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(12) **United States Patent**
De Block

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(45) **Date of Patent:** **Jan. 4, 2005**

(54) **WIPER BLADE FOR WINDSHIELDS, ESPECIALLY AUTOMOBILE WINDSHIELDS, AND METHOD FOR THE PRODUCTION THEREOF**

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(75) **Inventor:** **Peter De Block**, Halen (BE)
(73) **Assignee:** **Robert Bosch GmbH**, Stuttgart (DE)
(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 312 days.

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(21) **Appl. No.:** **09/786,852**
(22) **PCT Filed:** **Jul. 6, 2000**
(86) **PCT No.:** **PCT/DE00/02168**

English translation of the Abstract to DE 195 01 849 A1.*
* cited by examiner

§ 371 (c)(1),
(2), (4) **Date:** **May 3, 2001**

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(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

Jul. 9, 1999 (DE) 199 31 856
Jul. 9, 1999 (DE) 199 31 857
Jul. 9, 1999 (DE) 199 31 858
Jul. 5, 2000 (DE) 100 32 048

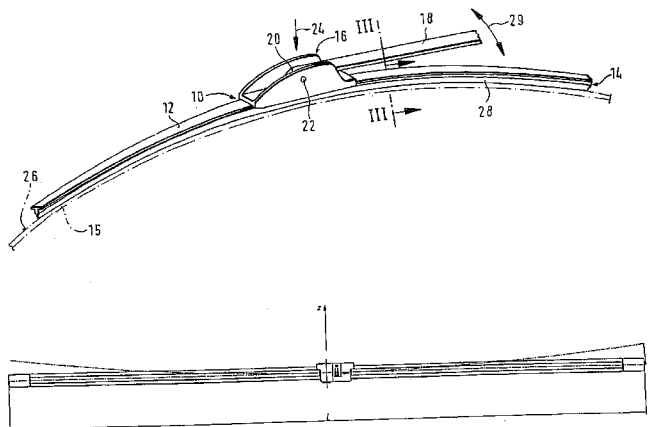
The invention relates to a wiper blade for windshields, especially automobile windshields, comprising at least one support element, a support element (12), a wiper strip (14) and connecting means (16) for a wiper arm (18). The support element (12) is a long flat rod to which the wiper strip (14) and the connecting means (16) are fixed. According to the invention, the flat rod has a cross-sectional profile (40), whereby $F_{wf} * L^2 / 48 * E * I_{zz} < 0.009$ when F_{wf} is the pressure force exerted on the wiper blade or the pressure force for which the wiper blade was originally intended, L represents the length of the wiper blade, E stands for the elasticity module of the flat rod material and I_{zz} is the moment of inertia of the cross-sectional profile around the z axis (perpendicular to an s axis associated with the flat rod and perpendicular to the y axis).

(51) **Int. Cl.**⁷ **A47L 1/00; B60S 1/02**
(52) **U.S. Cl.** **15/250.43; 15/250.451**
(58) **Field of Search** 15/250.43, 250.44,
15/250.451, 250.48, 250.361, 250.202,
250.33

