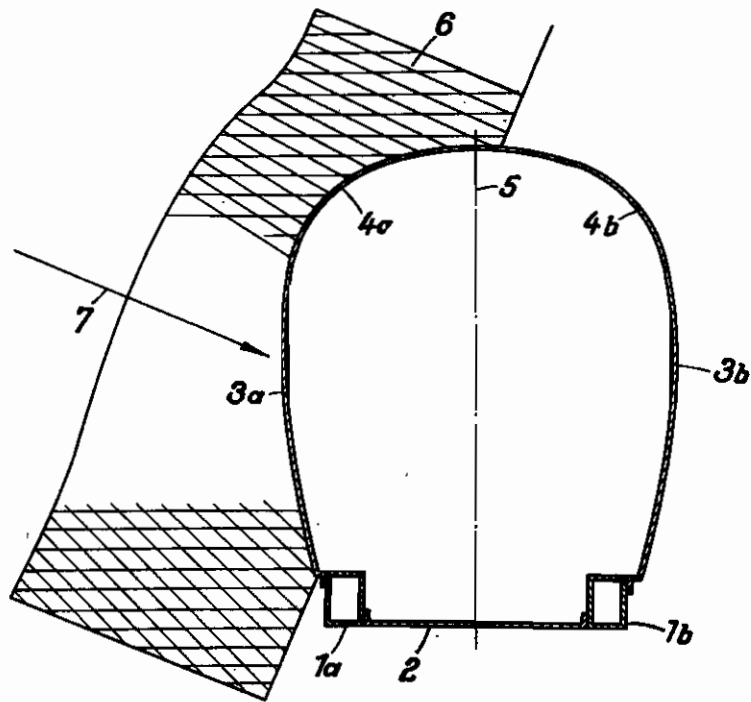


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MAY 11, 1943.
BY A. P. C.

K. SCHÄFER
VEHICLE BODIES
Filed Feb. 5, 1938

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2 Sheets-Sheet 1

Fig. 1

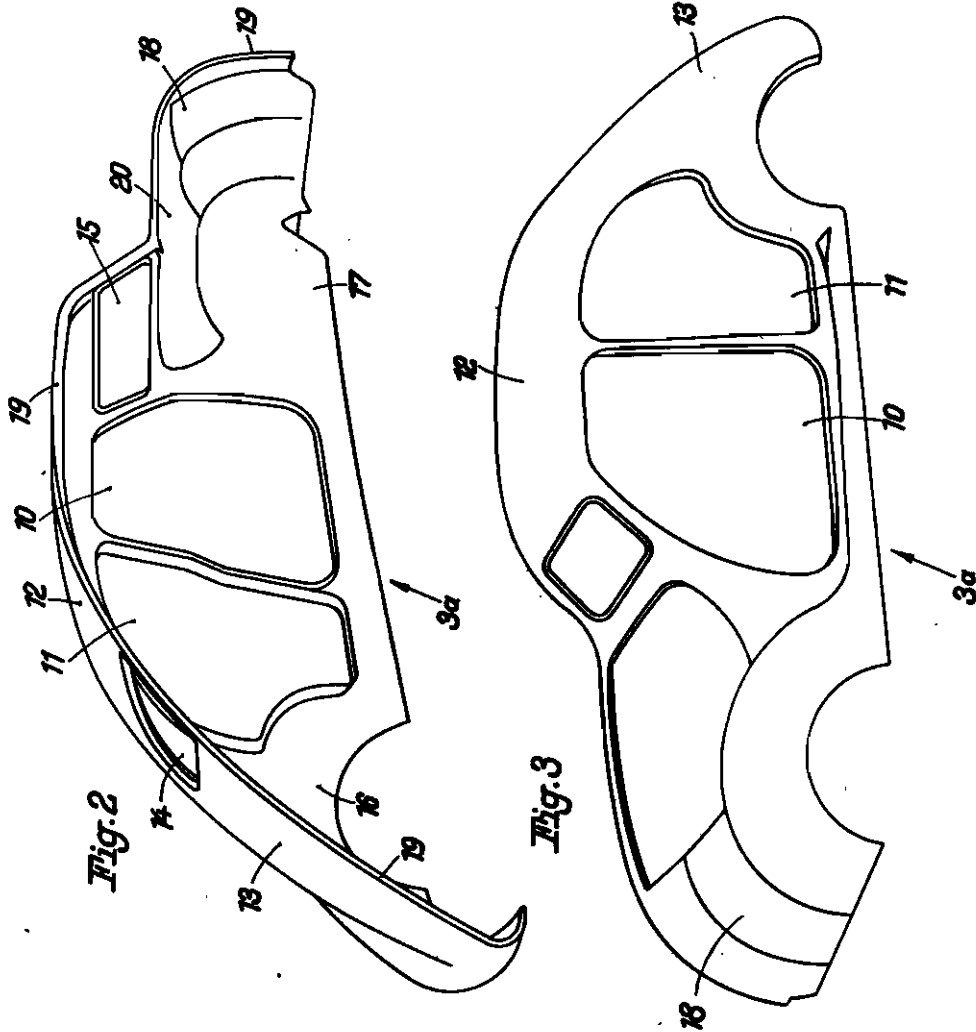


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ALIEN PROPERTY CUSTODIAN

VEHICLE BODIES

Kurt Schäfer, Berlin-Eichkamp, Germany; vested in the Alien Property Custodian

Application filed February 5, 1938

My invention relates to a vehicle body and a process of manufacturing the same, and more particularly to a body having an outside shell of sheet material.

The primary object of my invention is a body of superior simplicity and rigidity which can be produced at reduced expense by a simple and economical process.

A more specific object of my invention is to compose the outside shell of the body of as few stampings as possible.

