

July 17, 1923.

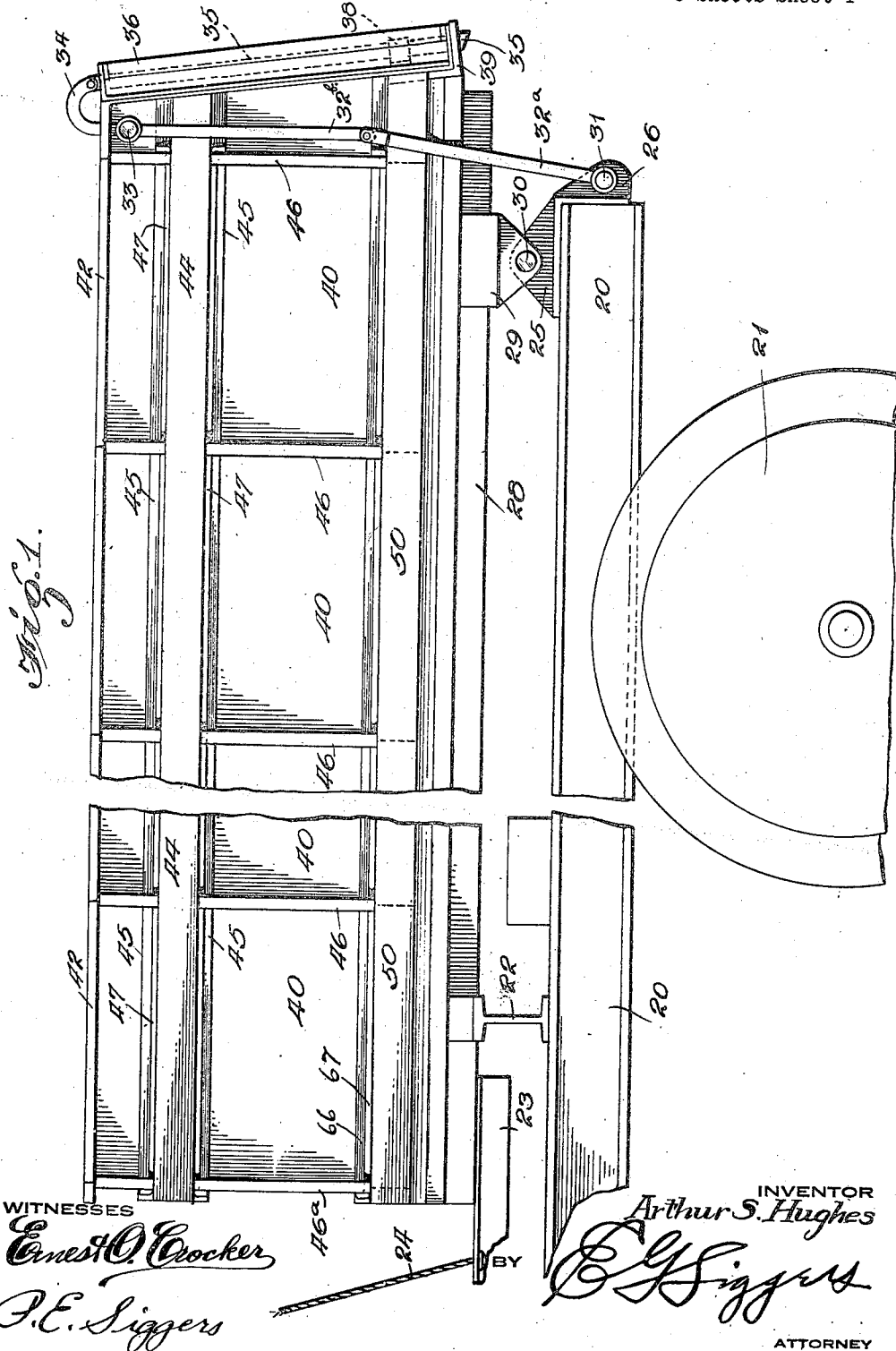
A. S. HUGHES

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SHEET METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC

Filed Dec. 26, 1919

9 Sheets-Sheet 1



July 17, 1923.

