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**Datasheet for the decision
of 8 November 2022**

Case Number: T 0171/20 - 3.2.01

Application Number: 12796202.5

Publication Number: 2719293

IPC: A24D1/02, B41M3/00

Language of the proceedings: EN

Title of invention:

COMPOSITION FOR COATING A PAPER WRAPPER FOR SMOKING ARTICLES

Patent Proprietor:

Miquel y Costas & Miquel, S.A.

Opponent:

Schweitzer-Mauduit International Inc.

Headword:

Relevant legal provisions:

EPC Art. 83, 56

Keyword:

Sufficiency of disclosure - undue burden (no) - completeness
of disclosure - support by the description (yes)
Inventive step - (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0171/20 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 8 November 2022

Appellant: Schweitzer-Mauduit International Inc.
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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
4 November 2019 concerning maintenance of the
European Patent No. 2719293 in amended form.

Composition of the Board:

Chairman G. Pricolo
Members: M. Geisenhofer
O. Loizou

Summary of Facts and Submissions

- I. The appeal was filed by the opponent (appellant) against the interlocutory decision of the opposition division finding that, on the basis of the first auxiliary request (then on file), the European patent EP 2 719 293 met the requirements of the EPC.
- II. The opposition division decided that the subject-matter of this request was novel over document
E1 US 2004/0020502 A1
and inventive over a combination of E1 with document
E14 US 7 677 256 B2, or
E16 WO 02/37991 A1, respectively.

The opposition division also referred *inter alia* to document

E12 GB 1 244 755.

Furthermore, the opposition division held that the patent, on the basis of this request, disclosed the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

- III. At the oral proceedings held before the Board, the appellant (opponent) 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 auxiliary request 1 or auxiliary request 2 as filed with their reply.

- IV. Independent claim 1 according to the **main request** (upheld by opposition division) reads as follows:
"A composition comprising gum arabic for coating by printing a paper wrapper for smoking articles to obtain self-extinguishing smoking articles, characterised in that the gum arabic is in combination with a filler which comprises calcium carbonate; and the composition comprises, expressed with respect to the dry material weight of the composition:
between 40% and 95 % by weight of gum arabic, and between 5% and 60% by weight of calcium carbonate."

Furthermore, the use of this composition is claimed in claim 4, a paper wrapper coated with this composition is claimed in claim 14 and a self-extinguishing smoking article with this coated paper wrapper is claimed in claim 16.

- V. The appellant's arguments can be summarised as follows:
- (a) The invention according to the main request was not disclosed in a manner sufficiently clear and complete for a skilled person to carry it out since the patent did not provide all relevant information required to achieve a self-extinguishing smoking article with a paper wrapper having the claimed composition.
 - (b) The ranges given in claim 1 of the main request for the percentages of gum Arabic and calcium carbonate were so broad that it was not sufficient to provide only one embodiment for the claimed coating composition.
 - (c) It was hence evident that self-extinguishment was not obtained over the whole breadth of claim 1.

Since the respondent failed to prove that the alleged effect could indeed be obtained for any values within the ranges given in claim 1, the invention was not sufficiently disclosed.

- (d) The subject-matter of claim 1 according to the main request was not inventive starting from E1 as closest prior art. E1 disclosed a composition of gum arabic and aluminium hydroxide as filler whereby E14 and E16 rendered it obvious to use calcium carbonate as replacement filler in the composition. This was also in line with the disclosure of E12.
- (e) Documents E14 and E16 could also be used as suitable starting points for arguing inventive step. The skilled person knew from common general knowledge that gum arabic was suitable for being used in the coatings of E14 and E16, respectively.

VI. The respondent's arguments can be summarized as follows:

- (a) The invention consisted in finding a replacement filler for aluminium hydroxide. It was hence not necessary to enumerate all parameters of the paper wrapper and of its coating allowing to optimize the paper wrapper's ability to self-extinguish.
- (b) The ranges given in claim 1 were broad but there was no doubt that a coating could be made from the composition using gum arabic and calcium carbonate in percentages chosen within the entire breadth of the ranges. It was hence not necessary to disclose a plurality of embodiments.

