March 24, 1936. W. J. HALL 2,034,810

HOOD HINGE

Filed May 25, 1934

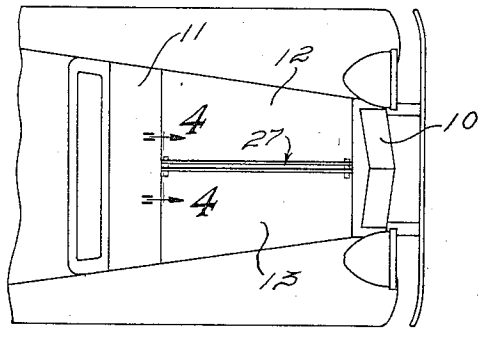


Fig. 1.

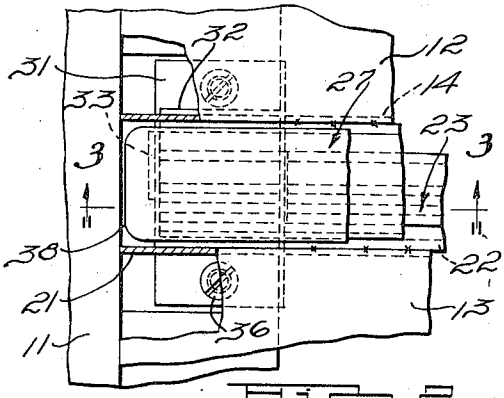


Fig. 2.

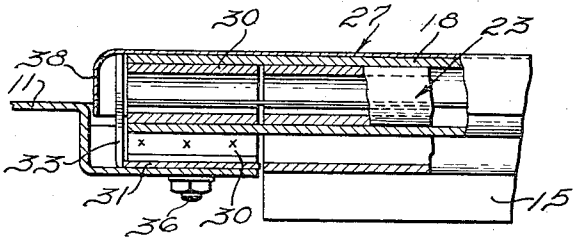


Fig. 3.

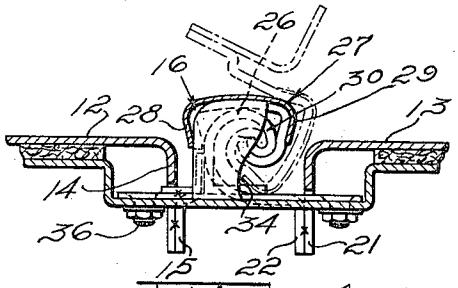


Fig. 4.

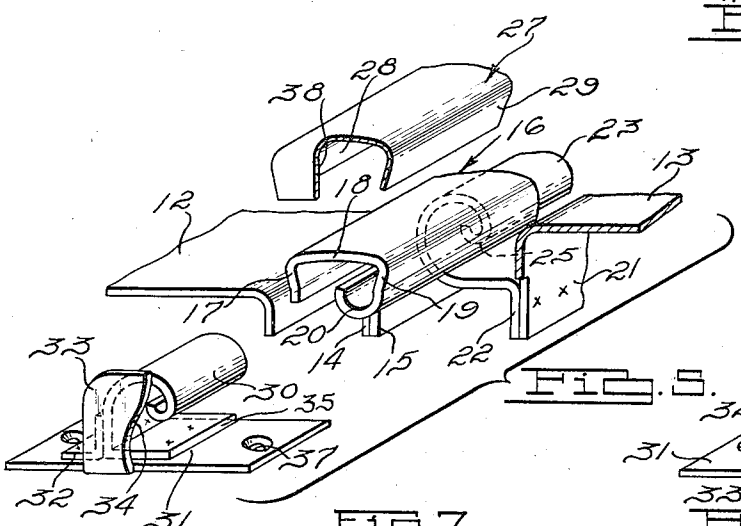


Fig. 7.

Fig. 5.

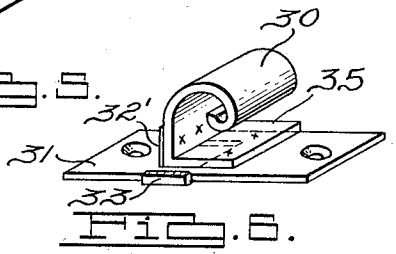
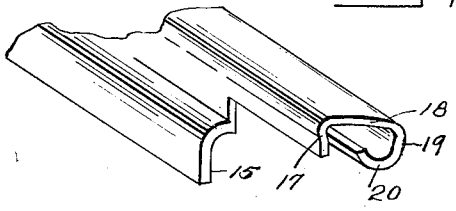


Fig. 6.



