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**Datasheet for the decision
of 2 October 2013**

Case Number: T 1729/10 - 3.2.06

Application Number: 02006214.7

Publication Number: 1247955

IPC: F01N7/08

Language of the proceedings: EN

Title of invention:

Exhaust system structure for motorcycle

Patent Proprietor:

HONDA GIKEN KOGYO KABUSHIKI KAISHA

Opponent:

KTM Sportmotorcycle AG

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

Novelty - (yes)
Inventive step - (yes)



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 1729/10 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 2 October 2013

Appellant: KTM Sportmotorcycle AG
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 16 June 2010
rejecting the opposition filed against European
patent No. 1247955 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman: M. Harrison
Members: G. Kadner
R. Menapace

Summary of Facts and Submissions

- I. The mention of grant of European patent No. 1 247 955, on the basis of European patent application No. 02006214.7 filed on 19 March 2002 and claiming a Japanese priority of 4 April 2001, was published on 28 November 2007.
- II. Notice of opposition, in which revocation of the patent on the ground of Article 100(a) EPC was requested, was filed against the granted patent.

By way of its decision posted on 16 June 2010, the opposition division rejected the opposition. It found that the subject-matter claimed was novel and involved an inventive step with respect to the cited prior art:

E1: Printout from http://motorbike-search-engine.co.uk/classic_bikes/indian-classic-motorcycles.php

E2: Motorräder seit 1900; von Eric E. Thompson, Orell Füssli Verlag Zürich 1974

E3: Klassische Motorräder aus acht Jahrzehnten; by Alan Cathcart, München, Wien, Zürich: BLV Verl.-Ges., 1987

E4: US-A-4 422 519

E5: Motorräder, berühmte Marken von AJS bis Zündapp; von Helmut Krackowizer, Verlag Welsermühl, Wels-München 1981

E6: Printout from Wikipedia for Honda CB550

E7: EP-A-0 500 105

E8: Indian motorcycle photographic history; by Jerry Hatfield, 1993

- III. Notice of appeal was filed against this decision by the appellant (opponent) on 16 August 2010, and the appeal

fee was paid on the same day. With its grounds of appeal dated 14 October 2010, the appellant pursued its request for revocation of the patent, and cited a new document:

JP-U-58-006912

IV. In a communication accompanying the summons to oral proceedings the Board expressed its preliminary view that it did not see a reason to overturn the opposition division's decision. Introduction of JP-U-58-006912 into proceedings was doubtful, as it did not appear *prima facie* highly relevant.

V. With its letter dated 1 September 2013 the appellant filed new documents:

E9: Schnelle Motoren seziert und frisiert; von Helmut Hütten, Motorbuch Verlag Stuttgart, 1994

E10: Zeugen der Motorrad-Entwicklung, Modelle, Konstrukteure, Fahrer; by Erwin Tragatsch, Motorbuch Verlag Stuttgart, 1985

E11: Magazine: Motorrad No. 3; 4 February 1981

VI. Oral proceedings were held before the Board on 2 October 2013, during which the appellant filed a new document:

E12: Die Grosse Motorrad Show by Folker Kraus-Weysser; Motorbuch Verlag Stuttgart, 1978, page 66

The appellant (opponent) requested that the decision under appeal be set aside and the European patent No. 1 247 955 be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed.

Claim 1 reads as follows (adopting a feature split generally in accordance with that used in the decision under appeal):

"(A) A motorcycle having an engine (40)
(B) disposed between front and rear wheels (32, 34)
and
(C) an exhaust system structure comprising:
(D) an exhaust pipe (60) extending from the engine (40) to a position near the rear wheel (34), and
(E) a silencer (70) disposed below the engine (40) and connected to the exhaust pipe (60) for discharging exhaust gases, wherein
(F) said silencer (70) includes a gas inlet (73) connected to said exhaust pipe (60) and
(G) a gas outlet (74)
(H) each being disposed at a rear end (72) of said silencer (70)
(I) facing said rear wheel (34),
characterized in that
(J) said exhaust pipe (60) extends from a front portion of the engine (40) facing said front wheel (32) rearwardly along the engine (40)
(K) to the gas inlet (73) of said silencer (70)."

VII. The arguments of the appellant can be summarized as follows:

The subject-matter of claim 1 of the main request was not novel when compared to the disclosure of E8. According to the wording of claim 1 the exhaust pipe (60) extended from a front portion of the engine (40) facing said front wheel, and this feature was indeed

disclosed in E8 since the front cylinder was the portion of the engine facing the front wheel. The opposition division's reasoning (point 2.1.6) was wrong in identifying the location from where the exhaust pipe extended as an area of the cylinder because the claim did not refer to a cylinder but to an engine. Moreover, the skilled person would clearly consider the outlet of the silencer to be at its rear end since any different configuration, particularly at its front end, went against the general knowledge in the art.

