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**D E C I S I O N**  
**of 12 July 1994**

**Case Number:** T 0165/93 - 3.2.1  
**Application Number:** 86108136.2  
**Publication Number:** 0212119  
**IPC:** F16H 7/12

**Language of the proceedings:** EN

**Title of invention:**  
Tensioner for toothed drive belts

**Patentee:**  
Tsubakimoto Chain Co

**Opponent:**  
INA Wälzlager Schaeffler KG

**Headword:**  
-

**Relevant legal norms:**  
EPC Art. 56, 99(1), 113  
EPC R. 67

**Keyword:**  
"Extent of opposition limited to specific claims"  
"Inventive step (yes)"  
"Procedural violation - reimbursement of appeal fee (no)"

**Decisions cited:**  
G 0009/91, T 0293/88

**Catchword:**  
If following an extension of the opposition to originally not attacked dependent claims after expiry of the opposition period the proprietor of the patent who was duly informed about this extension does not show any willingness to include such originally undisputed subject-matter into the independent claim(s) there is no necessity to issue a further communication in this respect before revoking the patent (point 7 of the reasons).



Case Number: T 0165/93 - 3.2.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.1  
of 12 July 1993

**Appellant:**  
(Proprietor of the patent) Tsubakimoto Chain Co  
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**Representative:**  
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**Respondent:**  
(Opponent) INA Wälzlager Schaeffler KG  
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**Representative:** -

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office dated 21 December 1992  
revoking European patent No. 0 212 119 pursuant to  
Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** F. A. Gumbel  
**Members:** J. F. Proels  
J. C. M. de Preter

## Summary of Facts and Submissions

- I. European patent No. 0 212 119 was granted on 19 September 1990 on the basis of European patent application No. 86 108 136.2, filed on 13 June 1986.
- II. The patent was opposed by the Respondents on the grounds that its subject-matter lacked novelty and inventive step with respect to the state of art (Article 100(a) EPC).

The following documents belonging to the state of art were referred to in the opposition proceedings:

DI: DE-A-3 211 095,  
D2: US-A-4 190 025,  
D3: DE-A-2 720 184,  
D4: DE-C-1 122 780,  
D5: JP-A-57-76306,  
D6: DE-B-2 847 699,  
D7: JP-A-56-60845.

- III. The Opposition Division revoked the patent by the decision dated 21 December 1992 for lack of inventive step of its subject-matter, particularly in view of the prior art according to D2 and D1.
- IV. The Appellants (Patentees) appealed against this decision on 16 February 1993, paying the fee on the same day. The Statement of Grounds was received on 30 April 1993.
- V. Following a communication of the Board setting out that amendments in the claims, the description and the drawings were necessary in order to meet the requirements of Article 84 EPC (clarity) and

Rule 27(1)(c) EPC (consistency) the Appellants filed amended documents (received on 8 April 1994).

Independent Claim 1 now on file reads as follows:

"A tensioner for a toothed belt (30) comprising a housing having a cylindrical interior wall, a piston (37, 152) slidable within, and substantially conforming to the interior wall, a rod (33, 156) connected to the piston (37, 152) and extending substantially along the axis of the interior wall, from the piston to the exterior, packing means (40, 41) surrounding said rod and defining with the interior wall and piston a substantially enclosed first chamber (50) on one side of the piston, said housing with the interior wall and the piston defining a substantially enclosed second chamber (54) on the opposite side of the piston (37, 152), hydraulic fluid substantially filling both chambers, a first fluid passage having one-way check valve means (62) allowing flow of hydraulic fluid from one of the chambers to the other as the piston moves in a direction to decrease the volume of said one of the chambers, spring means (58) urging the piston in said direction, a second fluid passage allowing relatively restricted flow of hydraulic fluid between said two chambers (50, 54), and compensation means in communication with the first chamber allowing the volumetric contraction of the hydraulic fluid space in the second chamber (54) as said piston moves in the direction to decrease the volume of the second chamber, said housing being provided on its exterior wall with a hydraulic fluid reservoir (70) being part of said compensation means,  
c h a r a c t e r i z e d i n t h a t s a i d h y d r a u l i c f l u i d r e s e r v o i r ( 7 0 ) i s c l o s e d b y a d i a p h r a g m ( 7 8 ) c o v e r i n g t h e f l u i d s u r f a c e o f t h e r e s e r v o i r ( 7 0 ) , a n d i n t h a t

said reservoir (70) is located on top of said housing and said housing is mounted so that the reservoir (70) remains on top of the housing".

Dependent Claims 2 to 9 relate to preferred features of the tensioner according to Claim 1.

