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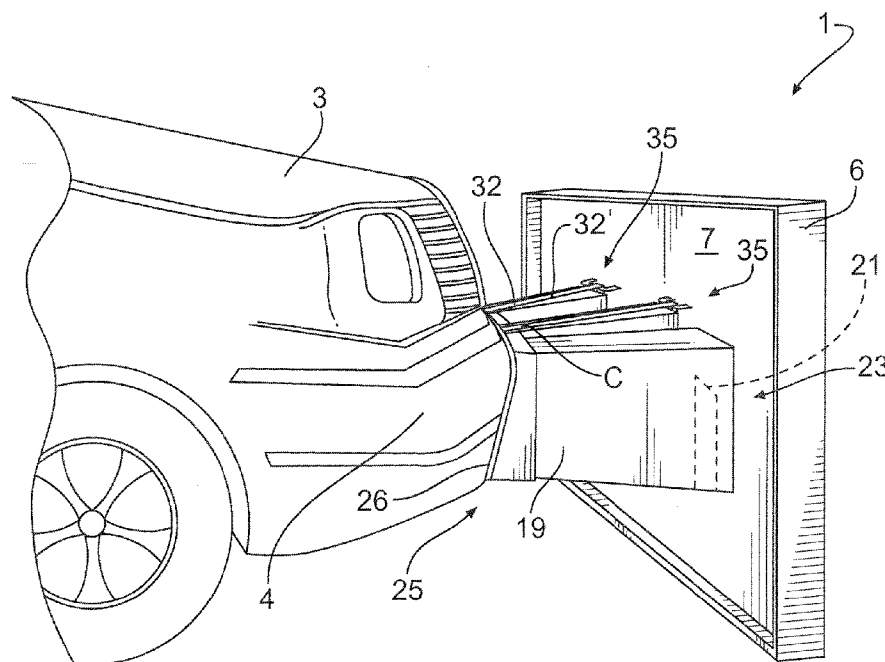
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(54) Title: DETACHABLE SNOW PLOW FOR PASSENGER VEHICLE



(57) Abstract: The present invention is directed to a lightweight car-mounted snowplow which includes one or more plow blades, a mounting member or mesh belt, and retainers, which may comprise straps, for securing the plow blade or blades to a vehicle or the bumper of a vehicle. The snow plow may include plow blade sections having a leading and a trailing end and having enhanced blade edges located at the bottom of each plow blade section. The plow head may be inverted to change the angle at which snow is deflected. The plow blade may be constructed from a lightweight polymer, such as for example plastic, and may include hollow portions for creating storage space for one or more of the remaining plow components.

WO 2007/134204 A2

DETACHABLE SNOW PLOW FOR PASSENGER VEHICLE

[0001] This utility patent application claims priority to U.S. provisional patent application serial number 60/747,014 filed on May 11, 2006 and to U.S. provisional patent application serial number 60/824,623 filed on September 6, 2006.

TECHNICAL FIELD

[0002] The present invention pertains, generally, to the field of detachable snow plow blades for motor vehicles, and in particular to blades that are designed for use in conjunction with vehicles a home owner might drive.

BACKGROUND OF THE INVENTION

[0003] Conventional plows include a blade and a frame for coupling the blade to the front of a vehicle. More sophisticated plows include means for adjusting the angular orientation of the plow blade relative to the longitudinal axis of the vehicle and for elevating the plow blade relative to the road surface to permit the vehicle to be driven from one location to another.

[0004] Prior art snow plows are known for use with different sizes of vehicles. For example, plows are known to be installed on very large vehicles. These plows are typically used for large snow removal jobs such as airport runway clearing and the like. Smaller plows are known which can be coupled to dump or garbage trucks for use in road clearing operations. Still other snow plows are known which may be installed onto yet smaller trucks for use in clearing driveways, parking lots and the like. A typical example of the latter would be the type of plow frequently employed by the owner of a gasoline station for use with his tow truck. Following a snowfall, such a plow would be attached to the front end of the tow truck for use in clearing the station driving surfaces as well as for other snow removal jobs in the neighborhood.

[0005] The types of plows referred to are usually expensive, require considerable time to attach to a truck, and include structural features which makes them impractical for use with cars. For example, such plows commonly include a hydraulic pump assembly mounted externally of the vehicle, a feature which increases the exposure of the operating components to adverse weather conditions and increases the likelihood of theft or

vandalism of the equipment. Moreover, such plows also include a bulky, view-obstructing plow lifting system mounted immediately adjacent the front end of the vehicle. These plow systems are also typically quite heavy and require a vehicle that can support such a front-end payload.

[0006] None of the aforementioned systems are entirely satisfactory for use with small vehicles, such as cars. This special utility requires ease of attachment. It also requires a system that is not too heavy for a small vehicle. The development of a snow plow assembly which would obtain these objects and overcome the difficulties of the prior art would be a significant advance in this technology.

SUMMARY OF THE INVENTION

[0007] In one embodiment a vehicle plow includes a light weight plow blade sized for storage in the trunk of an associated vehicle, mounting blocks extending from a rear side of the plow blade, the mounting blocks having a mounting surface contoured to receive the bumper of the associated vehicle, and, at least a first selectively adjustable harness or retainer adapted to be connected to the associated vehicle.

[0008] One aspect of the embodiments of the subject invention includes a vehicle plow having a padded member affixed to the contoured surface of the mounting blocks.

[0009] In another aspect of the embodiments of the subject invention, the vehicle plow may be constructed from a material conducive to preventing scratches on the bumper of the associated vehicle.

[0010] In yet another aspect of the embodiments of the subject invention, the vehicle plow and/or the plow blade may be constructed from a light weight plastic.

[0011] In still another aspect of the embodiments of the subject invention, the plow blade is foldable along a central axis.

[0012] In even another aspect of the embodiments of the subject invention, the mounting block has a mounting surface adapted to be selectively connected to the plow blade.

[0013] In yet another aspect of the embodiments of the subject invention, the vehicle mounting blocks include slots that receive slide-on brackets.

[0014] In another aspect of the embodiments of the subject invention the vehicle plow mounting blocks comprise first and second mounting blocks, wherein the first mounting block extends from a rear side of the plow blade a distance L1, wherein the second mounting block extends from the rear side of the plow blade a distance L2, and, wherein

L1 is substantially shorter than L2 for use in angling the plow blade when attached to the associated vehicle.

[0015] In another embodiment a vehicle plow includes a plow blade having first and second blade members, a non-rigid belt or mesh strap extended between respective ends of the first and second blade members for mounting the vehicle plow to the associated vehicle, and, at least a first elastic strap for holding the vehicle plow in place against the bumper securing the vehicle plow to an associated vehicle.

[0016] In one embodiment a vehicle plow for use with an associated passenger vehicle, which may be a passenger car includes at least a first plow blade and one or more mounting members operatively connected between the at least a first plow blade and the associated passenger vehicle. At least a first retainer is included that is operable to hold the at least a first plow blade in place with respect to the vehicle. The vehicle plow may be a lightweight vehicle plow constructed from a moldable polymer, such as plastic.

[0017] In one aspect of the embodiments of the present invention, the vehicle plow may include a hollow portion for storing the one or more mounting members and/or the at least a first retainer.

[0018] In another aspect of the embodiments of the present invention, the vehicle plow may include first and second plow blade sections.

[0019] In yet another aspect of the embodiments of the present invention, the first plow blade section may be adjustable with respect to the second plow blade section about a plow blade axis, where the first and second plow blade members are operable to form an angled plow blade for directing matter, which may be snow or other debris, away from the associated vehicle.

[0020] In still another aspect of the embodiments of the present invention, the first and second plow blade members may be hinged together about an axis, which may be a substantially vertical plow blade axis.

