ENCAPSULATED BEAM WITH ANTI-ROTATION SYSTEM

FIELD OF THE INVENTION

[0001] The present invention relates to windshield wiping blade assemblies. More particularly this invention relates to resilient windshield wiping blades having an encapsulated support beam element.

BACKGROUND OF THE INVENTION

[0002] A frequently encountered shortcoming in the design of conventional automotive windshield wipers is observed when the surface which has been wiped on the windshield is left with bands or streaks. This problem is often at least partly due to the failure of the wiper assembly to apply a uniform wiping force against the length of the wiper blade and thus also to the surface of the windshield. The lack of uniformity in the wiping force applied to the wiper blade is characterized by conventional wiper assemblies having superstructures which apply a force load upon the wiper blade at only relatively widely spaced intervals. As a result little, if any, force may be available at various locations between these spaced intervals.

[0003] Although the field of windshield wipers encompasses a relatively large number of issued patents depicting a variety of different designs, it may be fairly said that windshield wiper designs generally depict a commonality of approaches to their basic function. Thus, most windshield wipers are characterized by a superstructure which distributes the force applied by the central wiper arm, an intermediate wiper blade support member, and a flexible wiper blade insert which directly performs the function of wiping the windshield. Just as the great variety of windshield wiper designs share a certain commonality of structure, they also share certain disadvantages in carrying out the basic task at hand. For example, modern windshield wiper assembly designs must have some type of force distributing means to distribute the force applied by the wiper arm along the length of the flexible wiper blade. This is necessary because the wiper blade needs to be able to flex along its length in order to

remain in wiping contact with a windshield surface having a varying radius of curvature.

[0004] U.S. Pat. No. 3,104,412 to Hinder discloses a resilient backing member or superstructure made of molded plastic having a concave face with a curvature substantially equivalent to the maximum curvature of the wiped windshield surface. The backing member is directly attached to the flexible wiper blade. This arrangement is believed to be inherently unable to provide equal force distribution when the radius of curvature varies along the length of the blade, not to mention the joint between the backing member and the wiper blade is exposed to the elements.

[0005] One alternative type of conventional wiper assembly comprises a support beam system along each side of the resilient windshield wiping portion, as a means of both structural support and downward wiping force. Often this support beam system consists of a resilient wiping element having the support beam skewered through it longitudinally from end to end.

[0006] A common problem of this design is the twisting of the resilient portion around the support beam due to frictional forces imposed upon the wiping blade during it's oscillations. Therefore, external devices such as clips or other means must be put into place in order to prevent this detrimental condition to wiping quality and blade longevity.

[0007] The present invention overcomes these and other shortcomings by providing the art with a windshield wiper having an encapsulated beam, while still providing for variability in design to provide a windshield wiper for various applications.

[0008] Further areas of applicability of the present invention will become apparent from the detailed description provided hereinafter. It should be understood that the detailed description and specific examples, while indicating the preferred embodiment of the invention, are intended for purposes of illustration only and are not intended to limit the scope of the invention.

SUMMARY OF THE INVENTION

[0009] It is therefore proposed herein, that an object of the present invention is to provide a windshield wiper having an encapsulated beam for providing structure and uniform support for the wiper blade throughout its various oscillations.

[0010] A further object of the present invention is to provide a wiper blade having an encapsulated beam which prevents the rotation and twisting of the resilient wiper blade around the support beam.

[0011] It is another object of the present invention to provide a wiper blade having an encapsulated beam further comprising a wind deflector portion to further assist in preventing the twisting of the resilient wiping blade around the beam.

[0012] Another object of the present invention is to provide a wiper blade having the encapsulated beam detachably attachable as a unit to a connector system.

[0013] Another object of the present invention is to provide a wiper beam having a construction whereas the beam is isolated from the windshield wiper connector system, while still preventing the rotation of the resilient portion relative to the beam.

[0014] Another object of the present invention is to prevent and control environmental exposure of the support beam by encapsulation within the resilient medium.

[0015] Finally, it is an object of the present invention to provide a wiper blade having an encapsulated beam further comprising a fluid passage along the encapsulated beam member for allowing washing/deicing fluid to be dispersed along the length of the wiper blade.

