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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAN FOLKESSON

Appeal 2014-009772
Application 13/027,571
Technology Center 1700

Before ADRIENE LEPIANE HANLON, ROMULO H. DELMENDO, and
JULIA HEANEY, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

The Appellant filed an appeal under 35 U.S.C. § 134 from an Examiner's decision finally rejecting claims 1, 3–9, 11, 13, 14, and 16–18 under 35 U.S.C.

§ 103(a) as unpatentable over Nohr¹ in view of Robinson 671,² Robinson 548,³ Edwards,⁴ Niemi,⁵ or Graveno.^{6,7} We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

The claimed subject matter is directed to a method and a system for measuring UV degradation of a plastic article. Independent claims 1 and 14 are reproduced below from the Claims Appendix of the Appeal Brief dated December 2, 2013 (“App. Br.”). The limitations at issue are italicized.

1. A method of measuring UV [ultraviolet] degradation of a plastic article, the method comprising the steps of:

providing a plastic article;

providing a UV indicator comprising a carrier material having a thickness and a pigment degradable by exposure to UV radiation, the pigment being disposed in the carrier material; and

employing the UV indicator to provide a visible indication related to a useful life of the plastic article, the employing step comprising exposing the plastic article together with the UV indicator to substantially the same cumulative amounts of UV radiation for the useful life of the plastic article, wherein UV degradation of the pigment corresponds to UV degradation of the plastic article, and using UV degradation of the pigment to provide the visible indication related to a remaining useful life of the plastic article.

App. Br. 11 (emphasis added).

¹ US 6,054,256 A, to Nohr et al., issued on April 25, 2000 (“Nohr”).

² US 2001/0039671 A1, to Robinson et al., published November 15, 2001 (“Robinson 671”).

³ US 2003/0110548 A1, to Robinson et al., published June 19, 2003 (“Robinson 548”).

⁴ US 6,151,711, issued November 28, 2000 (“Edwards”).

⁵ US 4,293,757, issued October 6, 1981 (“Niemi”).

⁶ US 4,185,328, issued January 29, 1980 (“Graveno”).

⁷ Claims 12, 19, and 20 are also pending but have been withdrawn from consideration.

14. A system for determining ageing of a plastic article, the system comprising:

a plastic article;

a UV indicator comprising a first carrier material having a varying thickness and a first pigment degradable by exposure to UV radiation, the first pigment being disposed in the first carrier material;

wherein the UV indicator is configured to be affixed to the plastic article such that the indicator device and the plastic article would receive substantially the same cumulative amounts of UV radiation;

wherein the first carrier material, the thickness of the first carrier material, and the first pigment are selected and configured such that, upon exposure to UV radiation, UV degradation of the first pigment corresponds to UV degradation of the plastic article, and UV degradation of the first pigment provides a visible indication related to a remaining useful life of the plastic article.

App. Br. 12 (emphasis added).

Similarly, claim 16, the other independent claim on appeal, is directed to a system for determining ageing of a plastic article “wherein the first carrier material, the thickness of the first carrier material, and the first pigment are selected and configured such that, upon exposure to UV radiation, UV degradation of the first pigment corresponds to UV degradation of the plastic article.” App. Br. 13.

B. DISCUSSION

The Examiner finds Nohr discloses a UV exposure indicator that can be attached to a surface exposed to UV radiation, such as an arc welder’s helmet. The Examiner finds the indicator comprises a carrier and a colorant composition

disposed in the carrier, wherein the colorant composition is capable of being degraded by exposure to UV radiation. Ans. 5.⁸

The Examiner finds:

Nohr further teaches that the exposure to ultraviolet radiation can be hazardous to humans The ultraviolet radiation can cause permanent damage to the eyes and skin. For example, arc welders must wear protective gear to prevent exposure to the ultraviolet radiation emitted during arc welding. Accordingly, there is a need for an inexpensive and convenient means for indicating the degree of exposure to ultraviolet radiation.

Ans. 6 (citing Nohr, col. 2, ll. 27–34).

The Examiner finds “UV radiation is also damaging to any materials” and concludes that “[i]t is obvious that the protective gear for the welders also degrade upon UV exposure.” Ans. 6.

The Examiner does not find that the welding helmet described in Nohr is plastic. Nonetheless, the Examiner relies on Robinson 671, Robinson 548, Edwards, Niemi, and Graveno to show that welding helmets were known to be made of plastic. The Examiner concludes that “[i]t is obvious that Nohr’s welder’s helmet may be plastic.” Ans. 7.

The Appellant argues that Nohr “does not describe or suggest each element of independent claims 1, 14, and 16, for at least the following three reasons.” App. Br. 5. First, the Appellant argues that Nohr “does not describe a method of measuring UV degradation of an article.” App. Br. 5. Second, the Appellant argues that Nohr “does not describe a method of measuring UV degradation of a plastic article wherein ‘UV degradation of the pigment *corresponds to UV degradation of the article*[.]’” App. Br. 6.

⁸ Examiner’s Answer dated July 17, 2014.

Third, the Appellant argues:

Nohr et al. does not describe or suggest the step of “exposing the plastic article together with the UV indicator to substantially the same cumulative amounts of UV radiation,” as required by claim 1. Nohr et al. provides no reason why an indicator for preventing hazardous exposure to a *user* would not be removed and replaced with *each user* of the helmet, or for each *period of use*, rather than being continuously affixed to an article for the life of the article.

App. Br. 6.

In response, the Examiner finds Nohr “teaches that: a given dose of ultraviolet radiation will decolorate at least a portion of the indicator and the amount of the decoloration can be taken as an indication of the extent of exposure to ultraviolet radiation[.]” Ans. 18. However, according to the teachings of Nohr, the indicator measures UV exposure to a human, not UV degradation of an article as claimed. Significantly, the Examiner has failed to show that UV degradation of the pigment in Nohr’s indicator, corresponding to (1) UV exposure to a human and (2) UV degradation of a plastic welder’s helmet, would be the same.

The Examiner also concludes that it would have been obvious to one having ordinary skill in the art to “calibrate the indicator of Nohr so that the degradation of the colorant corresponds to the UV degradation/exposure of the article (welder’s helmet), for the purpose of indicating the duration of the UV exposure of the protective article.” Ans. 19.

The Examiner bases that conclusion on the statement in Nohr that “the strip/indicator will need to be calibrated to a particular source of ultraviolet radiation.” Ans. 19 (citing Nohr, col. 56, ll. 59–60). The Examiner, however, has not directed us to any disclosure in Nohr showing that the pigment in the strip is calibrated or selected such that UV degradation of the pigment corresponds to UV

degradation of an article having the strip affixed thereto. *See* Spec. ¶ 29.⁹ Thus, absent the Appellant's disclosure, there is no reason on this record why one of ordinary skill in the art would have calibrated Nohr's indicator or strip such that UV degradation of the pigment in the indicator corresponds to UV degradation of Nohr's modified arc welder's helmet.

Based on the foregoing, we cannot sustain the § 103(a) rejection of claims 1, 3–9, 11, 13, 14, and 16–18 on appeal.

C. DECISION

The Examiner's decision is reversed.

REVERSED

⁹ The Appellant discloses:

The properties of the pigment and the material thickness of the indicator device are selected such that the color degradation of the indicator device occurs at a rate sufficient to track the useful life of the plastic article. Stated another way, degradation of the pigment under the action of UV radiation corresponds to the degradation (e.g., crack formation) of the plastic article.

Spec. ¶ 29.