[0021] In still another aspect of the embodiments of the present invention at least one of the first and second plow blade sections may include a hollow portion that define an enclosed storage cavity when the first and second plow blade sections are juxtaposed.

DESCRIPTION OF THE DRAWINGS

[0022] FIGURE 1 is a side view of a vehicle with attached plow according to the embodiments of the invention.

[0023] FIGURE 2 is a perspective view of the mounting blocks according to the embodiments of the invention.

[0024] FIGURE 3 is a rear view of a vehicle plow according to the embodiments of the invention.

[0025] FIGURE 4 is a side view of a vehicle plow according to the embodiments of the invention.

[0026] FIGURE 5 is a top view of a vehicle plow according to the embodiments of the invention.

[0027] FIGURE 6 is a perspective view of a vehicle plow according to the embodiments of the invention.

[0028] FIGURE 7 is a front view of another configuration of the vehicle plow according to the embodiments of the invention.

[0029] FIGURE 8 is a top view of another configuration of the vehicle plow according to the embodiments of the invention.

[0030] FIGURE 9 is a perspective view of another configuration of the vehicle plow according to the embodiments of the invention.

[0031] FIGURE 10 is a front perspective view of another configuration of the vehicle plow according to the embodiments of the invention.

[0032] FIGURE 11 is a rear perspective view of another configuration of the vehicle plow according to the embodiments of the invention.

[0033] FIGURE 12 is a rear view of another configuration of the vehicle plow according to the embodiments of the invention.

[0034] FIGURE 13 is a top view of another configuration of the vehicle plow according to the embodiments of the invention.

DESCRIPTION OF THE INVENTION

[0035] Referring now to the drawings wherein the showings are for purposes of illustrating embodiments of the invention only and not for purposes of limiting the same, FIGURE 1 shows a vehicle plow depicted generally at 1. The vehicle plow 1 or snow plow 1 may be selectively removable from a vehicle 3, which may be an automobile. The snow plow 1 may be constructed to easily install and detach from the area around the bumper 4 of the vehicle 3. By easily installed it is meant that the snow plow 1 may be attached to the vehicle 3 without the use of tools as is typically required for larger snow

plows such as those connected to the frame of a truck. Accordingly, straps and/or other retaining means 32 may be used to fasten the snow plow 1 to the bumper 4, hood or undercarriage of the vehicle 3 as will be discussed in detail in a subsequent paragraph. The snow plow 1 may be lightweight and conveniently lifted and carried by an operator or driver of the vehicle 3. In one embodiment, the snow plow 1 may be disassembled or folded over upon itself when not in use for storage in the trunk, not shown, of the vehicle 3. When installed the snow plow 1 may extend laterally across the front of the vehicle. The snow plow 1 may span beyond the width of the wheel base. In this way, the vehicle 3 may clear a path of snow wide enough for the vehicle 3 to traverse back and forth allowing the wheels to roll over the cleared roadway or other surface. Alternatively, the width of the snow plow 1 may be shorter than the wheelbase of the vehicle 3. It is noted that while the embodiments of the subject invention are described as relating to a device for plowing snow, it is to be construed that the snow plow 1 may be used for plowing other matter including but not limited to other forms of precipitation, debris, dirt and the like.

[0036] With continue reference to Figure 1 and now to Figures 2 through 4, the snow plow 1 may include a plow blade 6. The front surface 8 of the plow blade 6 may be contoured to direct the snow or other material in a specific manner, for example, to one side of the vehicle 3. The plow blade 6, or the front side thereof, may be curved having a concave shape. More specifically, the plow blade may be scalloped or sloped having a higher center portion and lower side portions. The front surface 8 may also be straight or have any other configuration suitable for plowing snow. In one embodiment, the surface of the front 8 of the plow blade 6 may be substantially smooth so that the snow readily streams off the surface 8 of the plow blade 6. However, any manner of fashioning the front surface 8 of the plow blade 6 may be chosen as is appropriate for use with the embodiments of the subject invention. The rear side 7 of the plow blade 6 may be constructed with gussets 10 to strengthen the plow blade 6, i.e. to add rigidity to the plow blade 6. In this manner, when the snow plow 1 is pushing snow or other material, the plow blade 6 will be reinforced against bending or twisting. This is especially useful as the snow plow 1 may be constructed from lightweight material such as a moldable polymer, which may be a thermoplastic. It is noted here that the snow plow 1 and plow blade 6 may also be constructed from other materials including but not limited to sheet metal, wood, fiberglass, resin and the like.

[0037] The snow plow 1 may also include mounting members, which may be mounting blocks 19, that extend from a rear side 7 of the plow blade 6 for use in positioning the snow plow 1 against the front of the vehicle 3. The mounting blocks 19 may be positioned on or proximate to a plow blade axis. The plow blade axis may be a centerline axis C of the plow blade 6. In one embodiment, two mounting blocks 19 may extend outward from the rear side 7 of the plow blade 6 and may be laterally spaced apart at distal ends thereof. However, any number of mounting blocks 19 and any position may be selected for extending the mounting blocks 19 to the rear side 7 of the plow blade 6. The mounting members may also be selectively detachable from the plow blade 6. Fasteners, not shown, may be used to affix the plow blade 6 and the mounting members together. In this way, the plow blade 6 and the mounting members are selectively removable with respect to each other. Alternatively, the mounting members may include, in one end 23, a slot 21 fashioned to receive a tenon 15 extending from the rear side 7 of the plow blade 6. Accordingly, the mounting members may slide onto and off of the tenons 15 for easy assembly and disassembly of the snow plow 1. This makes storing the snow plow 1 convenient, for example in the trunk of the vehicle 3, as the unit 1 becomes compact and easier to handle. The distal end 25 of the mounting members may be constructed to receive or cup the bumper 4 of the vehicle 3 as previously mentioned. A generally concave contour may be fashioned, for example, in the end 25 of the mounting blocks 19 for maximizing the surface area contact between the two components 4, 19. In this way the force, from plowing snow, may be evenly distributed onto the bumper 4 for stable operation of the snow plow 1. A pad 26 may be affixed to the end 25 of the mounting blocks 19. Fasteners, not shown, may be utilized to hold the pad 26 onto the mounting blocks 19. Adhesive or other means may also be chosen for affixing the pad 26 to the end 25 of the mounting blocks 19. The pad 19 may be constructed from a material that limits or substantially prevents the bumper 4 from being scratched during use. In one embodiment, carpet or other fiber-like material may be used as pad material. Alternatively, plastic or air filled foam may also be used for the pad 26. In this way, impact forces on the plow blade 6 as translated back through the mounting blocks 19 may be absorbed at least partially by the pad 26, and hence not the bumper 4. It is noted that any type of material may be chosen for use as a pad 26 that may prevent or minimize scratching and/or other damage to the vehicle bumper 4. It is contemplated in an alternate embodiment that the material the mounting members may be constructed from, may itself

be a scratch resistant and/or force absorbing material thus eliminating the need for a separate pad 26. Other types of mounting members are contemplated including flexible bands or belts as will be discussed further below.

[0038] With continued reference to Figures 1 through 4, the snow plow 1 may further include retainers 32 or retaining means that hold the snow plow 1 against the bumper 4 of the vehicle 3 during use. The retainers 32 may include a clasp or latch, not shown, that functions to hold retainers 32 in place when installed. In one embodiment, the retainers 32 may comprise a strap 32' that selectively adjusts to various lengths. In an exemplary manner, the strap 32' may be looped around the bumper 4 for and tightened to apply a tension force that holds the snow plow 1 to the vehicle 3. Once adjusted to the desired length and/or tension, the straps 32' may be locked in place via the clasp or latch, not shown. The strap 32' may also loop around brackets 35 fixedly attached to the rear side 7 of the plow blade 6. The straps 32' may be channeled through slots or holes, not shown, in the mounting blocks 19 to secure the snow plow 1 in place. One or more sets of straps 32' and brackets 35 may be used to stably hold the snow plow 1 against the bumper 4 or any portion of the vehicle 3 including but not limited to the vehicle frame or vehicle hood. However, any manner of securing the straps 32' to the vehicle 3 and the snow plow 1 may be chosen without departing from the intended scope of the embodiments of the subject invention including but not limited to hooks, chains, and the like.