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11 Claims, 6 Drawing Sheets



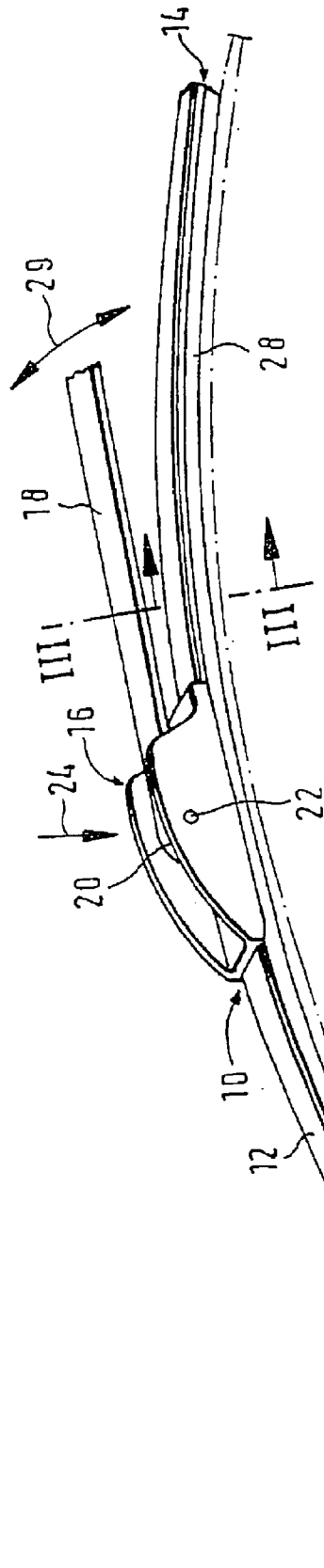


Fig. 1

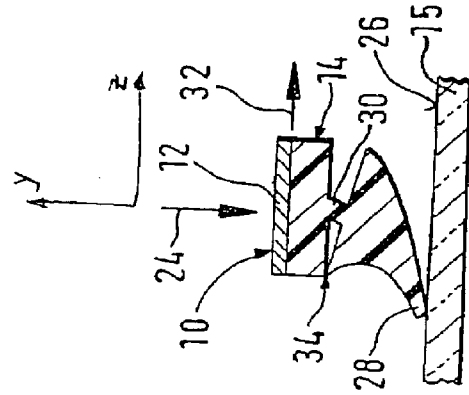


