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**Datasheet for the decision
of 18 February 2019**

Case Number: T 0213/17 - 3.2.01

Application Number: 10770621.0

Publication Number: 2616263

IPC: B60K17/14, E02F9/22, B60K7/00

Language of the proceedings: EN

Title of invention:
VEHICLE HAVING DRIVING AND STEERING WHEELS ACTUATED BY
HYDRAULIC MOTORS

Patent Proprietor:
Renault Trucks

Opponent:
MAN Truck & Bus AG

Headword:

Relevant legal provisions:
EPC Art. 123(2), 83, 54, 56

Keyword:

Amendments - extension beyond the content of the application
as filed (no)

Sufficiency of disclosure - (yes)

Novelty - (yes) - public prior use - burden of proof

Inventive step - (yes)

Decisions cited:

T 1438/17, T 1404/05

Catchword:



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Case Number: T 0213/17 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 18 February 2019

Appellant: MAN Truck & Bus AG
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Representative: v. Bezold & Partner Patentanwälte - PartG mbB
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Respondent: Renault Trucks
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Representative: Lavoix
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 23 November
2016 rejecting the opposition filed against
European patent No. 2616263 pursuant to Article
101(2) EPC.**

Composition of the Board:

Chairman G. Pricolo
Members: S. Mangin
O. Loizou

Summary of Facts and Submissions

- I. The appeal was filed by the opponent against the decision of the opposition division to reject the opposition filed against the patent in suit (hereinafter "the patent").
- II. The opposition division decided that:
- the subject-matter of the claims as granted did not extend beyond the content of the application as filed; and
 - the patent disclosed the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art; and
 - the subject-matter of the claims was novel and involved an inventive step.
- III. Oral proceedings were held before the Board on 18 February 2019.
- IV. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained in amended form on the basis of one of the first to fifth auxiliary requests as filed with its reply to the grounds of appeal (corresponding to auxiliary requests 1-5 filed during opposition proceedings).

- V. Claim 1 of the main request reads as follows:

A vehicle having:

- a frame (2);

- at least two driving and steering wheels (4) pertaining to a same axle (7), each wheel (4) being actuated by a hydraulic motor (8) arranged with said wheel and each wheel being articulated with respect to the frame around a steering axis;
 - a hydraulic circuit (10) capable of carrying a fluid under pressure to actuate the hydraulic motors (8), said hydraulic circuit (10) comprising a static part (18) which is mounted on the vehicle frame (2) and which is hydraulically connected to each of said hydraulic motors (8) by means of at least two main lines (31,32);
- characterized in that each main line comprises:
- a first rigid pipe (35) extending from the static part (18) and having an opposite free end portion (41);
 - a second rigid pipe (36) extending from a port of the corresponding hydraulic motor (8) and having an opposite free end portion (46);
 - a flexible hose (37) connecting the free end portions (41, 46) of the first and second rigid pipes (35, 36);
- said two free end portions (41, 46) of the first and second rigid pipes (35, 36) of a same main line (31, 32) being oriented substantially in a same operating plane (P1, P2) which is substantially horizontal and perpendicular to the steering axis, such that, when said wheels (4) are steered between the extreme left and right steering positions, the flexible hose (37) of each main line is deflected while remaining substantially in said operating plane (P1, P2).

VI. In the present decision, reference is made to the following documents:

- D3-D7: prior publication of the Optitrack truck
- D8: US 3154164
- D10: DE 1811886

VII. The appellant's arguments can be summarised as follows:

Added subject-matter

The introduction of "horizontal and" in claim 1 introduces subject-matter which extends beyond the application as originally filed for the following reasons:

P.11, 1.11-13 of the description cannot form the basis for the amendments as the feature "substantially horizontal" is disclosed in combination with other features that are structurally and functionally related. Thus introducing "substantially horizontal" in isolation from the following features:

- substantially vertical
- caster and camber angles
- operating planes (plural) P1 and P2

leads to an unallowable intermediate generalisation.

Also in light of p.3, 1.1-7, claim 1 does not implicitly define the steering axis being substantially vertical.

Moreover, the feature "substantially horizontal" on p. 11, 1.11-13 is disclosed in relation to the figures, and the related detailed description, which comprises further features such as the planes P1 and P2 being distinct, substantially parallel and vertically offset (p.11, 1.4-10).