[0039] With reference now to Figures 5 and 6, an alternate embodiment of the subject invention will now be discussed. As previously mentioned multiple mounting blocks 19 may be included in the snow plow 1 for positioning the snow plow with respect to the bumper 4 of the vehicle 3. The mounting blocks 19 described above have substantially equal length members positioning the snow plow 1, and more specifically the plow blade 6, generally perpendicular to the direction of travel of the vehicle 3. In the present embodiment, two mounting blocks 19a, 19b may have substantially different lengths L1, L2. It will be readily seen that when attached, the different length mounting blocks will position the plow blade 6 at an acute angle with respect to a forward direction of travel of the vehicle 3. This functions to divert the snow or other plowed substance to one side of the vehicle 3. Any length L1, L2 of mounting blocks 19a, 19b may be chosen to angle the snow plow 1 as is appropriate for use with the embodiments of the subject invention. When it is desired to angle the plow blade 6 in the opposite direction the plow blade 6 may be detached, inverted and reattached thus angling the plow blade to divert snow

toward the opposite side of the vehicle 3. Accordingly, the plow blade 6 may be fashioned with a symmetrical front surface where the top of the plow blade 6 has the same configuration as the bottom of the plow blade 6. Alternatively, only the mounting blocks 19a, 19b may be inverted thereby also angling the snow plow 1 in the opposite direction but leaving the plow blade 6 in place. However, any manner inverting the components of the snow plow 1 may be chosen with sound engineering judgment.

[0040] With reference now to Figures 7 and 8, the plow blade 6 may comprise one or more plow blade sections 6a, 6b. The plow blade sections 6a, 6b may be selectively detachable from both the mounting members and each other. In this manner, the snow plow assembly 1 may be disassembled for compact storage when not in use. The inner edges 9 of the plow blade sections 6a, 6b may include matching surfaces that fit together when juxtaposed. In one embodiment, the inner edges 9 may be flat surfaces. Alternatively, the inner edges may include ledges that overlap to interconnect. Still any configuration of inner edges 9 may be chosen as is appropriate for use with multiple plow blade sections. The plow blade sections 6a, 6b may be held together by a rigid contiguously-formed mounting base 20. In this embodiment, the mounting base 20 may include the mounting blocks 19a, 19b that may be connected to respective plow blade sections 6a, 6b. In the previous embodiment, rigidity was provided through the plow blade 6. However, here the contiguously formed mounting base 20 provides rigidity for the snow plow 1. Accordingly, the back side 25' of the mounting base 20 may include a contoured surface fashioned to receive, for example, the bumper 4 in a similar manner to that of the back side 25 of the mounting blocks as described above. In this way, the mounting base 20 provides a frame structure that holds the components of the snow plow 1 in the place as snow is being plowed.

[0041] With continued reference to Figures 7 and 8, another embodiment of the subject invention will now be discussed. The plow blade 6 may be foldable in one or more places thereby reducing its overall width. That is to say that the plow blade 6 may be constructed with hinged portions 5 allowing one or more sections 6a, 6b of the plow blade 6 to fold over onto the other sections respectively. The plow blade sections may be folded along a plow blade axis A as depicted in Figure 7. This may be especially useful for compact storage of the plow blade 6 when not in use. In one embodiment, axis A extends substantially vertical at the center of the plow blade 6. However, the axis may extend horizontally or at any angle chosen with sound engineering judgment and at any

lateral position along the width of the plow blade 6. While a single axis is shown, it should be realized that the plow blade 6 may be foldable along a plurality of axes thereby subdividing the blade 6 into the plurality of sections. The hinge portions 5 may be constructed by cutting or scoring a contiguously formed plow blade 6 along the axis A. This allows the blade 6 to bend along the scored line. It will be appreciated that certain materials, such as plastic for example, may bend thousands of times before breaking making it suitable for extending the useful life of the snow plow 1 in this manner. Alternatively, separate hinges may be used to connect discrete plow blade sections 6a, 6b. However, any means may be utilized to create hinge portions for use in folding the plow blade 6 in multiple sections.

[0042] With reference to Figures 1 through 8, installation and use of the snow plow 1 will now be discussed. The snow plow 1 may be taken from storage and preassembled by attaching the mounting members to the plow blade. The operator may juxtapose the mounting members to the rear side of the plow blade and secure the components together via fasteners and/or interlocking joints. The entire assembly may then be juxtaposed to the front or rear side of the vehicle, which may be the vehicle bumper. Retainers or straps may be routed around the bumper and through brackets located on the snow plow. The retainers may then be tightened or adjusted to apply a tension force holding the snow plow in place against the bumper of the vehicle. The operator may then maneuver the vehicle to plow snow or any other suitable substance from the ground surface.

[0043] With reference now to Figures 9 and 10, another embodiment of the subject invention will now be discussed. The snow plow 1 may be constructed having first and second plow blade sections. The first and second sections 42, 43 may be constructed as a singular continuous piece formed from plastic, metal, wood, resin or other suitable material. The first and second sections 42, 43 may also be constructed as separate members connected together at a midpoint 45 of the snow plow 1. In one embodiment, first and second sections 42, 43 may be connected via a hinge or hinge portion 47 connecting the first and second section 42, 43 together at the midpoint 45 forming a wedge or wedge shaped snow plow 1. As such, the first and second sections 42, 43 may be angled with respect to each other. The hinge portion 47 may comprise a series of hinges 48 aligned vertically to facilitate the storage of the snow plow 1. The hinge portion 47 may also be constructed from a single hinge 48' spanning part or all of the height of the snow plow 1. As mentioned above, the hinge portion 47 may be constructed

by scoring the material of the first and second sections 42, 43 thereby forming a hinge portion 47 that is integral with the material of the snow plow 1. It is to be construed that any manner of forming the hinge portion 47 may be chosen with sound judgment as is appropriate for use with the embodiments described herein.

[0044] With continued reference to Figures 9 and 10 and now also to Figure 11, the snow plow 1 may be opened and conveniently closed for compact storage when not in use. The first and second sections 42, 43 function not only as a plow blade for displacing the snow or other precipitation, but may also function as a storage container for the snow plow 1. As previously mentioned, hinge portion 47 allows the first and second sections 42, 43 to be pivotally connected with respect to each other. In this manner, the first and second sections 42, 43 may close upon itself or fold together forming a self-contained unit having all of the components required for use contained inside. When the user desires to utilize the snow plow 1, the user may pivot the first and second sections 42, 43 from the closed configuration to an angular spaced apart configuration for installation onto the vehicle 3 as will be described in detail in the following paragraph. The rear side 50 of the first and second section 42, 43 may include hollow or concave portions such that when the first and second sections 42, 43 are juxtaposed they form an interior cavity capable of storing the other snow plow components. The other snow plow components may include but are not limited to a cross brace 62, a bumper pad 73 and retaining straps 85 as will also be described further in a subsequent paragraph. The snow plow 1 may further include latches 49 that lock or hold the first and second sections 42, 43 together when closed. The latches 49 may be pivotally connected to one of the sections 42, 43 and may engage the other of the sections 43, 42 thereby holding the first and second sections 42, 43 together for storage in the trunk or other location. In one embodiment, the latches 49 may include a hook portion that engages a matching recess formed in the respective first or second section 42, 43. However, any manner of forming a latch 49 for holding the first and second section 42, 43 together may be chosen with sound engineering judgment.