Fig. 3

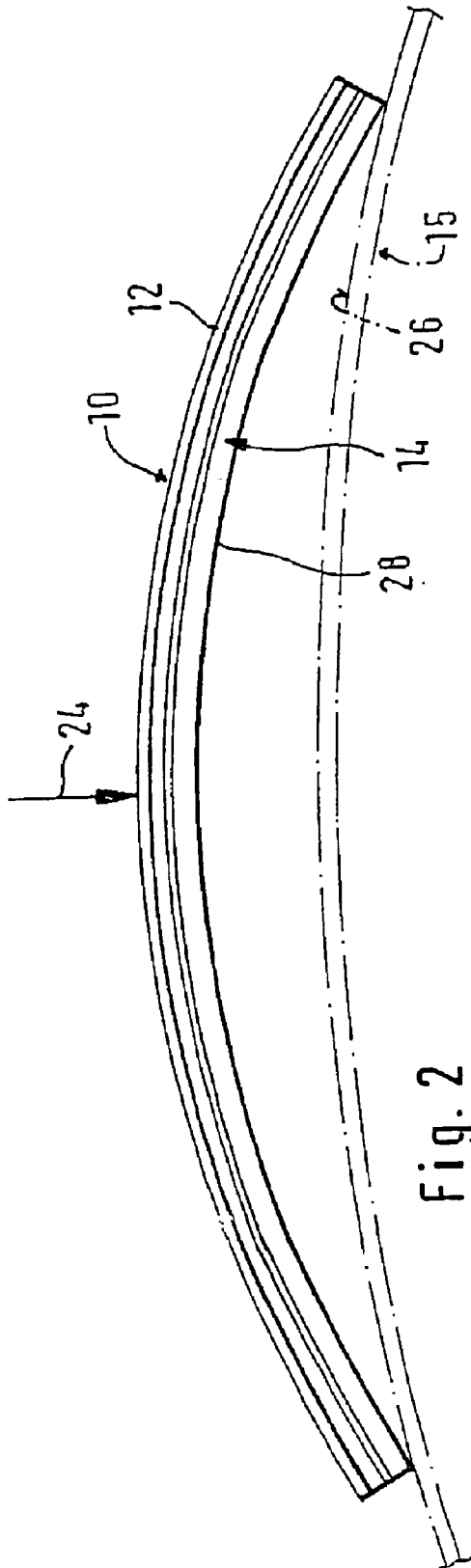


Fig. 2

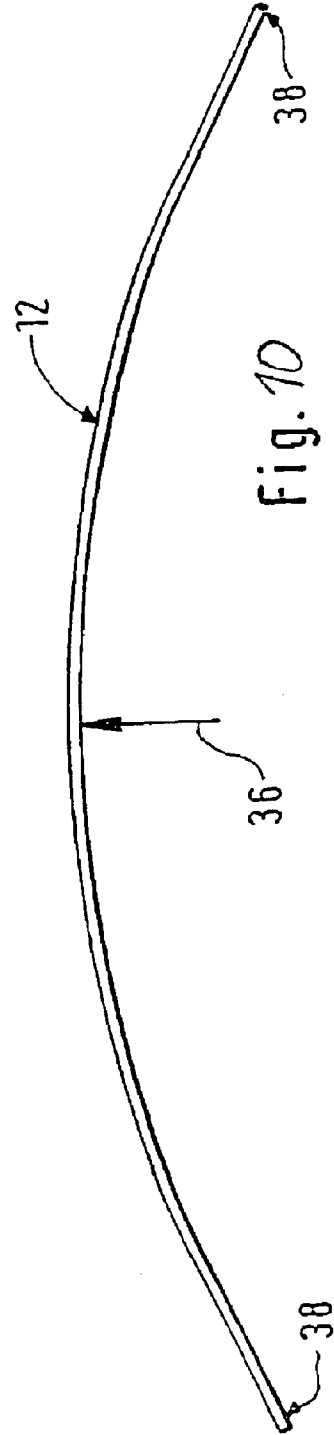


Fig. 10

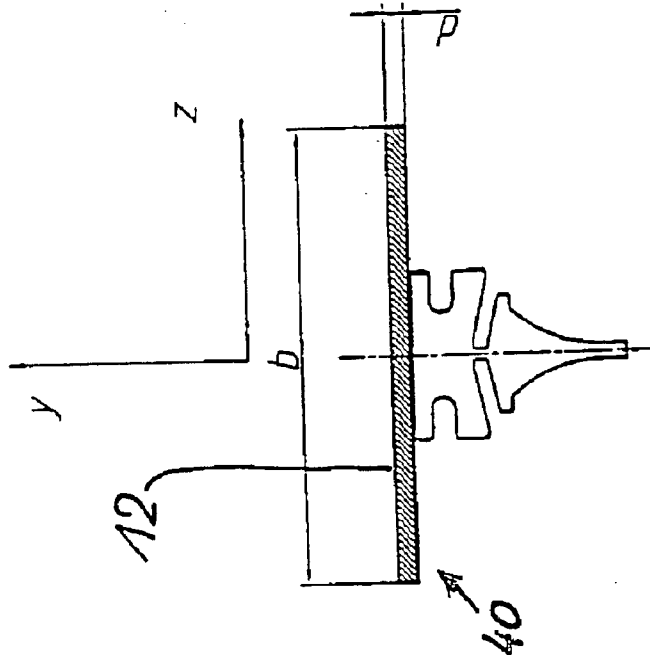


Fig. 4

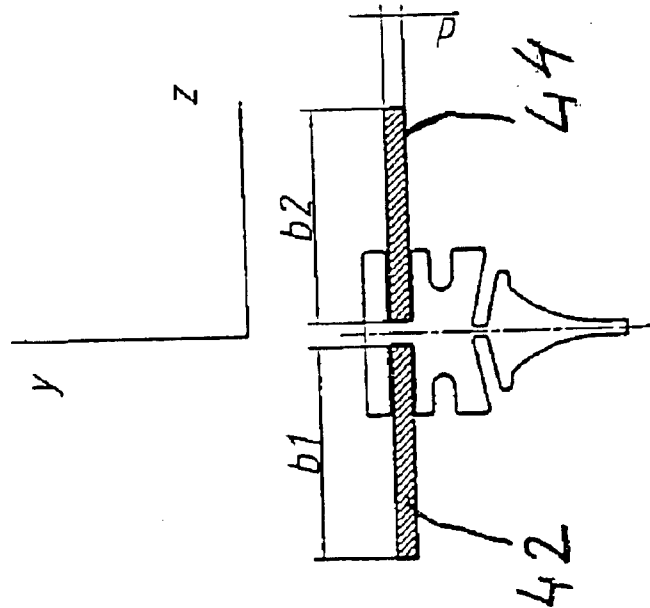


