

Dec. 19, 1939.

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2,183,809

HOOD CONSTRUCTION

Filed June 20, 1936

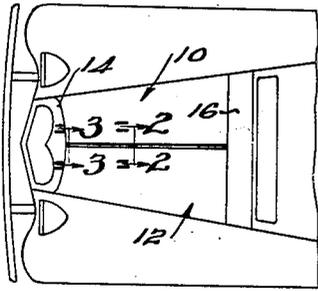


FIG. 1.

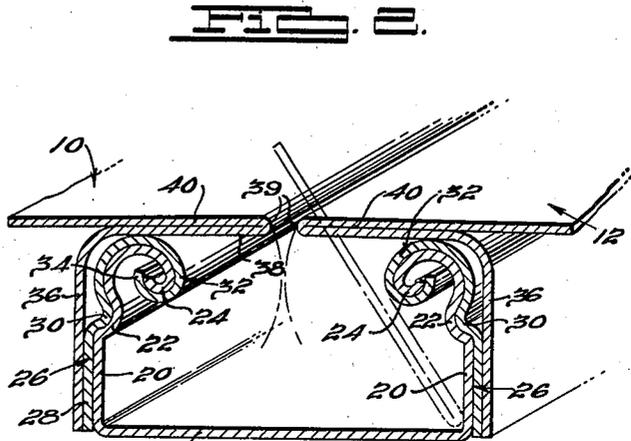


FIG. 2.

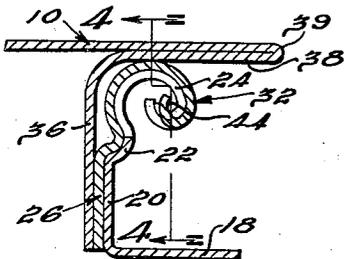


FIG. 3.

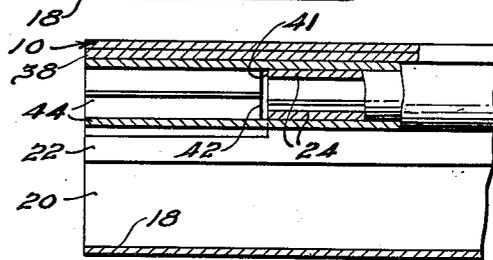


FIG. 4.

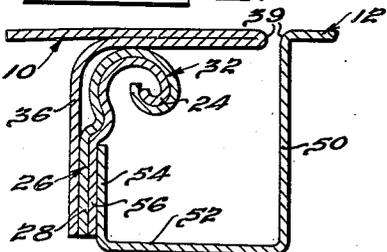


FIG. 5.

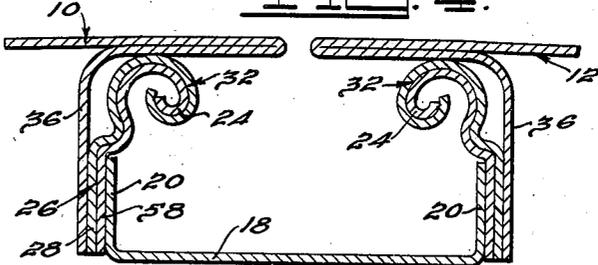


FIG. 6.

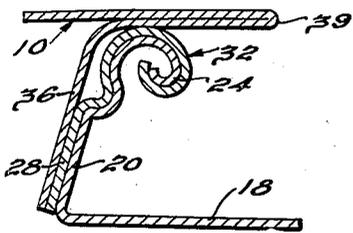


FIG. 7.

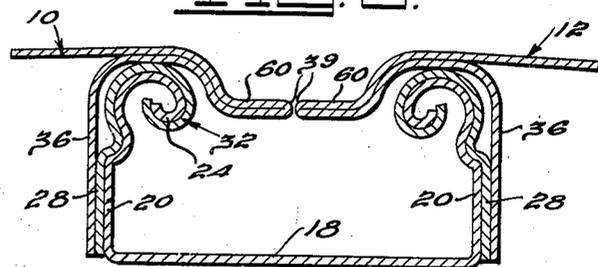


FIG. 8.