- (c) If there were particular values within the ranges that did not allow to obtain the alleged effect, it was up to the appellant as opponent to provide evidence in that respect.
- (d) The skilled person would not replace the aluminium hydroxide used in E1 by calcium carbonate. E14 and E16 disclosed calcium carbonate as a filler but not in combination with gum arabic such that the skilled person had no teaching at hand to use it in E1.
- (e) Starting from either of E14 or E16, the skilled person would not use gum arabic, and in particular not in the percentages given in claim 1.

Reasons for the Decision

Main request

Sufficiency of disclosure (Article 83 EPC)

- 1. The patent complies with the requirements of Article 83 EPC.
- 1.1 The opposition division held that the invention according to the main request discloses the invention in a manner sufficiently clear and complete for the skilled person to carry it out.
- 1.2 The appellant argued that self-extinguishment depended not only on the composition of the coating and in particular on its contents of gum Arabic and calcium carbonate, but also on a plurality of further parameters, such as the percentage dry weight in the

composition, which were neither identified in the patent nor quantified. The skilled person was hence not given a clear and exhaustive teaching about which parameters influenced the ability to self-extinguish and how these parameters were to be chosen. This became particularly clear from tables 2 and 3 of the patent which disclosed four different tests using one and the same composition (with 66 % of gum Arabic and 33 % of aluminium hydroxide, respectively of calcium carbonate) providing different results for the self-extinguishment capability. The skilled person seeking to reproduce a self-extinguishing smoking article with the coated paper wrapper would have to carry out extensive tests and this amounted to an undue burden.

- 1.2.1 The Board notes that paragraphs [0038] - [0041] of the granted patent refer to the preparation of a composition in the form of a liquid ink. The application of the ink to the paper wrapper is then described in paragraphs [0042], whereas the tests for measuring the capability of the resulting paper wrapper to self-extinguish are described in paragraphs [0042] - [0046]. The physical characteristics of the paper wrapper are given in table 1. The test whether a paper wrapper provided with coating is self-extinguishing is standardized as set out in paragraph [0002], and is thus known to the skilled person.

The patent hence discloses all relevant information about how to produce a composition for a coating, how to apply it to a paper wrapper and how to test it with regard to its ability to self-extinguish. This does not require extensive tests such that the board cannot see why the skilled person should not be able to reproduce the composition according to claim 1, the paper wrapper

according to claim 14 or the smoking article according to claim 16 without undue burden.

- 1.2.2 Tables 2 and 3 show four examples with the same composition of the coating but different concentrations of dry material dissolved in water. Due to the different concentrations of dry material the resulting layer weight differs but the remaining parameters (e. g. kind of paper wrapper on which the coating is applied, the method of application etc.) remain unchanged.

As observed comparing the tables, the resulting SE-values ("self-extinguishing" values) and FASE-values ("free air self-extinguishing" values) when using calcium carbonate are identical or better than the values obtained when using aluminium hydroxide for any concentration of dissolved dry material used for the coating (with %SE and %FASE being 100 for both the composition with aluminium hydroxide and the composition with calcium carbonate).

The results of tables 2 and 3 hence document that aluminium hydroxide can be substituted by calcium carbonate when producing an ink used as a coating on a paper wrapper, whereby calcium carbonate allows to achieve better characteristics with regard to the paper wrapper's behaviour of self-extinguishment.

- 1.2.3 This is exactly the object of the invention identified in paragraph [0011].

Contrary to the appellant's understanding, it is not the object of the invention to provide a paper wrapper with a particularly improved burn behaviour (e. g. maximizing the SE-value), but to obtain better self-

extinguishing properties as compared to a similar composition containing aluminium hydroxide. As can be derived from tables 2 and 3, this is true for any of the four tests carried out since the SE-values are all above zero.

There is hence no need to identify further relevant parameters and/or provide values for these parameters influencing the paper-wrapper's ability to self-extinguish, the invention being thus sufficiently disclosed.