[0045] With reference now to Figures 12 and 13, the snow plow 1 may include a cross brace 62 that functions to hold the first and second sections 42, 43 apart during use. When the snow plow 1 is installed onto the vehicle 3 and used to displace snow, a force F from displacing the snow will push against the front side 51 of the first and/or second sections 42, 43. The cross brace 62 may be installed between the first and second section 42, 43 to hold them in the spaced apart position resisting the force F . In this manner, the

cross brace 62 may be a rigid member. In one embodiment, the cross brace 62 may be selectively extendable to adjust the angle at which the first and second sections 42, 43 will be oriented. The cross brace 62 may be telescoping having concentric portions that extend and lock in place via a pin. Alternatively, the cross brace 62 may have one or more hinges that allow the cross brace 62 to extend lengthwise. Still, any manner of constructing a cross brace 62 may be chosen as is appropriate for use with the embodiments of the subject invention. Of course it will be appreciated that selectively extending the length of the cross brace 62 will adjust the angle between the first and second sections 42, 43. Accordingly, the rear side 50 of the first and second sections 42, 43 may include pockets 65 that receive the ends of the cross brace 62. The pockets 65 may be slightly undersized with respect to the ends of the cross brace 62 thereby allowing the ends of the cross brace 62 to snap into or out of engagement therewith. Alternatively, the pockets 65 may be larger or substantially the same size and configuration of the ends of the cross brace 62 thereby allowing a slip fit between the components. While the figures depict a single cross brace 62, any number of cross braces 62 may be used to support the first and second sections 42, 43. As previously mentioned, the cross brace 62 may be stowed interior to the snow plow 1 when not in use. The interior surfaces of the first and second sections 42, 43 may include recesses that match the shape of the cross brace 62. When disassembling or closing the snow plow 1, the cross brace 62 may be collapsed and inserted into the recess for compact storage. Velcro or any other means may be used to hold the cross brace 62 in place within the recess.

[0046] With continued reference to Figure 12 and 13, the mounting members may include a pad 73 for interfacing with the vehicle 3. The pad 73, which may be a bumper pad, may be connected between the first and second sections 42, 43 of the snow plow 1. The pad 73 may function to translate pushing force from the bumper of the vehicle 3 to the snow plow 1. In one embodiment, the bumper pad 73 may be a rigid member, similar to that described in a previous embodiment, connected between the first and second sections 42, 43 of the snow plow 1. The mounting members may also be comprised of a non-rigid band or belt 73', which may be a mesh strap 75. The mesh strap 75 may be elastically expandable and capable of resiliently deforming during use. The ends 76 of the mesh strap 75 may be connected to the sides 79 of the first and second sections 42, 43 respectively. Any manner of connecting the ends 76 of the mesh strap 75 may be chosen with sound engineering judgment. Additionally, the mesh strap 75 may have any width

as is appropriate for abutting against the bumper of a plurality of vehicles 3. In one embodiment, the mesh strap 75 may be vertically selectively moveable to adjust the snow plow 1 to connect with a variety of vehicles having different vehicle bumper heights and sizes. It is noted that the mesh strap 75 may be pre-stretched when connected to the ends 79 of the first and second sections 42, 43, which may assist in maintaining the angular orientation of the snow plow 1. During use, the mesh strap 75 may flex or resiliently deform absorbing shock from the plowing process. However, the mesh strap 75 may be sufficiently taut and strong to push the snow plow 1 forward without breaking or tearing. It is noted in this embodiment that the mesh strap 75 may function in place of the mounting blocks as described in a previous embodiment. However, it is contemplated that both the mesh strap 75 and mounting blocks may be used together in any manner chosen without limiting the scope of the embodiments described herein.

[0047] With reference to Figures 9 through 13, the snow plow 1 may also include retainers 85 that connected the snow plow 1 to the vehicle 3. In one embodiment, the retainers 85 may be retaining straps 85 comprised of an elastically deformable strip of material, for example such as rubber, having first and second ends. Two or more retainers 85 may be used to secure the snow plow 1 in place. In an exemplary manner, the first ends of the retaining straps 85 may be affixed to the first and second sections 42, 43 respectively, via fasteners, adhesives or any means suitable for use with the snow plow 1. The second ends 88 of the retaining straps may include an enlarged portion or knob for securing the retaining straps 85 to the vehicle 3. The enlarged portion may be spherical in shape. However, it may also take other shapes as well. One characteristic of the enlarged end is that it is substantially larger than the remaining strap. In one embodiment, to install the snow plow 1, the hood of the vehicle 3 may be open. The enlarged end of the retaining strap 85 may then be laid proximate to or into the engine cavity under the hood. As the hood is closed, the enlarged end will prevent the retaining strap 85 from pulling out from under the hood. This effectively anchors the retaining straps 85 to the vehicle 3. The retaining straps 85 may then provide a retaining force to draw the snow plow 1 against the vehicle 3. The retaining straps 85 are described as being elastically deformable, although other types of non-rigid straps or belts may be used secure the snow plow 1 to the vehicle 3. Any type of retaining strap may be used that provides sufficient tension force to hold the snow plow 1 against the vehicle 3. The figures show one

retaining strap 85 on each of the first and second sections 42, 43 respectively. However, any number of retaining straps 85 may be used.

[0048] With reference to figures 9 through 13, installation and use of the embodiments of the subject invention will now be discussed. The snow plow 1 may be taken from storage, which may be trunk of a vehicle 3, and preassembled by opening the snow plow and removing the components stored inside. The user may pivot the first and second sections 42, 43 outward and insert the cross brace 62 into the pockets 65. The mesh strap 75 may then be attached to the respective ends of the first and second sections 42, 43 after which the snow plow 1 may be placed next to the bumper of the vehicle 3. The user may then open the hood of the vehicle 3 and place the retaining straps 85 at least partially into the engine cavity of the vehicle 3. Once closed, the snow plow 1 will be ready for use. In driving forward, the bumper pushes against mesh strap 75 thereby displacing snow as the vehicle moves. In driving backward, the retaining straps 85 pull the snow plow 1.

[0049] The invention has been described herein with reference to the preferred embodiment. Obviously, modifications and alterations will occur to others upon a reading and understanding of this specification. It is intended to include all such modifications and alternations in so far as they come within the scope of the appended claims or the equivalence thereof.

Claims:

1. A vehicle plow for an associated passenger vehicle, comprising:
at least a first lightweight plow blade;
one or more mounting members operatively connected between the at least a first lightweight plow blade and the associated passenger vehicle; and,
at least a first retainer operable to hold the at least a first lightweight plow blade in place with respect to the associated passenger vehicle.
2. The vehicle plow as defined in claim 1, wherein the at least a first lightweight plow blade comprises a moldable polymer.
3. The vehicle plow as defined in claim 1, wherein the at least a first lightweight plow blade includes a hollow portion for storing the one or more mounting members or the at least a first retainer.
4. The vehicle plow as defined in claim 1, wherein the at least a first lightweight plow blade includes first and second plow blade sections.
5. The vehicle plow as defined in claim 4, wherein the first plow blade section is adjustable with respect to the second plow blade section about a plow blade axis, and wherein the first and second plow blade sections are operable to form an angled plow blade for directing matter away from the associated passenger vehicle.
6. The vehicle plow as defined in claim 5, wherein the first and second plow blade sections are hinged together about a substantially vertical plow blade axis.
7. The vehicle plow as defined in claim 6, wherein at least one of the first and second plow blade sections include a hollow portion, and wherein the first and second plow blade sections define an enclosed storage cavity.