Fig. 5

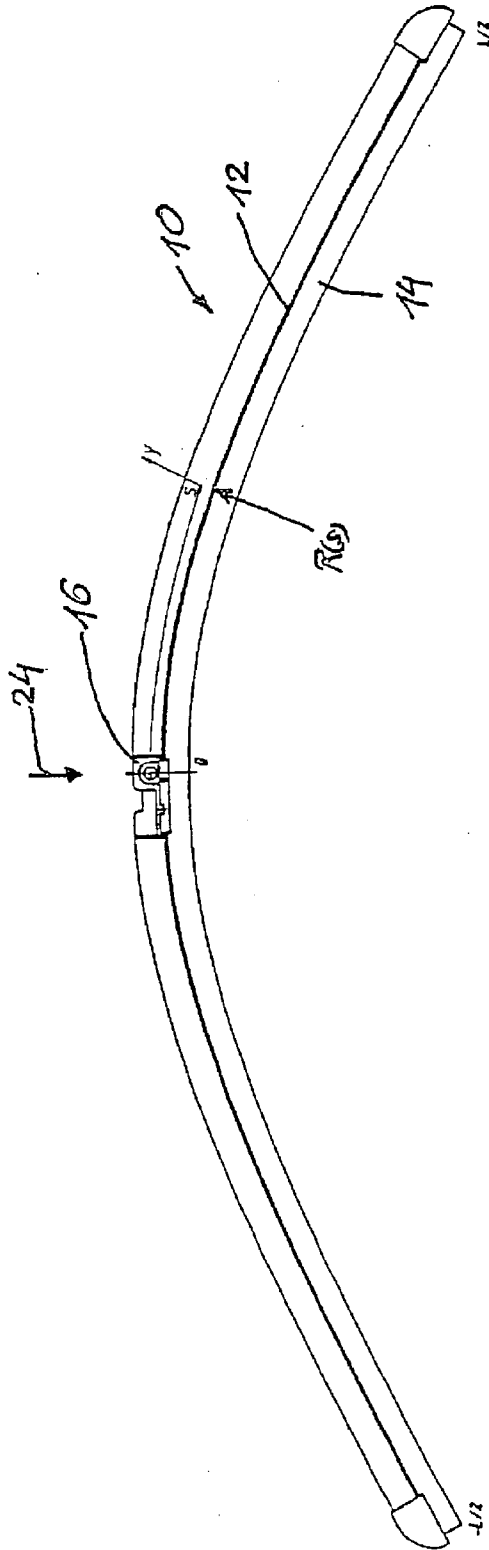


Fig. 6

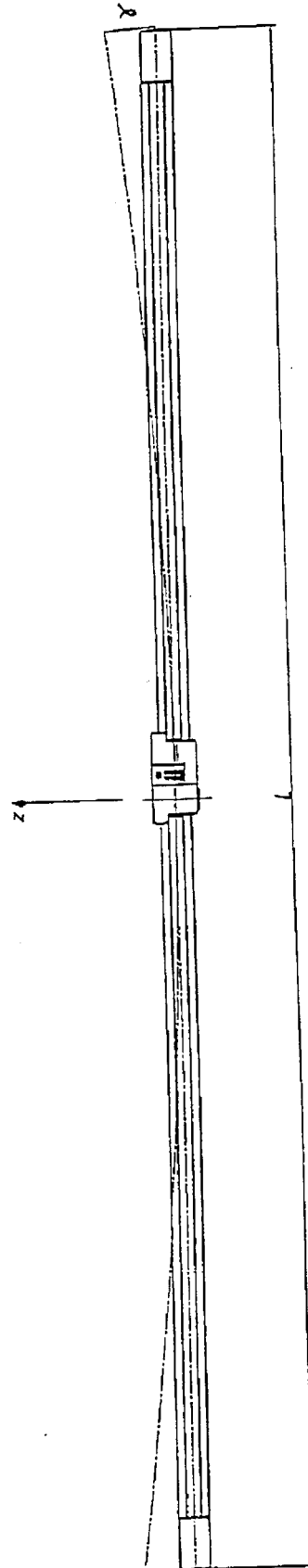


Fig. 7

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