The appellant referred the board to various decisions and in particular to T1438/17 dealing with unallowable intermediate generalisation to support the above argumentation.

P.3, 1.1-7 does not disclose that the operating plane is exactly horizontal and exactly perpendicular to a steering axis, inclined at more than 10°, which is covered by the present claim 1. Moreover the expression "almost horizontal" on p.3, 1.1-7 has not the same meaning as "substantially horizontal" and cannot therefore be the basis for the amendment.

Finally p.3, 1.1-7 and p.11, 1.11-13 disclose a camber and caster angle in combination. There is no support for either a camber angle alone or a caster angle alone in the application as originally filed, which is covered by the present claim 1.

Thus the amendments made to claim 1 do not meet the gold standard as set out in G2/10.

Sufficiency of disclosure

The unclear wording of the claim, in particular the use of the term "substantially" in the following expressions "oriented substantially in a same operating plane", "substantially horizontal", "substantially perpendicular" and "remaining substantially in said operating plane" does not enable the skilled person to carry out the invention over the whole scope of the claim. Especially the invention cannot be carried out when the operating plane is exactly horizontal and at the same time exactly perpendicular to an inclined steering axis. Reference is made to the case T1404/05.

Moreover it is not technically feasible that the flexible hoses stay in an horizontal operating plane when the wheels are steered or when the vehicle springs.

Finally the free ends of the portions 41 and 46 cannot be free when a flexible hose is attached.

Novelty

All the features of claim 1 are disclosed in the OptiTrack prior publications (documents D3-D7). Moreover the video D6 shows at 01:55 minute the OptiTrack truck on the public road and at 05:25 the proof that the OptiTrack truck had been sold. The Opti-track was therefore made available to the public before the filing date of the patent.

Since the proprietor has access to all information concerning the said public prior use, the burden of proof is shifted to the proprietor to prove that the prior use did not take place for example by providing an affidavit.

Inventive step

D8 discloses all the features of claim 1 except the second rigid pipe extending from the port of the corresponding hydraulic motor and having an opposite free end portion.

The problem to be solved in D8 is the same as in the patent namely to avoid the twisting of flexible hoses. Starting from D8, the skilled person would look into the OptiTrack prior publication and insert the stainless steel pipes extending from a port of the hydraulic motor of the OptiTrack in the vehicle of D8 and would thereby arrive at the subject-matter of claim 1.

Moreover should the OptiTrack prior publications D3-D7 be regarded as separate publications, their combination would render claim 1 obvious.

VIII. The respondent's argument can be summarised as follow

Added subject-matter

The description of the patent (p.6, 1.14-15) discloses that "the invention is not limited to the specific embodiments". Moreover the features presented in the detailed description are optional features and the mere fact that they are presented together in the same embodiment does not mean that they are inextricably linked. In the present case the feature "substantially horizontal" is not inextricably linked to the other features and p.3, 1.1-7 provides a basis for generalising the feature "substantially horizontal".

The steering "axis being substantially vertical" is implicit in claim 1 as the operating plane is substantially horizontal and also substantially perpendicular to the steering axis.

Sufficiency of disclosure

The patent specification discloses a least one way to put the invention into practice as can be seen from the detailed description provided on pages 7-12.

The skilled person would assess the scope of claim 1 whereby the operating plane is substantially horizontal and substantially perpendicular to the steering axis and would thus understand that the caster and the camber angles of the steering axis are limited. The

skilled person would disregard extreme values of the caster and camber angles.

Regarding the contested technical feasibility of the flexible hoses remaining in a horizontal operating plane, when the wheels are steered or when the vehicle springs, [0056] illustrates the situation when the end portions of the rigid pipes are offset, but remaining on average in the same operating plane, so substantially in the operating plane. In light of this paragraph the skilled person would be able to reproduce this feature.

Finally the argument regarding the impossibility to connect the free end portions of the rigid pipes to the flexible hoses because said ends would no longer be free is not reasonable. The skilled person would immediately understand that the end portions of the rigid pipes are free before being connected.

Novelty

Documents D3 to D7 are independent disclosures such that the pictures D4.1 and D4.2 and the pictures D4.3 and D4.4 are not necessary pictures of the same truck. Moreover the truck in the video D6 and in the video D7 is not necessarily the same and not necessarily corresponding to the one on the pictures in D3 and D4.