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HOOD HINGE

William J. Hall, Detroit, Mich., assignor, by mesne assignments, of thirty per cent to Ollie L. Herron, thirty per cent to Joseph B. Zimmers, thirty-three per cent to William J. Hall, and seven per cent to R. C. Schemmel

Application May 25, 1934, Serial No. 727,433

15 Claims. (Cl. 16—148)

The invention relates to hinge constructions and it has particular relation to a hinge construction for connecting hood wing sections on automobiles.

In certain respects the invention constitutes an improvement over that embodied in my co-pending application for patent filed February 2, 1934, Serial No. 709,407. In that case it was an object of the invention to provide a hood construction or the like including hinge means connecting the hood wing sections and a means for mounting the wings on spaced supports such as the cowl and radiator, wherein the hinging means and mounting means are concealed from view at the upper side of the hood.

One object of the present invention additional to the above object is to provide an improved type of hinge construction and an improved type of concealing means wherein the latter comprises a thin covering member which can be readily mounted on the hinge and is positively maintained in position when so mounted.

Another object of the invention is to provide an improvement in means for hingedly mounting the ends of the hinge on spaced supports such as on the cowl and radiator.

Other objects of the invention will become apparent from the following description, the drawing relating thereto, and from the claims hereinafter set forth.

For a better understanding of the invention reference may be had to the drawing, wherein:

Figure 1 is a fragmentary plan view of an automobile provided with a hood construction corresponding to one form of the invention.

Fig. 2 is a fragmentary plan view on a larger scale of the construction shown by Fig. 1, with certain parts broken away for the purpose of illustrating details of the construction.

Fig. 3 is a cross-sectional view taken substantially along the line 3—3 of Fig. 2.

Fig. 4 is a cross-sectional view on a larger scale taken substantially along the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary view illustrating in isolated relation the several parts of the arrangement shown by the previous figures.

Fig. 6 is a detailed view of one of the bead supports as constructed according to another form of the invention.

Fig. 7 is a fragmentary perspective view illustrating the end portion of the outer hinge part.

Referring to Fig. 1, the radiator of the automobile is indicated at 10, the cowl portion at 11 and the hood wings at 12 and 13, respectively. The wings are so hingedly connected and mounted on the cowl and radiator that either wing may be shifted to an open position and the manner of hingedly connecting these two wings is best shown by Figs. 4 and 5. According to these figures the wing 12 has a depending flange 14 which may be welded or otherwise secured to a flange portion 15 of an outer hinge part 16, and the latter above the flange 15 flares outwardly as indicated at 17. The flared portion joins a top portion 18 which at its opposite edge is joined to a downwardly extending portion 19 substantially like the portion 17, from which it follows that such portions 17 and 19 converge in a downward direction. At its lower edge the portion 19 terminates in an inwardly and upwardly curved portion which provides a seat which is open towards the top portion 18.

The hood wing section 13 similarly has a depending flange 21 that is secured to a flange 22 of an inner hinge part 23 and above the flange the hinge part extends laterally and upwardly in a generally spiral formation and terminates in a curved edge portion 25 which seats complementarily in the curved portion 20 of the outer hinge part when the hinge is in a closed position as shown by Fig. 4. When the hinge is in this position the upper side of the inner hinge part may substantially contact with the lower surface of the top portion 18 of the outer hinge part at the point indicated at 26 and this contact, in conjunction with the seating of the curved edge 25 in the open seat 20 of the outer hinge part positively limits the closing movement of either hinge part.

In manufacturing constructions of this character it has been customary to use stainless steel or other more expensive metals in the outer hinge part 16 so as to provide an untarnishable, exposed member between the hood wings and this necessarily has increased the cost of manufacture considerably. In using a hinge construction of this character, the automobile manufacturer also has found it necessary to apply tape or the like to the outer hinge part when the hood wings are painted so as not to have any of the paint applied to the surface of the outer hinge part and this has additionally increased the cost of manufacture. Furthermore, while separate members may be employed to completely close the ends of the hinge, the separated relation of this means and the hinge usually is visible either from the top of the hinge or at the end of the hinge. Additionally, the hinge manufacturer ordinarly cannot manufacture a large number of shapes without providing very expensive and ad-

ditional equipment and usually the number of shapes is limited for this reason. The automobile manufacturers sometimes prefer a different shape of hinge extending between the hood wings so as to obtain a member more nearly in harmony with the appearance of the automobile and it is considered rather expensive to vary the hinge constructions themselves for this purpose.

The various problems are solved in the present invention by providing a thin cover element 27 constructed of stainless steel, for example, which has leg portions 28 and 29 substantially complementary to the edge portions 17 and 19 of the outer hinge part 16 and the cover element is so constructed that it may be snapped on the outer hinge part and be positively retained in position. Constructing the cover and applying it, enables constructing the hinge part 16 of cold rolled steel, for example, which is much less expensive and, although the cover element constitutes an additional element, the fact that it is constructed of very thin metal so reduces its cost of manufacture that its cost plus the cost of manufacturing the outer hinge part from cold rolled steel is even much less than the cost of manufacturing the hinge parts from stainless steel.

In mounting the hinge on spaced supports such as on the cowl and radiator, the inner hinge part 23 is cut back from the ends of the outer hinge part and along the then projecting ends of the latter the attaching flanges 14 and 15 are substantially eliminated. Each of the projecting ends of the outer hinge part interfits with a bead sector 30 corresponding in shape to that part of the inner hinge part cooperating with the outer hinge part, and this bead sector is mounted on a plate 31 that may be secured to the radiator and cowl. The length of the bead sector 30 substantially corresponds to one of the projecting ends of the outer hinge part and thus is concealed thereby from the upper side of the hood. As shown by Fig. 5, the bead sector 30 is fastened to the plate 31 by means of an angle bracket 32 that may have one leg welded or otherwise secured to the plate and its other leg welded or otherwise secured to a depending portion of the bead sector. In the construction shown by Fig. 6 the bead sector 30 is fastened to the plate 31 by means of an upwardly directed flange 32' which is struck out of the plate 31 and then is welded or otherwise secured to the bead sector. For additionally securing each bead sector to the plate 31, an angular flange 35 is provided on each sector and the flange rests on the plate and may be welded or otherwise secured thereto.

For preventing relative axial movement between the hinge parts in either direction, the plate 31 may have an upwardly directed flange 33, the shape of which mainly corresponds to the peripheral surface of the outer hinge part 16 although it will be noted that at the right edge the flange is cut away as indicated at 34. The purpose of this cut-away portion will be mentioned shortly. Each of the plates 31 may be secured to the cowl or radiator by means of bolts 36 adapted to cooperate with openings 37 provided in opposite ends of the plates.

Preferably, the covering element 27 extends axially over the flanges 33 on the plates 31 as shown best by Fig. 3 and has closing end portions 38 which may be disposed so as to conceal all exposed portions of the hinge at the ends thereof. It may be mentioned that ordinarily the plates 31 are mounted on downwardly offset portions of the cowl and radiator as shown by Figs. 3 and 4 and the cover 27 may have its ends 38 projecting downwardly into the space provided by the downwardly offset portions of the cowl and radiator so as to entirely conceal the hinge in so far as the upper surface of the cowl and radiator is concerned. The cut-away portion 34 on the flange 33 permits opening movement of the outer hinge part as shown by Fig. 4 as otherwise the projecting end portions of the cover 27 would engage the right edge of the flanges before the outer hinge part would reach its open position.

The cover element 27 may have different shapes and may even extend over the top portions of the cowl and radiator, although in this case sufficient clearance should be provided to permit opening movement of the outer hinge part without interference by engagement of the ends 38 of the cover with the cowl and radiator.

Although more than one form of the invention has been illustrated and described in detail, it will be apparent to those skilled in the art that various modifications may be made without departing from the scope of the appended claims.

I claim:

1. In combination, plate members having outer and inner beads hingingly nesting one within the other, one of said beads extending beyond the end of the other, a supporting plate under said projecting end of the bead, a bead sector hingingly engaging such projecting end in the manner the beads on the plate members cooperate, and a flange projecting from the support and connected to the sector.

2. In combination, plate members having outer and inner beads hingingly nesting one within the other, one of said beads extending beyond the end of the other, a supporting plate under said projecting end of the bead, a bead sector hingingly engaging such projecting end of the bead in the manner the beads on the plate members cooperate, and a struck up flange on the supporting plate and connected to the sector.

3. In combination, plate members having outer and inner beads hingingly nesting one within the other, one of said beads extending beyond the end of the other, a supporting plate under said projecting end of the bead, a bead sector hingingly engaging such projecting end in the manner the beads on the plate members cooperate, and an angle bracket fastened to the support and having one leg portion fastened to the bead sector.

4. In combination, a pair of hood wing sections, having separately movable and turned beads at adjacent edges interfitting one within the other for hingedly connecting the sections, and a separate thin covering element extending longitudinally over the outer of said beads and fastened thereon for movement therewith.

5. In combination, a pair of hood wing sections having separately movable and turned beads at adjacent edges interfitting one within the other for hingedly connecting the sections, and a separate thin covering element extending longitudinally over the outer of said beads and fastened thereon for movement therewith, said covering element extending beyond the ends of the outer bead so as to conceal the end of the hinge.

6. In combination, a pair of hood wing sections having turned beads at adjacent edges interfitting one within the other for hingedly connecting the sections, and a separate thin covering element extending longitudinally over the outer of said beads and fastened thereon, said covering element extending beyond the ends of the outer bead

and terminating in end flanges projecting transversely to the bead.

7. In combination, a support, a pair of hood wing sections having turned beads at adjacent edges interfitting one within the other for hingedly connecting the sections, one of said beads projecting beyond one end of the other, means cooperating with said projecting end of the bead for hingedly mounting it on the support, and a cover fastened on the outer bead and concealing said means.

8. In combination, spaced supports, a pair of plate sections having turned beads at their adjacent edges, one interfitting with the other and hingedly connecting the sections, means disposed within the length of the outer bead for hingedly connecting it to the supports, and a cover strip extending lengthwise over the outer bead and having closing end portions for covering the end faces of the bead.

9. In combination, a spaced supports, a pair of plate sections having turned beads at their adjacent edges, one interfitting with the other and hingedly connecting the sections, means disposed within the length of the outer bead for hingedly connecting it to the supports, and a cover strip extending lengthwise over the outer bead and having closing end portions projecting beyond the ends of the hinge and which project over the supports.

10. In combination with an automobile radiator, cowl and pair of hood wings, a pair of beaded and concentrically nested inner and outer hinged members, said outer member being secured relative to one of said wings and constructed of inexpensive cold rolled steel, and the inner member being secured to the other of said wings, said hinged members being pivotally secured relative to the radiator and cowl, and a relatively thin channel shaped rust-resisting cover member covering the outer hinge member and being secured solely thereto.

11. In combination with an automobile radiator and cowl, a pair of hood wings, a pair of beaded and concentrically nested inner and outer hinged members, said outer hinge members being secured to one of said wings, and the inner member being secured relative to the other of said wings, said hinged members being pivotally secured relative to the radiator and cowl, and a cover member covering the outer hinge member and being secured solely thereto and movable therewith, and concealing the ends of said hinged members.

12. In combination with a pair of beaded and concentrically nested inner and outer hinged members for hingedly supporting a pair of hood wings in operative position on an automobile, a relatively thin channel-shaped cover and finish element extending longitudinally over the outer of said hinged members and fastened solely thereon for covering and concealing it.

13. In combination, a pair of spaced supports for an automobile, a pair of sections between such supports, continuous and turned beads between the adjacent edges of the sections and one interfitting with the other for hingedly connecting the sections, a relatively thin cover element and finish strip mounted on the outer bead and movable therewith and held thereon solely by engagement therewith, and means for supporting the beads at their ends on the supports.

14. In combination, a pair of spaced supports for an automobile, a pair of sections between such supports, continuous and turned beads between adjacent edges of the sections, one interfitting with the other for hingedly connecting the sections, a relatively thin cover element on the outer bead and movable solely therewith, means at the ends of the hinge for mounting it on the supports, and means releasably fastening the cover element solely on the outer bead to enable removal and application of the cover element without disturbing any parts at the end of the hinge.

15. A cover strip for automobile hood hinges comprising an elongated central body portion, downwardly projecting flanges along the sides thereof for engaging said hinge in a snap-on relation, and means on said central body portion adjacent its end for concealing an end of said hinge.

WILLIAM J. HALL.