BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 16 November 2000

Case Number: T 0129/99 - 3.2.1

Application Number: 94107942.8

Publication Number: 0627332

IPC: B60C 11/04, B60C 11/03

Language of the proceedings: EN

Title of invention:
Tyre for motor-vehicle wheels provided with a tread producing a low rolling noise

Patentee:
Pirelli Coordinamento Pneumatici S.p.A.

Opponent:
Marangoni Tyre S.p.A.
Bridgestone Corporation

Headword:
-

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

Keyword:
"Added subject-matter, yes (main request) - inadmissible intermediate generalisation"
"Inventive step, yes (first auxiliary request)"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0129/99 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 16 November 2000

Appellant: (Proprietor of the patent)
Pirelli Coordinamento Pneumatici S.p.A.
Viale Sarca, 222
IT-20126 Milano (IT)

Representative:
Marchi, Massimo, Dr.
Marchi & Partners
Via Pirelli, 19
IT-20124 Milano (IT)

Respondent: (Opponent)
Bridgestone Corporation
10-1, Kyobashi 1-chome
Chuo-ku
Tokyo (JP)

Representative:
Whalley, Kevin
MARKS & CLERK
57-60 Lincoln's Inn Fields
London WC2A 3LS (GB)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 17 December 1998 revoking European patent No. 0 627 332 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: F. A. Gumbel
Members: S. Crane
J. H. Van Moer

Summary of Facts and Submissions

I. European patent No. 0 627 332 was granted on 12 March 1997 on the basis of European patent application No. 94 107 942.8.

II. The granted patent was opposed by *inter alia* the present respondents (opponents 02) on the basis that its subject-matter lacked novelty and/or inventive step (Article 100(a) EPC), that the claimed invention had been insufficiently disclosed (Article 100(b) EPC) and that there had been an addition of subject-matter (Article 100(c) EPC).

On the prior art documents relied upon in the opposition proceedings only the following have played any significant role on appeal:

(D5) JP-A-4317805 (with English translation)

(D6) US-A-4 700 762

(D7) Uniroyal catalogue of 1990 - MAX 380 tyre.

(D10) JP-A-42508 (with English translation)

(D14) JP-A-4193608 (with English translation)

III. With its decision posted on 17 December 1998 the Opposition Division revoked the patent. It held that the subject-matter of claim 1 under consideration lacked inventive step with regard to documents D5 and D6.

IV. A notice of appeal against this decision was filed on 2 February 1999 and the fee for appeal paid at the same time. The statement of grounds of appeal was received on 22 April 1999.

V. With a letter dated and received on 14 April 2000 opponents 01 stated that they withdrew from the appeal proceedings and would no longer be a party thereto.

VI. Oral proceedings before the Board was held on 16 November 2000.

The appellants (proprietors of the patent) requested that the decision under appeal be set aside and the patent maintained in amended form on one of the following bases:

Main request: Claim 1 as considered and rejected by the Opposition Division, which is worded as follows:

"A tyre for motor-vehicle wheels provided with a tread producing a low rolling noise, comprising:

a) a raised pattern formed of a plurality of shaped blocks (7, 7a, 7b) distributed in parallel circumferential rows (3, 4, 5, 6) bounded by longitudinal grooves (2) extending circumferentially of the tyre,

b) each row comprising a plurality of shaped blocks circumferentially separated from each other by respective transverse cuts (8, 9, 9a, 10),

c) in which each of said rows has first transverse cuts (8) which are in alignment with one of the transverse cuts of an adjacent block row to define continuous transverse grooves (13) each extending from an outer side edge of the tread to a position

adjacent the equatorial plane of the tyre,

CHARACTERIZED IN THAT

d) each of said transverse grooves (13) comprises one portion substantially perpendicular to said longitudinal grooves (2) and extending close to the respective shoulder rows (5, 6), one portion disposed obliquely of the longitudinal grooves (2) and located close to the inner central row (3), and one curved union portion between the two,

e) and in that each of said rows of blocks has a number of shaped blocks which is greater than the number of shaped blocks present in the adjacent axially inner row towards the equatorial plane of the tyre."

