

Dec. 4, 1934.

A. B. HENNINGER

1,983,497

SELF SUPPORTING CAR BODY MADE OF SHEET METAL

Filed Aug. 27, 1930

3 Sheets-Sheet 1

Fig. 1.

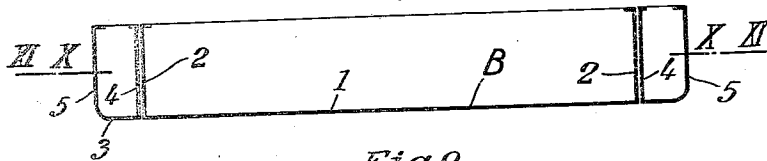


Fig. 2.

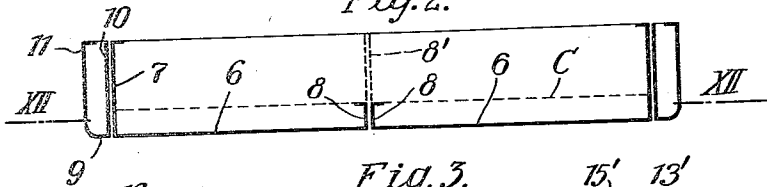


Fig. 3.

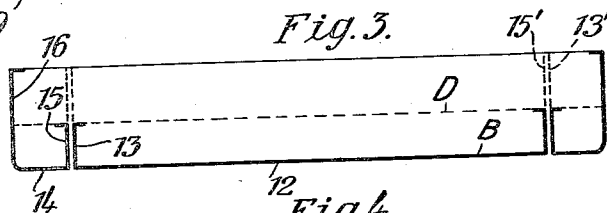


Fig. 4.

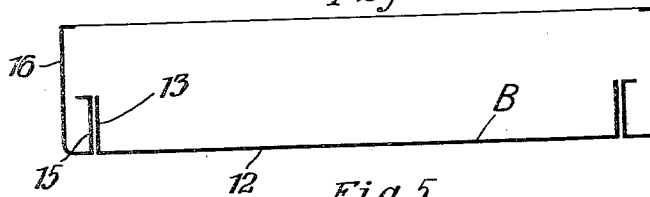


Fig. 5.

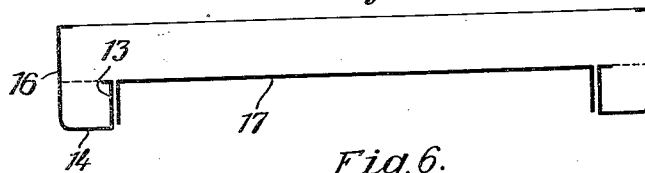


Fig. 6.

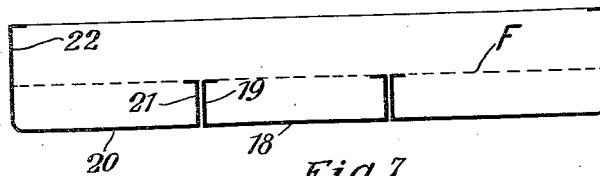
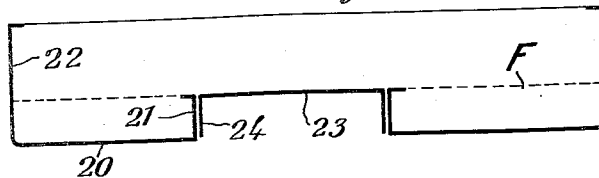


Fig. 7.



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3 Sheets-Sheet 2

Fig. 8.

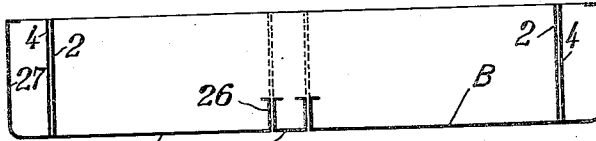


Fig. 9.

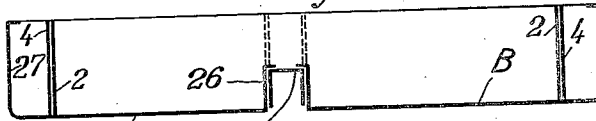


Fig. 10.