[0016] These and other objects will become more apparent, wherein the present invention encompasses an improved windshield wiper blade assembly, having a resilient windscreen wiping element and further comprising a longitudinal passage there through. A support beam having a predetermined curvature and shape complementary to the longitudinal passage, is inserted there within the passage in a manner which prevents the rotational twisting of the

resilient element around the beam. A further embodiment comprises a longitudinal fluid passage along the support beam, having a fluid connection to a windshield fluid supply. A plurality of apertures through the resilient member in connection with the fluid passage provide for the selective discharge of the fluid upon the windscreen. Still a further embodiment comprises a wind deflector portion running at least partially along the top side of the resilient member for enhanced prevention of any twisting of the resilient member around the beam, and increased downward force of the wiper assembly against the windscreen.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

[0018] Figure A-1 illustrates a cross section of a first embodiment of the present invention;

[0019] Figure A-2 illustrates a partial perspective view of the embodiment of figure A-1;

[0020] Figure A-3 illustrates a cross section of a second embodiment of the present invention;

[0021] Figure A-4 illustrates a partial perspective view of the embodiment of figure A-3;

[0022] Figure A-5 illustrates a cross section of a third embodiment of the present invention;

[0023] Figure A-6 illustrates a cross section of a fourth embodiment of the present invention;

[0024] Figure A-7 illustrates a cross section of a fifth embodiment of the present invention;

[0025] Figure A-8 illustrates a cross section of a sixth embodiment of the present invention;

[0026] Figure A-9 illustrates a partial perspective cross section of an additional embodiment of the present invention;

[0027] Figure A-10 illustrates a partial perspective cross section of an additional embodiment of the present invention;

[0028] Figure B-1 illustrates a partial perspective view of an embodiment of the present invention having the beam member withdrawn;

[0029] Figure B-2 illustrates a partial perspective view of an additional embodiment of the present invention having the beam member withdrawn;

[0030] Figure B-3 illustrates a cross sectional view of a further embodiment of the present invention;

[0031] Figure B-4 illustrates a cross sectional view of a further embodiment of the present invention;

[0032] Figure B-5 illustrates a cross sectional view of a further embodiment of the present invention;

[0033] Figure B-6 illustrates a cross sectional view of a further embodiment of the present invention;

[0034] Figure B-7 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0035] Figure B-8 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0036] Figure B-9 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0037] Figure C-1 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0038] Figure C-2 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0039] Figure C-3 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0040] Figure C-4 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0041] Figure C-5 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0042] Figure C-6 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0043] Figure C-7 illustrates a cross sectional view of a further embodiment of the present invention without a beam member;

[0044] Figure C-8 illustrates an isolated partial perspective view of a first embodiment of the encapsulated beam member;

[0045] Figure C-9 illustrates an isolated partial perspective view of a first embodiment of the encapsulated beam member;

[0046] Figure C-10 illustrates an isolated partial perspective view of a first embodiment of the encapsulated beam member;

[0047] Figure C-11 illustrates an isolated partial perspective view of a first embodiment of the encapsulated beam member;

[0048] Figure D-1 is a cross sectional view of a further embodiment of the present invention;

[0049] Figure D-2 is a cross sectional view of another embodiment of the present invention;

[0050] Figure D-3 is a cross sectional view of another embodiment of the present invention showing the connector means;

[0051] Figure D-3 is a partial perspective view of another embodiment of the present invention showing the connector means;

[0052] Figure E-1 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0053] Figure E-2 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0054] Figure E-3 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0055] Figure E-4 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0056] Figure E-5 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0057] Figure E-6 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0058] Figure E-7 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0059] Figure E-8 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0060] Figure F-1 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0061] Figure F-2 is a partial perspective illustration of another embodiment of the support beam of the present invention;

[0062] Figure G-1 is a cross sectional, assembled view of another embodiment wherein the wiper blade and body are separate elements;

[0063] Figure G-2 is a partial perspective, disassembled view of the embodiment illustrated in Figure G-1;

[0064] Figure G-3 is a cross sectional, assembled view of another embodiment wherein the wiper blade and body are separate elements;

