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D E C I S I O N
of 20 November 2001

Case Number: T 0398/00 - 3.2.1

Application Number: 88907051.2

Publication Number: 0375705

IPC: B66F 9/065

Language of the proceedings: EN

Title of invention:

A lifting truck with a telescopic lifting arm

Patentee:

MERLO S.P.A. INDUSTRIA METALMECCANICA

Opponent:

MANITOU BF, Société Anonyme
ARTIX LIMITED
FDI-SAMBRON

Headword:

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Relevant legal provisions:

EPC Art. 84, 123(2)

Keyword:

"Clarity (no)"

"Added subject-matter (yes) - inclusion in the claims of
features contained in the drawings"

Decisions cited:

T 0169/83

Catchword:

-



Case Number: T 0398/00 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 20 November 2001

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 10 February 2000
revoking European patent No. 0 375 705 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: S. Crane

Members: M. Ceyte
G. Weiss

Summary of Facts and Submissions

- I. European patent No. 0 375 705 was granted on 4 November 1992 on the basis of European patent application No. 88 907 051.2.
- II. The granted patent was opposed by the present respondents (opponents 01 to 03) on the grounds of lack of novelty and/or inventive step (Article 100(a) EPC) and inadmissible addition of subject-matter (Article 100(c) EPC).
- III. With its decision posted on 10 February 2000 the Opposition Division revoked the patent. The grounds given for the decision were that the respective amended single claims according to the main and first and second auxiliary requests were unclear (Article 84 EPC) and contained added subject-matter (Article 123(2) EPC).

The claim according to the main request reads as follows:

"A lifting truck of the type comprising a wheeled structure carrying a telescopic lifting arm (22) articulated to the rear of the structure about a horizontal axis perpendicular to the longitudinal axis of the truck, an internal combustion engine (16) supported by the structure for the propulsion of the truck and for the operation of the arm (22), and an operating and driving cab (10) situated on one side of the structure to one side of the longitudinal axis (A-A), said cab being situated at an easily accessible low position on the truck, the internal combustion engine (16) being longitudinally placed, that is with

its shaft parallel to the longitudinal axis (A-A) of the truck, in a housing (12) which is situated on the opposite side of the longitudinal axis (A-A) to the cab (10), said housing (12) being spaced from the cab (10) so that facing surfaces of the housing (12) and of the cab (10) define the two side walls of a longitudinal channel-shaped space (14) having a width at least equal to the width of the lifting arm (22), a portion of the length of the lifting arm being accommodated, in the completely lowered position of the arm, in said space (14) between said facing surfaces of the engine housing and of the cab, characterised in that the lifting arm (22) is articulated to the structure of the truck about said horizontal axis which is situated below the horizontal plane of view of the operator seated in the driving cab (10) and the major portion of the height of the engine (16) contained in said housing (12) is situated below a plane tangent to the top of the wheels, whereby when the lifting arm (22) is in its lowermost position there is no interference from the lifting arm with a complete circular visibility, in said horizontal plane of view, of the operator seated in the driving cab (10), while interference with the visibility to the rear and lateral areas is minimised."

In the claim according to the first auxiliary request the following passage has been inserted after "easily accessible low position on the truck,":

"the floor of the cab being situated under a plane tangent to the top of the wheels,"

In the claim according to the second auxiliary request it is stated in the preamble that the truck includes a steering wheel and in the characterising clause of the

claim the statement that the axis of articulation of the lifting arm is "situated below the horizontal plane of view of the operator seated in the driving cab (10)" has been replaced by "situated below a horizontal plane tangent to the top of the steering wheel."

IV. A notice of appeal against this decision was filed on 5 April 2000 and the fee for appeal paid at the same time.

The statement of grounds of appeal was filed on 7 June 2000. With this statement the appellants (proprietors of the patent) submitted further amended claims according to third and fourth auxiliary requests.

The claim according to the third auxiliary request reads as follows:

"A lifting truck of the type comprising:

a wheeled structure carrying a telescopic lifting arm (22) articulated to the rear of the structure about a horizontal axis perpendicular to the longitudinal axis (A-A) of the truck,

an internal combustion engine (16) supported by the structure for the propulsion of the truck and for the operation of the arm (22), said engine having a length, a width and a height,

and an operating and driving cab (10) situated on one side of the structure to one side of the longitudinal axis (A-A), said cab having a steering wheel and extending below a plane tangent to the top of the wheels and thus situated at a low position on the truck,

the internal combustion engine (16) being

longitudinally placed, that is with its length parallel to the longitudinal axis (A-A) of the truck, in a housing (12) which is situated on the opposite side of the longitudinal axis (A-A) to the cab (10),