The OptiTrack prior publication as shown in D3-D7 does not disclose the hydraulic circuit comprising a static part mounted on the vehicle frame and the static part hydraulically connected to each of said hydraulic motors by means of at least two main lines as well as all the features of the characterising portion of claim 1. The subject-matter of claim 1 is therefore novel.

Inventive step

The subject-matter of claim 1 differs from D8 in that:

- each line comprises a second rigid pipe extending from a port of the corresponding hydraulic motor and having opposite free end portions,
- the flexible hose of each main line connects the free end portion of the first rigid pipe to the free end portion of the second rigid pipe (and not directly to the hydraulic motor), and
- the two free end portions of the first and second rigid pipes of a same main line are oriented substantially in a same operating plane which is substantially horizontal and perpendicular to the steering axis, such that, when said wheels are steered between the extreme left and right steering positions, the flexible hose of each main line is deflected while remaining substantially in said operating plane.

The problem to be solved is to provide an alternative solution to reduce stresses undergone by the flexible hoses.

There is no incentive for the skilled person to modify the tractor of D8 to arrive at the vehicle of claim 1 since the above mentioned features would not provide any advantages. On the contrary the increasing number of connections may increase the risks of leaking and reducing the length of the flexible hose may limit the height adjustment of the wheels of the tractor.

Even if the skilled person would combine D8 with the teaching of D3-D7, and introduce the stainless steel tube, he would not know the length of the flexible tube which should be replaced by the stainless steel tube.

Reasons for the Decision

1. Added subject-matter - Article 100(c) EPC

1.1 The subject-matter of claim 1 of the patent as granted does not extend beyond the content of the application as originally filed.

The terms "horizontal and" have been introduced into claim 1 as follows:

"(...) said two free end portions (41,46) of the first and second rigid pipes (35, 36) of a same line (31, 32) being oriented substantially in a same operating plane (P1, P2) which is substantially **horizontal and** perpendicular to the steering axis".

The introduction in claim 1 of the operating plane being "substantially horizontal" is derivable directly and unambiguously from the content of the application as originally filed, in particular p.11, 1.11-13 and p. 3, 1.1-7 but also the detailed description as a whole and the figures. The skilled person is not confronted with new information with the introduction of this feature.

1.2 P.11, 1.11-13 discloses "As the steering axis of each wheel is substantially vertical (with the approximation due to the camber and caster angles) the operating planes P1 and P2 are substantially horizontal"

Although located in the detailed description of the invention, this passage is a general teaching where the feature "substantially horizontal" is disclosed in combination with the steering axis of the wheels being substantially vertical. It is to be noted that claim 1

defines implicitly that "the steering axis of each wheel is substantially vertical". Indeed if the operating plane is substantially horizontal and perpendicular to the steering axis, then inevitably the steering axis is substantially vertical.

No other features are inextricably linked to the feature "substantially horizontal" such that the alleged intermediate generalisation would be justified.

The feature in parenthesis: "(with the approximation of the camber and caster angles)" is an explanation as to why the steering axis of each wheel is substantially vertical. The camber and the caster angles do not need to be inserted in claim 1.

Moreover it is to be noted that in the characterising portion the singular is used for the operating plane because the characterizing portion starts with "each main line". Thus to each line is associated one operating plane.

Finally the fact that the operating planes are distinct and substantially parallel and vertically offset is not intrinsically linked to the fact that the operating plane is horizontal and so this feature does not need to be introduced in claim 1 either.

- 1.3 The above analysis is supported by the passage on p.3, 1.1-7 of the patent application as originally filed. This passage is a general teaching, whereby the steering axis being substantially vertical ("not perfectly vertical", "appear vertical") is disclosed in combination with the operating plane being substantially horizontal ("almost horizontal"). It appears that the skilled person reading this passage

would directly and unambiguously understand the meaning of the terms "not perfectly vertical" and "appear vertical" as well as "almost horizontal" as meaning respectively "substantially vertical" and "substantially horizontal".

- 1.4 The appellant is of the opinion that p.3, 1.1-7 does not support the steering axis exhibiting a caster angle alone or a camber angle alone, which is in his view covered by the present claim 1.