8. The vehicle plow as defined in claim 2, wherein the at least a first lightweight plow blade has a first side that is contoured to direct matter away from the associated passenger vehicle.
9. The vehicle plow as defined in claim 8, wherein the first side of the at least a first lightweight plow blade is concave.
10. The vehicle plow as defined in claim 1, wherein the one or more mounting members comprise a flexible band extended between distal ends of the at least a first lightweight plow blade.
11. The vehicle plow as defined in claim 10, wherein the flexible band includes a mesh strap.
12. The vehicle plow as defined in claim 1, wherein the one or more mounting members comprise one or more mounting blocks having first and second ends, wherein the first end of the one or more mounting blocks extends from the at least a first plow blade and wherein the second end of the one or more mounting blocks abuts the associated passenger vehicle.
13. The vehicle plow as defined in claim 12, wherein the second end of the one or more mounting blocks is shaped to match an associated passenger vehicle bumper.
14. The vehicle plow as defined in claim 1, wherein the one or more mounting blocks include a first and at least a second mounting block, and wherein the first mounting block has a substantially different length than the at least a second mounting block for positioning the associated passenger vehicle plow at an angle with respect to a forward direction of vehicle travel.
15. The vehicle plow as defined in claim 7, further comprising:
a rigid cross brace extendable between the first and second plow blade sections for reinforcing the vehicle plow, wherein the rigid cross brace is capable of being stored in the storage cavity.

16. A method of installing a vehicle plow onto an associated vehicle, comprising the steps of:

providing a vehicle plow blade sized for storage in the trunk of an associated passenger vehicle;

juxtaposing the vehicle plow blade at an end of the associated vehicle; and,

securing the vehicle plow blade to the associated vehicle.

17. The method as defined in claim 16, wherein the vehicle plow blade is constructed from a lightweight moldable polymer.

18. The method as defined in claim 16, further comprising the step of:

providing a mounting member; and,

attaching the mounting member to the vehicle plow blade without the use of tools, and,

wherein the step of juxtaposing the vehicle plow blade at an end of the associated vehicle, comprises the step of:

abutting the mounting member to at an end of the associated vehicle.

19. The method as defined in claim 18, wherein the mounting member is mesh strap operable to absorb impact forces.

20. The method as defined in claim 16, wherein when the vehicle plow blade is juxtaposed to the associated vehicle it forms an angled in a first direction with respect to a forward direction of travel, and further comprising the steps of:

detaching the vehicle plow blade;

inverting the vehicle plow blade; and,

reattaching the vehicle plow blade thereby angling the vehicle plow blade in a second opposite direction.