Prior to my invention it has been proposed to achieve these and other objects by assembling the body of two stampings each including half of the roof, one side wall and half of the floor. The manufacture of such stampings, however, presents considerable difficulties and requires the use of expensive machinery on account of the considerable depth of the drawing operation. Moreover the different functions which the floor and the other enclosing walls of the body should have in such a construction could not be met.

According to a feature of my invention the outside shell of the body includes a pair of stampings each of which constitutes the body side wall panel and one half of the roof. The two stampings contact with and are connected to each other along the longitudinal central plane of the vehicle, preferably throughout the length thereof.

In order to produce these stampings, they are pressed in a direction approximately bisecting the angle between the side wall and the roof. In this way the depth of the drawing operation is reduced to a degree which results in a simple and economical production.

My invention will be described hereinafter by reference to a preferred embodiment thereof and the features of novelty will be pointed out in the claims.

In the drawings

Fig. 1 is a diagrammatic cross section through a vehicle body embodying my invention, a die being indicated by reference to the cross section thereof.

Fig. 2 is an isometric illustration of an integral stamping forming part of a streamlined vehicle body and

Fig. 3 is an isometric view of the element shown in Fig. 2 viewed from the opposite side thereof.

The vehicle may have a frame or a floor unit of known construction. In the example shown the frame consists of box-like longitudinal side members 1a, 1b between which may be inserted the floor panels 2 and the cross members (not shown). The upper part of the body consists of

two symmetrical stampings 3a and 3b. Each of these stampings extends from about the lower side edge of the body or a longitudinal line of the side wall across the upper side edge 4a and 4b to the vertical centre plane 5 of the vehicle. Each of the stampings thus forms the one side wall and half of the roof. Viewed from another aspect, the stampings 4a, 4b contact with each other at and extend from the central vertical longitudinal plane 5 of the vehicle beyond the adjacent lateral longitudinal edges 4b up to the remote longitudinal lateral edges connected to the side members 1a, 1b.

The stampings 3a and 3b may extend longitudinally over the entire length of the body. In this event each of the stampings 3a, 3b may take the form illustrated in Figs. 2 and 3. The stamping shown in these figures comprises an integral shell. This shell has a side wall section provided with two door openings 10 and 11, a roof section 12 sloping towards the rear of the vehicle as shown at 13 and provided with a rear window opening 14, a windshield section formed with an opening 15, a rear fender 16, a front fender 17 and a hood section 18. It will be noted that the openings 10, 11, 14 and 15 are provided with flanges constituting reinforcing elements and forming frames for the insertion of doors or panes. Since each of the two shells, one of which is shown in Figs. 2 and 3, has an opening 15, the two shells will in assembled condition form a streamlined body of the type having a two-part windshield. Preferably each section thereof is inclined with regard to both, a longitudinal axis and a transverse axis of the vehicle. Owing to this disposition of the windshield section, the direction indicated by the arrow 7 in which the drawing operation is performed, will extend at an angle to the windshield section. Owing to this feature the drawing operation is greatly facilitated as compared with a design in which the windshield extends at right angles to the central vertical longitudinal plane.

Another reason why a vehicle of the type having a two-part windshield and a two-part rear window is particularly adapted to be manufactured in accordance with my invention, is the fact that in this type of vehicle I may obtain a continuous uninterrupted contact between the two marginal flanges 19 throughout the length of the vehicle since these flanges are not interrupted by the windshield opening and by the rear window opening. In fact, the contacting flanges 19 when welded together will constitute a very effective reinforcing rib extending throughout the entire

length of the vehicle throughbetween the two sections of the windshield and the two sections of the rear window.

Preferably, the hood section 18 is formed integral with the front fender 17 and the side panel. A suitable opening 20 is provided to afford access to the interior of the hood. This opening 20 may be closed by a separate foldable element in a known manner.

If desired however, the body may comprise a plurality of pairs of symmetrical stampings connected to each other in the central longitudinal vertical plane of the vehicle and there may be added one or more stampings of a shape different from that above described. Thus, the pair of symmetrical stampings 3a and 3b may form side panels and the roof of the passenger compartment only, while an integral stamping extending over the entire width of the vehicle constitutes the windshield frame and is connected to the stampings 3a and 3b. Door and window openings are cut out of the stampings in the usual way and inside reinforcements added where it is necessary.

The stampings 3a and 3b may be connected with each other at the centre plane 5 in various ways, for example, by butt-welding, welding together of overlapped edges, through the flanges 19 drawn from the edges of the stampings adjacent to each other or by additional separate connecting pieces.

Instead of making the side wall and one half of the roof out of one stamping, I could make the

side wall together with one half of the floor panel out of one piece and insert between the side walls a separate roof.

The formation of the dies is indicated in the drawing which shows the one half of a die 6, and the direction of drawing by the arrow 7. As can be seen from the sketch, the direction of drawing and the angle between the one side wall and the part of the roof forming one stamping with said side wall, are nearly identical. This means that, if the direction of drawing is arranged in such way that a comparatively flat stamping is formed, the press operation will not present great difficulties even if the side walls also contain door and window openings and flanges.

While I have described my invention hereinabove with reference to a specific embodiment thereof, I wish it to be understood that my invention is not limited to the details of this embodiment but is capable of many modifications which will occur to anyone skilled in the art. Thus, I may use any desired sheet material such as organic condensation products or the like although I prefer to use sheet metal, more particularly steel. The body formed of the two symmetrical stampings may be sufficiently stiff to be self-supporting. In this event a separate chassis frame may be dispensed with; or the body may be mounted on such a frame, as desired; also the floor unit of the body may constitute the chassis frame.

KURT SCHÄFER.