July 17, 1923. 1,461,905

A. S. HUGHES

TRUCK BODY

Original Filed March 22, 1919 2 Sheets-Sheet 1

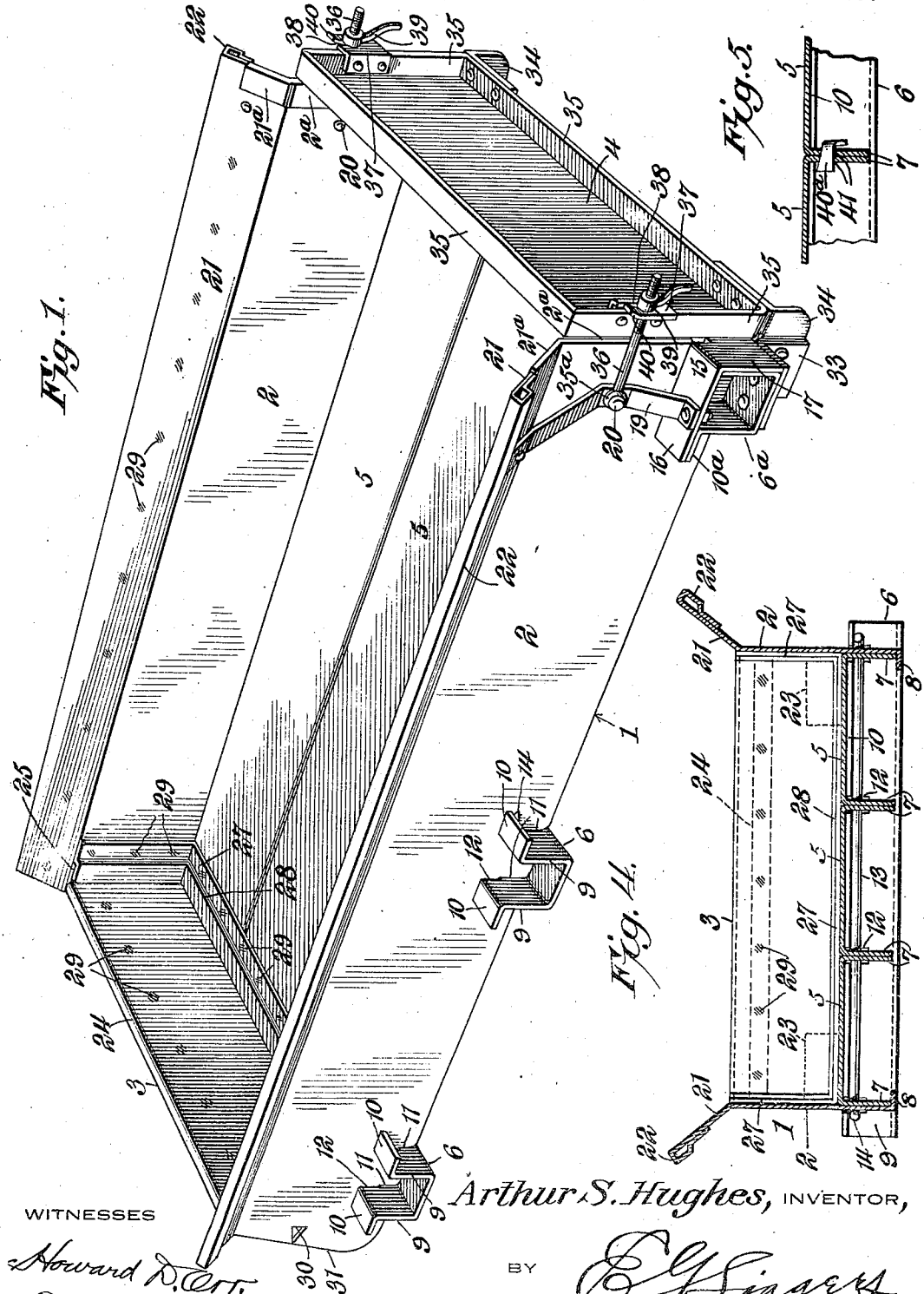


Fig. 1.

Fig. 5.

Fig. 4.