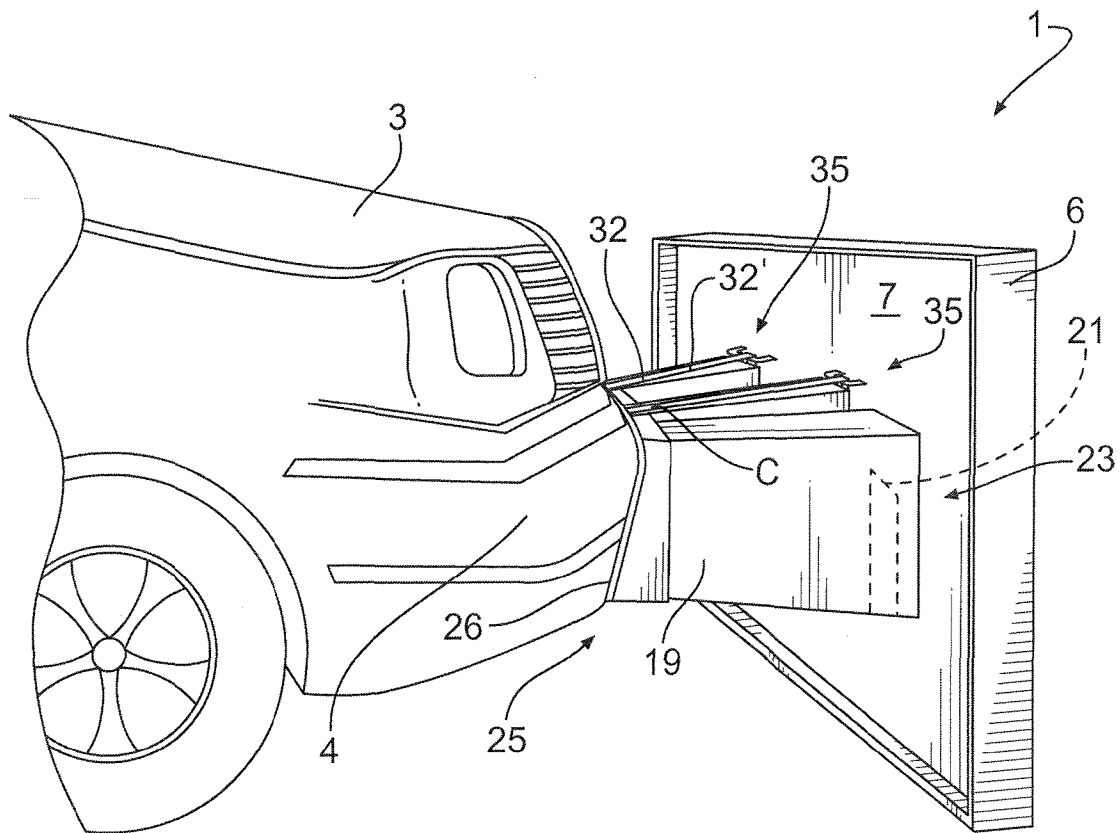


FIG. 1

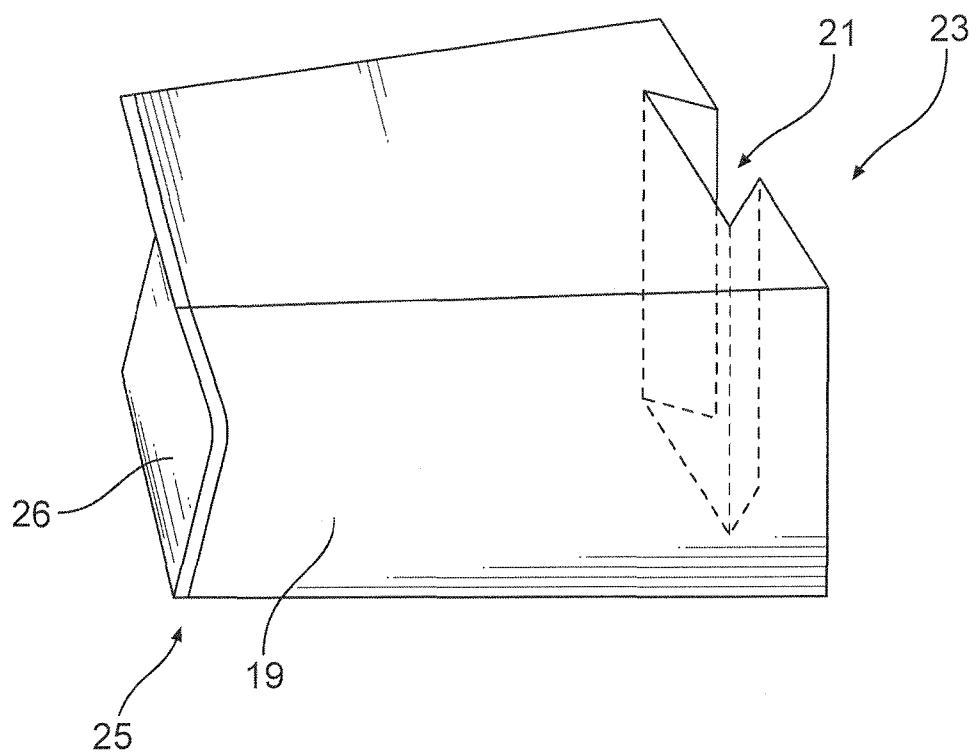


FIG. 2

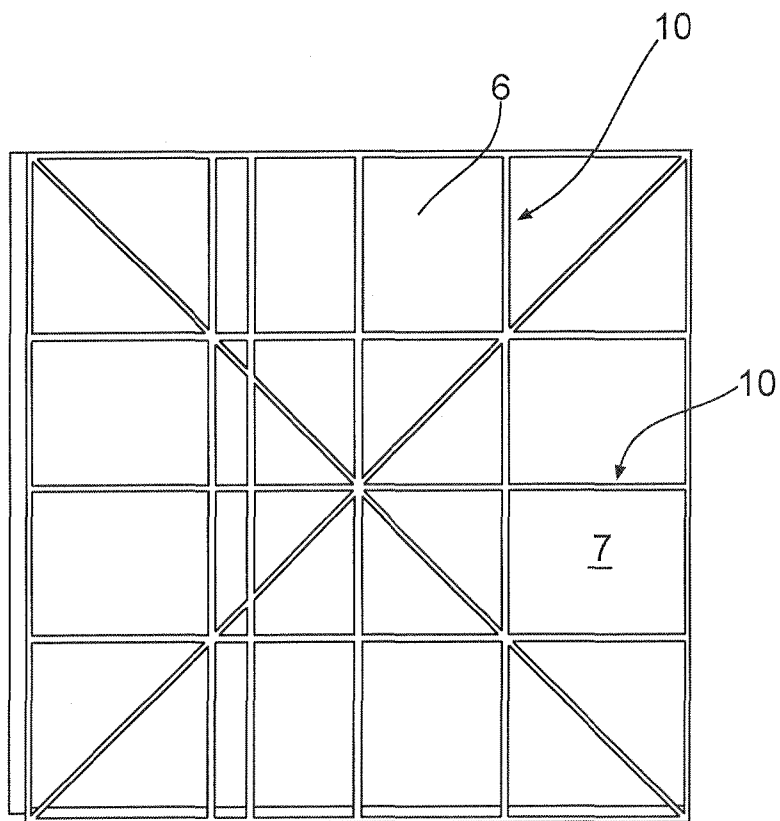


FIG. 3

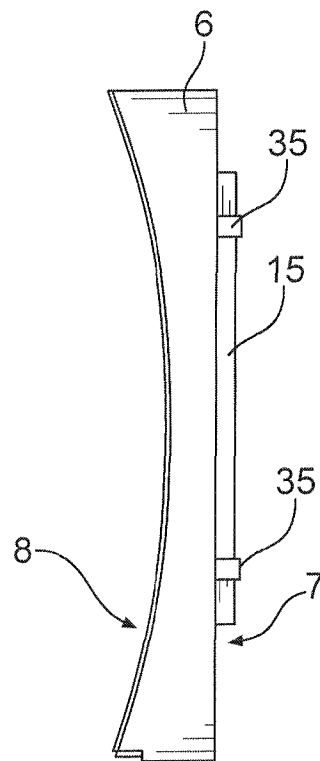
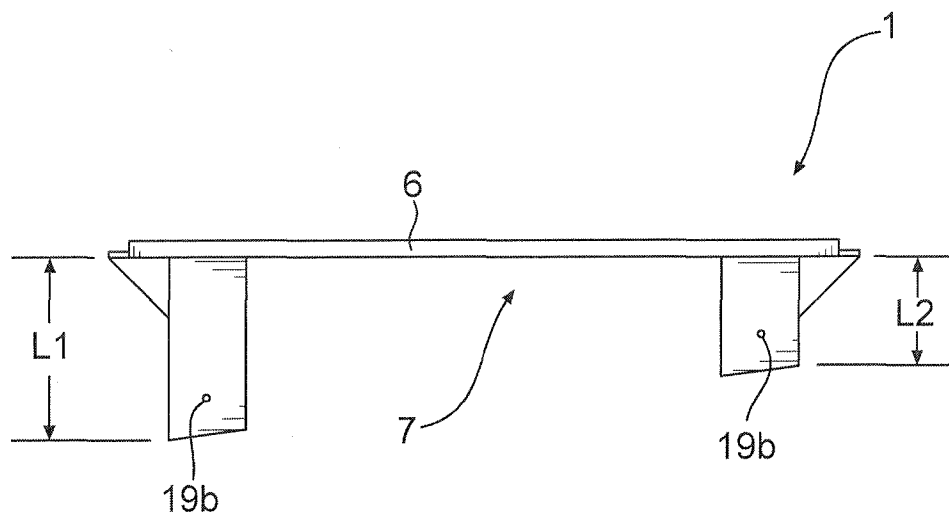
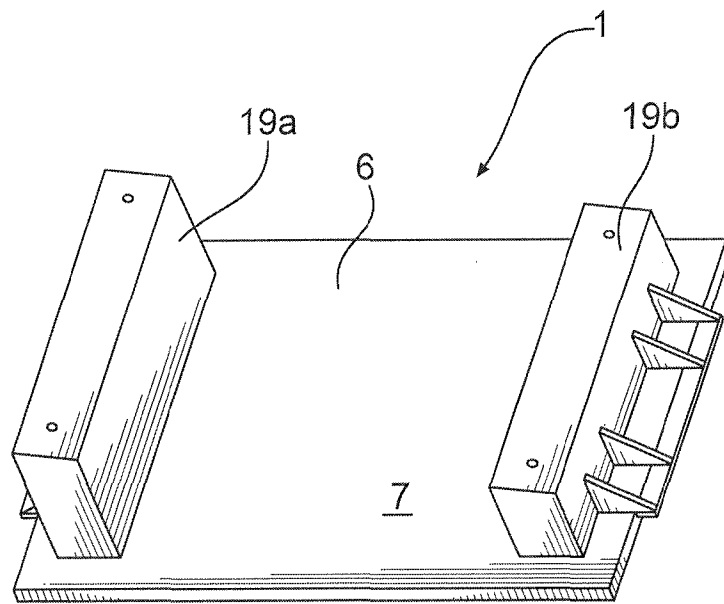