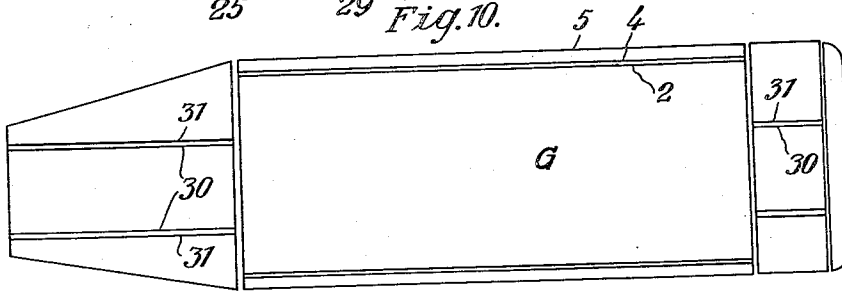


Fig. 11.

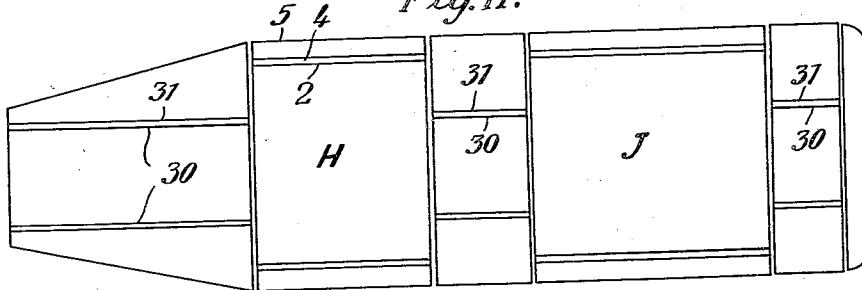
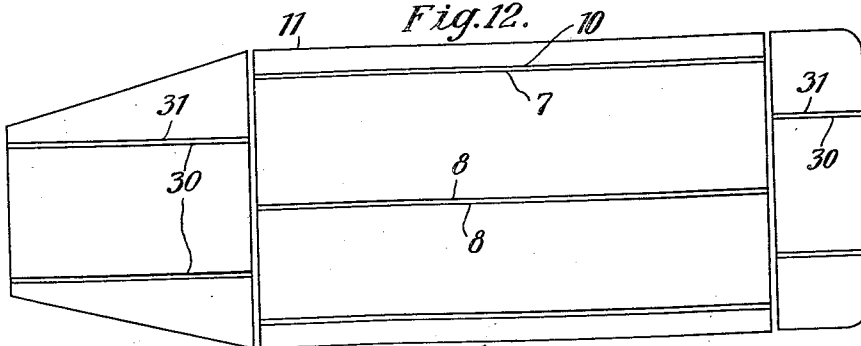


Fig. 12.



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3 Sheets-Sheet 3

Fig. 13.

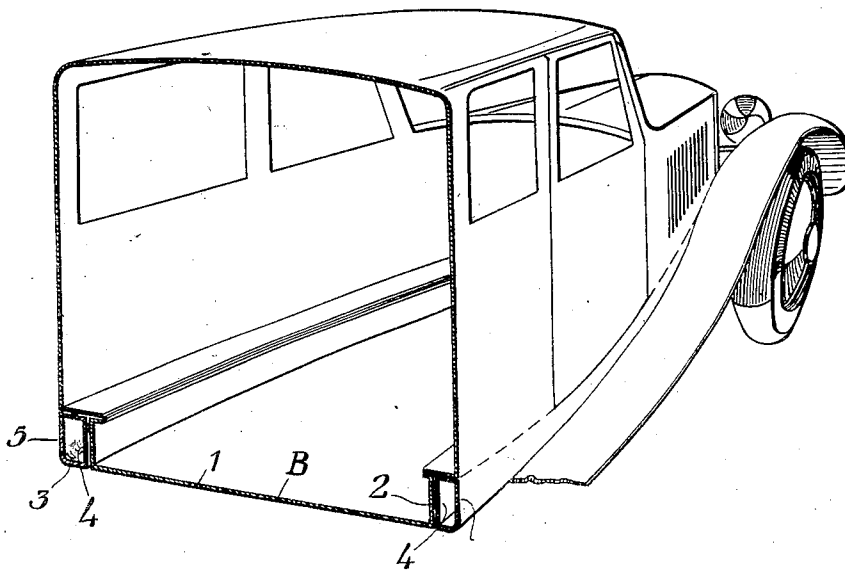
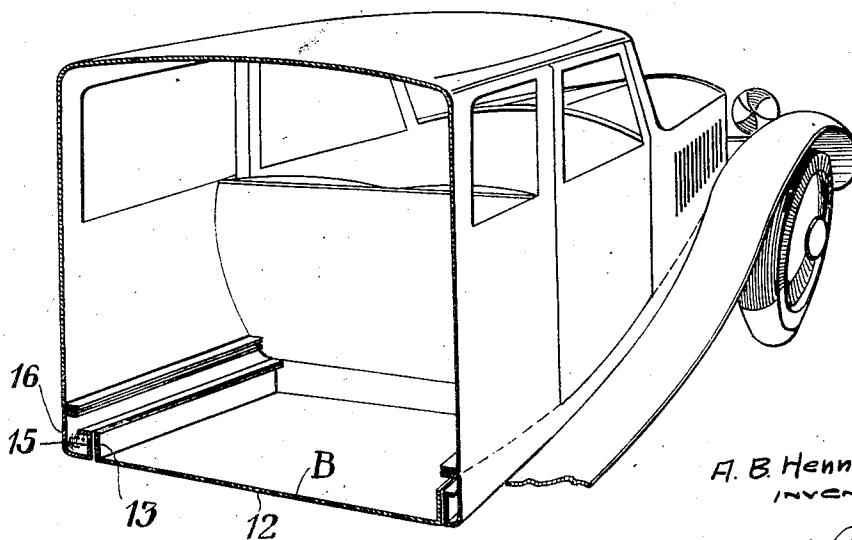