First auxiliary request: Claim 1 submitted with the grounds of appeal, claims 2 to 18 as granted; columns 1, 2 and 4 to 9 of the specification as granted, column 3 submitted at the oral proceedings before the Board; drawings as granted.

Claim 1 according to this request differs from that of the main request solely with respect to feature (d), which is worded as follows:

"d) each of said transverse grooves (13) comprises one straight portion substantially perpendicular to said longitudinal grooves (2) and extending close to the respective shoulder rows (5, 6), one straight portion disposed obliquely of the longitudinal grooves (2) and located close to the inner central row (3), and one curved union portion between the two."

Second, third and fourth auxiliary requests: Respective claims 1 submitted at the oral proceedings.

The respondents requested that the appeal be dismissed and revocation of the patent in its entirety confirmed.

VII. In support of their requests the appellants argued substantially as follows:

Since it was clear from the application as originally filed that the particular form of transverse groove defined in the original dependent claim 12 was solely a preferred embodiment then there was no need to incorporate into feature (d) of present claim 1 the requirement stated in that dependent claim that the substantially perpendicular and obliquely disposed portions of the transverse groove were respectively "straight". The form of transverse groove defined in combination by features (c) and (d) of claim 1 of the main request, wherein there were three portions as mentioned in feature (d), was amply disclosed in the original application. If there were any doubts on this question then they would be overcome by claim 1 according to the first auxiliary request.

By virtue of its unique tread pattern the tyre according to the invention exhibited a significant reduction in rolling noise without impairing control and traction, especially in the wet. The claimed combination of circumferential longitudinal grooves, transverse grooves of special shape and an increasing number of blocks in each row thereof considered axially outwardly of the equatorial plane of the tyre led to this surprising result, which could still not be fully explained. The cited prior art could not point the person skilled in the art towards this claimed combination, indeed at least documents D5 and D14 clearly pointed away from it.

VIII. The arguments of the respondents in reply can be summarized as follows:

For the question as to whether claim 1 of the main request contained added subject-matter it was unimportant that the particular form of transverse groove now defined in feature (d) of claim 1 of the first auxiliary request was disclosed in the original application as being a preferred embodiment. What was important was that the definition involved was the only one contained in the original application which related to the division of the transverse groove into three identifiable portions. By omitting from feature (d) of claim 1 of the main request the requirement that the outer and inner portions of this transverse groove be "straight" the appellants had made an intermediate generalisation for which there was no basis in the original disclosure and accordingly added subject-matter.

The closest state of the art was represented by document D5 which clearly taught the basic principle to which the application had been originally directed, namely the reduction of rolling noise by having an increasing number of tread blocks in the circumferential rows thereof as considered outwardly from the equatorial plane of the tyre. In response to this state of the art the appellants had introduced a definition of the form of the transverse grooves into claim 1. However, that form, even as defined in the first auxiliary request, was well known **per se**, as could be seen from document D14 as well as GB-A-2 239 845 and GB-A-2 240 522 first mentioned in their letter dated 13 October 2000. Since it would be apparent to the person skilled in the art that the

water drainage of the tyre shown in document D5 would not be optimal in the absence of through-going transverse grooves it would be obvious to provide such of known form by suitable rearrangement of the position of the blocks.

Another piece of prior art of particular relevance was document D10. Having regard to the possibility envisaged by the present patent specification of the number of blocks between adjacent transverse grooves being other than a whole number, by virtue of transverse cuts which only extend partially between the circumferential grooves, then it would appear from Figure 5 of document D10 that the requirement of feature (e) of claim 1 was met. In this case the only feature distinguishing the tyre according to claim 1 of the first auxiliary request from the tyre of document D10 was the particular well known form of transverse groove defined in feature (d) of the claim. Nothing inventive could be seen in combining this form of transverse groove with the other features of the known tyre.

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.

Main request

2. In the course of the pre-grant examination proceedings, after document D5 had been cited against the original claim 1, the claim was restricted by the introduction

of the features from dependent claim 12 concerning the special form of the transverse grooves. Original claim 12 required the groove to have two straight portions joined by a curved portion, the axially outer straight portion being substantially perpendicular to the circumferential longitudinal grooves and the axially inner straight portion being disposed obliquely to these grooves.