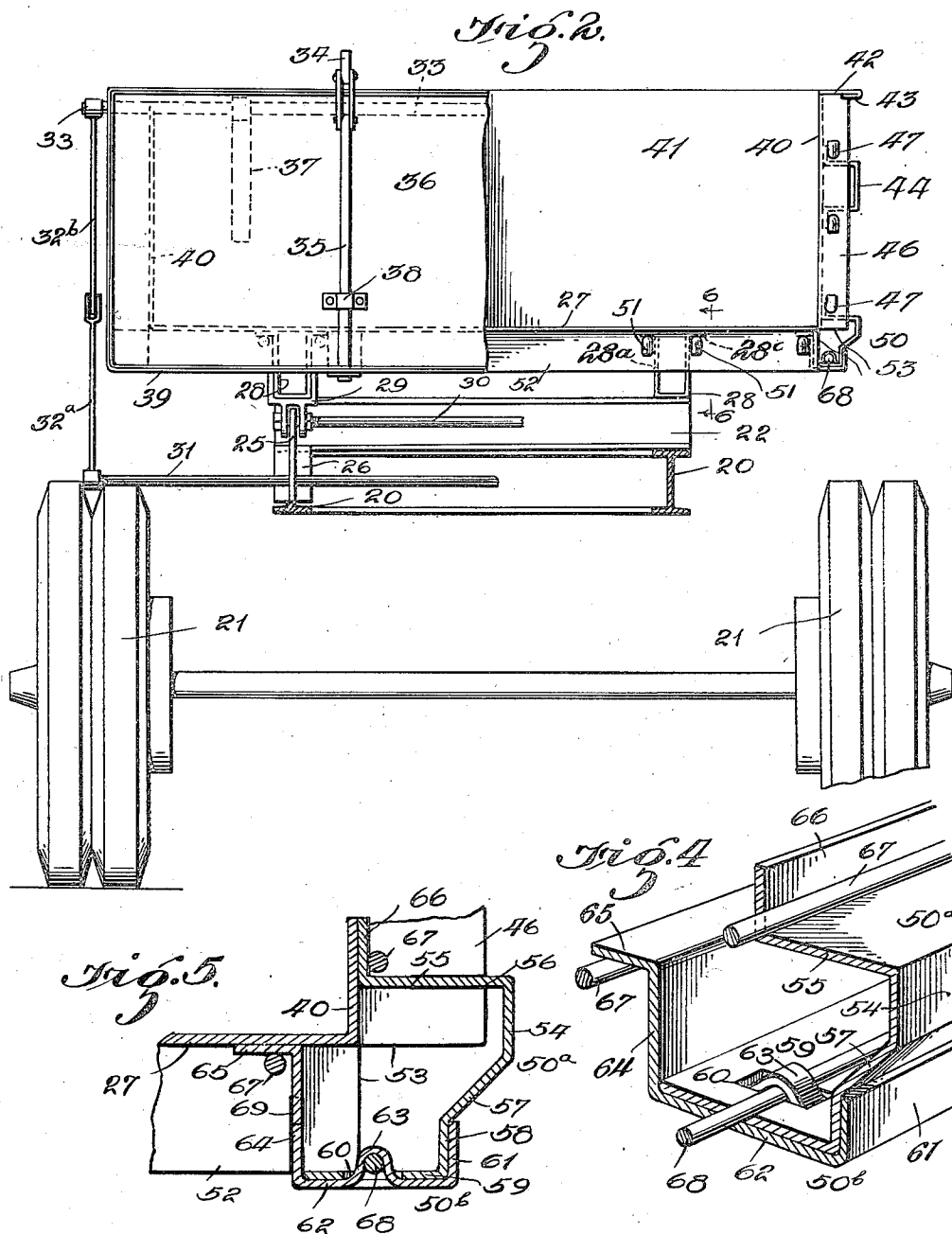
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SHEET METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC

Filed Dec. 26, 1919

9 Sheets-Sheet 2



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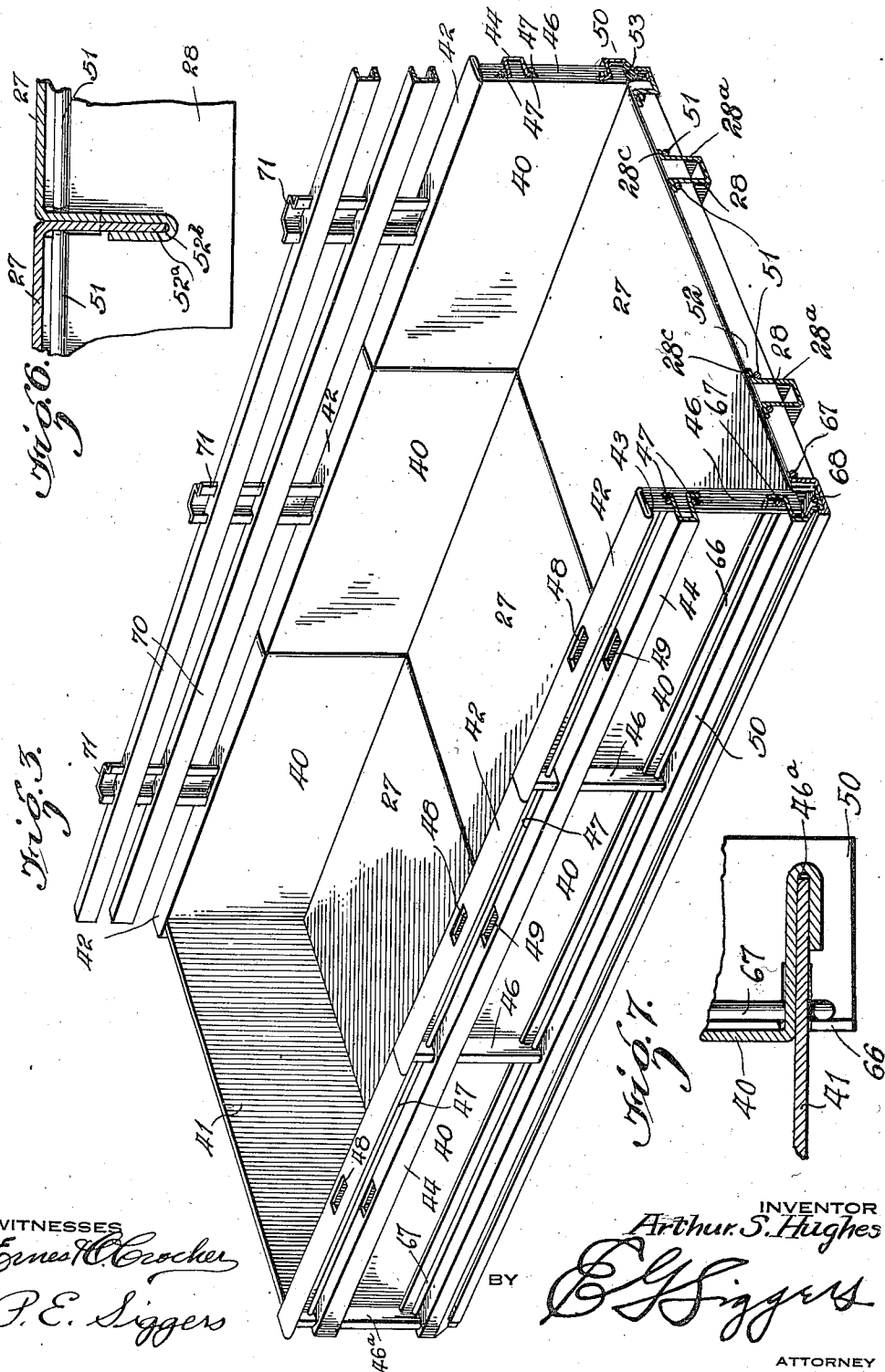
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9 Sheets-Sheet 3