Further errors in the decision under appeal were the opposition division's conclusions that a group of pipes (point 2.2) was included in the claim and that the exhaust pipe of E8 was arranged along the shortest possible line between the engine and the silencer (point 2.4.3). The assumption of an engine output of approx. 3 horse power of the engine disclosed in E8 was pure speculation. As was proven by E12, the Indian Twin was a high power machine at the time of its manufacture in 1908.

Document D4 was also novelty-prejudicial because it disclosed all the features of claim 1. In particular, Fig. 5 showed the features (H), (J) and (K), and in Fig. 3 the exhaust pipes were clearly introduced into the rear end of the silencer. The opposition division's conclusion in respect of novelty was erroneous since claim 1 did not exclude more than one exhaust pipe.

In any case, the subject-matter of claim 1 was not inventive in view of several combinations of the prior art. Generally, as proven by documents E9 to E11, the skilled person was well aware that V-engines and in-line engines were both used in high-power motorcycles such that they were interchangeable. By replacement of

the V-engine disclosed in E4 with an in-line engine as shown in E5, the exhaust pipes would be facing the front wheel, and the motorcycle according to claim 1 would be arrived at without the involvement of an inventive step because the skilled person trying not to shorten the exhaust pipes (E4, col. 3, lines 16 to 21) would use the exhaust pipe inlet at the rear end of the silencer.

Starting from E8 which disclosed - contrary to the conclusion of the opposition division - a high-power motorcycle, the skilled person, applying general knowledge would arbitrarily swap the V-engine with an in-line engine and would thus also arrive at the claimed solution because no reason was present to change the inlet of the exhaust pipes into the silencer. The same result would be arrived at by the combination of E8 with E4, in particular because E4 clearly taught against shortening the exhaust pipes.

Also, the combination of E4 with E7 led the skilled person to the subject-matter claimed by exchanging the V-engine of E4 with the in-line engine from E7 and maintaining the exhaust pipes as long as possible thus introducing them into the rear end of the silencer.

VIII. The respondent argued that the motorcycle according to claim 1 was novel with respect to E8 and E4 and was also not made obvious by any combination of the prior art, and the opposition division's conclusion was correct.

Since there was no description of the silencer in E8, it was not clearly disclosed that the outlet of the silencer was at its rear end. In any case, E8 did not disclose features (J) and (K) in combination with (H)

since the exhaust pipe did not extend from a front portion of the engine facing the front wheel to the rear end of the silencer. There was no hint or any indication that by the arrangement of the exhaust pipes any elongation was intended there.

The motorcycle according to E4 also did not disclose features (J) and (H). None of the exhaust pipes extended from a front portion of the engine facing the front wheel to the rear end of the silencer. Although an extension of the rear exhaust pipes was intended, this problem was solved by the elongation of the pipes in the silencer, contrary to the teaching of the patent in suit.

None of the further cited documents disclosed the combination of features (H), (J) and (K) or provided any indication towards the arrangement as claimed. The elongation of the exhaust pipes was generally performed by extending the pipes towards the rear end of the motorcycle. Moreover, starting from E8 did not make technical sense because the features of a prior art motorbike of 1908 could not reasonably be combined with high-power motorcycles from the 80's or 90's unless there were some indication towards the problem to be solved.

Reasons for the Decision

1. The appeal is admissible.
2. *Admittance of new documents (Article 13(1) RPBA)*
 - 2.1 Documents E9 to E11 were filed as proof of the general knowledge of the skilled person that in high-power motorcycles V-engines were used as well as in-line engines and that it was known to replace V-engines by in-line engines. Since this knowledge was also not contested by the respondent, these documents were admitted into the proceedings.
 - 2.2 E12 was filed during the oral proceedings, i.e. at a very late stage of the proceedings. In accordance with the Rules of Procedure of the Boards of Appeal (RPBA) the Board exercised its discretion not to admit E12 into the proceedings. It only shows that a speed world record was set in 1909 with a NSU twin cylinder motorcycle having 7,5 horse power. No relationship to the motorcycle of E8 is given, nor is any further relationship evident in view of the patent in suit or any of the documents E1 to E11 on file. Therefore it is not of such relevance that the Board should admit it into the proceedings.
 - 2.3 In regard to JP-U-58-006912 the Board had indicated in its preliminary opinion that this was not *prima facie* highly relevant. In reply to this, the appellant stated in its letter of 1 September 2013 that it would rely instead on E7.