This line of argumentation cannot be followed, the passage of p.3, 1.1-7 discloses that the steering axis may exhibit a caster and a camber angle. The narrow interpretation of this passage whereby it would only disclose a caster and a camber angle in combination, both angles being different to null simultaneously cannot be acknowledged. The passage does not rule out the caster angle or the camber angle to be equal to null.

- 1.5 The appellant also cites T 1438/17, paragraph 1.3 which refers to the established case law of the Boards of Appeal, whereby extracting an isolated feature from an originally disclosed combination of features and using it to delimit the claimed subject-matter can only be allowed, if there is no clearly recognisable functional or structural relationship among the features of the combination.

In the case T 1438/17 the Board acknowledged that the feature "weld" had been introduced into claim 1 in isolation from the feature "electron beam welding" originally disclosed in combination. The two features being functionally and structurally linked, the Board concluded that it contravened Article 123(2) EPC.

The same principle as in case T 1438/17 applies in the present case. In the present case the operating plane being substantially horizontal is structurally and functionally linked to the steering axis being substantially vertical, which is implicit in claim 1. No further features are functionally and structurally linked to the operating plane being substantially horizontal and so unlike in the cited case, the introduction of "substantially horizontal" in claim 1 does not contravene Article 123(2) EPC.

2. Sufficiency of disclosure - Article 100(b) EPC

2.1 The Board finds that the invention is disclosed in a manner sufficiently clear and complete to be carried out by a skilled person in the art.

With respect to sufficiency of disclosure, the relevant question is whether the patent in suit provides sufficient information which enables the skilled person to reproduce the invention over the whole scope of the claim, taking into account common general knowledge at the date of filing of the application.

2.2 Firstly the situation envisaged by the appellant whereby the operation plane would be horizontal and at the same time perpendicular to a leaning steering axis is not covered by claim 1. Claim 1 defines the operating plane being substantially horizontal and perpendicular to the steering axis. The use of the word "substantially" accommodates for the fact that the steering axis may not be exactly vertical due to the caster and camber angles.

2.3 Secondly claim 1 defines the two free end portions of the first and the second rigid pipes of the same line being oriented substantially in a same operating plane. [0056] of the patent specification acknowledges that the ends of the pipe may be offset however the difference in height remains low. Claim 1 defines end portions being oriented substantially in a same operating plane, the skilled person would therefore in the light of [0056] be able to carry out this feature.

2.4 The skilled person reading claim 1 would understand that once the flexible hose is connected to the free end portions of the rigid pipes, the free end portions are not free anymore.

2.5 To support his argumentation, the appellant cited the catchword of T 1404/05: "Where a claim is vaguely formulated and leaves several constructions open as possibilities, and on one of these constructions part of the subject-matter claimed is not sufficiently described to be carried out, the claim is open to objection under Article 100(b) EPC".

In T 1404/05, the situation is quite different from the present case. In T 1404/05, the length of the fibers is not clearly defined, and can be interpreted in two ways, one interpretation resulting in at least part of the claimed subject-matter not being capable of being put into practice.

In the present case there is not such an ambiguous definition of a parameter. The use of the term "substantially" is necessary to accommodate the steering axis not being strictly vertical but exhibiting a potential caster and camber angle as acknowledged on [0010] and [0054] as well as the

steering and springing of the wheels of the vehicle as acknowledged in [0056].

- 2.6 Finally, it is noted that although as stated in [0010] of the patent the steering axis may exhibit a caster and a camber angle both of which are in most cases inferior to 10 degrees, still these angles only take small values such that the steering axis will appear to be vertical and the operating plane in which the flexible hose should extend will be almost horizontal (see the second sentence in [0010] of the patent). In other words, it is clear for a skilled person that the term "substantially" is used in the claim to cover all situations that arise in practice due to the presence of small caster and camber angle (the steering axis being thus "substantially" vertical and the operating planes "substantially" horizontal), not however for covering hypothetical and theoretical situations in which the steering axis is far from being vertical and the operating planes far from being horizontal.

3. Novelty - Articles 100(a) and 54 EPC

Irrespective of whether the optiTrack prior publication (supported by documents D3-D7) and the optiTrack prior use (D6) are to be considered as prior art, they do not show all the features of claim 1.

- 3.1 At least the features of the characterising portion of claim 1 are not directly and unambiguously disclosed in D3-D7.

