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(54) **METHODS AND SYSTEMS FOR APPLYING AERODYNAMICALLY FUNCTIONAL COATINGS TO A SURFACE**

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(52) **U.S. Cl.**

CPC ... ***B05D 1/32*** (2013.01); *B05D 3/12* (2013.01); *B05D 5/065* (2013.01); *B05D 7/57* (2013.01); *B05D 2202/00* (2013.01); *Y10T 428/24628* (2015.01)

(58) **Field of Classification Search**

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See application file for complete search history.

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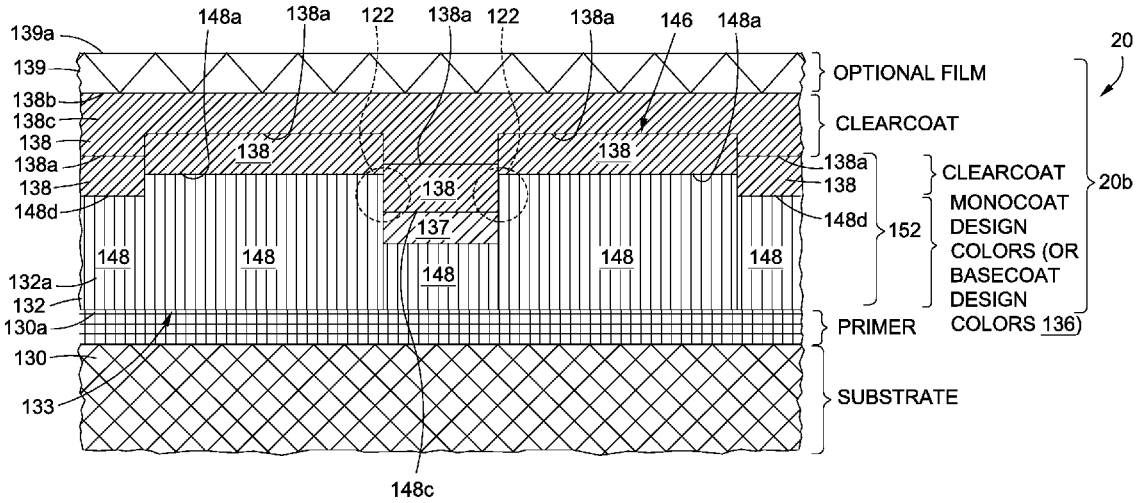
(57) **ABSTRACT**

A method for applying an aerodynamically functional coating to an exterior surface is provided. The method includes preparing an uncoated substrate surface to obtain a prepared substrate surface; applying a primer on the prepared substrate surface to obtain a primed substrate surface with a primer layer; applying and curing a basecoat field color to obtain a basecoat field color layer; masking for a basecoat design color on the basecoat field color layer; applying and curing the basecoat design color to obtain a first basecoat design color layer; masking for, applying, and curing any subsequent basecoat design color layers on the basecoat field color layer; applying and curing a clearcoat to obtain a first clearcoat layer; mechanically aero-contouring a plurality of coating edges to obtain an aero-contoured surface; and, applying additional clearcoat to obtain one or more additional clearcoat layers.

14 Claims, 14 Drawing Sheets