WITNESSES

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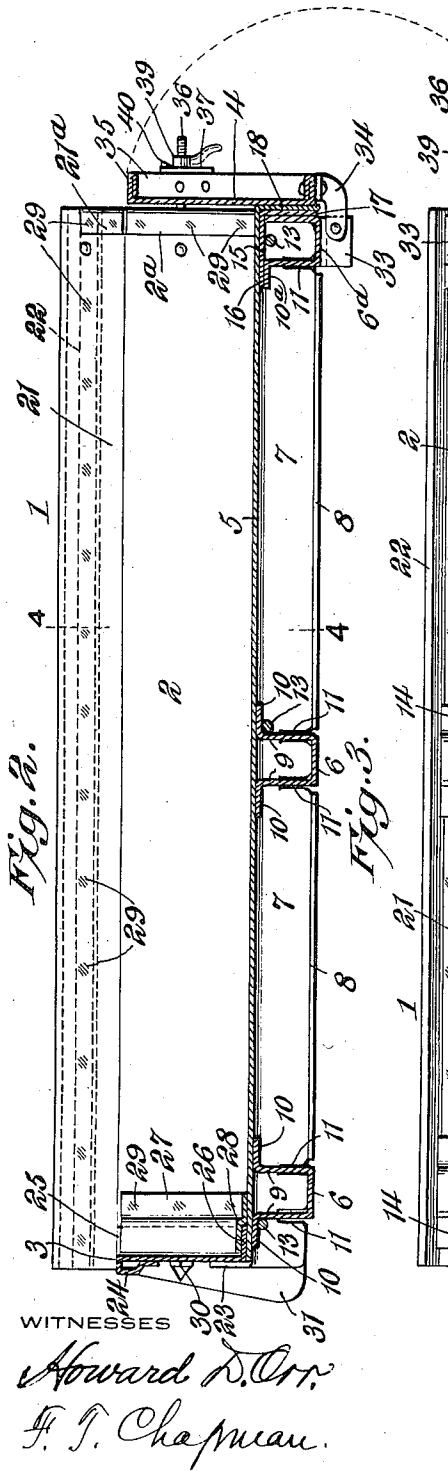


Fig. 2.