-Various pipes can be seen on the pictures in D3-D7 but it cannot be clearly determined which pipes are the hydraulic pipes being parts of the hydraulic circuit that actuates the hydraulic motors. For example on pictures D3.4g or D3.4h, it cannot be directly and

unambiguously derived which pipe is connected to the hydraulic motor.

- Moreover the flexible hose connecting the rigid pipes is not disclosed in D3-D7. This feature is not implicit as argued by the appellant as other means to flexibly connect rigid pipes may be used. Reference is made to D10.

- Finally it cannot be considered that the last feature of claim 1 does not imply any limitation at all due to the use of the word "substantially". In D3-D7, there is no disclosure of the two rigid pipes and the flexible hose together on one picture such that the operating plane and the position of the flexible hose cannot be determined in D3-D7.

3.2 The alleged prior use of the OptiTrack by the appellant on a public road (video D6 1:55 min) and the sale of Optitrack (video D6 5:25) are not novelty destroying for the following reasons:

First it is unclear which Truck is shown on the video D6 in particular whether it is the same as the Truck shown on the pictures in D3-D4. The characteristics of the truck in the video are therefore unclear.

Moreover assuming that the truck was on the public road, a person on the side of the road would not have been in a position to see the hydraulic system and its characteristics.

As for the sale, it cannot be inferred from the statement in the video that a truck was sold, what were exactly all the features of the truck sold, i.e. whether it had all the features of claim 1.

3.3 Moreover, the evidence in support of the prior use by the truck being driven on the road or by sale is insufficient for concluding that the alleged truck was effectively made available to the public.

The appellant is of the opinion that he has provided convincing evidence that the prior use took place and that the subject-matter of claim 1 is not novel over D3-D7 on the basis of the balance of probability. The burden of proof is thus in his view shifted on the respondent, who has all the evidence in his hands as he published the OptiTrack truck on the Internet (D3-D7).

This argument cannot be followed. According to the Boards' established case law each of the parties to the proceedings bears the burden of proof for the facts it alleges. If a party, whose arguments rest on these alleged facts, does not discharge its burden of proof, this is to the detriment of that party, who may not shift the onus of proof onto the other party.

In the Board's view, the appellant has not submitted any valid evidence in support of the allegation that a public prior use of the OptiTrack system having all the features of claim 1, either by sale or by displaying it on a public road, effectively took place. The reference to specific passages in the above-mentioned video can only be regarded as indication rather than proof. In particular, the mere statement by a person in the video that the truck as shown was sold, without any further proof regarding the details of the sale, cannot be regarded as valid evidence of a sale, let alone of a delivery of the truck to the customer before the filing date of the patent in suit, such that the customer was actually in possession of the truck before the filing date.

4. Inventive step - Article 56 EPC

The subject-matter of claim 1 involves an inventive step in view of the OptiTrack prior publication (combination of documents D3-D7) and in view of D8 in combination with the OptiTrack prior publication.

4.1 Combining the OptiTrack publications (Documents D3-D7) would not lead to the subject-matter of claim 1 as can be seen from the above novelty discussion. The features of the characterising portion would still be missing.

4.2 Starting from D8, the subject-matter of claim 1 differs from D8 at least in that each line comprises a second rigid pipe extending from a port of the corresponding hydraulic motor and having opposite free end portions.

Assuming that the objective technical problem starting from D8 is as stated by the appellant, namely to avoid the twisting of flexible hoses and thus reduce stress undergone by the flexible hoses, there is however no incentive for the skilled person to look into the OptiTrack prior publication and to modify the flexible pipe going to the hydraulic motors arranged in the wheel. Indeed, the properties and advantages of the hydraulic system of the OptiTrack in terms of reducing stresses undergone by the flexible hoses - assuming that any are present - cannot be derived from the pictures and videos of the prior publication (D3-D7).

Anyhow, even if the skilled person were to combine the teaching of D8 with the prior publication of the OptiTrack (D3-D7) their combination would not lead to the subject-matter of claim 1. In fact, as mentioned above in respect of novelty, the OptiTrack prior publication does not disclose directly and non-

ambiguously the above-mentioned distinguishing feature according to which each line comprises a second rigid pipe extending from a port of the corresponding hydraulic motor and having opposite free end portions.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



S. Sánchez Chiquero

G. Pricolo

Decision electronically authenticated