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**Datasheet for the decision  
of 10 March 2009**

**Case Number:** T 1487/06 - 3.2.01

**Application Number:** 98928798.2

**Publication Number:** 1011994

**IPC:** B60D 1/54

**Language of the proceedings:** EN

**Title of invention:**  
Hitching means for vehicles

**Patentee:**  
Volvo Personvagnar AB

**Opponent:**  
Westfalia-Automotive GmbH & Co.KG  
ORIS Fahrzeugteile Hans Riehle GmbH

**Headword:**  
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**Relevant legal provisions:**  
-

**Relevant legal provisions (EPC 1973):**  
EPC Art. 56

**Keyword:**  
"Inventive step (yes)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 1487/06 - 3.2.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.01  
of 10 March 2009

**Appellant:** Westfalia-Automotive GmbH & Co.KG  
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**Respondent:** Volvo Personvagnar AB  
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**Party as of right:** ORIS Fahrzeugteile Hans Riehle GmbH  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 21 July 2006  
rejecting the opposition filed against European  
patent No. 1011994 pursuant to Article 102(2)  
EPC 1973.

**Composition of the Board:**

**Chairman:** S. Crane  
**Members:** P. L. P. Weber  
G. Weiss

## Summary of Facts and Submissions

- I. The appeal of opponent 01 is directed against the decision of the opposition division posted on 21 July 2006 to reject the oppositions.

The notice of appeal was filed on 25 September 2006 and the appeal fee paid on the same day.

The statement setting out the grounds of appeal was filed on 23 November 2006.

- II. Oral proceedings were held on 10 March 2009.

The appellant and the party as of right (opponent 02) requested that the impugned decision be set aside and the patent revoked.

The respondent (patentee) requested that the appeal be dismissed (main request) or, in the alternative, that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of claims 1 to 6 filed as auxiliary request with letter dated 9 February 2009.

- III. Claim 1 reads as follows:

"(a) A hitching means for vehicles of the type comprising one hitch (15) pivotally attached at the buffer beam (11, 12),  
(b) said hitch being pivotable from one in the buffer (10) retracted inoperative end position retracted in the buffer (10) to an operative end position located partly outside the buffer extended,  
(c) whereby the hitch (15) is channel-shaped

(c1) with a hitch ball arranged at a first branch end of the channel

(c2) and with a pivot axle (20) at its other branch end;

(d) the pivot axle (20) is mounted essentially horizontally in tow attachments (14) in the buffer beam (11, 12)

(d1) so that the middle part (23) of the hitch in retracted position is located essentially vertically (d2) and in extended position essentially horizontally,

(e) a locking device (22, 25, 26, 27, 29) is arranged for locking the hitch (15) in its both end positions;

(e1) the locking device comprises a locking part (26) which is connected with the hitch within a transition part between the second branch (18) of the hitch and its middle part (23),

characterized in that

(f) said locking part (26) is arranged to be conveyed by said transition part when the hitch rotates from the retracted inoperative end position to the extended operative end position

(g) and in that the locking part in the extended position of the hitch is in engagement with the locking device, so that occurring load and force stresses are taken up in said transition part."

IV. The following documents were used by the appellant in the appeal proceedings:

D2 : DE-U-29520254;

D4 : DE-U-9109699.5.

V. The arguments of the appellant can be summarised as follows:

Starting from the hitch according to figure 7 of D2, which is accepted to be the closest prior art, the only difference with the subject matter of claim 1 is that the position of the pivot axle and the position of the locking means are reversed. In the hitch according to D2 there are two points of attachment for fixing the hitch to the car and in the present invention there are also two points for fixing the hitch to the car. There is thus no difference in the force distribution in the two devices. Anyway there is no discussion of the stress distribution in the patent document. The only place where the forces entering the structure are mentioned is in paragraph [0012] of the patent which concerns operation of the locking device. In the patent specification there is no discussion of any horizontal plane nor is there any discussion of the length of the branches. Even the aim of reducing the storage size of the hitch is not clearly mentioned.