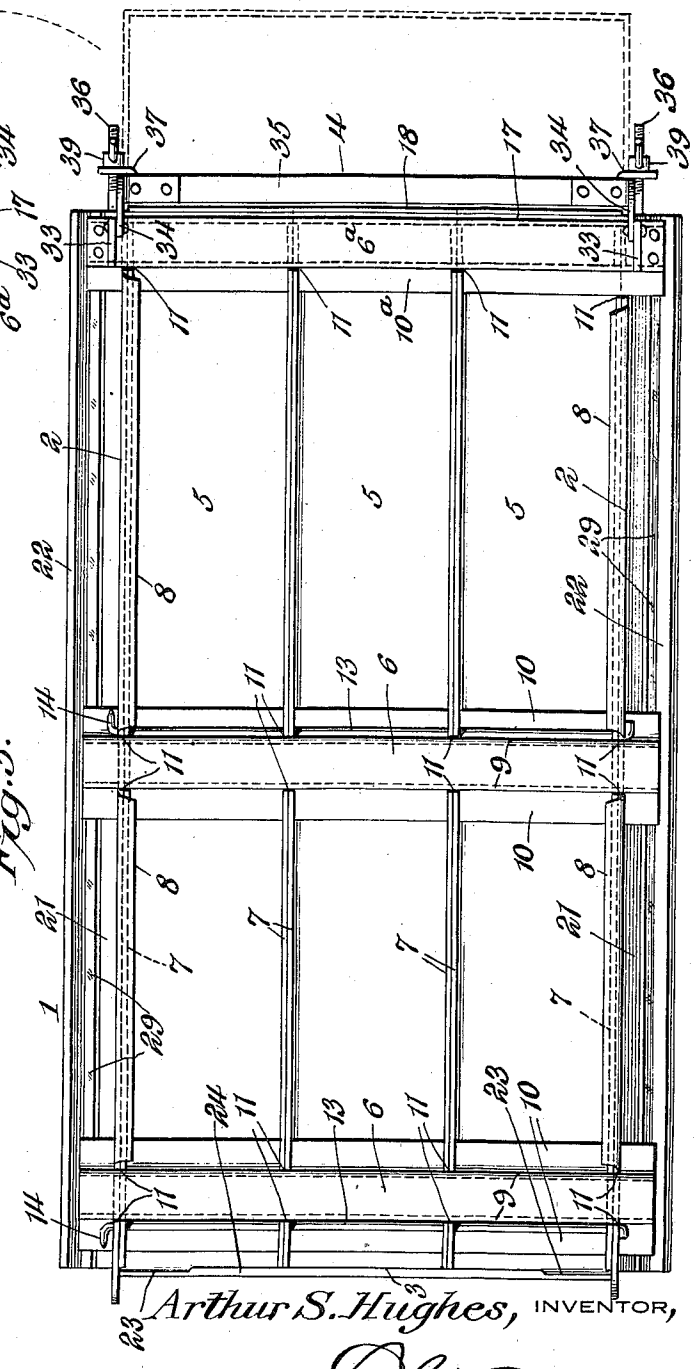


Fig. 3.

WITNESSES

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Patented July 17, 1923. 1,461,905

UNITED STATES PATENT OFFICE.

ARTHUR SHERIDAN HUGHES, OF MANSFIELD, OHIO.

TRUCK BODY.

Application filed March 22, 1919, Serial No. 284,293. Renewed May 15, 1923.

To all whom it may concern:

Be it known that I, ARTHUR S. HUGHES, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented a new and useful Truck Body, of which the following is a specification.

This invention has reference to truck bodies particularly designed for automobiles, and its object is to provide a construction of truck body permitting its formation of sheet metal without interior projections which is at the same time of superior strength and rigidity besides permitting ready replacements of worn or damaged parts.

In accordance with the invention, sheet metal, such as sheet steel, is employed, the sheets being pressed into the proper shapes and numerous sheets are used in order to provide a construction in which ribs or flanges may be formed to materially contribute to the strength of the body and permit the use of light gage material. The invention contemplates the formation of the bottom of the body of a plurality of strips of sheet metal flanged at the edges and there brought together, with cross bars of channel form also made of sheet metal and interlocked with the bottom flanges so as to hold the body sections together from lateral spread or longitudinal displacement, and further provides for the attachment of the body to the chassis frame of the automobile.

The construction permits spot-welding of the sheets wherever connections are desirable, thus avoiding interior projections even to the extent of rivet heads so that the interior of the body is practically smooth and no obstruction is offered to either loading or unloading.

The invention also includes means for securing the parts of the body together in such manner as to prevent rattling and also to permit the ready dismantling of the body when necessity for such dismantling occurs.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawings, but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:—

Figure 1 is a perspective view of the body.

Figure 2 is a longitudinal central section of the body.

Figure 3 is a bottom plan view of the body.

Figure 4 is a cross section on the line 4—4 of Figure 2.

Figure 5 is a detail view showing a modification of a connection employed.

Referring to the drawings, there is shown a truck body 1 comprising side members 2, a head or front member 3, a tail gate 4, a bottom formed of members 5, and cross beams 6, all made of sheet metal which may, in most part, be pressed or rolled into shape.

The members 5 of the bottom are formed of metal sheets of channel shape, that is, each sheet is of a length approximating that of the body and is extended lengthwise of the body, and on each long side there is formed a longitudinal flange 7 forming the sides of the channel and, in the assembled body, these flanges project downwardly. In the particular form shown in the drawings, three such channel bottom members are indicated, and while the invention is not limited to any particular number of such channel members the commercial form of the invention contemplates the employment of three such channel members, particularly for a truck body designed for a Ford automobile chassis.

The sides 2 are wider than the interior height of the body and are continued to the bottom of the outer flanges 7 and are each there formed with an inturned flange 8 underriding the flange 7, thereby forming a finish, and, furthermore, contributing markedly to the strength of the sides of the body, preventing them from bulging under heavy loads.