[0065] Figure G-4 is a partial perspective, disassembled view of the embodiment illustrated in Figure G-2;

[0066] Figure H-1 illustrates a cross sectional view of a further embodiment of the present invention;

[0067] Figure H-2 illustrates a cross sectional view of a further embodiment of the present invention;

[0068] Figure H-3 illustrates a cross sectional view of a further embodiment of the present invention;

[0069] Figure H-4 illustrates a cross sectional view of a further embodiment of the present invention;

[0070] Figure I-1 illustrates a cross sectional view of a further embodiment of the present invention;

[0071] Figure I-2 illustrates a cross sectional view of a further embodiment of the present invention;

[0072] Figure J-1 illustrates a partial perspective view of a further embodiment of the present invention;

[0073] Figure J-2 illustrates a cross sectional view of the embodiment of illustrated in Figure J-1;

[0074] Figure J-3 illustrates a cross section of a further embodiment of the present invention;

[0075] Figure J-5 illustrates a cross sectional view of a further embodiment of the present invention at the connector means;

[0076] Figure J-6 is a partial top view of the embodiment illustrated in Figure J-5;

[0077] Figure K-1 illustrates a partial perspective view of a further embodiment of the present invention;

[0078] Figure L-1 illustrates a cross section of a further embodiment of the present invention;

[0079] Figure L-2 illustrates a cross section of a further embodiment of the present invention;

[0080] Figure M-1 illustrates an additional perspective view of the resilient wiper portion shown in Figure K-1;

[0081] Figure M-2 illustrates a cross section of a further embodiment of the present invention;

[0082] Figure M-3 illustrates a cross section of the embodiment shown in Figure K-1;

[0083] Figure N-1 illustrates a cross section of a further embodiment of the present invention;

[0084] Figure N-2 illustrates a cross section of a further embodiment of the present invention;

[0085] Figure N-3 illustrates a cross section of a further embodiment of the present invention;

[0086] Figure O-1 illustrates a cross section of a further embodiment of the present invention; and

[0087] Figure O-2 illustrates a cross section of a further embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0088] The following description of the preferred embodiments is merely exemplary in nature and is in no way intended to limit the invention, its application, or uses.

[0089] Referring now to the figures, particularly Figures A-1 and A-2, a first embodiment of the encapsulated beam assembly 10 of the present invention is shown. Comprising elongated resilient member 12 having a body 13 and a

windscreen wiping edge 14 pivotally attached to a bottom side 15 thereof by a narrow flexible neck 16. The body 13 further comprises a longitudinal passage 18 through which a elongated beam 19 of a predetermined stiffness is inserted, thereby becoming encapsulated by the resilient member 12. The shape of the passage 18 is generally complementary to the shape of the encapsulated beam 19, thereby preventing the rotational twisting of the resilient member 12 independently of the encapsulated beam 19.

[0090] Figures A-3 and A-4 illustrate an alternative embodiment of the encapsulated beam 10 of the present invention. Comprising a similar elongated resilient member 22 having a body 23 and a windscreen wiping edge 24 attached to a bottom side 25 thereof by a narrow flexible neck 26. The shape of the resilient member 22 and corresponding longitudinal passage 28 of this embodiment as shown, allows a minimal, predetermined amount of flexing by the elongated beam 29 contained there within, while still preventing extraneous twisting of the resilient member 22 independently of and around the encapsulated beam 29.

[0091] Figure A-5 Illustrates a further embodiment of the encapsulated beam assembly 10 of the present invention, wherein the body 33 of the resilient member 32 is significantly thicker below the encapsulated beam 39 and corresponding passage 38 providing more rigidity to the assembly.

[0092] Referring now to Figures A-6 thru A-10, variations to the encapsulated beam assembly 10 are shown. Specifically, the body 33 of the resilient member 32 further comprises a resilient ridge 37, of various designs running longitudinally at least a partial length of the resilient member 32, opposite the wiping edge 34. The purpose of the ridge 37 is to form a wind deflector portion, oriented so that the wind force hitting the ridge 37 assists to prevent the resilient member 32 from rotating around the elongated beam 39.