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9 Sheets-Sheet 4

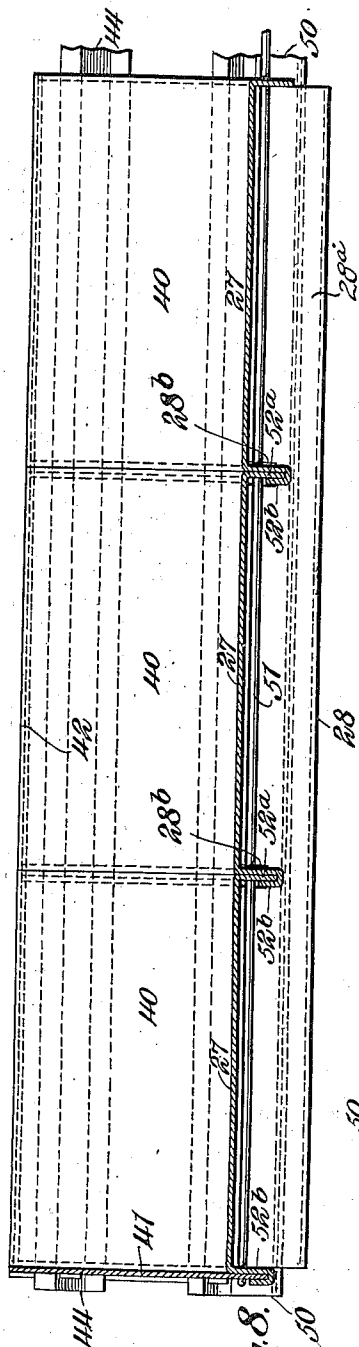


Fig. 8.

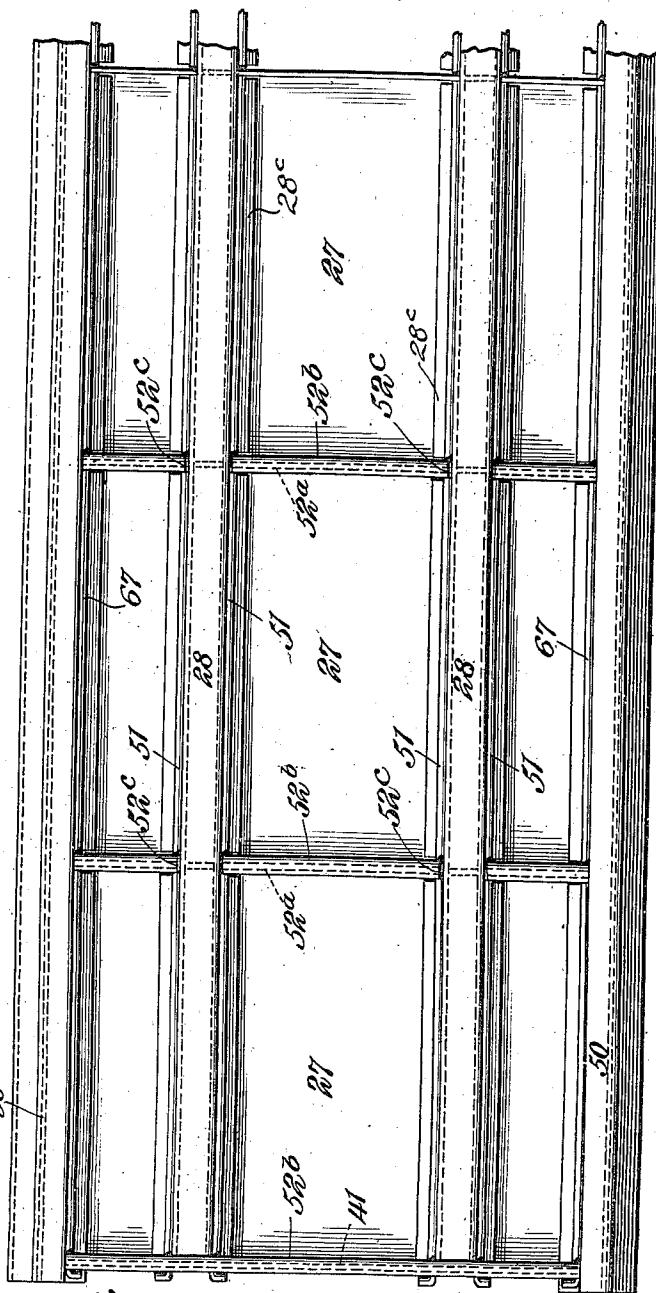


Fig. 9.