Fig. 14.



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UNITED STATES PATENT OFFICE

1,983,497

SELF-SUPPORTING CAR BODY MADE OF
SHEET METALAlbert Berthold Henninger, Berlin-Halensee,
GermanyApplication August 27, 1930, Serial No. 478,160
In Germany September 6, 1929

5 Claims. (Cl. 296—28)

The present invention relates to a further development of the self-supporting car body, as it has been described in the American patent specification Serial No. 305,268. In this patent specification a self-supporting car-body, made of sheet metal, and consisting of two or of a plurality of longitudinal bearers of U or of L-shaped section with high webs, has been described. Owing to the height of the webs, the floor-boards are situated at a rather high level, causing the whole of the car body structure to be comparatively high, whilst the centre of gravity, as a natural consequence thereof, is also placed high up.

This drawback will be obviated by the present invention, inasmuch as for the purpose of causing the floor of the car body to be situated as low down as possible and thereby also the centre of gravity, the longitudinally running high webs at least within the reach of the space provided for passengers are disposed outside near the side walls or else, as far as they are within the reach of the feet they have been so designed as to be substantially lower than the lateral webs.

In a special form of construction the longitudinally running webs of the longitudinal bearers, as far as they are situated within the interior of the car body are lower than the webs of the longitudinal bearers simultaneously forming the car body walls.

The invention is shown in the accompanying drawings by way of example as well as schematically, in which

Figure 1 is a vertical cross section through the lower part of the car body.

Figure 2 is a vertical cross section according to another constructional form.

Fig. 3 is a vertical cross section according to a further constructional form.

Fig. 4 is a vertical cross section according to a further constructional form.

Fig. 5 is a vertical cross section according to a further constructional form.

Fig. 6 is a vertical cross section according to a further constructional form.

Fig. 7 is a vertical cross section according to a further constructional form.

Fig. 8 is a vertical cross section according to a further constructional form, and,

Fig. 9 is a vertical cross section according to a further constructional form.

Fig. 10 a horizontal longitudinal section of a car body (section along the line X—X of Fig. 1) on a reduced scale,

Fig. 11 is a horizontal section through the lower part of a car body (similar to the section along the line X—X of Fig. 1) in conjunction with a somewhat different distribution of the upright webs of the car body,

Fig. 12 a horizontal longitudinal section of a car body (section along line XII—XII of Fig. 2).

Fig. 13 is a perspective cross section through a car (the inner equipment such as seats or the like being omitted),

Fig. 14 is a section similar to the section according to Fig. 13 but according to a somewhat different constructional form corresponding to the cross section of Fig. 4.

The car body illustrated in Fig. 1 has been constructed of an inner longitudinal bearer of U-section with lateral webs 2 and external longitudinal bearers 3 also of U-section and with lateral webs 4, 5. In connection herewith the webs 5 constitute the walls of the car body. It will be seen from the drawings (Figs. 1 and 10), that the high webs 2, 4 have been disposed near the wall 5 of the car body.

In connection with the object of Fig. 2 the car body is made to consist of four longitudinal bearers, viz. longitudinal bearers 6 with lateral webs 7, 8 and longitudinal bearers 9 with lateral webs 10, 11. In this instance, too, the webs 7 and 10 have been disposed close to the wall 11 of the car body, i. e. within reach of the space provided for passengers. Moreover, the webs 8 provided within the reach of said space are substantially lower than the other webs.