[0093] The elongated beam 39 is shown in these figures having varying dimensions in comparison to the passages through the resilient members 32 in which they reside. This provides the option of having a small space around the beam 39 to allow for a varying degree of flexation between the beam 39 and the resilient member 32 as mentioned above. In the alternative,

and discussed in detail further in, this space may also allow for the passage of fluid such as washer fluid or de-icing fluid to be selectively disbursed upon the windscreen as desired.

[0094] As an illustration for the primary means of assembly, Figures B-1 and B-2, show the beam 39 separated from the passage 38 of the resilient member 32. Figure B-2 further illustrates an alternative embodiment to the present invention, employing a wind deflector ridge 37 comprising a separate element than the resilient member 32. The ridge 37 may be comprised of rigid or flexible material and can be attached to the resilient member 32 after forming, or in the alternative, can be over molded or co-extruded with the resilient member 32. Figures B-3 thru B-7 examples of further illustrate various means of attaching the wind deflector ridge 37 to the resilient member 32, wherein variations that are not shown, but do not depart from the gist of the invention are also intended to be within the scope of the invention. Figure B-8 illustrates another embodiment of the present invention wherein the wiping edge member 44 is comprised of a separate resilient element, attached by means of a tongue 45 received in a lower groove 46 of the resilient member 42 positioned below the passage 48 for receiving the encapsulated beam. A similar tongue 48 located on the deflector ridge 47 is received in an upper groove 49 of the resilient member 42, positioned above the passage 48 for receiving the encapsulated beam.

[0095] Figure B-9 illustrates a similar embodiment of the present invention as Figure B-8, with the exception that the resilient member is comprised of two complementary C-channel shaped halves 51 and 52. Each half consist of an upper tab 53 and a lower tab 54, which come together at the top within a receiving groove 55 in the deflector ridge 57, and at the bottom in receiving groove 56 in the wiping edge member 58.

[0096] Referring now to figures C-1 thru C-7, a plurality of embodiments of a resilient member 60 are shown, each having independent and distinct flexing properties through there variations in cross section, as well as variable influences from wind force against the top surface 62. Figure C-4 in particular embodies dual, parallel passages 64 and 66 for receiving a plurality of beam members, which could allow for the increase in rigidity of the assembly,

whereas Figure C-5 comprises a secondary, hollow passage 68 above the encapsulating beam receiving passage 65 which would make a lighter weight assembly, with a more flexible wind deflector ridge 67.

[0097] Figures C-8 thru C-11 illustrate various encapsulated beams, generally shown by the number 70. Figure C-8 illustrates plural, parallel unitary beams 71 and 72, for implementation in an assembly shown in Figure C-4. Alternatively, Figures C-9 through C-11 show composite beams, comprising one or more laminate layers 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84 of similar or various materials, depending on the desired degree of rigidity needed for a given application. As noted, these beams can be attached during the forming of the resilient members, or subsequently inserted thereafter.

[0098] Referring now to figures D-1 and D-2, the primary embodiment of the present invention is shown, comprising the encapsulated beam assembly 10, having a unitary resilient member 90 with a wind deflector ridge 92 on a top portion thereof, and a windscreen wiping edge 94 attached to a bottom side 95 thereof by a narrow flexible neck 96. The body 33 further comprises a longitudinal passage 98 through which a elongated beam 99 of a predetermined stiffness passes, thereby becoming encapsulated by the resilient member 90. The shape of the passage 98 is complementary to the shape of the encapsulated beam 99, thereby preventing the rotational twisting of the resilient member 90 independent of the encapsulated beam 99. As shown, the encapsulated beam in Figure D-2 is fit snugly within the passage 98, while in Figure D-1, there is a space surrounding the beam 99 allowing a small amount of pivoting there within.

[0099] Figures D-3 and D-4 illustrate the embodiment in Figures A-1 and A-2, at the location for attaching the connector system 100. The connector system 100 can employ various means of attaching the encapsulated beam assembly 10 to a wiper arm, but shown here, the preferred embodiment comprises a U-shaped channel 102, having a cross pin 104 for attaching the assembly to a wiper arm connector. A plurality of downward oriented clamping legs 106 and 108 extend out and down from the bottom of the channel 102, which wrap around the sides 111 and bottom edges 112 of the resilient member

113 crimping the assembly together. Additional leg elements 109 and 110 extend down along the sides 111 of the resilient member 113, and provide lateral support, to prevent rotation of the encapsulated beam 10.

