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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CONSANTIN DONEA
and AJIT RANADE

Appeal 2012-001008
Application 11/774,749
Technology Center 1700

Before EDWARD C. KIMLIN, MARK NAGUMO, and
GEORGE C. BEST, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-6, 11, 13-17, 19, and 30-40. We have jurisdiction under 35 U.S.C. § 6(b). Claim 1 is illustrative:

1. A multilayer article, comprising:
 - a core layer comprising a core layer thermoplastic resin and a core flame retardant additive; and
 - a cap layer comprising a cap layer thermoplastic resin and a cap layer flame retardant additive;wherein the core layer comprises a sufficient amount of core flame retardant additive and the cap layer comprises a sufficient amount of a cap

flame retardant additive such as that the multilayer article consistently passes a smoke density test as set forth in FAR 25.5, Appendix F, Part V; and

wherein the core flame retardant additive and the cap flame retardant additive comprise a non-brominated resin.

The Examiner relies upon the following references as evidence of obviousness:

Kyle et al. (Kyle)	US 4,607,514	Sep. 2, 1986
Campbell et al. (Campbell)	US 6,433,046 B1	Aug. 13, 2002
Bumann et al. (Bumann)	US 6,872,798 B2	Mar. 29, 2005
Seidel et al. (Seidel)	US 7,144,935 B2	Dec. 5, 2006

P. Schmitz et al., "Films," *Ullmann's Encyclopedia of Industrial Chemistry*, Vol. A11, pp. 85-111 (5th ed. 1988) (hereinafter "*Ullmann's*").

Appellants' claimed invention is directed to a multilayer article comprising a core and a cap layer, each of which comprises a thermoplastic resin and a flame retardant. The flame retardant for both layers comprises a non-brominated resin.

Appealed claims 1-6, 11, 13-17, 19, and 30-39 stand rejected under 35 U.S.C. § 112, first paragraph, written description requirement. The same claims also stand rejected under 35 U.S.C. § 112, second paragraph. In addition, the appealed claims stand rejected under 35 U.S.C. § 103(a) as follows:

(a) claims 1-3, 5, 11, 13-16, 19 and 30-39 over Bumann in view of Seidel, Campbell, and *Ullmann's*, and

(b) claims 4, 6, 17, and 40 over the stated combination of references in (a) above further in view of Kyle.

We have thoroughly reviewed each of Appellants' arguments for patentability, as well as the specification and declaration data relied upon in support thereof. However, we are in complete agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejections under § 103 for the reasons set forth in the Answer, which we incorporate herein. We will not, however, sustain the Examiner's rejections under § 112, first and second paragraphs.

We consider first the Examiner's rejections under § 112, first and second paragraphs. According to the Examiner, the original Specification does not provide descriptive support for the claim recitation "consistently passes" regarding the required smoke density test. However, we agree with Appellants that one of ordinary skill in the art would have readily understood that multilayer articles within the scope of the appealed claims always, or consistently, pass the specified smoke density test. We note that the original claims, before the insertion of the term "consistently", embraced only multilayer articles which pass the test. Since it is well settled that claims are not to be read to embrace inoperative embodiments, a reasonable interpretation of the appealed claims is that only multilayer articles which pass the recited test are encompassed by the appealed claims.

Manifestly, we disagree with the Examiner that the term "consistently" renders the claims indefinite under § 112, second paragraph.

Turning to the § 103 rejections, there is no dispute that Bumann, like Appellants, discloses a multilayer article comprising core and cap layers comprising a thermoplastic resin and flame retardants. Bumann discloses

brominated and non-brominated flame retardants and, although the reference does not expressly teach non-brominated resins, Appellants do not contest the Examiner's finding that Campbell evidences that it was preferred in the art for certain applications to use bromine-free flame retardants in order to meet environmental regulations. Nor have Appellants contested the Examiner's finding that Seidel teaches that it was known in the art to use halogen-free flame retardants to alleviate the secondary effects of fire in terms of smoke density, toxicity and corrosiveness, as well as for ecotoxicological reasons. Accordingly, based on the collective teachings of the prior art, we are convinced that the Examiner has drawn the proper legal conclusion that it would have been obvious for one of ordinary skill in the art to select a non-brominated resin for the core and cap thermoplastic layers of Bumann in order to attain the advantages discussed by Campbell and Seidel. We note that all three references are directed to flame retardants for polycarbonate articles.

Appellants cite Bumann at column 3, lines 30-31 for the teaching that bromine atoms are particularly preferred substituents of a flame retardant. However, as pointed out by the Examiner, the entirety of the quoted sentence states that bromine substituents are particularly preferred "[w]here appropriate" (col. 3, l. 29). Clearly, based on the knowledge of the skilled artisan at the time of filing the present application, one of ordinary skill in the art would not have selected brominated retardants for applications where smoke density and environmental effects are a concern. The same rationale applies to Appellants' argument that Campbell also discloses brominated flame retardants.

Appellants rely upon specification and declaration data to support their argument that, based on the teachings of the prior art, it was unexpected that the use of a non-brominated flame retardant would consistently pass the recited smoke density test. The data shows that while only some brominated flame retardants pass the test, all of the non-brominated retardants are successful. Declarant Donea, one of the present inventors, states “[i]t was unexpected to discover that the use of a non-brominated flame retardant additive consistently met the requirements to pass the smoke density test” (Decl. para. 12). The Declarant further states “[b]ased upon the Examiner’s contention, it should have been expected that a non-brominated flame retardant additive would behave in the same manner as a brominated flame retardant additive” (*id.*).

Our review of the specification and declaration data, when considered in light of the applied prior art, leads us to the same conclusion arrived at by the Examiner, i.e., Appellants’ evidence falls far short of establishing unexpected results. To wit, the declarant has provided no factual basis for his conclusory remark that it was unexpected that brominated and non-brominated flame retardants do not behave in the same manner. Seidel expressly teaches the use of halogen-free flame retardant systems to reduce smoke density and toxicity. Hence, the evidence indicates that one of ordinary skill in the art would have **expected** the non-brominated flame retardants to pass the smoke density test unlike their brominated counterparts. It is well settled that just as unexpected results are evidence of nonobviousness, expected results are evidence of obviousness.

Also, as set forth by the Examiner, Appellants’ evidentiary data is hardly commensurate in scope with the breadth of exclusionary rights sought

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by the appealed claims. In the words of the Examiner, “the present claims do not contain any restriction as to the type or the amount of non-brominated resin-based flame retardant present, while the showings in the specification and the Donea Declaration are limited to highly specific materials and narrow component content ranges” (Ans. 24, third para.).

As for separately rejected claims 4, 6, 17, and 40, Appellants have not refuted the Examiner’s reasoning that, based on Kyle, it would have been obvious for one of ordinary skill in the art to employ a protective and/or decorative polyvinyl fluoride film in the article of Bumann.

In conclusion, based on the foregoing, and the reasons well stated by the Examiner, the Examiner’s rejections under § 103 are sustained. The rejections under § 112, second paragraph, are reversed. Consequently, the Examiner’s decision rejecting the appealed claims is affirmed.

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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