The cross bars 6 are of channel form with sides 9 provided with outturned flanges 10. Each pair of meeting flanges 7 is provided near the ends and at an intermediate point or points with spaced entering slots 11, and each channel cross bar 6 has matching slots 12 in each of its sides or parallel webs 9 so that a channel bar may be applied crosswise of the body under the bottom thereof

with the meeting flanges 7 traversing the channel bars wherever such flanges occur. The depth of the slots 11 and 12 is so arranged that the pairs of flanges 7 enter the cross bars for a portion of the depth of the latter, with the flanges 10 of the cross bars against the under-face of the bottom of the truck body.

The meeting flanges 7 of the channels 5 have matching perforations traversed by a locking rod 13 immediately adjacent a web 9 and beneath a flange 10 of each bar 6, thus securing these parts of the truck body rigidly together. One end 14 of the rod 13 is pointed to constitute a guiding end for directing or threading the rod through the matching perforations, and after the rod is in place the ends are bent over against the outer faces of the sides of the body, this being shown in Figures 3 and 4.

The cross bars 6 may also be utilized for connecting the entire body to the frame or chassis of the truck. The cross bars 6, with the exception of the rear cross bar which is distinguished by the reference numeral 6^a, are of channel form with outstanding flanges on the upper edges of its sides. The rear cross bar 6^a has an outstanding flange 10^a on the forward side only, and extending along the rear side and across the top of the bar is an angle plate 15 with a top web 16 overlying the flange 10^a and a side web 17 extending along the bar 6^a outside of the rear face thereof. The floor plates or channels 5 of the bottom of the body have rear end extensions 18 turned down over the web 17.

The outer ends of the top web 16 are secured to the lower ends of bracing strips 19, each of which, at an intermediate point of its length, is made fast to the respective side 2, as indicated at 20, while the upper end of the strip is made fast to an overhang longitudinal flange 21 outstanding from the upper edge of the respective side 2. That edge of the overhang flange 21 remote from the side 2 from which it extends is returned upon itself to form a strengthening bead 22 contributing materially to the rigidity of the overhang, while the angular relation of the overhang to the sides 2 materially aids in imparting rigidity to such sides at their upper edges.

While the rear ends of the floor or bottom plates 5 are turned down over the rear face of the cross bar 6^a and web 17, the front ends of those floor plates 5 adjacent to the sides 2 have upturned portions 23 to aid in holding the head 3 in place. Such head is made of sheet metal like other parts of the body and at the upper edge is formed with a longitudinal strengthening bead 24 while the ends of the head have flanges 25 projecting rearwardly therefrom and a longitudinal bottom flange 26 resting on top of the front ends of the plates 5. To receive the flanges 25 and 26 a stepped strip 27 is made fast to the floor plates 5 crosswise thereof and up along the inner faces of the sides 2, the strip having a stepped portion 28 spacing said portion away from the parts over which it lies sufficiently to receive the flanges 25 and 26. To avoid the use of rivets, bolts or the like, the strip 27 may be spot-welded to the floor plates 5 and the return portions of the beads 22 and 24 may be spot-welded to the flanges 21 and the head plate 3 respectively, such spot-welds being indicated at 29. The head 3 may be further held in place against forward displacement and in contact with the upright stepped portions 28 by punched-out tongues 30 in forward projections 31 of the front ends of the sides 2.

The rear end of each side 2 above the adjacent floor plate 5 is returned upon itself, as shown at 2^a, and the flange 21 is similarly returned upon itself at the rear end, as indicated at 21^a, these parts effectively doubling the thickness of the rear ends of the sides, thereby stiffening such parts and increasing the wearing qualities as well as forming a sturdy abutment for the tail gate 4.

Fast to the end portions of the cross bar 6^a are dependent brackets 33 to which are pivoted arms 34 fast to the lower edge of the tail gate 4, which tail gate is formed of sheet metal with marginal outturned flanges 35 serving effectually to stiffen the tail gate. Pivoted to each strip 19 at the fastened portion 20 is an eye end 35^a of a threaded rod 36. Fast to the ends of the gate 4 are keepers 37, each with an entering slot 38 in position to be entered by the rod 36 when the gate is closed, and applied to the threaded end of each rod 36 is a handle nut 39 by means of which the gate may be securely held against the rear end of the body. Each keeper 37 has a tongue 40 on the outer side of the slot 38, which tongue, at its free end, is bent away or rearwardly from the gate so that when the nut 39 is screwed up there is no chance of the clamp rod 36 being jolted out of the slot 38 and so loosening the gate.