[00100] A key feature of an attachment assembly such as the one described here within, is the lack of intimate contact between the connector system 100 and the beam 99. This prevents frictional wear of the beam 99, and further allows the option of a sealed passage 98, in the event fluid is utilized in a further embodiment. A clamp-on assembly such as this one does not require the penetration and/or puncture of an intermediate layer, protecting the encapsulated beam 99.

[00101] Referring now to Figures E-1 through E-8, variations in the encapsulated beam 99 are shown. As illustrated in these figures, the beam 99 can be straight, arcuate, or one of a multitude of shapes including squiggles, circles, spirals, etc. Additionally the beam 99 can be made of most any structural material, and can be application specific. Furthermore as mentioned, the beams 99 can be formed as composites as shown in Figures F-1 and F-2, comprising one or more laminate layers 115, 116, 117 of similar or various materials, depending on the desired degree of rigidity needed for a given application. Once the beam 99 is encapsulated within the complementary shaped passage of the resilient member, they will cooperate together to perform the functions and features listed herein for the present invention.

[00102] As an alternative, it may be preferable to have a wiping blade 120 of a softer or firmer material than that of the resilient member 122 as shown in Figures G-1 thru G-3, providing a higher or lower degree of flexibility, depending on the application. This is accomplished easily through any number of attachment means described in detail above for attaching a separate wind deflector ridge 37 in Figures B-3 thru B-7. Herein shown, the blade 120 comprises a tongue 124 having an expanded head 125 received in a complementary groove 126 located on the bottom side of the resilient member 122.

[00103] Figures H-1 thru H-4 show additional embodiments of the encapsulated beam assembly 10, having a unitary resilient member 130 with a

wind deflector ridge 132 on a top portion thereof, and a wiping windscreen wiping edge 134 attached to a bottom side 135 thereof by a narrow flexible neck 136. The body further comprises the longitudinal passage 140 through which an elongated beam 142 of a predetermined stiffness passes through, thereby becoming encapsulated by the resilient member 130. The shape of the passage 140 is complementary to the shape of the encapsulated beam 142, preventing the rotational twisting of the resilient member 130 independent of the encapsulated beam 142. As shown, the encapsulated beam in Figure H-2 is fit snugly within the passage 98, while in Figures H-1, H-3, and H-4 the passage 98 provides a space surrounding the beam 142 allowing a small degree of pivotal freedom there between.

[00104] The final embodiment of the present invention is covered in the remaining Figures I-1 thru O-2, and entails only minor variations in implementation of the prior embodiments, and therefore remains consistent with the aforementioned scope of the invention. This embodiment takes advantage of the space within the passage 155 in the resilient member 150, through which the encapsulated beam 152 is positioned as shown in Figures I-1 and I-2. In this embodiment, the space provides a fluid channel for allowing windshield washing fluid, and/or de-icing fluid to travel the length of the encapsulated beam, for discharge at various points along the entire wiper blade assembly as herein described.

[00105] Best shown in Figures J-1 thru J-5, the resilient member 150 comprises a passage 155 through which the encapsulated beam 152 is positioned, as well as providing a fluid channel for transporting washing or de-icing fluids (herein FLUID). One or more fluid input apertures 156 is formed through a top portion of the resilient member and is in fluid communication with the passage 155 running longitudinally through the member 150. A fitting 160 is received in the aperture 156 and connects to a tube 162 leading from a remote source of FLUID known in the art. As illustrated in Figure J-2, once assembled and operational, the FLUID indicated by the directional arrows shown, selectively flows from the source into the resilient member 150 through fitting 160 and aperture 156. As shown in Figure J-5 and J-6, the position of the aperture 156

and FLUID inlet can be positioned proximal the connector system 100 system thereby allowing the source tube 162 to be directly routed down the wiper blade arm 170.