In the appellant's opinion the invention is a simple alternative construction to the construction shown in D2. It is already suggested there on page 4, last paragraph to use other swivelling angles, thus encouraging the skilled person to investigate alternatives.

VI. The arguments of the party as of right can be summarised as follows:

The wording of claim 1 is very general so that D4 can even be considered as novelty destroying. The word "channel" can designate numerous different shapes and

not only U-shapes, the "middle part" of the hitch can be anywhere since there is no information about the lengths of the branches in the claim, so that the "transition part" can be anywhere as well.

Such a general interpretation is all the more justified since in the introductory part of the patent it is mentioned that D4 shows all the features of the preamble, which would not be true if a restrictive interpretation of the terms of the claim were used.

Concerning inventive step, the hitch of D2 and the hitch of the invention are fixed at two points. Whether the one or the other of the two points is the locking means or the pivot axle is a matter of discretion for the skilled man. This will depend on the circumstances, in particular on the design of the vehicle, and on the way the hitch has to disappear underneath the vehicle or into the bumper, keeping in mind that the height of the ball is defined by a norm. In other words, the skilled man will adapt the construction of the hitch to the circumstances of use in a routine manner.

In this respect it should be noted that the respondent has to accept the general wording of its claim and that it cannot rely on a particular construction which might have some advantages as long as this construction is not claimed.

VII. The arguments of the respondent can be summarised as follows:

Concerning the interpretation of claim 1, the case law has made it clear that when considering a claim interpretations which are illogical or which make no

technical sense should be ruled out to arrive at an interpretation of the claim which is technically sensible and takes into account the whole disclosure of the patent. Present claim 1 is therefore clear as to the meaning of "channel" and as to the fact that two branches and a middle part must be present, it is also clear where the pivot axis has to be positioned. The subject-matter of claim 1 is thus new over D4.

When horizontal forces are applied to the hitch according to figure 7 of D2, these forces create a turning moment around the pivot axis. Claim 1 provides a geometry which allows a construction in which the ball and pivot axis are generally in the same horizontal plane with the beneficial effect that when braking and accelerating the horizontal forces pass through the axis and the locking means is almost not loaded. The fact that the length of the branches is not specified in the claim is not detrimental since it is enough when it is the claimed subject-matter which allows a particular advantageous effect to be obtained. Starting from the hitch according to D2 the objective problem can be seen to provide a compact hitch construction with a favourable distribution of forces. None of the cited documents hints at the claimed solution, D2 already shows several other possibilities to design a retractable hitch so that if the compactness and the distribution of forces is a problem in the embodiment according to figure 7 the skilled man can try out one of these other possibilities. In any case there would be difficulties in transferring the locking means of figure 7 into the position of the pivot axis.

Even if the pivot axis and the locking means could be reversed there is nothing which would lead the skilled man to do it.

## **Reasons for the Decision**

1. The appeal is admissible.
  
2. *Novelty*

The party as of right considered the subject-matter of claim 1 not to be novel over D4 when the wording of the claim is interpreted in its most general way.

The board cannot agree with the party as of right. In the board's judgement, when the meaning of a term in a claim is at stake, the first source of interpretation should be the patent itself. A patent is a teaching on how a problem existing in the state of the art can be solved. Hence, as a rule the vocabulary used in a patent is unitary and depends on the technical field of the invention and on the writer's own preferences. A term in a claim can therefore not be given a particular specific or a very general meaning which, when considering the whole of the patent, does not appear to have been meant.

While it is accepted that the term "channel-shaped" is normally not used to designate a U-shape, in the present case each time the word channel is used in the description it designates a U-shaped element, so that when reading the claim this cannot be ignored. For instance the element 12 which is a part of a U-shaped



beam on which the whole hitch system is attached is called channel 12, see paragraph [0009]. This is the same for the hitch 15 shown in the drawings which in the description is said to have the form of a channel while it is represented in a U-shape in the drawings. For this reason, the board considers that it is clear that the skilled man reading the claim in the light of the description will understand "channel-shaped" as meaning U-shaped.