said housing (12) being spaced from the cab (10) so that facing surfaces of the housing (12) and of the cab (10) define the two side walls of a longitudinal channel-shaped spade (14) having a width at least equal to the width of the lifting arm (22),

a portion of the length of the lifting arm being accommodated, in the completely lowered position of the arm, in said space (14) between said facing surfaces of the engine housing and of the cab,

characterised in that

the lifting arm (22) is articulated to the structure of the truck about said horizontal axis which is situated below a horizontal plane tangent to the top of said steering wheel, and

the major portion of the height of the engine (16) contained in said housing (12) is situated below a plane tangent to the top of the wheels,

whereby when the lifting arm (22) is in its lowered position there is no interference by the lifting arm with a complete circular visibility in said horizontal plane tangent to the top of said steering wheel, while interference with the visibility to the rear and lateral areas is substantially prevented."

- V. In a communication pursuant to Article 11(2) RPBA, posted on 4 April 2001, the Board referred, with reference to the decision T 169/83 (OJ EPO 1985, 193) to the particular conditions which need to be fulfilled when, as in the present case, the sole basis for features added to a claim, is purported to be found in the drawings.

VI. With a letter dated 29 May 2001 the appellants submitted a claim according to a fifth auxiliary request.

VII. Oral proceedings before the Board were held on 20 November 2001.

At the oral proceedings the appellants submitted revised versions of the claims according to the fourth and fifth auxiliary requests.

In the revised claim according to the fourth auxiliary request the reference in the preamble of the claim according to the third auxiliary request to the cab being "and thus situated at a low position on the truck" has been replaced by "the distance between the horizontal plane tangent to the top of the steering wheel and the plane tangent to the top of the wheels being appreciably less than the distance between the plane tangent to the top of the wheels and the ground". In the characterising clause the reference to "a horizontal plane tangent to the top of the steering wheel has been replaced by "said" horizontal plane etc.

The revised claim according to the fifth auxiliary request reads as follows:

"A lifting truck of the type comprising:

-a wheeled structure carrying a telescopic lifting arm (22) articulated to the rear of the structure about a horizontal axis (22a) perpendicular to the longitudinal axis (A-A) of the truck,

-an internal combustion engine (16) supported by

the structure for the propulsion of the truck and for the operation of the arm (22),

-and an operating and driving cab (10) situated on one side of the structure to one side of the longitudinal axis (A-A), said cab having a steering wheel and extending below a plane tangent to the top of the wheels (6, 8), the distance between the horizontal plane tangent to the upper most part of the steering wheel and the plane tangent to the top of the wheels (6, 8) being less than the distance between the plane tangent to the top of the wheels (6, 8) and the ground, whereby said cab (10) is situated at an easily accessible low position on the truck,

-the internal combustion engine (16) being longitudinally placed, that is with its shaft parallel to the longitudinal axis (A-A) of the truck, in a housing (12) which is situated on the opposite side of the longitudinal axis (A-A) to the cab (10),

-said housing (12) being spaced from the cab (10) so that facing surfaces of the housing (12) and of the cab (10) define a longitudinal channel-shaped space (14) having a width at least equal to the width of the lifting arm (22),

-a portion of the length of the lifting arm being accommodated, in the completely lowered position of the arm, in said space (14) between said facing surfaces of the engine housing (12) and of the cab (10),

characterized in that

-the lifting arm (22) is articulated to the structure of the truck about said horizontal axis (22a) which is situated below a horizontal plane tangent to the upper most part of the steering wheel,

-the major portion of the height of the engine (16) contained in said housing (12) is situated below said plane tangent to the top of the wheels (6, 8),

-whereby when the lifting arm (22) is in its lowered position there is no interference with a complete circular visibility, for the operator working in the driving cab (10), above said horizontal plane tangent to the upper part of the steering wheel, while interference with the visibility to the rear and lateral areas is minimised."

The appellants requested that the decision under appeal be set aside and the patent maintained in amended form on the basis of the single claim according to the main request or first to fifth auxiliary requests.

The respondents requested that the appeal be dismissed.

VIII. The arguments put forward by the appellants in support of their requests can be summarized as follows:

In comparison with the granted claim all of the features added to the claim of the main request could be derived from the text or drawings of the original application and these features were defined in terms, in particular by reference to horizontal planes tangent to the top of the steering wheel and to the top of the wheels, which were commonly used in the art and readily understood by the skilled person.

Thus there was no difficulty in knowing what was meant by the requirement that the cab be at an "easily accessible low position" on the truck. An equivalent expression was to be found for example in the brochure relating to the allegedly prior used "Herkules H2t" truck. The low position was readily recognisable from the drawings from which it could be seen that the floor of the cab was beneath the plane tangent to the top of the wheels, as opposed to the arrangement disclosed in US-Re-30 021 (document D1), where the whole of the cab was above this plane and was therefore not easily accessible. That the cab extended below this plane was also implicit from what was said in page 3, paragraph 3 of the original application with respect to the formation of a space for partly accommodating the lifting arm. This passage also formed an adequate basis for the requirement stated in the claims that the space is channel-shaped and defined between facing surfaces of the housing and the cab.