[00106] Referring in detail to Figure K-1, once the FLUID is communicated inside passage 155, it can travel the entire length of the encapsulated beam, wherein it is permitted to flow out through a plurality of apertures 168 positioned along the length of the resilient member 150, onto the wiping surface. End caps 163 or other similar sealing means are sealed into position on the ends of the encapsulated beam assembly 10 preventing the longitudinal discharge of the FLUID out the ends of the encapsulated beam assembly.

[00107] The position and orientation of the discharge apertures 168 along the resilient member 150 can vary from application to application as shown in comparison Figures M-2 and M-3, but generally are located along the sides or lower portion thereof, for direct application to the windscreen surface.

[00108] The fluid passage 155 can be varied in size, type, and position as well, shown in Figures L-1, L-2, and N-1 thru O-2. Specifically, Figures L-1 and L-2 show the passage 155 having a larger internal volume, allowing a greater volume of fluid to be communicated through the resilient member 150. In the alternative Figures N-1 thru O-2 utilize passages 157, separate from the passage 155 through which the beam 152 is positioned, allowing even greater flexibility as far as embodiment design, FLUID delivery and dispersal. Lastly, note Figures N-3 and O-2 utilize a combination of the various embodiments discussed in detail herein, thereby exemplifying the breadth of possibilities intended to fall within the scope of the invention.

[00109] As noted throughout, the description of the invention is merely exemplary in nature and, thus, variations that do not depart from the gist of the invention are intended to be within the scope of the invention. Such variations are not to be regarded as a departure from the spirit and scope of the invention.

CLAIMS

What is claimed is:

1. A windscreen wiping blade assembly for motor vehicles comprising:

an elongated, resilient wiping member having at least one continuous wiping edge for uninterrupted contact with the surface of a windscreen of a motor vehicle, said resilient member further comprising at least one longitudinal passage, running through the length of the wiping member;

at least one elongated, semi-rigid beam member for insertion within said longitudinal passage of said resilient member, said beam member having a cross-section complementary to the cross section of said longitudinal passage, preventing said resilient member from rotating independently from said beam member when inserted; and

an attachment means for detachably attaching the windscreen wiping blade assembly to an selectively oscillating wiper arm of a motor vehicle, said attachment means detachably attached to said blade assembly proximal the mid point of the wiping blade assembly, without direct contact with said beam member.

2. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member has a rectangular cross section.

3. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member has a spiral cross section.

4. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member has a progressively twisting rectangular cross section.

5. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member has a triangular cross section.

6. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member has a round cross section.

7. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member has a half-round cross section.

8. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member is of unitary construction.

9. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member is of laminate construction.

10. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member is assembled into said resilient member after forming.

11. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member is over molded with said resilient member.

12. The windscreen wiping blade assembly of Claim 1 wherein said at least one beam member is co-extruded with said resilient member.

13. The windscreen wiping blade assembly of Claim 1 further comprising an upward extending wind deflector portion comprising a ridge running longitudinally at least a partial length of said resilient member, positioned opposite said beam member from said continuous wiping edge, said wind deflector portion utilizing wind force to further prevent said resilient member from rotating independently from said beam member.

14. The windscreen wiping blade assembly of Claim 13 wherein said wind deflecting portion is separate from said resilient member.

15. The windscreen wiping blade assembly of Claim 13 wherein said wind deflecting portion is separate from said resilient member.

16. The windscreen wiping blade assembly of Claim 1 wherein said wiping edge is a separate element, attached to said resilient member after forming.

17. A windscreen wiping blade assembly for motor vehicles comprising:

an elongated, resilient wiping member having at least one continuous wiping edge for uninterrupted contact with the surface of a windscreen of a motor vehicle, said resilient member further comprising at least one longitudinal passage, running through the length of the wiping member;

at least one elongated, semi-rigid beam member for insertion within said longitudinal passage of said resilient member, said beam member having a cross-section complementary to the cross section of said longitudinal passage, preventing said resilient member from rotating independently from said beam member when inserted, said cross section of said beam member selected from one of the following group: rectangular, spiral, progressively-twisting rectangular, round, half-round triangular;

an attachment means for detachably attaching the windscreen wiping blade assembly to an selectively oscillating wiper arm of a motor vehicle, said attachment means detachably attached to said blade assembly proximal the mid point of the wiping blade assembly, without direct contact with said beam member; and

an upward extending wind deflector portion comprising a ridge running longitudinally at least a partial length of said resilient member, positioned opposite said beam member from said continuous wiping edge, said wind deflector portion utilizing wind force to further prevent said resilient member from rotating independently from said beam member.