1.3 The appellant further argued that the patent only disclosed one single embodiment and this was not sufficient to prove that the alleged effect could be obtained across the entire ranges for gum arabic and calcium carbonate given in claim 1. Under these circumstances, it would have been up to the respondent to provide tests proving that any percentage of gum arabic and of calcium carbonate within the ranges given in claim 1 provided a coating allowing to control the self-extinguishment of the paper wrapper.

1.3.1 The board agrees that both ranges are broad. This circumstance, however, is not *per se* such to cast doubts that gum arabic and calcium carbonate may be used in the claimed percentages for a coating of a paper wrapper. In fact, the appellant did not provide any evidence indicating that not all combinations of gum arabic and calcium carbonate with percentages as defined in claim 1, when applied to a paper wrapper, would contribute to self-extinguishment. Tables 2 and 3 allow to compare the aluminium hydroxide and calcium carbonate whereby it is obvious that for some embodiments, both provide a lower self-extinguishment than for others. This is however not contrary to the

inventive concept of replacing aluminium hydroxide by calcium carbonate.

- 1.3.2 Hence the board sees no reason to deviate from the opposition division's view with regard to sufficiency of disclosure.

Novelty (Article 54 EPC) and inventive step (Article 56 EPC)

2. The subject-matter of claim 1 is novel in the sense of Article 54 EPC.

This was undisputed between the parties.

3. The subject-matter of claim 1 is inventive over the prior art cited in the proceedings and hence also complies with the requirements of Article 56 EPC.

- 3.1 The opposition division held that claim 1 is inventive. They considered document E1 to represent the closest prior art.

- 3.2 The appellant argues in a first line of argument that claim 1 is not inventive over a combination of E1 with any of E14, E16 or E12 respectively.

- 3.2.1 Document E1 discloses a composition intended for coating by printing (see paragraph [0012]: printing "ink") a paper wrapper for smoking articles to obtain self-extinguishing smoking articles. The composition comprises gum arabic (see paragraph [0015]) in a concentration between 0,15% and 60%. Aluminium hydroxide is added in an amount of about 10%, the rest of the composition consisting of water until completing 100% (see paragraph [0016]).

Albeit the concentration of up to 60% of the gum arabic is not *expressis verbis* measured by weight, it must be assumed that reference is made to the weight since gum arabic is provided in solid state and needs to be dissolved (see paragraph [0015]: "*dissolving a predetermined amount of gum arabic ... in water*"). A concentration of gum arabic of up to 60% falls within the range given in claim 1 (between 40% and 95 % by weight).

As set out in paragraph [0016], aluminium hydroxide is used as a fire retardant filler.

- 3.2.2 The subject-matter of claim 1 differs from the composition known from E1 in that the gum arabic is in combination with a filler which comprises calcium carbonate in an amount, expressed with respect to the dry material weight of the composition, which is between 5% and 60% by weight.
- 3.3 Starting from document E1, the objective technical problem to be solved consists in finding an alternative filler suitable for replacing aluminium hydroxide.
 - 3.3.1 It is to be noted that the composition of claim 1 requires a mixture of gum arabic and calcium carbonate whereby it is the combination of these components which provides for the coating's ability to influence the burn behaviour of the paper wrapper.
 - 3.3.2 Document E14 discloses the use of calcium carbonate as a filler (see column 2, lines 50 - 56) but is not limited thereto as it discloses (starting in column 17, line 39) an enumeration of a plurality of suitable filler materials.

Both of the above-mentioned passages, however, combine calcium carbonate with a polymeric resin (as an example, ethylcellulose is referred to) and not with gum arabic as required by claim 1. E14 thus does not teach the skilled person to use the combination of gum arabic and calcium carbonate.

- 3.3.3 Document E16 in turn discloses a paper wrapper that can be coated according to page 3, lines 31 - page 4, line 1 with a composition including a filler such as calcium carbonate. This is again disclosed on page 12, lines 14 - 24. The filler is, however, not combined with further components, and in particular not with gum arabic.

E16 hence similarly to E14 fails to disclose the combination of gum arabic with calcium carbonate such that E16 cannot render the composition of claim 1, especially the percentages mentioned in claim 1, obvious either.