Subsequently, after filing a revised translation of parts of the original application, the appellants requested the deletion from claim 1 of the requirements that the inner and outer portions of the transverse grooves be "straight", which amendment was allowed. It is this deletion which forms the basis for the objection of the respondents that claim l according to the main request contains added subject-matter.

In defence of their main request against this objection of the respondents the appellants rely in the main on the fact that in the original application the particular form of transverse groove defined in dependent claim 12 was disclosed as a preferred embodiment. That is no doubt correct in itself, but, as the respondents have argued, is somewhat besides the point. It is the specific combination of features of original dependent claim 12 which represents the preferred embodiment of the form of the transverse groove; neither the individual features of that combination, nor sub-combinations, can in themselves be seen as being notional preferred embodiments.

The proper question that needs to be addressed is whether the original application, considered as a whole, explicitly or implicitly discloses to the person

skilled in the art the form of transverse groove specified in feature (d) of claim 1 of the main request, this form exhibiting the three portions identifiable portions mentioned there but without the inner and outer portions necessarily being straight.

In this context the appellants have referred to various passages and dependent claims of the original application where the form of the transverse groove is defined in other terms. In particular in claim 7 it is stated that the "impact angle" of the transverse groove with the adjacent longitudinal groove decreases across the rows of blocks considered in the direction of the equatorial plane. However, this broad definition, which covers groove forms consisting for example of a single curve or made up of a series of straight portions, cannot be seen as providing the disclosure necessary to support feature (d) of the claim. The fact remains that the original application discloses only one form of transverse groove which is divided in three identifiable portions, the outer and inner ones being respectively substantially perpendicular and obliquely disposed to the longitudinal grooves and being joined by a curved union portion, and that form has straight outer and inner portions. Accordingly, the Board comes to the conclusion that claim 1 of the main request contains added subject-matter and cannot therefore be allowed (Article 123(2) EPC).

Consequently, the main request is rejected.

First auxiliary request

3. The missing features have been added to feature (d) of claim 1 of the first auxiliary request and no further

objections against this claim under Article 123(2) EPC were pursued at the oral proceedings. Furthermore, the amendments made to the claim have clearly restricted its scope in comparison with granted claim 1, so that there are no objections under Article 123(3) EPC.

4. The technical problem with which the contested patent is concerned is the provision of a tyre having good direction control, traction and water drainage with reduced rolling noise.

The basic tread pattern of the claimed tyre, as set out in the preamble of claim 1 of the first auxiliary request, is well known in the art. It comprises, on each side of the equatorial plane, a series of parallel circumferential rows of blocks each bounded by longitudinal grooves extending circumferentially of the tyre. The blocks in each row are separated from each other by transverse cuts, with at least some of the cuts in respective rows being aligned with each other to form transverse grooves extending from the shoulder of the tyre to a position adjacent the equatorial plane. An example of a tread pattern of this type is to be found in document D6. There, the transverse grooves are curved in a generally continuous manner, making an angle of approximately 45° with the longitudinal grooves at the equatorial plane and approximately 90° at the shoulder.

Accordingly to the characterising clause of the claim, the claimed tyre is distinguished from this prior art by the form of the transverse grooves (feature (d)) and by a decreasing number of blocks in each adjacent row considered towards the equatorial plane of the tyre (feature (e)). It was feature (e) which constitutes the