18. The windscreen wiping blade assembly of Claim 17 wherein said wind deflecting portion is formed in said resilient member.

19. The windscreen wiping blade assembly of Claim 17 wherein said wind deflecting portion is separate from said resilient member.

20. The windscreen wiping blade assembly of Claim 17 wherein said wind deflecting portion is separate from said resilient member.

21. The windscreen wiping blade assembly of Claim 17 wherein said wind deflecting portion is separate from said resilient member.

22. The windscreen wiping blade assembly of Claim 17 wherein said at least one beam member is assembled into said resilient member after forming.

23. The windscreen wiping blade assembly of Claim 17 wherein said at least one beam member is over molded with said resilient member.

24. The windscreen wiping blade assembly of Claim 17 wherein said at least one beam member is co-extruded with said resilient member.

25. The windscreen wiping blade assembly of Claim 17 wherein said wiping edge is a separate element, attached to said resilient member after forming.

26. A windscreen wiping blade assembly for motor vehicles comprising:

an elongated, resilient wiping member having at least one continuous wiping edge for uninterrupted contact with the surface of a windscreen of a motor vehicle, said resilient member further comprising at least one longitudinal passage, running through the length of the wiping member;

at least one elongated, semi-rigid beam member for insertion within said longitudinal passage of said resilient member, said beam member having a

cross-section complementary to the cross section of said longitudinal passage, preventing said resilient member from rotating independently from said beam member when inserted, said cross section of said beam member selected from one of the following group: rectangular, spiral, progressively-twisting rectangular, round, half-round triangular;

an attachment means for detachably attaching the windscreen wiping blade assembly to an selectively oscillating wiper arm of a motor vehicle, said attachment means detachably attached to said blade assembly proximal the mid point of the wiping blade assembly, without direct contact with said beam member; and

an upward extending wind deflector portion comprising a ridge running longitudinally at least a partial length of said resilient member, positioned opposite said beam member from said continuous wiping edge, said wind deflector portion utilizing wind force to further prevent said resilient member from rotating independently from said beam member;

wherein said longitudinal passage further comprises a channel means for selectively transporting fluid from at least one input aperture having a fluid connection with a remote source of fluid, throughout the entire length of said longitudinal passage, wherein said fluid discharges out one or more spaced discharge apertures along the length of the resilient member onto the wind screen of the motor vehicle, said wiping blade assembly comprising a sealing means to prevent fluid from discharging from the ends of said longitudinal passage.

27. The windscreen wiping blade assembly of Claim 26 wherein said channel means is a separate passage, running parallel to said longitudinal passage receiving said beam member.

28. The windscreen wiping blade assembly of Claim 26 wherein said discharge apertures are positioned on at least one lateral side of said resilient member.

29. The windscreen wiping blade assembly of Claim 26 wherein said discharge apertures are positioned on a bottom side of said resilient member, proximal said wiping edge.

30. The windscreen wiping blade assembly of Claim 26 wherein said wind deflecting portion is formed in said resilient member.

31. The windscreen wiping blade assembly of Claim 26 wherein said wind deflecting portion is separate from said resilient member.

32. The windscreen wiping blade assembly of Claim 26 wherein said wind deflecting portion is separate from said resilient member.

33. The windscreen wiping blade assembly of Claim 26 wherein said wind deflecting portion is separate from said resilient member.

34. The windscreen wiping blade assembly of Claim 26 wherein said at least one beam member is assembled into said resilient member after forming.

35. The windscreen wiping blade assembly of Claim 26 wherein said at least one beam member is over molded with said resilient member.

36. The windscreen wiping blade assembly of Claim 26 wherein said at least one beam member is co-extruded with said resilient member.

37. The windscreen wiping blade assembly of Claim 26 wherein said wiping edge is a separate element, attached to said resilient member after forming.