The same is true for the existence of two branches and a middle part. The party as of right suggests that the length of one of the branches or even of both could be close to zero and that the transition part between the branch and the middle part could be anywhere.

Such an interpretation is not only against the disclosure of the description but also against a common sense reading of the claim. The claim requires in its feature (c) that the hitch is channel-shaped and requires in its feature (c1) that a hitch ball is arranged at a first branch end of the channel and in its feature (c2) that a pivot axle is arranged at its other branch end. In the judgement of the board this means that not only a branch with a hitch ball and a branch with a pivot axle must be present and they must have a minimum length to be perceived as branches but also that there are only two branches, namely the two branches of the U.

The party as of right also suggested that the claim must be interpreted in a general way as in the patent D4 is considered to disclose the preamble of claim 1.

The board notes in this context that the reference to D4 in the patent specification was added at the

suggestion of the examining division and there is no indication that its accuracy was specifically approved by the respondent. Be that as it may, the board has in any case to make its own objective assessment of the content of the claim.

The main element of the hitch according to D4 is generally L-shaped with the hitch ball disposed at the end of the first limb of the "L" and the pivot axle at the end of the second limb. The hitch also has a locking nose which extends away from the pivot axle substantially at right-angles to the second limb of the "L" and in the opposite direction to the first limb of the "L". Overall therefore the hitch could be considered as shaped like an "S", a "Z" or perhaps even more accurately as a number "2". Whichever designation one prefers it is certainly not "channel-shaped" (i.e. U-shaped) with hitch ball and pivot axle disposed on the ends of opposite branches of the "U" as required by the claim when this is properly understood.

The party as of right sought to see in the L-shape both the channel as a whole on the one hand and the first branch and middle part of the channel on the other. The second "branch" was argued to be constituted by a small region around the pivot axle and the "transition part" was argued to be constituted by a short section of the second limb contiguous with the locking nose. This argument is imaginative but has little else to recommend it; it manifestly distorts the meaning of the terms "first branch", "second branch", "middle part" and "transition part" as these would be understood by the skilled man.

The subject-matter of claim 1 is thus novel with respect to D4.

3. *Inventive step*

The parties agree that the closest prior art for the evaluation of inventive step is shown in D2.

The aim of the invention in D2 is to propose a hitch which can easily be retracted when it is not used so that the hitch does not cause any inconvenience. Several embodiments are described: A first one (see figures 1 to 6) according to which the hitch can be displaced longitudinally, a second one (see figures 7 and 8) according to which the hitch is pivoted around a horizontal axis and a third one (see figures 9 and 10) according to which the hitch is pivoted around a vertical axis.

The embodiment closest to the subject-matter of claim 1 is the one according to figures 7 and 8. The hitch according to these figures is a U-shaped hitch in which the hitch ball is arranged at the end of the first branch of the U and a locking means is arranged at the end of the second branch of the U. The pivot axle is arranged at the transition part between the second branch of the hitch and its middle part. The system comprises an electric motor and a series of gears allowing the hitch to be brought automatically from its vertical rest position into its horizontal active position and vice versa. This automatic device also automatically activates the locking means when the hitch is in its active position.

Document D2 is silent about the location where the hitch should be mounted, in particular it does not

mention that the hitch could be mounted at the buffer beam. It also does not mention that the hitch is somehow locked in its rest position but only mentions that it is locked in its active position (see e.g. claim 8).

Thus, the following differentiating features are in claim 1 and not in the hitch mechanism according to figures 7 and 8 of D2:

- (a) the hitch is pivotally attached at the buffer beam,
- (b) the hitch is pivotable from one in the buffer retracted inoperative end position retracted in the buffer to an operative end position located partly outside the buffer extended,
- (c) the hitch is U-shaped and has a pivot axle arranged at its second branch end;
- (d) the pivot axle is mounted essentially horizontally in tow attachments in the buffer beam
- (e) a locking device is arranged for locking the hitch in both its end positions;
- (e1) the locking device comprises a locking part which is connected with the hitch within a transition part between the second branch of the hitch and its middle part,
- (f) the locking part is arranged to be conveyed by said transition part when the hitch rotates from the retracted inoperative end position to the extended operative end position
- (g) the locking part in the extended position of the hitch is in engagement with the locking device, so that occurring load and force stresses are taken up in said transition part.