VI. The Appellants requested the maintenance of the patent in amended form on the basis of the documents submitted with the letter of 7 April 1994, received on 8 April 1994.

Furthermore they requested to reimburse the appeal fee according to Rule 67 EPC.

The arguments in support of these requests can be summarised as follows:

Contrary to the statement in the decision under appeal saying that the Opponents requested the revocation of the patent "in its entirety" the notice of opposition (according to Rule 55(c) EPC) restricted the extent of the opposition to the scope of the granted Claims 1 to 5, 7 to 10 and 15. It was only with the letter of 27 May 1992, filed after the end of the nine-months period, that the Opponents requested the revocation of all the then existing claims including the granted Claims 6 and 11 to 14 which were still maintained as dependent Claims 2 and 7 to 10. Consequently the decision revoking the patent in its entirety disregarded the Appellants' right to be heard in accordance with due process of law and therefore was flawed by a substantial procedural violation justifying the reimbursement of appeal fees. Concerning the question whether dependent claims not objected to during the opposition period and appendant to an independent claim objected to in the opposition

letter may be examined in respect of patentability the decision T 0293/88 makes it clear that in the absence of objections against dependent claims the opposition division is obliged to raise the question with the parties whether the subject-matter which has not been objected to is patentable. Failure to do so constituted a substantial procedural violation.

The nearest prior art document D2 discloses an open hydraulic fluid reservoir replenished by oil spray. Hence, the invention, which teaches the complete closure of the reservoir represents in essence a change of principle of operation in comparison to the principle followed in the known chain tensioner. Besides this the invention also differed from the tensioner of D2 in the fact that the claimed tensioner is essentially horizontally arranged whereas the known tensioner is vertically arranged. Document D1 is related to an "encapsulated" construction without an additional oil reservoir, so that the skilled man could not come to the idea to combine the teachings of D1 and D2.

VII. In support of their request that the appeal be dismissed the Respondents (Opponents) put forward the following arguments:

Document D2 does not only reveal the features of the precharacterising part of Claim 1 of the patent in suit but also the features concerning the arrangement of the reservoir as set out in the characterising part so that the claimed tensioner differs from that according to D2 only in the sense that the claimed "fluid reservoir is closed by a diaphragm covering the oil surface of the reservoir". The latter feature, however, is known from the tensioner according to D1 revealing a reservoir chamber covered by a diaphragm. The skilled person would

regard it as a normal design option to include this feature in the tensioner according to D2. The same result would be reached if the skilled person starts from a tensioner according to D7 (which also reveals an arrangement of the reservoir as claimed by the patent in suit) and further considers the disclosure of D1.

Concerning the request for reimbursement of the appeal fee the following remarks were made:

With letter of 27 May 1992 the Respondents extended their opposition to the claims not objected to in the letter of opposition. Thus, the Appellants clearly had the possibility to take position to the Respondents' objection and to file subsidiary requests. Therefore in the present case the facts are different from those prevailing in the decision T 293/88 concerning a case in which the validity of the claims was not challenged at all.

#### Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rules 1(1) and 64 EPC; it is admissible.
2. *Formal allowability of the amendments*
  - 2.1 Current Claim 1 comprises the features of Claim 1 as originally filed whereby further features are included which are derived from original Claims 10 and 11, the description and the Figures 2, 6 and 7 as filed.

Since it contains besides further additional features the complete teaching of one of the independent claims (Claim 5) of the patent specification it has been clearly restricted in its scope.

Present dependent Claim 2 contains the features specified in original Claim 11. The further dependent Claims 3 to 9 are derived from original Claims 13 to 15, 17 and 19 to 21.

2.2 The amendments as carried out in the description and the drawings consist essentially in the deletion of several embodiments, thus maintaining only the embodiments according to original Figures 2 and 5 to 9 and their description.

2.3 There is, therefore, no objection to the current claims under Article 123(2) and (3) EPC.

3. *State of the art*

The Board and both parties agree that document D2, on which the preamble of Claim 1 is based, is the most relevant state of art. This document (see in particular Figures 4 and 5 and columns 2, 3 and 5, 6) reveals a tensioner having a hydraulic fluid reservoir 92 fixed on the housing of the tensioner. Contrary to the tensioner according to the patent in suit the reservoir is open at its upper end to the atmosphere within the timing chain housing of the engine and is provided with a pair of inclined baffle plates 114, 116 to inhibit spillage of fluid from the reservoir by reason of centrifugal forces



resulting from turns, hard cornering and manoeuvring of automobiles on winding roads and the like. The inclination of the baffles also aids in collecting lubricating oil droplets entrained in the atmosphere of the timing chain housing so as to maintain the reservoir constantly replenished with oil. The confronting edges of the baffles form a longitudinal slit or aperture. To prevent entry of foreign matter, such as metal filings and the like, into the reservoir and from the reservoir into the dashpot cylinder of the chain tensioner, a fine-mesh filter screen 124 is provided just above or beneath the longitudinal aperture between the baffles.