basic principle underlying the original application. In general terms it is clearly disclosed in document D5 and that being the case this document, as argued by the respondents, can be seen as the most appropriate starting point for evaluating the inventive step of the claimed subject-matter. As shown in Figure 1 of document D5 the transverse cuts separating the blocks in the various circumferential rows thereof are arranged in such a way that there is no alignment between them to form transverse grooves extending from the equatorial plane to the shoulder of the tyre. In other words, feature (c) of claim 1 under consideration is not present in the known tyre. In the opinion of the respondents the person skilled in the art would recognise that he could improve water drainage from under the tyre by arranging the transverse cuts to give through-going transverse grooves. The appellants argue here that this would run against the teaching of document D5 that such through-going transverse grooves are detrimental to rolling noise generation. However, the Board can find no clear indication of any such teaching in the document, although paragraph [0003] on page 3 read in conjunction with the fact that the comparative examples have through-going transverse grooves might point in this direction. Be that as it may, even if the person skilled in the art were to adopt the course of action advocated by the respondents the resultant form of the transverse groove would simply consist of a series of straight portions, arranged at different angles in the respective rows, the angle decreasing considered towards the equatorial plane. This form would thus approximate to the continuous curve of document D6. There is nothing which could have led the person skilled in the art to adopt the particular form of transverse groove defined in

feature (d) of the claim.

The respondents argue that this form of transverse groove is one which is well known in the art and at the free disposal of the skilled person. They rely here on document D14 and also two further documents, GB-A-2 239 845 and GB-A-2 240 522, first mentioned in their letter received on 16 October 2000. Although those two late-filed citations add individually nothing of significance to document D14 the Board is prepared to allow their introduction since by citing them the respondents only intended to show how conventional the form of transverse groove involved was. However, not one of these documents illustrates transverse grooves as defined in feature (d) of claim 1 combined with circumferentially extending longitudinal grooves. Indeed, it is apparent from document D14, see for example the discussion on page 4 and 5 of the English translation, that the tread pattern disclosed there is specifically designed to avoid circumferential grooves in order to reduce rolling noise. Thus the argument of the respondents that it would have been obvious for the person skilled in the art to go in the opposite direction and combine, in a tyre intended to have low rolling noise, transverse grooves of the type in question with circumferential grooves is unconvincing.

For completeness it is also necessary to deal withe the state of the art according to documents D7 and D10. Before withdrawing from the proceedings opponents 01 had contended that the subject-matter of at least claim 1 of the main request lacked novelty with respect to the MAX 380 illustrated in document D7. That tyre does not however have the circumferentially extending longitudinal grooves required by feature (a) of that

claim. Nor does it have transverse grooves of the form now required by feature (d) of claim 1 according to the first auxiliary request under consideration. The subject-matter of that claim is therefore clearly novel with respect to document D7. Furthermore, although the illustrated tyre appears to have a decreasing number of tyre blocks per row considered towards the direction of the equatorial plane, the fundamental distinctions between its overall tread pattern and those disclosed in the other main cited documents (D5, D6 and D14) are such as to make any notional combination of their features in a manner which could lead to the subject-matter presently claimed unrealistic.

As for document D10 what this teaches, in a tyre with a tread pattern as defined in the preamble of present claim 1, is to have in at least one block row some shortened transverse cuts which are open at only one end into a longitudinal groove. As shown in the embodiment of Figure 5 there are three block rows on each side of the equatorial plane. The outer (shoulder) row only has transverse cuts extending across its full width. The two inner rows have a predetermined sequence of full and shortened transverse cuts, the sequence appearing to be the same for both rows but displaced in phase with respect to each other. Since, within the terms of the present patent, the shortened cuts produce a fractional number of blocks, it is true that the outer row has a higher number of blocks than the adjacent inner row. That inner row has however the same number of blocks as the innermost row adjacent the equatorial plane. Accordingly the requirement of feature (e) of claim 1 is not met. Furthermore, the through-going transverse grooves which are present have essentially the same form as disclosed in document D5,

ie comprising three straight portions approximating a single curve as shown in document D6. Thus feature (d) of claim 1 is also not present. In view of these distinctions the Board is of the opinion that document D10 can make no significant impact on the main line of attack on inventive step advanced by the respondents.

In summary, the Board has reached the conclusion that the subject-matter of claim 1 according to the first auxiliary request cannot be derived in an obvious manner from the state of the art and therefore involves an inventive step (Article 56 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 with the following documents:

Claims: claim 1 according to the first auxiliary request, claims 2 to 18 as granted;

Description: columns 1, 2 and 4 zo 9 as granted, column 3 submitted at the oral proceedings;

Drawings: As granted.

The Registrar: The Chairman:

S. Fabiani F. Gumbel