In conjunction with the example of performance as per Fig. 3 the car body is made to consist of three longitudinal bearers, a U-shaped longitudinal bearer 12 with lateral webs 13 and two longitudinal bearers 14 with lateral webs 15, 16; whilst in the car body according to Fig. 1 the floor within reach of the space provided for passengers is suitably arranged at B; in the constructions as per Figures 2 and 3 it can suitably be arranged at the level of C and D. In the two last mentioned figures it has, moreover, been indicated at 8' and 13', as well as 15', how outside the reach of the feet, e. g. within reach of the seats, the webs are made to possess a greater height.

The cross section as per Fig. 4 essentially corresponds to a cross section as per Fig. 3 with the only difference, that the webs 13 and 15 have been placed still closer to the wall 16 of the car body, whilst the floor has been provided at the level of B.

The cross section as per Fig. 5 essentially corresponds to the cross section in accordance with Fig. 3, with the only difference that instead of a longitudinal bearer 12 being open above, a longitudinal bearer 17 has been made use of which is closed above.

Figs. 6 and 7 show, how the separate longitudinal bearers are essentially of the same width. In this instance the car body is made to consist of an intermediate longitudinal bearer 18 with lateral webs 19 and lateral longitudinal bearers 20 with webs 21 and 22, or of such lateral longitudinal bearers and an intermediate longitudinal bearer 23 with webs 24. In this case it is absolutely essential, that the webs 19, 21 or 21, 24 situated within the interior of the body car, are substantially lower than the webs 22, in order to be able to place the floor of the car body deeply enough at a level as indicated by the letter F.

Figs. 8 and 9 represent a cross sectional view of a car body immediately in front of the seats, whereas the appertaining cross section passing through the seats would resemble that, as per Fig. 1 or 2 for instance. In this case the car body essentially consists of two U-shaped longitudinal bearers 25 with lateral webs 26, 2 connected with each other by a U-shaped member 28 or 29. In this case the floor would be provided at the level of B. The outer longitudinal bearer is in this case provided with two flanges 4 and 27.

In Fig. 10 it has been indicated how longitudinal bearers with webs 30, 31 running more in the middle have been provided within the reach of the motor and the back seats, whilst the cross section within the reach of the space C provided for passengers corresponds to Fig. 1.

Fig. 11 renders it clear, how longitudinal bearers with webs 30, 31, running in the middle have been employed within the reach of the motor and the whole of the seats, whereas within the reach of the spaces provided for passengers H and I, for instance, a cross section as per Fig. 1 has been chosen.

Fig. 12 represents a construction in accordance with Fig. 2 within the reach of the space provided for passengers.

I claim:

1. A sheet metal passenger motor car body comprising opposite side bearers extending longitudinally of the body part, each of said bear-

ers being U-shape in cross-section and with its opposite sides in closely spaced relation to constitute a side wall of the body part, and a floor member fitting between the opposite side bearers, said floor member having edge flanges abutting the inner sides of the bearers.

2. A sheet metal motor car body comprising opposite side bearers extending longitudinally of the body part, each of said bearers being U-shape in cross-section and with its opposite sides in closely spaced relation to constitute a side wall of the body part, inwardly turned stiffening flanges at the upper edges of the opposite sides of each bearer, and a floor member fitting between the opposite side bearers, said floor member having opposite edge flanges abutting the inner sides of the side bearers.

3. A sheet metal passenger motor car body comprising opposite side bearers extending longitudinally of the body part, each of said bearers being U-shape in cross-section and with its opposite sides in closely spaced relation to constitute a side wall of the body part, the inner side of each bearer being of less height than the outer side thereof, and a floor member fitting between the opposite side bearers, said floor member having upwardly turned flanges at its opposite edges abutting the inner sides of the side bearers.

4. A sheet metal passenger motor car body comprising opposite side bearers extending longitudinally of the body part, each of said bearers being U-shape in cross-section and with its opposite sides in closely spaced relation to constitute a side wall of the body part, and a floor member fitting between the opposite side bearers, said floor member having edge flanges abutting the inner sides of the bearers and having a longitudinal channel in the middle.

5. A sheet metal passenger motor car body comprising opposite side bearers extending longitudinally of the body part, each of said bearers being U-shape in cross-section and with its opposite sides in closely spaced relation to constitute a side wall of the body part, and a floor member fitting between the opposite side bearers, said floor member having edge flanges abutting the inner sides of the bearers and having a longitudinal channel in the middle open to the underside of the car body.

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