The construction described is such as to permit the body, without sacrifice of strength and rigidity, being made of relatively light gage sheet metal so that its weight is relatively small for the capacity of the body and its resistance to damage under ordinary conditions of use is relatively great. Should, however, damage occur the body is capable of being dismantled and the parts straightened out in case of bending, or replaced in case of more serious damage.

Instead of employing rods 13 to lock the sides 2 and the flanges of the plates 5 together, wedge strips 40^a, shown in Figure 5, may be employed, these wedge strips being driven through suitable matching slots 41 in meeting flanges 7 beneath the flanges 10, the wedge strips being subsequently fastened in

place by turning over their thin ends against the adjacent flanges.

I have herein shown and described a body construction wherein the bottom is formed of longitudinal plates or bars of channel form connected by transverse bars of channel form. Instead of this disposition of the elements the parts may be reversed with the plates or bars arranged transversely of the bottom and the locking bars longitudinally thereof. Also instead of the sides of the channels being in close contact, they might be spaced apart. These and various other modifications of the invention herein disclosed are embodied in pending applications Serial Nos. 347,428 and 347,429, filed Dec. 26, 1919. The claims forming part of application Serial No. 347,428 are intended to be generic to the features disclosed in the present application and in application Serial No. 347,429.

What is claimed is:—

1. A vehicle body having side members of sheet metal, a bottom or floor of sheet metal of channel form and including a plurality of sheet metal channels with edge flanges, some in juxtaposition and others engaging the sides of the body, and cross bars traversing and interlocking both the juxtaposed flanges and the sides of the body where engaged by the flanges, the interlocking connection between the cross bars, the floor channels and the sides holding said parts in assembled position against movement either lengthwise or crosswise of the body.

2. A vehicle body having side members of sheet metal, a bottom or floor of sheet metal of channel form and including a plurality of sheet metal channels with edge flanges, some in juxtaposition and others engaging the sides of the body, and cross bars traversing the juxtaposed flanges and the sides of the body where engaged by the flanges for locking the several named elements of the body together, said cross bars being also of channel form, and the bars, flanges and sides of the body where engaging certain of the flanges having interlocking entering slots, whereby to hold the contacting parts from separating.

3. A vehicle body having side members of sheet metal, a bottom or floor of sheet metal of channel form and including a plurality of sheet metal channels with edge flanges, some in juxtaposition and others engaging the sides of the body, and cross bars traversing the juxtaposed flanges and the sides of the body where engaged by the flanges for locking the several named elements of the body together, said cross bars being also of channel form, and the bars, flanges and sides of the body where engaging certain of the flanges having interlocking entering slots, whereby to hold the contacting parts from separating, and the channel cross bars having outstanding flanges at the upper ends of their sides for contacting with the under faces of the bottom plates.

4. A vehicle body having sides of sheet metal, a bottom composed of a plurality of sheet metal plates of channel form with their side walls in engagement with each other and with the sides of the vehicle body, and channel cross bars, with the cross bars and meeting portions of the sides and bottom plates provided with coacting entering slots, whereby the body sides and the channel bottom plates are locked together.

5. A vehicle body having sides of sheet metal, a bottom composed of a plurality of sheet metal plates of channel form with their side walls in engagement with each other and with the sides of the vehicle body, and channel cross bars, with the cross bars and meeting portions of the sides and bottom plates provided with coacting entering slots, whereby the body sides and the channel bottom plates are locked together, said cross bars having outstanding flanges for location adjacent to the underfaces of the channel bottom plates, and fastening means traversing the meeting portions of the channel plates adjacent to the outstanding flanges of the cross bars to hold the latter in position.

6. A vehicle body having sides of sheet metal, a bottom composed of a plurality of sheet metal plates of channel form with their side walls in engagement with each other and with the sides of the vehicle body, and channel cross bars, with the cross bars and meeting portions of the sides and bottom plates provided with coacting entering slots, whereby the body sides and the channel bottom plates are locked together, said cross bars having outstanding flanges for location adjacent to the underfaces of the channel bottom plates, and rods traversing the body sides and the meeting sides of the channel bottom plates beneath the outstanding flanges of the cross bars, whereby to hold said cross bars against displacement.