- 3.3.4 Document E12 discloses on page 1, lines 64 - 78 a composition for a coating comprising a plurality of ingredients including calcium carbonate in an amount of 30 - 35% and gum arabic in an amount of 5 - 10%. Gum arabic is only used as an agent providing flexibility to the coating but does not influence significantly the coating's permeability.

If the skilled person would apply the teaching of E12 to E1, they would replace the entire coating used in E1 with the coating known from E12 and hence arrive at a composition lacking the amounts required by claim 1. An amount of 5 - 10% of gum arabic is not within the claimed range of 40 - 95%, not even close to it.

3.3.5 Starting from document E1, it is hence not obvious to arrive at the composition of claim 1. Using the composition of claim 1 as defined in claim 5, a paper wrapper with the composition of claim 1 as defined in claim 14 and a smoking article with the paper wrapper according to claim 16 are not obvious either.

3.4 The appellant further argued starting from document E14 as closest prior art, alleging that the skilled person would have combined the filler calcium carbonate disclosed in E14 with gum arabic due to their general knowledge on film forming agents in the technical field of producing cigarettes.

3.4.1 Document E14 discloses a paper wrapper coated with several layers. As set out above, one of these layers is produced using a composition that combines a polymeric resin (such as ethylcellulose) with calcium carbonate.

Furthermore, E14 discloses in column 18, lines 43 - 67 the typically used amounts: The amount of basic material in the composition (identified as "film-forming agent" in E14 and having a similar function to the gum arabic used in claim 1) typically does not exceed about 30 % whereas the filler (i. e. calcium carbonate) is used in an amount of 3 % to 35 %, the amount of the filler thus falling within the range given in claim 1, the amount of basic material being clearly inferior to the range given in claim 1.

3.4.2 The subject-matter of claim 1 hence differs from the composition known from E14 in that

- gum arabic is used as a basic material of the composition instead of the polymeric resin;

- the amount of gum arabic is between 40 % and 95 % by weight; and
- the composition is suitable to make a paper wrapper self-extinguishing.

3.4.3 Even if it were accepted that gum arabic is a suitable basic material for the composition, the skilled person has no teaching at hand to indeed replace the polymeric resin of E14 by gum arabic, and to modify at the same time the amount of this component (i. e. less than 30 %) to be comprised within the range of claim 1 (i. e. at least 40 % to 95 %).

3.4.4 Furthermore, it remains unclear whether such a modified composition is able to influence the burn behaviour of the paper wrapper that is coated with a plurality of further coating layers without knowing the possible interaction with the adjacent coating layers. E14 only teaches that coatings may include calcium carbonate as filler but remains silent with regard to the effect achieved by that filler.

3.4.5 The subject-matter of claim 1 is hence not obvious when starting from E14.

3.5 The appellant also argued starting from document E16 as closest prior art.

3.5.1 Document E16 discloses similarly to E14 a paper wrapper coated with a composition. As set out on page 3, last paragraph, the composition can include alginate solutions, pectin solutions, silicate solutions, starch solutions, carboxymethyl cellulose solutions, guar gum solutions and other cellulose derivative solutions. A filler, such as chalk, clay, a metal oxide or calcium carbonate can be added.

The composition serves to reduce the ignition proclivity characteristics of the paper wrapper (cf. title of E16).

3.5.2 The subject-matter of claim 1 hence differs from the composition known from E16 in that

- gum arabic is used as a basic material of the composition;
- the amount of gum arabic is between 40 % and 95 % by weight; and
- the amount of calcium carbonate is between 5 % and 60%.

3.5.3 Even if the skilled person would refrain from using one of the components identified in E16 as a basic material for the composition but would use gum arabic instead, he/she has no teaching at hand to use the amounts given in claim 1 for gum arabic and calcium carbonate.

3.5.4 The subject-matter of claim 1 is hence not obvious when starting from E16 either.

3.6 Further lines of argument with regard to inventive step and/or further deficiencies were not raised by the appellant such that the board has no reason to deviate from the opposition division's decision.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Vottner

G. Pricolo

Decision electronically authenticated