

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CAROL L. KNOX,  
JAMES A. CLAAR,  
DAVID N. WALTERS and  
STEPHEN J. THOMAS

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Appeal 2008-0817  
Application 10/793,518  
Technology Center 1700

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Decided: January 31, 2008

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Before EDWARD C. KIMLIN, CHARLES F. WARREN, and LINDA M. GAUDETTE, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-3, 13-24, 32, 33, 43-47, and 52. Claims 4-12, 25-31, 34-42, and 48-51 have been withdrawn from consideration. Claim 1 is illustrative:

1. In a photochromic article comprising:

- (a) a rigid substrate,
- (b) a photochromic organic polymeric coating appended to or at least a portion of at least one surface of said substrate, said photochromic coating comprising a photochromic amount of at least one photochromic material, and,
- (c) a layer chosen from a transparent second organic polymeric coating or an abrasion resistant coating that is superposed on said photochromic polymeric coating, the improvement comprising incorporating at least one polysiloxane surface active agent within the photochromic polymeric coating in amounts of 0.6 to 90 weight percent, based on the total amount of polymerizable resin solids that comprise the photochromic organic polymeric coating, sufficient to inhibit migration of photochromic material into said layer that is superposed on said photochromic polymeric coating.

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

Brady	3,929,708	Dec. 30, 1975
Krug	5,716,679	Feb. 10, 1998
Bowles, III (Bowles)	6,187,444 B1	Feb. 13, 2001

Appellants' claimed invention is directed to a photochromic article comprising a rigid substrate, a photochromic organic polymeric coating and a transparent second organic polymeric coating/abrasion resistant coating. The asserted improvement resides in incorporating at least one polysiloxane surface active agent within the photochromic polymeric coating. The polysiloxane is present in an amount of 0.62 to 90 weight percent and, according to Appellants, the polysiloxane inhibits migration of photochromic material in the layer.

Appealed claims 1-3, 13-24, 32, 33, 44-47, and 52 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bowles in view of Brady. Claim 43 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the stated combination of references further in view of Krug.

In accordance with Appellants' arguments, the following groups of claims stand or fall together:

- (a) claims 1-3, 13-24, 32, 33, and 52,
- (b) claim 43, and
- (c) claims 44-47.

We consider first the § 103 rejection of claims 1-3, 13-24, 32, 33, and 52. Appellants do not dispute the Examiner's factual determination that Bowles, like Appellants, discloses a photochromic article comprising a rigid substrate, a photochromic organic polymeric coating on a substrate, and a protective coating on the photochromic coating. Bowles also teaches that the photochromic coating may comprise a surface active agent and exemplifies Appellants' phenyl methyl polysiloxane (Examples 2 and 6-10). Bowles does not expressly teach the claimed amount of polysiloxane surfactant, 0.6 – 90 weight percent. The Examples of Bowles contains 0.05 and 0.234 weight percent phenyl methyl polysiloxane. While Brady evidences that it was known in the art to add a polysiloxane to a polymeric coating composition in the claimed amounts to reduce friction, it is our view that the claimed subject matter would have been obvious to one of ordinary skill in the art in view of Bowles alone. We agree with the Examiner that Bowles places no upper limit on the amount of polysiloxane surfactant that can be added to the photochromic coating layer, and it has generally been

held that where patentability is predicated upon a change in a condition of a prior art composition, such as a change in concentration or the like, the burden is on the applicant to establish with objective evidence that the change is critical, i.e., at least to a new, unexpected result. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955). In the present case, Appellants have proffered no objective evidence which establishes that using amounts of polysiloxane surfactant within the broadly claimed range yields unexpected results compared to the amounts exemplified by Bowles. Manifestly, the amount of a surfactant used is contingent upon the relative amounts of disparate materials formulated in the composition. Accordingly, we will sustain the Examiner's § 103 rejection of claims 1-3, 13-24, 32, 33, and 52.

We will also sustain the Examiner's § 103 rejection of claim 43 over the additional teaching of Krug. We agree with the Examiner that one of ordinary skill in the art would have found it obvious to employ the inorganic or organically modified inorganic particles of Krug in the second organic polymeric layer of Bowles in order to provide an embossed surface structure. Appellants urge that "Krug offers a list of suitable polymeric composites into which the particles may be incorporated at column 1, lines 43-56," but that "[p]olyurethane polymers, used in the coating compositions in the articles of Bowles, are not among them" (Principal Br. 12, last para.). However, we agree with the Examiner that Krug teaches that suitable, transparent polymer matrices, in general, may be used that are known for optical applications, and the disclosed list is simply exemplary and not all-exclusive. Appellants have presented no reason why one of ordinary skill in the art would have been dissuaded from using the particles of Krug in the

polyurethane coating of Bowles. Furthermore, the top protective coatings of Bowles are not limited to polyurethanes (see col. 15, ll. 30, et. seq.). Also, Appellants have not established any patentable distinction between the claimed less than 5 weight percent and the 5 percent disclosed by Krug.

The rejection of separately argued claims 44-47 is not ripe for our decision. Claim 44 sets forth that the transparent second organic polymeric layer is a radiation cured acrylic-based polymer, or a dendritic polyester acrylate-based polymer. The Examiner makes the finding that the additional coatings of Bowles include "acrylates which may be radiation cured—to impart scratch resistance and antireflection properties (Column 15 Line 30-Column 16 Line 15)" (Ans. 4, first para.). Appellants, on the other hand, maintain that "there is no teaching or suggestion in the Bowles reference of a transparent, organic polymeric layer comprising a radiation cured acrylic-based polymer or a dendritic polyester acrylate-based polymer" (Reply. Br. 8, second para.). The disclosure of Bowles referenced by the Examiner does not expressly describe a radiation cured acrylic-based polymer or a dendritic polymer acrylate-based polymer, *per se*. However, Bowles discloses that the protective coating may include SILVUE 124 and HI-GARD coatings. U.S. Patent No. 7,044,599 provides a disclosure that indicates that SILVUE 124 and HI-GARD may comprise a radiation cured acrylic-based polymer or a dendritic polyester acrylate-based polymer. However, such facts must be clarified on this record. Accordingly, this application is remanded to the Examiner to place on the record what specific disclosure of Bowles is referred to in the Answer regarding acrylates which may be radiation cured, as well as to identify the compositions of SILVUE 124 and HI-GARD, if

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possible. Also, any information that Appellants have with respect to SILVUE 124 and HI-GARD should be incorporated into the present record.

In conclusion, based on the foregoing, the Examiner's rejection of claims 1-3, 13-24, 32, 33, 43, and 52 is affirmed. The application is remanded to the Examiner regarding the rejection of claims 44-47.

This remand to the Examiner pursuant to 37 C.F.R. § 41.50(a)(1) is made for the consideration of a rejection. Accordingly, 37 C.F.R. § 41.50 (a)(2) applies if a Supplemental Examiner's Answer is written in respond to this remand by the Board.

In view of the above Remand to the Examiner for further prosecution of this application, this decision is not final for purposes of judicial review. 37 C.F.R. § 41.50(e)(2007).

**AFFIRMED and REMANDED**

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