7. A vehicle body having sides of sheet metal, a bottom composed of a plurality of sheet metal plates of channel form with their side walls in engagement with each other and with the sides of the vehicle body, and channel cross bars, with the cross bars and meeting portions of the sides and bottom plates provided with coacting entering slots, whereby the body sides and the channel bottom plates are locked together, said cross bars having outstanding flanges for location adjacent to the under faces of the channel bottom plates, said entering slots receiving the flanges.

8. A vehicle body having sides of sheet metal, a bottom composed of a plurality of sheet metal plates of channel form with their side walls in engagement with each

other and with the sides of the vehicle body, and channel cross bars, with the cross bars and meeting portions of the sides and bottom plates provided with coacting entering slots, whereby the body sides and the channel bottom plates are locked together, said cross bars having outstanding flanges for location adjacent to the under faces of the channel bottom plates, and rods traversing the body sides and the meeting sides of the channel bottom plates beneath the outstanding flanges of the cross bars, and adjacent the webs of the channel cross bars, said rods having their ends lying against the sides and locking the rods in position.

9. A vehicle body comprising side plates of sheet metal, a floor or bottom of juxtaposed sheet metal channel plates between the side plates, and sheet metal bars of channel form traversing and interlocking with the sides and the channels forming the floor of the body beneath the level of said floor, said sheet metal bars extending beyond the side plates outside of the body.

10. A vehicle body comprising side plates of sheet metal, a floor or bottom of juxtaposed sheet metal channel plates between the side plates, and sheet metal bars of channel form traversing the sides and the channels forming the floor of the body beneath the level of said floor, said bars projecting beyond the side plates and constituting supporting means for the body and providing means for attachment of the body to the running gear of the vehicle.

11. A vehicle body composed of side members, a bottom made up of a plurality of longitudinal channel beams having their flanges in contact with each other and with the side members, channel cross bars interlocking with the longitudinal beams and sides, and cross rods engaging with each of the sides and flanges and lying adjacent the cross bars.

12. A vehicle body composed of sides of sheet metal, a bottom comprising a plurality of longitudinally disposed sheet metal channels inset with relation to the sides of the body and having their side flanges in contact with each other and with the sides of the body where inset therein, and cross bars traversing and interlocking with the sides of the body and the flanges of the channel bottom members, said body also having fastening devices coacting with the cross bars and flanges to hold the cross bars in locking position.

13. A sheet metal vehicle body comprising side members, a longitudinally disposed group of channel bottom members with their side flanges contacting and also engaging the sides of the body, said group of bottom members being inset into the vehicle body, and sheet metal channel cross members also inset with relation to the vehicle body, with the cross bars, channels and sides of the vehicle body provided with matching entering slots where meeting to permit the inset of the cross bars with respect to the vehicle body.

14. A sheet metal vehicle body comprising side members, a longitudinally disposed group of channel bottom members with their side flanges contacting and also engaging the sides of the body, said group of bottom members being inset into the vehicle body, and sheet metal channel cross members also inset with relation to the vehicle body, with the cross bars, channels and sides of the vehicle body provided with matching entering slots where meeting to permit the inset of the cross bars with respect to the vehicle body, said cross bears having outstanding flanges at the upper long edges of their sides to engage under the group of channel members.

15. A vehicle body comprising sheet metal side plates, a floor composed of longitudinally arranged channel plates opening downwardly and inset between the side plates, and cross bars traversing the side plates and floor channels and inset into the latter, the cross bars and the sides and channel plates having interlocking slots for holding the parts in assembled position against movement either lengthwise or crosswise of the vehicle body.

16. A vehicle body comprising sheet metal side plates, sheet metal channel plates with the channels opening downwardly and inset between the side plates to constitute the bottom of the body, a cross bar at the rear end of the body traversing the side and channel plates in interlocking relation thereto, other cross bars traversing the side and channel plates at the front and intermediate portions of the body, the rear cross bar being of box form with a reinforcing angle part and the other cross bars being of channel form with outstanding flanges at the open part of the channel and the cross bars and parts traversed thereby having interlocking entering slots, and a tail gate carried by the rear cross bar.