Taking into account the fact that the cab would be designed for an operator of standard proportions it was clear from drawings, particular when seen in the light of the essential technical problem involved of improving visibility for the operator, that the articulation axis of the lifting arm was situated below his horizontal plane of view. Furthermore, it was evident that interference with the visibility to the side of the operator was minimised by the positioning of the engine with a major portion of its height below the plane tangent to the top of the wheels, as could clearly be seen in particular in Figure 2 of the drawings.

Lastly, there could be no doubt that the reference in

the original application to a longitudinally extending internal combustion engine, taken in conjunction with the way that engine was shown in the drawings, would be understood by the person skilled in the art as meaning that the shaft of the engine extended longitudinally, ie with its shaft parallel to the longitudinal axis of the truck.

In the claims according to the auxiliary requests various aspects of the claim of the main request had been further clarified or alternatively formulated in order to eliminate the objections of the respondents, if there were to be held good.

IX. In reply the respondents put forward the following:

The function of a claim was to define the monopoly for which protection was sought and this the claims according to all request singularly failed to do. In the first place terms such as "easily accessible low position" and "minimised interference with the visibility" were wholly subjective, in the second the planes tangent to the top of the steering wheel and to the top of the wheels were not absolute but variable, eg through adjustability of the steering wheel, change in tire pressure, change of wheel size. Furthermore, there was no necessity to have front and rear wheel of equal size. The claims therefore offended against Article 84 EPC.

The claims also contained numerous additions of subject-matter over the original disclosure, which was silent as to how the engine shaft was arranged, whether housing had a surface facing the cab and the vertical position of the engine. Insofar as the appellants

sought to find a basis for the added features in the drawings, they fell foul of the stringent requirements set out in T 169/83 (supra).

Reasons for the Decision

1. The appeal complies with the formal requirements of Articles 106 to 108 and Rules 1(1) and 64 EPC. It is therefore admissible.

2. Of the various objections of added subject-matter raised against claim 1 of the main request one concerns a feature which was present in the granted claim, forming the basis for an objection originally under Article 100(c) EPC. It is therefore convenient to start with this objection, which concerns the requirement that the shaft of the internal combustion engine is parallel to the longitudinal axis of the truck.

In paragraph 3, page 3 of the original application there is a reference to a "longitudinally-extending internal combustion engine." There is no mention of a shaft, but the respondents do not dispute that the engine involved must have one. What they do dispute is that anything can be derived from the reference quoted above or from the drawings which can be considered as a disclosure of how the shaft is aligned. The Board cannot agree. The person skilled in the art will be well aware of the two possibilities of the longitudinal and transverse arrangement of an internal combustion engine in a vehicle, both of which terms are directed to the engine shaft rather than anything else. He will thus already understand the reference in the original application, as quoted above, as meaning that the

engine shaft when seen in plan view is parallel to the longitudinal axis of the truck. The Opposition Division appears to have agreed with that assessment in the contested decision, but understood the reference in the claim to the "longitudinal axis of the truck" as meaning a single line in space and argued that the shaft of the engine when seen in side view would not necessarily extend parallel to that line. In the particular circumstances the Board is however convinced that "longitudinal axis" would be seen by the person skilled in the art as referring to a vertical plane rather than a single line, so that the line of reasoning adapted by the Opposition Division does not hold good.

3. The remainder of the objections to the claim of the main request concerns amendments made to distinguish the subject-matter claimed from the cited prior art. In general, the features concerned have been attacked from both the view point of addition of subject-matter as well as of lack of clarity, the emphasis between these two aspects shifting from features to feature and between the respondents.

- 3.1 The first feature requiring attention is the requirement that the cab be situated at "an easily accessible low position on the truck". The Board can find no support in the document D1 or the "Hercules H2t" brochure for the contention of the appellants that this requirement would have a clear and objective meaning for the person skilled in the art, namely that the floor of the cab would lie below a plane tangent to the top of the wheels and that the distance from this plane to the ground is more than the distance between it and a horizontal plane tangent to

the top of the steering wheel. In the absence of any unambiguous meaning which can be attached to the relative terms "easily accessible" and "low position" they are inappropriate for clearly defining the matter for which protection is sought, as required by Article 84 EPC.

Since this aspect of the claim according to the main request is already objectionable for lack of clarity, there is no need here to go further into the question of the extent to which the implied requirements concerning the position of the floor of the cab and the steering wheel can actually be derived from the original disclosure.