FIG. 4

**FIG. 5**

**FIG. 6**

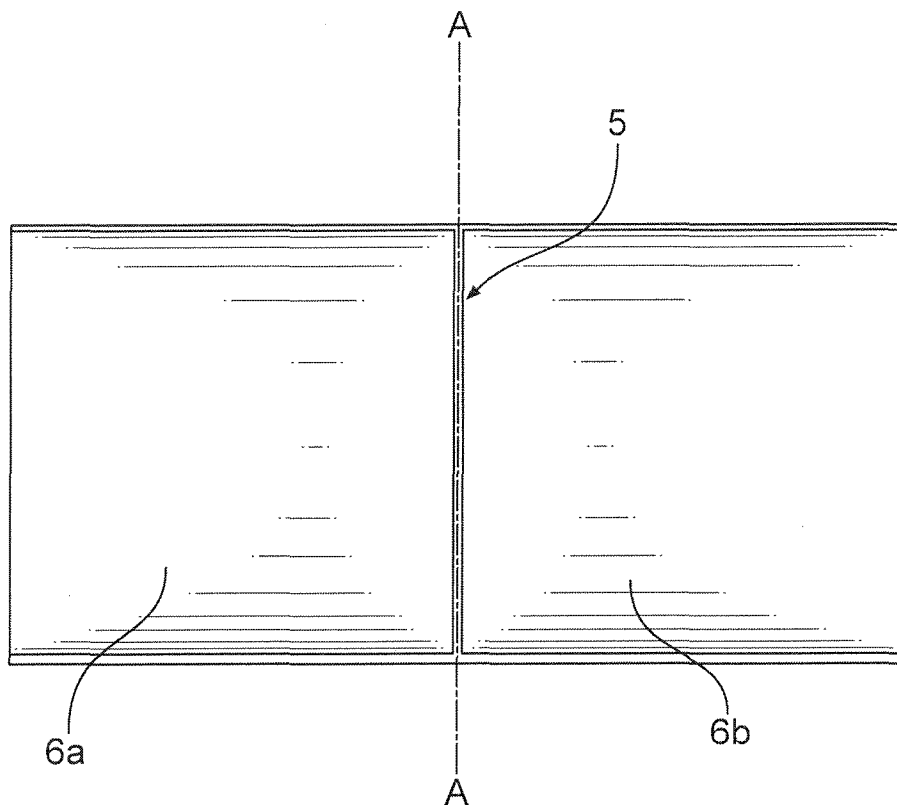
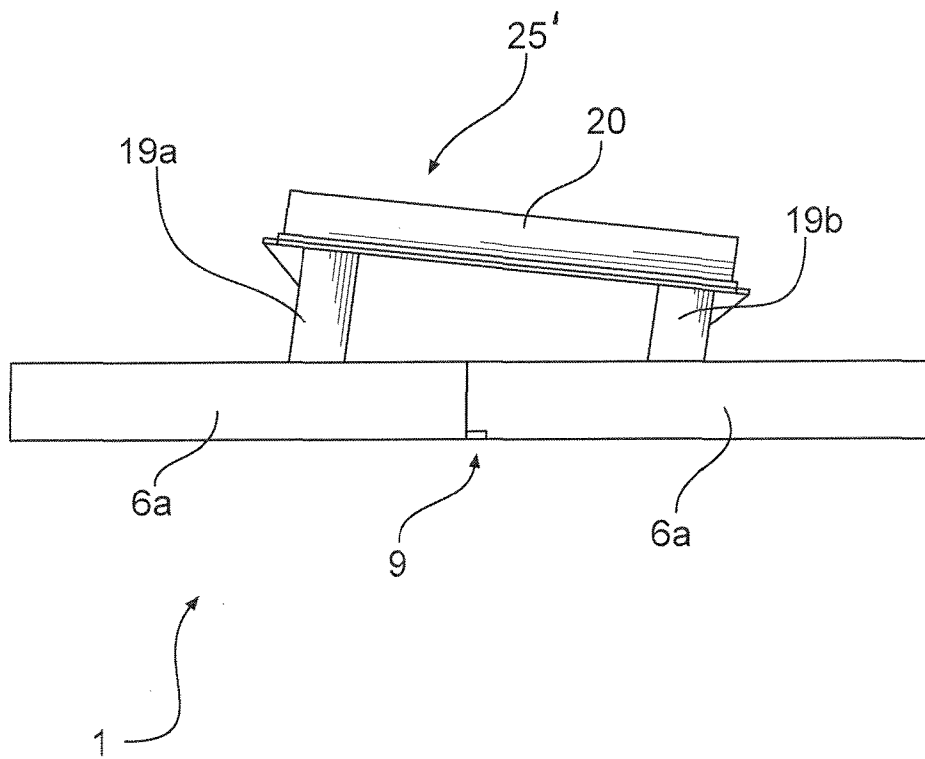


FIG. 7

**FIG. 8**

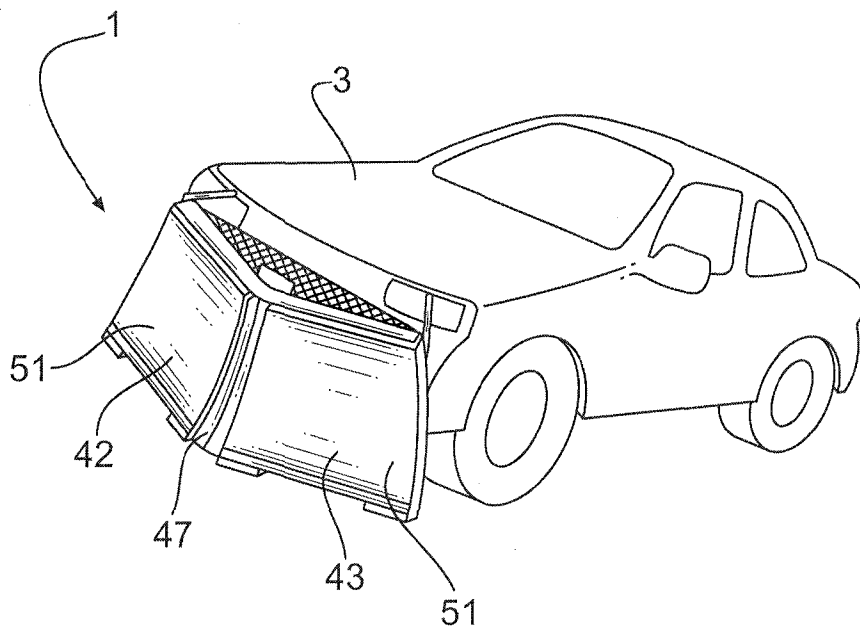
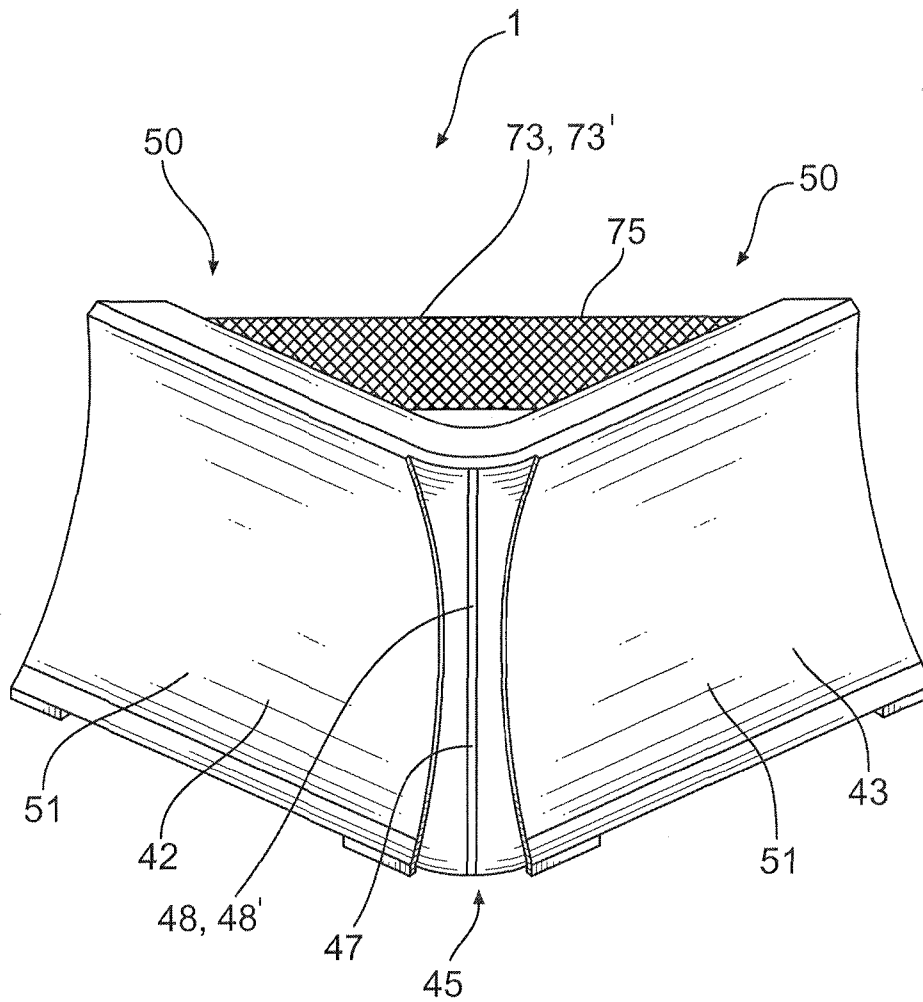