17. A vehicle body having side plates and floor channels all of sheet metal, and cross bars also of sheet metal and interlocking with the side and channel plates, said cross bars being arranged beneath the floor, and a tail gate of sheet metal hinged to the rearmost cross bar below the floor.

18. A vehicle body of sheet metal comprising side plates, a front end plate, and bottom plates with the forward extremities of the bottom plates upturned over the front face of the front end plate, and the side plates extending forward of the front end plate and having tongues projecting therefrom over the front face of the front end plate.

19. A vehicle body of sheet metal compris-

ing side plates, a front end plate, and bottom plates, with the forward extremities of the bottom plates upturned over the front face of the front end plate, and the side plates extending forward of the front end plate and having tongues projecting therefrom over the front face of the front end plate, said front end plate having end and bottom flanges bent therefrom and extending along the inner faces of the side and bottom plates and said side and bottom plates having a stepped receptacle for said flanges.

20. A vehicle body of sheet metal comprising side plates, a front end plate, and bottom plates, said front end plate having end and bottom flanges bent therefrom and extending along the inner faces of the side and bottom plates, and said side and bottom plates having a receptacle for said flanges.

21. A vehicle body formed of sheet metal, comprising side members, a front member, and a bottom, said front member having vertical flanges and a longitudinal bottom flange, the vertical flanges extending along the inner faces of the side members and the bottom flange extending along and above the bottom, and a stepped strip fast to the bottom and extending crosswise of the same and along the inner faces of the side members, said stepped strip receiving the said bottom and vertical flanges.

22. A vehicle body comprising sheet metal side plates, a floor composed of longitudinally arranged channel plates opening downwardly with the longitudinal edges in close contact, and cross bars of channel form opening upwardly traversing the side plates and floor channels and inset into the latter, the cross bars and the sides and channel plates having interlocking slots for holding the parts in assembled position against movement either lengthwise or crosswise of the vehicle body.

23. A vehicle body comprising sheet metal side plates, sheet metal channel plates with the channels opening downwardly and inset between the side plates to constitute the bottom of the body, a cross bar at the rear end of the body traversing the side and channel plates in interlocking relation thereto, other cross bars traversing the side and channel plates at the front and intermediate portions of the body, the rear cross bar being of box form with a reinforcing angle part, and a tail gate carried by the rear cross bar.

24. In combination with longitudinal plates of channel form, the longitudinal flanges thereof forming the sides of the channel being in close contact and with the channels opening downwardly, said flanges having spaced entering slots, and a cross bar of channel form with spaced slots in its sides, said cross bar having its channel opening upwardly, the slots of the cross bar matching the slots of the flanges of the plates and forming an interlocking connection between said elements.

25. In combination with longitudinal plates of channel form, the longitudinal flanges thereof forming the sides of the channel, and the flanges of adjoining plates being in juxtaposition, the channels of the plates opening downwardly, and said flanges having spaced entering slots, and cross bars of channel form having sides with outturned flanges, said sides having slots, the slots of the cross bars matching the slots of the flanges of the plates and being of a depth to permit said longitudinal flanges to enter the cross bar to a point so that said outturned flanges bear against the inner faces of said plates, thereby forming an interlocking connection between said elements.

26. In combination with longitudinal plates of channel form, the longitudinal flanges thereof forming the sides of the channel, and the flanges of adjoining plates being in juxtaposition, the channels of the plates opening downwardly, and said flanges having spaced entering slots, and cross bars of channel form having sides with outturned flanges, said sides having slots, the slots of the cross bars matching the slots of the flanges of the plates and being of a depth to permit said longitudinal flanges to enter the cross bar to a point so that said outturned flanges bear against the inner faces of said plates, thereby forming an interlocking connection between said elements, and a transverse locking rod passed through the longitudinal flanges beneath said outturned flanges of the cross bar for securing said parts together.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature.

ARTHUR SHERIDAN HUGHES.

Witnesses:
P. W. Bacheustos,
Oscar F. Schaller.