- 3.2 In paragraph 3, page 3 of the original application it is stated that there is a housing for the engine which is positioned at a distance from the cab so as to define with the cab a space which is at least as wide as the lifting arm. In the claim under consideration it is stated in this context that "facing surfaces of the housing and of the cab define the two side walls of a longitudinal channel-shaped space. The respondents object to this statement since in their view it is not originally disclosed that the housing has a surface facing a surface of the cab. It is indeed true that there is no corresponding literal disclosure and that the various views of the truck in the drawings are not such as to allow any conclusions to be drawn in this respect. Nevertheless in the opinion of the Board, it is in the circumstances inherent to the meaning of the term "housing" that this surrounds the top and both sides of the engine, so that the surface in question is implicitly disclosed to the person skilled in the art.

3.3 In the sentence bridging pages 3 and 4 of the original application it is stated that the axis of the articulation pin of the lifting arm is situated at a lower level than the line of sight of the operator working in the cab. This provides direct support for the equivalent statement in the claim that the articulation axis "is situated below the horizontal plane of view of the operator seated in the driving cab". Thus the only objection to this feature of relevance is that of lack of clarity, argued by the respondents on the basis that the horizontal plane of view of the operator was indeterminate and not being a feature of the truck itself was inherently unsuitable for defining it. In the opinion of the Board however there are appropriate circumstances in which a feature of a machine can be properly defined by reference to the normal working position of the operator, or, as in this case, of a part of the operator. In the present case the cab in question will be designed having regard to conventional ergonomic considerations and with reference to a driver of standard proportions so that the latter's notional horizontal plane of view will be readily determinable within close limits. Thus this feature does not offend against Article 84 EPC.

The sentence of the original description mentioned in the preceding paragraph also provides a proper basis for the requirement of the claim that when the lifting arm is in its lowermost position there is no interference from the lifting arm with a complete circular visibility in the horizontal plane of view of the operator. For the reasons explained above the Board is also of the opinion that this feature of the claim is not inherently unclear. As for the final statement in the claim that "interference with the visibility to

the rear and lateral areas is minimised" the Board accepts the criticism of the respondents that this is relative and therefore not suitable a feature for distinguishing the claimed truck from the prior art. On the other hand it should be seen merely as an indication of the effect which is intended to be achieved by the technical features stated in the claim and does not lead in its own right to any further lack of clarity in the sense of Article 84 EPC.

- 3.4 The description of the original application contains no information about the internal combustion engine of the truck apart from that it extends longitudinally, is located in a housing and has a vertical (Figures 1 to 3) or inclined (Figures 4 and 5) exhaust pipe. The schematic outline of the engine is shown in dashed lines in the side, front and top views of the first embodiment of truck illustrated in Figures 1 to 3. The outline of an engine of somewhat different form is shown in the side view of the second embodiment of truck illustrated in Figure 4.

It is from these drawings that the appellants seek to derive the feature added to the claim that the "major portion of the height of the engine contained in said housing is situated below a plane tangent to the top of the wheels". Now, as established in decision T 169/83 (supra), although it is in principle permissible to incorporate into a claim a feature only found in the drawings of the original application, this feature must be clearly, unmistakably and fully derivable from the drawings in terms of structure and function by the person skilled in the art and so relatable by him to the content of the description as a whole to be manifestly part of the invention. These conditions are

not met in the present case. The vertical location of the engine is at best only indirectly associated with the general aim of the invention to improve the visibility of the operator, it being the housing rather than the engine which restricts lateral visibility. Furthermore, the Board has considerable reservations about accepting the argument of the appellants that the "height" of the engine should exclude fundamental accessories such as the radiator visible in Figure 2 and be restricted to the main engine block. But even if that argument is accepted, thus allowing the conclusion that at least as illustrated in Figures 1 and 2 approximately two thirds of the height of the engine is below the plane tangent to the top of the wheels, this in itself cannot represent a sufficient basis for the incorporation of the feature in question into the claim. What would be required in this respect is that the person skilled in the art would clearly unmistakably recognise from the drawings, in the context of the description as a whole, that locating that engine with, in the generalised terms of the claim "the major portion of its height", below the given level was the deliberate result of technical considerations directed to the solution of the technical problem involved. Given in particular the schematic nature of the illustration of the engine and taking into account the other aspects referred to above, this is however not the case.

Thus the inclusion of this feature into the claim of the main request constitutes an inadmissible addition of subject-matter in contravention of Article 123(2) EPC.

4. A detailed consideration of the various alternative

formulations and further amendments of the claims according to the auxiliary requests is unnecessary since each of them includes the inadmissible addition of subject-matter addressed in point 3.4 above, so that at least for this reason the requests must be refused.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

S. Fabiani

S. Crane