FIG. 9

**FIG. 10**

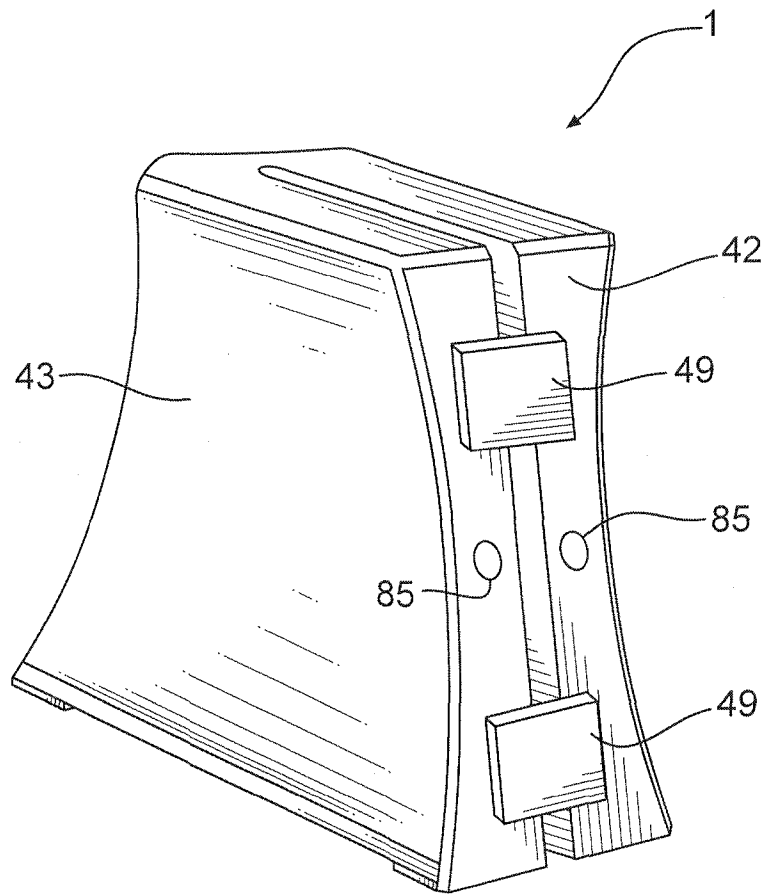


FIG. 11

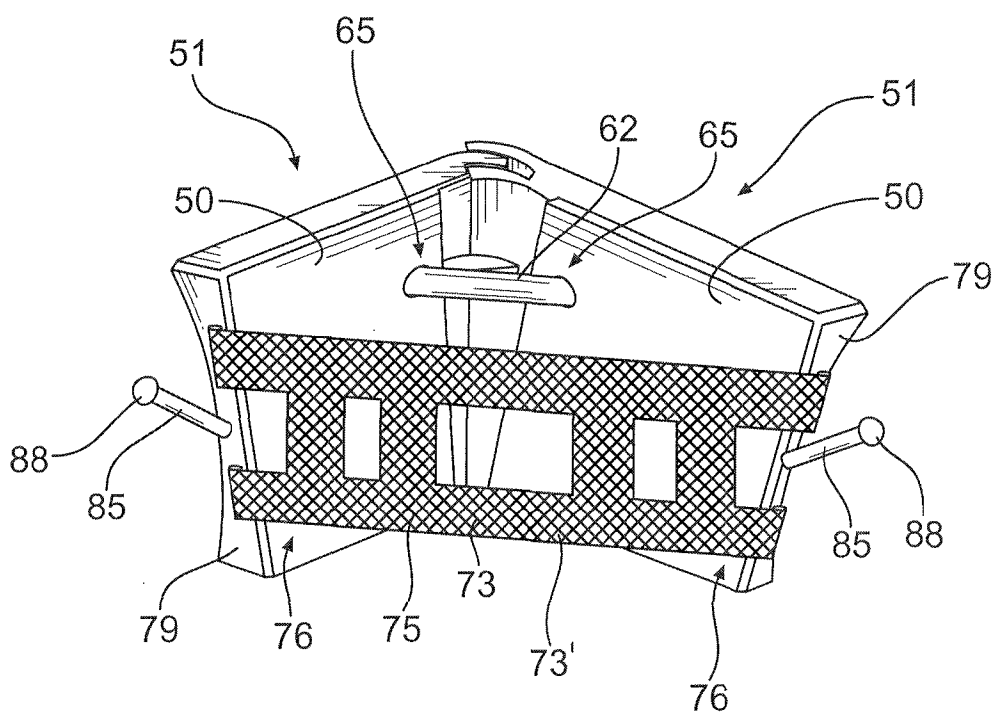
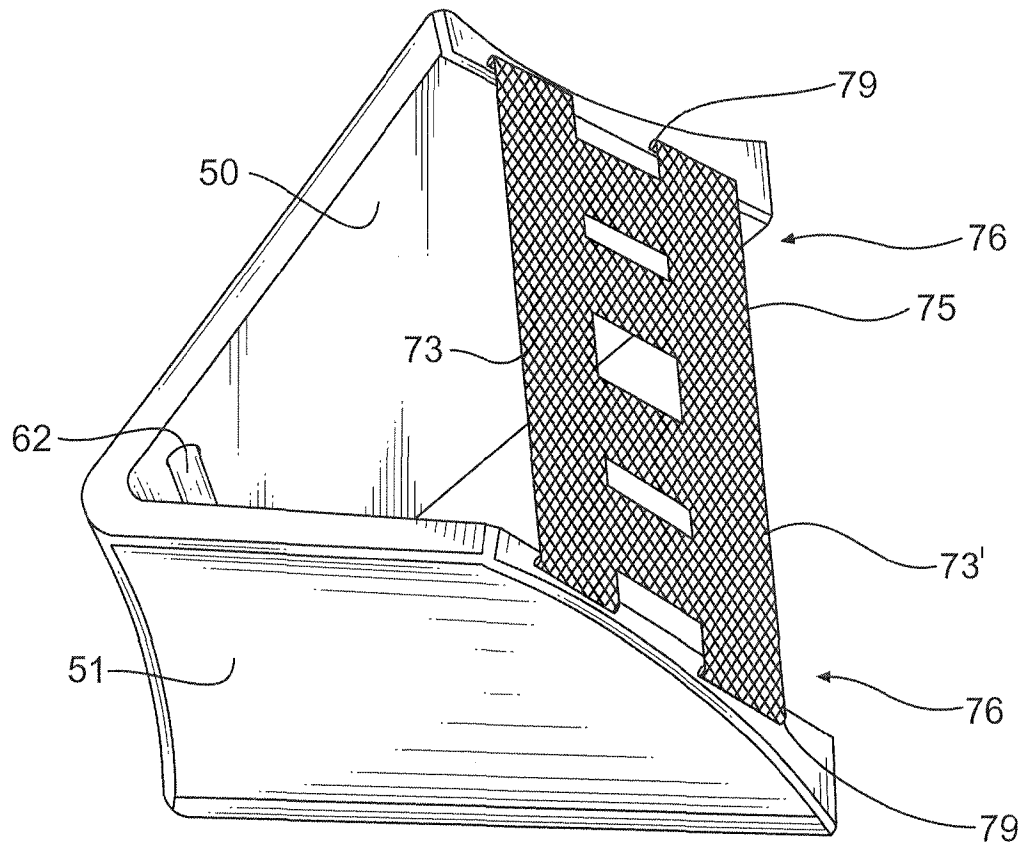


FIG. 12

**FIG. 13**