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UNITED STATES PATENT OFFICE

2,183,809

HOOD CONSTRUCTION

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Application June 20, 1936, Serial No. 86,299

4 Claims. (Cl. 16—128.1)

This invention relates to hood constructions and particularly relates to the arrangement of the hood wings and the manner of hinging them together on an automobile body.

5 An object of the invention is to provide an improved hinge construction with the hinged portions concealed from view and the hood wings so arranged that only a single line opening, extending centrally longitudinally of the hood, is
10 visible.

Another object of the invention is to provide an improved hood construction in which the hinged hood wing members extend toward each other so that only a single line opening, extending centrally longitudinally of the hood, is visible, and in which the wing members may be raised and lowered simultaneously without interfering with each other.

15 Another object of the invention is to provide an improved hood construction in which the wing members are hinged directly to each other and only a single line opening is visible extending longitudinally centrally of the hood.

20 Another object of the invention is to provide a hood construction in which the hood wings extend toward each other and are hinged to upstanding sides of a channel member, wherein the relationship between the wings and channel members is such that a maximum of movement
25 of the wings is permitted without causing the finished surfaces of the wings to become marred.

Another object of the invention is to provide a hood construction in which the relation between the wings and hinges is such that the wings may
30 extend toward each other closely adjacent to each other and may be simultaneously raised and lowered without interfering with each other.

Another object of the invention is to provide a hood construction relatively inexpensive to manufacture, simple in construction, and efficient and
35 effective in use.

Other objects of the invention will become apparent from the following specification, the drawing relating thereto, and from the claims herein-
40 after set forth.

In the drawing, in which like numerals are used to designate like parts in the several views throughout:

45 Figure 1 is a fragmentary plan view of an automobile having a hood constructed according to one form of the invention;

Fig. 2 is an enlarged cross-sectional view, partly in perspective, taken on line 2—2 of Fig. 1;

50 Fig. 3 is a cross-sectional view taken substantially along the line 3—3 of Fig. 1;

Fig. 4 is a vertical section of the end portion of the hinged wing section, taken substantially along the line 4—4 of Fig. 3;

Fig. 5 is a cross-sectional view of another form of hinge construction in which the hood wings
5 are hinged to each other;

Fig. 6 is a cross-sectional view similar to that shown in Figure 2, showing another form of the invention;

Fig. 7 is a cross-sectional view showing another
10 form of the invention, and

Fig. 8 is a cross-sectional view showing another form of the invention.

Referring in further detail to Figure 1 of the drawing, hood wings 10 and 12 are provided
15 which extend longitudinally and are so arranged that only a single line opening, extending centrally longitudinally of the hood, is visible. The radiator and the cowl of the automobile are indicated at 14 and 16, respectively, and in the em-
20 bodiments shown in Figures 2 to 4, the hood wings are connected thereto through a hinge support 18, which is terminally secured to the radiator and cowl. The support 18 comprises an elongated channel-shaped member, opening upwardly
25 and having a straight bottom portion and upstanding sides. The sides comprise upstanding straight portions 20 having inwardly bent reversely curved portions 22 extending longitudinally of the support. Each upper edge of the sides
30 is reversely beaded in a spiral manner inwardly and toward the adjacent side to form a male member 24 of a nested hinge, which is more specifically described in the patent to Hall No. 1,987,774, for Hood construction, the present in-
35 vention constituting an improvement over the construction of the patent referred to.

The female member 26 of the nested hinge may be formed separately and apart from the male member 24 and comprises a straight portion
40 28 and an inwardly reversely curved portion 30 complementary in shape to the straight portion 20 and curved portion 22 of the support and terminating in a curved portion 32. The inner face of the curved portion 32 is substantially
45 and concentrically spiral with the outer face of the male member 24 when the straight portion 28 is in a position abutting the straight portion 20. The female member 26 is provided at its spiraled edge with a curved portion 34 adapted to fit
50 around the inner edge of the male member to serve as a stop to hinging movement.