Document D7 shows a tensioner with a completely open hydraulic fluid reservoir located on the top of the tensioner housing which is mounted so that it remains on the top of the housing.

Document D1 reveals a tensioner comprising a piston 38 having a hollow interior space wherein an elastic bag like membrane 62 fixed to the piston separates the hydraulic fluid from that part of the interior space which is vented to the atmosphere by a channel 60.

The further documents D3 to D6 have been cited in reference to alternative solutions claimed in the patent specification, however no longer present in the current documents of the patent in suit. These further documents are therefore not relevant and have not been referred to in the appeal proceedings.

4. *Novelty and delimitation of Claim 1*

4.1 The tensioner according to present Claim 1 is distinguished from the prior art tensioner shown in document D2 by the features defined in the characterising clause of Claim 1:

(i) the hydraulic fluid reservoir (70) is closed by a diaphragm (78) covering the fluid surface of the reservoir (70),

(ii) the reservoir (70) is located on top of the tensioner housing which is mounted so that the reservoir (70) remains on top of the housing.

As also agreed by the Respondent the document D2 clearly does not disclose the feature (i) of Claim 1 of the patent in suit.

The tensioner according to D7, which additionally differs from the claimed tensioner in respect of the construction of the tensioner piston etc., obviously does not provide a closed reservoir as claimed by the feature (i) either.

The tensioner according to D1, which indisputably does not provide a reservoir as claimed by features (i) and (ii) moreover refers to a construction having a tensioner piston which is distinguished from that defined in the precharacterising clause of Claim 1 of the patent in suit.

As the novelty of the claimed tensioner was no longer in dispute in the appeal proceeding further elucidations on this point are unnecessary.

- 4.2 The Respondents argue that the feature (ii) of Claim 1 is also known from D2, on which the preamble of Claim 1 is based.

The Board notes in this respect, that the fluid reservoir 92 according to Figure 3 of D2, if the tensioner is arranged in the timing chain housing in a manner as represented in Figure 1, is not mounted on the top of the tensioner housing 22, but rather on the side of the housing adjacent this top part (i.e. the end of the housing where the plunger 38 protrudes).

Therefore the feature (ii) of the characterising clause of Claim 1 must be considered to be not known from D2. Consequently Claim 1 is correctly delimited over the prior art according to D2.

5. *Inventive step*

- 5.1 The Board is satisfied that the arrangement and the construction of the reservoir according to the features (i) and (ii) of Claim 1 lead to a tensioner which achieves the objects (1) to (8) as listed in the introductory part of the present description, particularly that any oil leakage and entry of air are prevented.

It is true that in D2 the latter problem is also addressed. However, the solution differs from that claimed by the invention in the sense set out in the preceding points 3 and 4. The solution proposed is directed to maintaining the reservoir constantly

replenished with lubrication oil droplets entrained in the atmosphere outside the tensioner housing. The droplets are collected on the inclined baffle plates of the reservoir and enter the open reservoir through a filter screen. Thus, contrary to the teaching of the patent in suit the known solution is based on the principle of keeping the top surface of the reservoir open to receive collected oil droplets. Thus, document D2 clearly leads the skilled person away from the teaching of Claim 1 of the patent in suit.

The closed hydraulic oil system according to document D1 is based on a tensioner having a hollow piston in which is mounted a diaphragm enclosing the oil chamber provided inside the hollow piston. This tensioner does not prevent the entry of air into the system as does a piston claimed by the invention. Thus, the nearest prior art documents D1 and D2 disclose tensioners which are based on systems which are different from one another and from the claimed tensioner in their working principle and construction. In these circumstances the Board cannot see that the skilled person would have any incentive to firstly enclose the open reservoir according to D2 contrary to the express teaching thereof and secondly to execute the closure of the reservoir by a diaphragm which according to D1 has been used so far in the interior of a tensioner piston.

The Board arrives at the same result if the tensioner according to D7 is used as the starting point for the considerations in respect of inventive step. The reservoir of this tensioner indeed is located on the tensioner housing as claimed by feature (ii) of Claim 1,

however the tensioner differs in respect of its construction substantially from that according to the preamble of the patent in suit. Neither D7 nor D1 provide any indications that could encourage the skilled person to depart from their respective teachings with regard to the basic construction of the tensioner and hydraulic oil compensation system disclosed therein.

