It is true that line 8 of paragraph [0039] mentions "at the targeted die set diameter". However this is in relation to the position sensor and "[a]ccording to conventional practice". Thus it relates to the prior art rather than the invention of the application and in any case does not relate to the force applied by the actuating means but rather to a measurement of position. The preceding sentence (paragraph [0039], lines 4-5) reads "based on the pressure required as the die set 24 approaches the crimp diameter D_C", i.e. during the approach to rather than "at" the crimp

diameter.

Moreover, paragraph [0033], lines 7-8 (on page 9) reads "... automatically detected by sensing the crimping pressure as the piston 26 approaches its preset position." Furthermore, page 10, lines 1-3 read "as the die set 24 of the crimper 22 approaches the required crimp diameter D_C". Thus the automatic compensation is consistently presented in the application as being determined **during** the approach to the required crimp diameter rather than **at** the required crimp diameter as claimed.

Hence, there is no disclosure of automatically increasing the contraction of the die set around the fitting based on the force applied by the actuating means **at** the targeted crimp diameter as required by the claim. Thus, claim 1 of auxiliary request 1 contains subject-matter which extends beyond that of the application as originally filed contrary to the requirements of Article 123(2) EPC.

2. Auxiliary requests 2 and 3

It is common ground that the above arguments and conclusions are also applicable the claims according to auxiliary requests 2 and 3 which therefore also do not comply with the requirements of Article 123(2) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairwoman:

C. Moser P. Acton

Decision electronically authenticated