The hood wings 10 and 12 are preferably made of sheet metal material and comprise straight upstanding portions 36, secured in a suitable
55

manner, such as by welding, to the female members 26 on the outer faces of the straight portions 28 longitudinally thereof. Those portions of the hood wings which extend upwardly beyond the top of the curved portions 32 of the female members 26 are suitably bent inwardly and over the adjacent nested hinge to form inwardly directed flange portions 33. The hood wings 10 and 12 are then reversely bent upon the flanges 33 providing the edges 39 and the visible portions of the hood construction, as indicated at 40.

The hood wings extend toward each other with their edges 39 coming closely adjacent to each other longitudinally centrally of the hood, so as to conceal the hinge structure and the support and leave visible only a single line opening extending longitudinally centrally of the hood. As the centers of rotation of the edges 39 of the hood wings lie in a plane substantially below the plane of the edges 39, the edges 39 are separated from each other to an extent that the wings may be simultaneously raised and lowered without interfering with each other along their paths of movement, as indicated by the arcs of Figure 2. As indicated by the dotted lines in Figure 2, the movement of the hood when in a raised position is limited by the under side of the edge 39 striking against the upstanding straight portions 20 of the support 18 adjacent a lower corner. As the outside of the main portions 40 of the hood wings and the edges 39 need be the only portions given a finished appearance, it can be seen that these portions are not contacted by other portions in raising and lowering the hood wings and the finished surfaces will therefore not be marred.

It is pointed out that the channel support 18 is so mounted with respect to the radiator and cowl, that water draining from the hood is collected within the channel and removed to the end of the hood, and from there permitted to fall harmlessly and free of the motor.

It will be apparent from the above description that the male and female parts of the hinge are so designed that when assembled together by sliding the male section into the female section, a smooth working shake-proof hinge results, which cannot be disengaged except in precisely the same manner as that in which the parts are assembled.

In order to prevent longitudinal movement of the male and female members relative to each other, as shown in Figures 3 and 4, a portion of the male member 24 is removed and the female member 32 is inwardly distorted from its concentrically spiral shape over a portion thereof coextensive with the removed portion of the male member in a manner providing a longitudinal, abutting relationship between the edge 41 of the remaining portion 24 of the male member and the opposing edge 42 of the distorted portion 44 of the female member.

In the modified form of structure shown in Figure 5, a construction is provided in which the hood wings are directly hingedly connected to each other and the channel-shaped support 18 of Figure 2 is dispensed with. In this modification, the hinged wing 10 and the female hinge member 26 attached thereto are similar in construction to those parts as shown in Figure 2. The hood wing 12 is bent downwardly at the edge 50 to have a downwardly directed portion 52, is then bent outwardly as at 52 and upwardly as at 54, to provide an upwardly opening elongated channel-shaped member. The male hinge mem-

ber 24 cooperates with the female hinge member 32 in the manner described in regard to the embodiment shown in Figures 2 to 4, and has a downwardly directed straight portion 56 which is suitably secured, as by welding, along its inner face to the outer face of the upstanding portions 54. In this modification, the pivot axis of the hinge is offset to one side of the longitudinal center of the hood construction, which is substantially at the line between the edge 39 and portion 50; and also it can be seen that the edge 39 and portion 50 may be closer to each other than the edges 39 in the embodiment shown in Figure 2, as the hood wing 12 is pivoted about the same axis as the hood wing 10 and the arcs described by the edges 39 when the hood wings are simultaneously raised would be concentric and the two edges moving in opposite directions, so that the hood wings could be simultaneously raised and lowered without the edges 39 interfering with each other. The ends of the hinge may be pivotally mounted on the radiator and cowl in a manner similar to that more specifically described in the patent to Hall No. 2,006,163.

The channel-shaped support 18 in Figure 2 may be modified as disclosed in Figure 6, where the upwardly directed sides are terminated at the top of the straight portions 20, the male member 24 being formed of a separate sheet metal member having a straight vertical portion 58 secured along its inner face to the outer face of the straight portion 20, as by welding. Other suitable securing means, such as riveting or the like, may be substituted for the welding suggested in connection with this structure.

A modified structure is shown in Figure 7, in which the sides of the channel support 18 are inclined inwardly, so as to permit the hood wings to move to a greater distance when they are raised before the under side of the edges 39 is stopped by striking against the inner faces of the straight portions 20. It is to be understood that the hinge may be constructed, if desired, so that the inner edge of the female portion of the hinge is stopped by the male member before the edge strikes against the inner face.

