

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

ROBERT BOSCH LLC,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 12-574 (LPS)(CJB)
)	(CONSOLIDATED)
ALBEREE PRODUCTS, INC., API KOREA)	
CO., LTD., SAVER AUTOMOTIVE)	
PRODUCTS, INC., and COSTCO)	
WHOLESALE CORPORATION,)	
)	
Defendants.)	

RESPONSIVE DECLARATION OF DR. STEVEN DUBOWSKY

I, Steven Dubowsky, declare as follows:

1. As set forth in my declaration dated April 22, 2015, I am Professor Emeritus in the Department of Mechanical Engineering and in the Department of Aeronautics and Astronautics at the Massachusetts Institute of Technology. My CV is attached to this declaration as Exhibit 1.

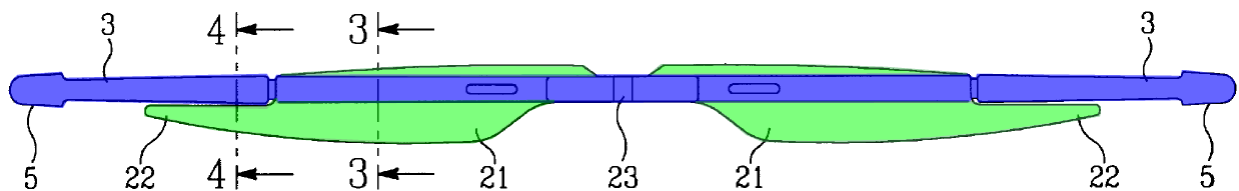
2. I submit this declaration in connection with Robert Bosch LLC (“Bosch”)’s responsive claim-construction brief and its opposition to Costco Wholesale Corporation (“Costco”)’s motion for summary judgment as to the Goodyear Hybrid wiper product. I have personal knowledge of the matters stated herein and would be competent to testify to them if required.

3. In providing my opinions, I have considered the patents-in-suit discussed below as they would be understood by one of ordinary skill in the art. To put myself in the position of one of ordinary skill in the art during the relevant time period, I relied on my education and industrial experience as a mechanical engineer, including my experience in the automotive

industry and with the design of mechanical systems and mechanical mechanisms, particularly those containing linkages and joints, and experience in fluid mechanics and aerodynamics. Further, I have been working as an expert in this field since 2009, when I was first retained for a case concerning the infringement of Bosch’s beam-blade patents by Pylon. I was accepted as an expert in that case and testified at the jury trial. I also reviewed the materials submitted by Costco in support of its motion for summary judgment as to the Goodyear Hybrid wiper product and regarding claim construction including the report of Eric H. Maslen (“Maslen Rep.”), the declaration of Daniel H. Kruger, and the video titled “Tutorial History of Windshield Wiper Development” and the accompanying transcript (“Costco Tutorial.”)

4. In the Costco Tutorial, Dr. Maslen states that while “the external appearance of hybrid wiper supports approximates that of beam-style wiper supports, they are composed of several articulated support components that, collectively, constitute a conventional bracket structure,” and offers U.S. Patent No. 6,000,093 (“the ’093 patent”) to Charng as an example of such hybrid wiper blade. (Costco Tutorial at 13.) I disagree. The word “hybrid” does not appear in the ’093 patent. *See* Exhibit 2. The ’093 patent discloses a conventional “whiffle-tree” (shown in blue) wiper blade with a spoiler (shown in green); the blade does not include a pre-curved, spring-elastic support element. (Ex. 2, ’093 patent at, *e.g.*, 1:9-12, 1:33-49, Figs. 1, 3, 4.)

Fig. 1



For at least these reasons, it is my opinion that the Goodyear Hybrid blade is not an example of the type of wiper blade assembly disclosed in Charng.

1. CLAIM CONSTRUCTION

A. Constructions for U.S. Patent No. 6,553,607

5. Dr. Maslen opines that the claimed “securing means” and “means for securing” have different meaning, and that the “claimed ‘means for securing the wiper blade on the joint pin’ ... include a structure (30) which is identical to the ’988 patent claimed ‘coupling part (20)’ and is ‘capable of swinging about the joint axis (55).’” (Maslen Rep. at 10.) I disagree.

6. It is my opinion that the terms “means for securing” and “securing means” are used interchangeably in the ’607 patent. Further, it is my understanding that in determining the construction of a “means-plus-function” claim term, the claimed function is first identified, and then the corresponding structure for that function as disclosed in the specification is identified.