Differentiating features (a), (b) and (d) concern the location of attachment of the hitch to the car, and the attachment of the hitch to the buffer allows to hide the buffer completely in its rest position so that when seen from the back the aesthetic appearance of the car is not spoiled. Differentiating feature (e) concerns a better locking of the hitch also in its rest position whereas differentiating features (c), (e1), (f) and (g) concern the location of the locking means and the pivot axle. The location as claimed allows for a construction with the same lengths of both branches so that the hitch ball and the pivot axle are generally at the same height which will have the effect that when braking heavily or when accelerating heavily the horizontal force applied on the hitch ball will directly be applied to the pivot axle and led into the car body which in turn will avoid such heavy forces being directly applied to locking means as in the prior art construction according to figures 7 and 8 of D2.

Considering the above described effects of the differences the board considers that the objective problem can be seen as the provision of a hitching means which is compact and which allows for a more favourable distribution of forces.

It is a constant desire of the skilled man to try and reduce the inconvenience of such accessories as a hitching means and to try and obtain a more favourable distribution of forces since such optimisation of the distribution of the forces allows a more economical design in terms of amount of material used and thus a reduction of the weight of the car.

This problem is also based on the originally disclosed application documents as it is mentioned for example in paragraph [0005] (identical to the originally filed one) that the purpose of the invention is to achieve a hitch which has a low weight, which can be used in the crossbeam of the car, which is so arranged that it gives the minimum possible stress on the attachment, which can be easily brought inside the buffer cover and which can take up draw forces and braking forces.

However the claimed solution neither is suggested by the cited prior art nor is it an obvious constructional amendment.

When starting from the prior art according to figures 7 and 8 of D2 and wanting to improve the distribution of forces the skilled man has numerous options as for instance changing the length of the branches, changing the type of locking means (which in the case of the embodiment shown in figure 8 clearly weakens the second branch as it contains a number of holes to accommodate the gears) or choosing another of the alternative constructions which are described in D2, to name but some of them.

The appellant suggested that it would be obvious to invert the location of the locking means and the pivot axle of the embodiment of figure 7 as for the skilled man the two options were simple alternatives he would consider when adapting the hitching means to the car to which it has to be attached. Additionally the skilled man was given a hint towards that solution by the paragraph on page 4 of D2 pointing to the use of different swivelling angles.

While it is accepted that the skilled man has to adapt the hitching means to the car on which it is to be mounted, it cannot be accepted that the two options are true alternatives because in the case of the two branches having the same lengths and a horizontal force being applied to the hitch ball, this force is transmitted to the pivot axle in the construction according to the invention whereas it is transmitted into the locking means in the construction according to D2. In addition in the embodiment according to figure 7, if the pivot axle were at the position of the locking means, the vertical position of the hitch would be a different one, changing the compactness of that construction.

The variation of the swivelling angle pointed to at the end of page 4 of D2 concerns the motor driven arrangement. It is simply mentioned that the driving arrangement could be adapted to other swivelling angles than the one of 90° cited in the preceding paragraph. Hence this paragraph cannot possibly be a hint towards changing the position of the pivot axle.

The board thus judges that when starting from D2 and using the teaching of D2 and his general knowledge, the skilled man would not arrive in an obvious manner to the subject-matter of claim 1.

Also D4 which suggests a different, non U-shaped, construction for a hitching means integrated in the buffer means cannot bring the skilled man to the solution according to claim 1.

For the reasons cited above the board judges that the subject-matter of claim 1 is not obvious for the man skilled in the art and therefore it fulfils the requirements of Article 56 EPC 1973.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

A. Vottner

S. Crane