It is desirable to have the hood wings extend toward each other, with their edges as close to each other as is possible without interference with each other when the hood wings are raised or lowered simultaneously, and in Fig. 8 a structure is provided in which the portions 60 of the hood wings adjacent the edges 39 are offset downwardly so that the edges 39 lie in substantially the same plane as the plane through the pivot axes of the opposed hood members. It is evident from this construction that when the hood wings are raised or lowered simultaneously the arcs described by the edges 39 would not intersect, but that the edges 39 would immediately begin to recede from each other as the hood members are raised simultaneously and interference between the two hood wings is prevented while the distance between the edges when the hood wings are in their normally closed positions is materially small.

It is apparent from the above that novel hood constructions are provided which will operate easily and smoothly without rattling and in which the hinges are concealed from view, the visible portions of the hood construction providing a pleasing appearance.

Formal changes may be made in the specific embodiments of the invention described without departing from the spirit and substance of the

invention, the scope of which is commensurate with the appended claims.

What I claim is:

5 1. In a hood construction for motor vehicles, an elongated channel-shaped support opening upwardly and having upstanding sides, said sides terminating at their upper edges in inwardly and then downwardly curved portions defining hinge parts, second hinge parts each having an inwardly and then downwardly curved portion forming a hinge part receiving the curved portion of one of the first hinge parts and extending downwardly along the corresponding side of said support when the hinge parts are in one position, and hood wings having inwardly directed portions extending toward each other concealing the channel-shaped support, the inner edges of said wings being offset downwardly in a plane substantially coincident with the plane of the axis of rotation of the hinge parts, each of said hood wings having a flange portion secured to the corresponding downwardly directed portion of the second hinge parts.

25 2. In a hood construction for motor vehicles, an elongated channel-shaped support opening upwardly and having upstanding sides, said sides having straight portions and inwardly bent curved portions intermediate their upper edges and said straight portions, said sides terminating at their upper edges in inwardly and then downwardly curved portions defining hinge parts, second hinge parts each having a straight portion and an inwardly bent curved portion engaging the corresponding straight portion and inwardly bent curved portion of one of said sides and having a second inwardly and then downwardly curved portion forming a hinge part receiving the inwardly and downwardly curved portion of one of said first-named parts, and hood wings having inwardly directed portions extending toward each other concealing said channel-shaped support, each of said hood wings having a flange portion secured to the corresponding straight portion of the second hinge part.

45 3. In a hood construction for motor vehicles, a hood wing having an upwardly open channel at

one edge, the outer leg of said channel having secured thereto an elongated plate-like member having a straight portion and an inwardly bent curved portion intermediate its upper edge and said straight portion, said member terminating at its upper edge in an inwardly and then downwardly curved portion defining a hinge part, a second hinge part having a straight portion and an inwardly bent curved portion engaging the corresponding straight portion and inwardly bent curved portion of said member and having a second curved portion receiving the curved portion of the first hinge part and a second hood wing having a flange portion secured to said straight portion of the second hinge part and having a portion directed inwardly concealing said upwardly open channel and having its edge extending closely adjacent to said first-named hood wing.

20 4. In a hood construction for motor vehicles, means forming an upwardly opening channel longitudinally of said hood, said means having longitudinally extending side portions in which one of said side portions includes a member having a straight portion and an inwardly bent curved portion intermediate its upper edge and said straight portion, said member terminating at its upper edge in an inwardly and then downwardly curved portion defining a hinge part, a second hinge part having a straight portion and an inwardly bent curved portion engaging the corresponding straight portion and inwardly bent curved portion of said member and having a second inwardly and then downwardly curved portion forming a hinge part receiving the inwardly and downwardly curved portion of said member, a hood wing fixed to said second hinge part for pivotal movement therewith, said hinge wing having a portion which extends beyond said hinge parts toward the center of the hood construction, and another hood wing connected to said means having its longitudinal inner edge parallel and adjacent to the inner edge of said first named hood wing, thereby concealing said channel means.

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