7. It is my opinion that in claim 1, the function of the “means for securing” and “securing means” is to secure the wiper blade on the joint pin, and the corresponding structure as disclosed in the specification is an L-shaped shoulder. (’607 patent at 4:58–5:15, 6:45–56, 7:15–21, Figs. 3 and 5.)

B. Constructions for U.S. Patent No. 6,611,988

8. Dr. Maslen opines that the term “hinge half” of the ’988 patent means “a bearing recess (36) into which the pin of the wiper arm is inserted to complete the hinge.” (Maslen Rep. at 10). The claim is not so limiting.

9. In my opinion, “hinge half” is defined by the language of claim 11 as the portion of the coupling part formed by the bearing recess. (’988 patent at 7:22-24). This construction is further supported by the specification, which describes the hinge as the connection between the wiper arm and wiper blade (*see* ’988 patent at 1:20–25; 1:41–46; 4:13–15 (“The connection device is therefore simultaneously embodied as a hinge connection between the wiper blade 10

and the wiper arm 30’’)). The hinge half includes a hinge axis oriented transversely to the length of the wiper blade. (’988 patent at 7:20-22).

10. It is therefore my opinion that this limitation should be construed as the “portion of the coupling part formed by the bearing recess,” as proposed by Bosch.

C. Constructions for U.S. Patent No. 6,668,419

11. Dr. Maslen opines that the structures for the “means for maintaining the clearance” “include simple pegs installed between the two stiffeners, (70) or (170) in Figures 4, 5, 6, and 7 of ’419, springs (256) driving the two stiffeners onto outer stops (248) as indicated in Figures 9, 10, and 11, or screws (354) and (356) passing through the stiffeners as indicated in Figures 12 and 13.” (Maslen Rep. at 14.)

12. As stated in paragraph 6 above, it is my understanding that in determining the construction of a “means-plus-function” claim term, the claimed function is first identified, and then the corresponding structure for that function as disclosed in the specification is identified. Dr. Maslen does not identify the function for the “means for maintaining the clearance” term.

13. It is my opinion that in claims 1, 2 and 6, the function of the “means for maintaining the clearance” is to maintain the clearance between the facing longitudinal edges of the springs of the carrier element and the wiper strip bridge, and the corresponding structures disclosed in the specification are a peg situated on the base plate of a bridge-shaped component, or finger-like projections of the end cap wall that can be moved against spring force, or components held on the connecting device that penetrate springs in recesses. (’419 patent at 1:28–62, 2:1–35, 2:40–46, 3:57–4:3, 4:37–52, 4:63–5:20, 5:28–42, 6:34–55, 7:20–8:34, and Figs. 3–12.)

D. Constructions for U.S. Patent No. 6,836,926

14. I understand that Dr. Maslen states that the second moment of inertia, I_{zz} , should be calculated as $I_{zz} = \frac{bd^3}{12}$. (Maslen Rep. at 6.) I disagree.

15. As set forth in paragraphs 4-11 in my opening declaration dated April 22, 2015, it is my opinion that I_{zz} is properly calculated as $I_{zz} = \frac{d * b^3}{12}$. Such formula finds support in the specification of the '926 patent, which expressly teaches using this formula to calculate I_{zz} for the support element “of a rectangular profile.” ('926 patent at 6:58–7:1.)

16. Dr. Maslen’s proposed construction is contradicted by the express disclosure in the '926 patent. His own report confirms that a person of ordinary skill in the art would understand that the '926 patent relates to a lateral deflection angle of a wiper blade in a plane of the windshield (Maslen Rep. at 4, 6-7). Accordingly, to calculate the relevant moment of inertia “ I_{zz} ” one would use the equation from the specification, $I_{zz} = \frac{d * b^3}{12}$. It is my opinion that one of skill in the art would not calculate “ I_{zz} ” based on the axes’ positions on Figures 4, 5, and 7, as that value would not be useful in estimating the lateral deflection of a beam in the plane of the window.

E. Constructions for U.S. Patent No. 6,973,698

17. Dr. Maslen opines regarding the term a “spherically curved window.” He states without reference that: “‘spherically curved’ is often used to denote curved surfaces that are curved in any of two perpendicular directions at any given point on the surface.” Further, he states that “a spherically curved surface has, at any given point, no direction along which the surface is straight” and that “it would not be correct to say that a spherically curved surface has

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