5.2 Accordingly the Board comes to the conclusion that the subject-matter of present Claim 1 cannot be derived in an obvious manner from the state of the art and therefore involves an inventive step as required by Articles 52(1) and 56 EPC.

6. Thus, Claim 1 together with its dependent Claims 2 to 9 and the amended description and drawings can form the basis for maintenance of the patent in amended form.

7. *Reimbursement of appeal fee*

7.1 In their statements filed within the opposition period the Respondents raised objections according to Rule 55(c) EPC only against the Claims 1 to 5, 7 to 10 and 15 of the patent specification. No opposition ground was raised against the dependent Claims 6 and 11 to 14 of the patent specification.

With letter of 27 May 1992 (which was received 2 June 1992, that is after the end of the opposition period as an answer to the Appellants' (Patentees) filing of amended Claims 1 to 11, received 30 January 1992) the Respondents opposed all the then existing Claims 1 to 11, the dependent Claims 2 and 4 to 10 having in essence the same wording as the originally not opposed dependent Claims 6 and 11 to 14.

The Board notes that at this state of the procedure when the Respondent had opposed all amended Claims 1 to 11, the Appellants neither filed a second set of claims (e.g. as an auxiliary request concerning the originally not opposed claims) nor presented any declaration demonstrating their willingness to accept further amendments of the claims, although they received the Respondents' reply of 27 May 1992 as enclosure to the brief communication of the EPO of 12 June 1992 with the short notice to "take note". The decision under appeal is dated 21 December 1992.

Thus, the Appellants would have had sufficient time to restrict their patent (e.g. by a subsidiary request) to the subject-matter not objected to if they had wanted to do so.

- 7.2 The decision of the Enlarged Board of Appeal G 9/91, OJ EPO 1993, 408 says under point 11 in respect to subclaims not at all attacked by an opposition that subject-matter covered by such claims may also be examined as to patentability, if the independent claim falls in opposition or appeal proceedings, provided their validity is prima facie in doubt on the basis of already available information (cf. T 293/88, OJ EPO 1992, 220), since such dependent subject-matters have to be considered as being implicitly covered by the statement under Rule 55(c) EPC.

In the decision T 293/88 (referred to in the decision G9/91 and relied upon by the Appellants) a substantial procedural violation was held to have been committed because the Opposition Division, which should assume the prima facie validity of dependent claims not objected to by the Opponent at any stage, revoked the patent without issuing a communication in advance although the patentee

had also requested the maintenance of the patent "with possible amended claims to be determined in the course of the opposition proceedings".

Contrary to the above situation, in the present case, the Patentees although having been informed about the additional objection of the Opponents concerning the further subclaims did not show any reaction but maintained their sole request (maintenance with amended Claims 1 to 11 received on 30 January 1992), so that in the present case there was no necessity under Article 113(1) EPC for the Opposition Division to announce in advance their opinion in a communication or give a further opportunity to the Patentees to declare whether they were interested in a restricted patent including subject-matter not objected to during the opposition period.

In the given circumstances, the Opposition Division had to decide upon the European patent in the text submitted by the Appellants (Article 113(2) EPC), and accordingly had to revoke the patent as a whole, since the main claims were considered as not allowable. The Board, therefore, is of the opinion that the proceedings before the Opposition Division did not suffer from a substantial violation of a principle of procedure in accordance with the EPC. Therefore, in the Boards's judgment, there is no basis for a reimbursement of the appeal fee under Rule 67 EPC.

**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 in the following version:

**Description:**

Pages 1 to 8 filed with letter of 7 April 1994

**Claims:**

No. 1 to 9 filed with letter of 7 April 1994

**Drawings:**

Sheets 1/5 to 5/5 filed with letter of 7 April 1994.

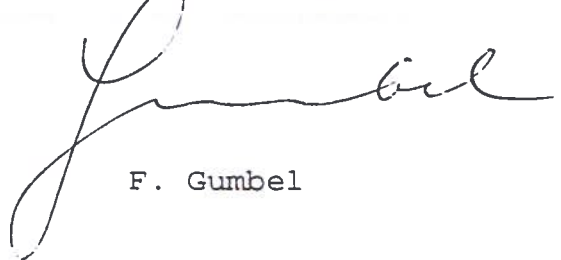
3. The request for reimbursement of the appeal fee is rejected.

The Registrar:



S. Fabiani

The Chairman:



F. Gumbel