3. *Novelty (Article 54(2) EPC)*

3.1 E8 discloses a motorcycle having features (A) to (G) and (I) (see the Figure) which was not contested by the respondent. However, the respondent expressed doubts as to whether feature (H) was even implicitly disclosed since a gas outlet at the rear end of the silencer was not clearly recognizable. It can be left undecided whether this is the case, since in any event, features (J) and (K) are not disclosed in E8 because the exhaust pipe does not extend from a front portion of the engine facing the front wheel to the gas inlet at the rear end of the silencer.

3.2 Contrary to the appellant's opinion, the front cylinder forms part of the engine, and the front portion of the engine is the front portion of the front cylinder. The exhaust pipe in E8 however extends from the lateral portion of the cylinder i.e. from a lateral portion of the engine which is not facing the front wheel.

E4 also does not disclose features (J) and (K). Exhaust pipes 19 extend from a front portion of the engine facing the front wheel to the front portion of the silencer 21 (this is shown clearly in e.g. Figures 2 to 5). Exhaust pipes 20 (see Figures 2 and 5) extend from a rear portion of the engine facing the rear wheel to a rear portion of the silencer 21. Although the claim does not exclude a group of exhaust pipes, none of the exhaust pipes extends from a front portion of the engine facing the front wheel to a gas inlet at the rear end of the silencer (Figures 2 to 4).

3.3 For these reasons the subject-matter of claim 1 meets the requirement of novelty.

4. *Inventive step (Article 56 EPC)*

4.1 The appellant based its attacks on inventive step on several combinations of prior art documents and on the general knowledge of the skilled person. It was not contested by the respondent that high power motorcycles could be equipped with V-engines as well as with in-line engines. Accepting this, the objective problem to be solved starting from E4 or E8 can be seen as keeping the length of an exhaust pipe long enough in order to sufficiently fulfil the performance capability of an engine while placing a silencer, which is a heavy object, in a position advantageous to lower the center of gravity of the motorcycle (i.e. below the engine).

4.2 The appellant argued that E4 teaches keeping the length of the exhaust pipes in order to prevent a performance drop of the engine (col. 3, lines 16 to 19). Starting from this document which discloses a motorcycle driven by a V-engine having elongated exhaust pipes, when changing the V-engine to an in-line engine as shown in E5 (page 73), the skilled person would allegedly inevitably arrive at a configuration of exhaust pipes extending from the front portion of the engine (E5) extending to a rear portion of the silencer (E4, pipes 20). The question arises why the skilled person would do so. E4 teaches the elongation of the rear exhaust pipes by conduits extending in the silencer. E5 shows clearly elongated exhaust pipes extending continuously towards the rear end of the motorcycle. No indication can be derived from either document towards the elongation of the exhaust pipes in such a way that they would extend from the front portion of the engine into a rear portion of the silencer.

4.3 Further, a combination of E4 with E8 was asserted by the appellant as being prejudicial to inventive step. E8 allegedly did not disclose a "low power" motorcycle as speculated by the opposition division. Therefore the skilled person would derive from that prior art document that the exhaust pipe from the front cylinder was not led the shortest way to the silencer but was elongated in order to improve the power output of the engine. Applying this teaching to the motorcycle disclosed in E4, the skilled person would allegedly introduce the exhaust pipes connected to the front portion of the engine to the rear end of the silencer thus arriving at the claimed solution.

The Board finds that no indication is present in E8 towards any elongation of an exhaust pipe but merely that the pipes are situated such that the space available is used for guiding them from the cylinders to the silencer over a short distance as is practical. Guiding the pipes to the front end of the silencer would be complicated by the position of the chain wheel and pedal. Therefore the skilled person has no reason to combine E4 with E8.

4.4 Further, it was contended that the combination of E4 with E7 would lead to the subject-matter claimed in an obvious manner. Both documents disclosed high power motorcycles, and E4 additionally taught the advantageous elongation of the exhaust pipes. From E5, the skilled person would derive exhaust pipes connected to the front portion of the engine, and, for lengthening, would allegedly introduce them into the rear end of the silencer.

As already stated, the elongation of the exhaust pipes from the rear portion of the engine according to E4 is

performed in a different way than by an elongation outside the silencer. Therefore, the skilled person would have no reason to arrange the exhaust pipes in a different manner. Moreover, the exhaust pipes shown in E7 are introduced into the front end of an exhaust chamber 47 including a catalyst 52 and not into a silencer. Although the problem is addressed in E7 that the exhaust gas arrangement should not affect the banking angle of the motorcycle (see e.g. col 2, lines 12 to 14), no indication can be derived from E7 (also not in combination with E4) towards an arrangement of an exhaust pipe such that it extends from a front portion of the engine facing the front wheel rearwardly along the engine to the gas inlet at the rear end of the silencer.

- 4.5 The requirement of Article 56 EPC is therefore found to be met.

5. Thus based on the documents and arguments put forward by the appellant, the ground of opposition under Article 100(a) EPC does not prejudice maintenance of the patent as granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated