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BY A. P. C.

E. KOMENDA
SHEET METAL BODY
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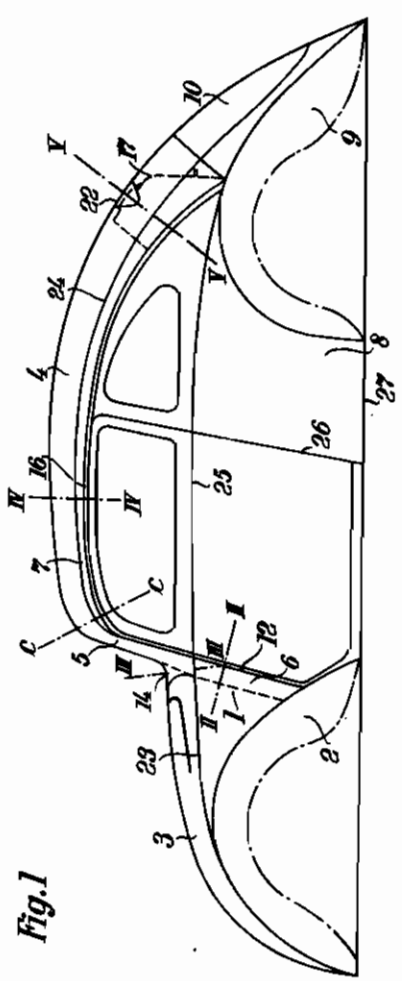

Fig. 1

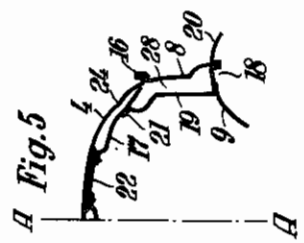

Fig. 5

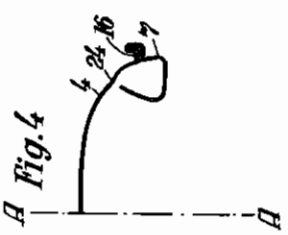

Fig. 4

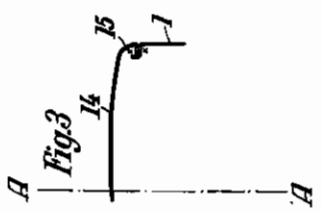

Fig. 3

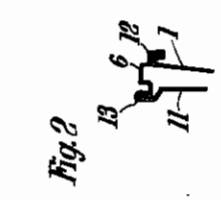

Fig. 2

Inventor:
ERWIN KOMENDA
by A. A. Lieske
McMillen & Ramsey
ATTORNEYS

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ALIEN PROPERTY CUSTODIAN

SHEET METAL BODY

Erwin Komenda, Korntal bei Stuttgart, Germany;
vested in the Alien Property Custodian

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This invention relates to a sheet metal body and particularly to such a body for vehicles.

An object of this invention is to form a body of sheet metal in such a manner that it can be painted entirely by dipping.

Another object of this invention is to form a welded body in which the welds are not visible from either the exterior or interior of the vehicle.

A further object of this invention is the provision of a sheet metal body in which the body parts are interconnected by seams running longitudinally or downwardly of the vehicle.

A still further object of this invention is the provision of a sheet metal vehicle body in which the body parts are interconnected by seams running to a free edge of the body or terminating in a place to be covered by supplemental parts.

A specific object of this invention is the production of a vehicle body from welded sheet metal parts, which, when assembled, presents a smooth exterior and interior requiring no supplemental grinding or smoothing, and which may be painted in final form by a dipping process.

Other objects and advantages of my invention will be apparent from the single form hereinafter described taken in connection with the attached drawings wherein:

Fig. 1 is a side view of a completely assembled body formed in accordance with this invention;

Fig. 2 is a cross sectional view along the line II—II of Fig. 1;

Fig. 3 is a cross sectional view along the line III—III of Fig. 1;

Fig. 4 is a cross-sectional view along the line IV—IV of Fig. 1, and

Fig. 5 is a cross-sectional view along the line V—V of Fig. 1.

In the preferred form of this invention, as illustrated in the accompanying drawings, the reference numeral 1 indicates the body apron containing the front wheel insert or opening 2. The front cover or hood is indicated at 3. The body has a sheet metal roof 4 which continues to form the windshield frame 5. The body structure also includes the windshield post 6, the roof rail 7 which is a continuation of the side walls 8 in which in turn are integrally formed the rear wheel inserts or openings 9. A rear deck or cover 10 completes the main body structure.

The interconnection between the apron 1 and the windshield post 6 is illustrated in Fig. 2 which is a cross-sectional view along the line II—II of Fig. 1. The apron 1 and the windshield post 6 being made of sheet metal are bent at their edges to to form a fold 12, the edge of the windshield post being bent around the edge of the apron as indicated. To insure against slipping of the fold, the edges may be welded together, preferably at a point lying at the wheel insert 2. Accordingly when the mud guards or fenders are later added, this welding point will be hidden from view and, therefore, need not be ground or finished. The apron is preferably formed with an interior strengthening leaf 11 which is also interconnected with the windshield post 6 through a fold 13, formed similarly to the fold 12. This fold may also be welded, if desired, to prevent slipping.

In Fig. 3 which is a cross-sectional view along the line III—III of Fig. 1, the connection between the upper apron which is an integral extension of the windshield frame 5, and the apron proper 1 is illustrated. This connection is preferably made by bending the edges of the upper apron 14 and the main apron 1 in the shape of contacting flange forming between them a hollow space 15. The parts are rigidly held together as for example by spot welding within the space 15. Since this space will be formed within the interior lower portion of the vehicle, it will not be usually seen and, therefore, need not be finished by grinding or smoothing.

The interconnection between the sheet metal roof 4 and the roof rail 7 is indicated in Fig. 4, this view being a cross sectional view along line IV—IV of Fig. 1. Such interconnection is preferably brought about by folding the edge of the roof about an outwardly and upwardly extended portion of the roof rail. The resulting channel not only forms a firm connection between these parts, but also acts as a gutter to carry away rain. The folded edges may be welded together as by spot welding, and if such welding is done within the channel the welding spurs will remain unseen and will not have to be removed.

Fig. 5 is a cross-sectional view along the line V—V of Fig. 1 and illustrates certain preferred details of my novel roof construction. It is of advantage that the roof be stiffened against bending and to that end I propose to employ a transverse wall 17. The lower or outer edge of the transverse wall 17 may be interconnected with the said wall 8 by extending it into the fold 18. The wheel insert 9 comes together with the lower side 18 of the lining sheet 19 and is welded to the said wall 8 by spot welding. Accordingly, when the vehicle is completed by the addition of the mud guard or fender 20, the resulting

welding seam at this point is entirely hidden. The lining sheet 19 is so formed that an intermediate leather member may be pinched beneath its edge 21 under pressure. The inner edge of the transverse wall 17 is interconnected with the frame of the rear window 22. This connection may be brought about by spot welding, the spots being covered by the inserted window stripping (not shown).

As will be seen from a study of the above described construction, all of the folds, seams, or channels interconnecting the various parts will be unseen or will extend longitudinally of the vehicle and downwardly to a free edge thereon or to a portion which is to be covered by supplemental parts. The fold connecting the roof 4 with the said wall 6 and the roof beam 7 extends rearwardly and downwardly along the edge of the side wall 6 and into the wheel insert 9, so that its end is covered by the mud guard 20. The fold 16 running forwardly merges into the fold 12 through which the wind shield post is first connected with the roof 4 then with its wind shield frame 7 and finally with the apron 1. This fold will run under the forward wheel insert 2 which will be covered by the addition of a front mud guard (not shown). By means of the merging folds 12 and 16 there will be no cross seams but a T shaped connection as indicated at the line C—C of Fig. 1. This seam can be readily welded and necessitates only a slight finishing operation since it is later covered by the door.

In addition to the folds 12 and 16 other seams occurring are also positioned to extend to covered portions or to a free edge of the vehicle. The formed edge 23 between the front hood and the apron 1 will extend into the front wheel insert 2. The formed edge 24 will extend into and be covered by the rear deck 10. The seam 25 extending between the front and rear wheel inserts is connected with the under edge of the body 27 by means of the downwardly extending seam 26.

As a result of the position and arrangement of the seams and folds of the completed body, this body may be painted both for its undercoat and its final coat merely by a simple dipping process. Previously dipping could not be used because of the fact that the paint flowing along the body surfaces would collect in many places and mar the final finish. This necessitated a large amount of hand work to remove these lumps or gatherings of paint and then the repainting of those spots. As a result the dipping process while initially cheaper, involved so much extra labor as to eventually become more expensive than other painting methods. However, by forming the vehicle body in the manner above described wherein the paint on the body surfaces will collect and run along seams which terminate either at a lower free edge of the body or at places which will be covered by later added supplemental parts such as the body fenders, all of the later finishing by hand previously necessary can be avoided. Accordingly, the cheapness and other advantages of the dipping process for painting vehicles for the first time becomes practical.

It will be noted that if a body is formed in accordance with my invention it will be entirely covered by paint during the dipping operation with the exception of the inside of the roof. In order to permit penetration of the paint to this portion, however, the extension 18 of the lining 18 may be provided with small openings which will remain unseen and which will open up the hollow portion 28. If air pockets tend to form beneath the roof 4, these may be removed by turning the vehicle body about the axis A—A during the dipping operation.

ERWIN KOMENDA.