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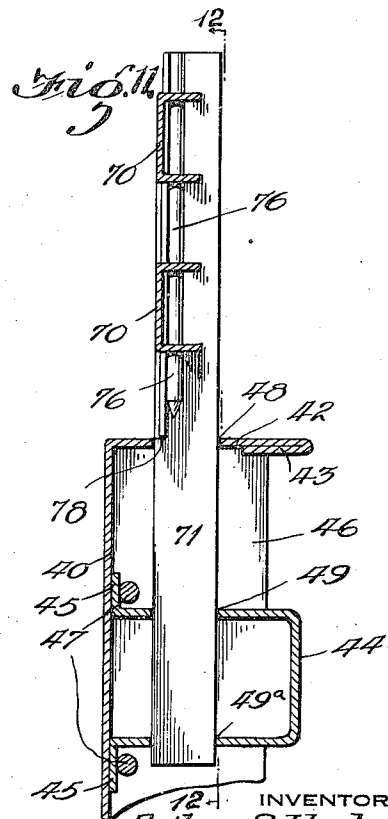
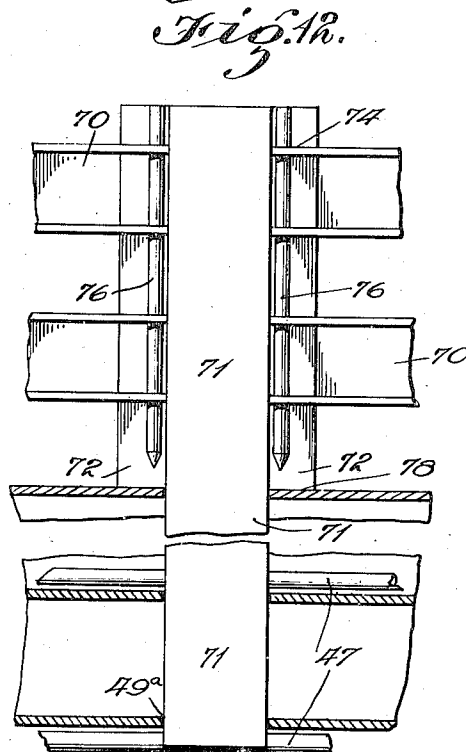
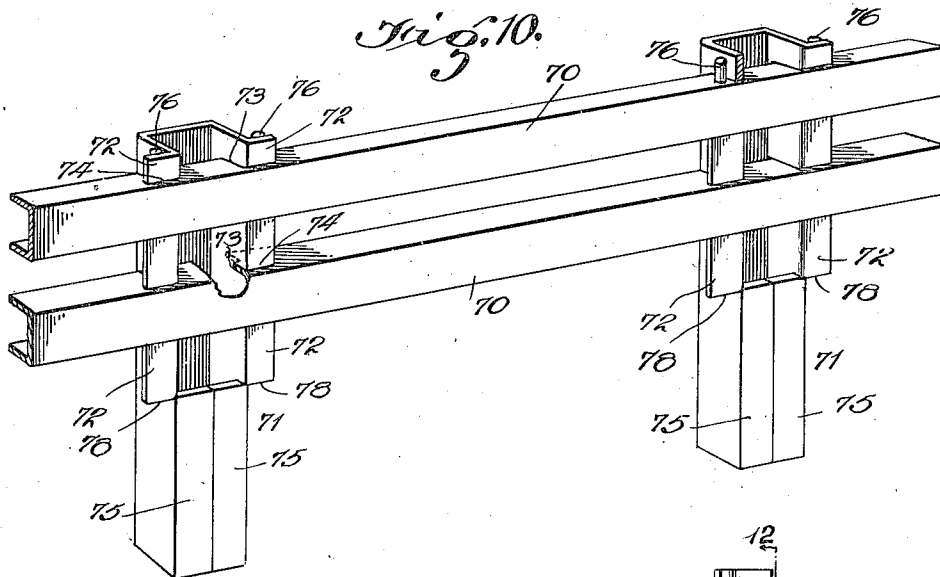
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SHEET METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC

Filed Dec. 26, 1919

9 Sheets-Sheet 5



WITNESSES

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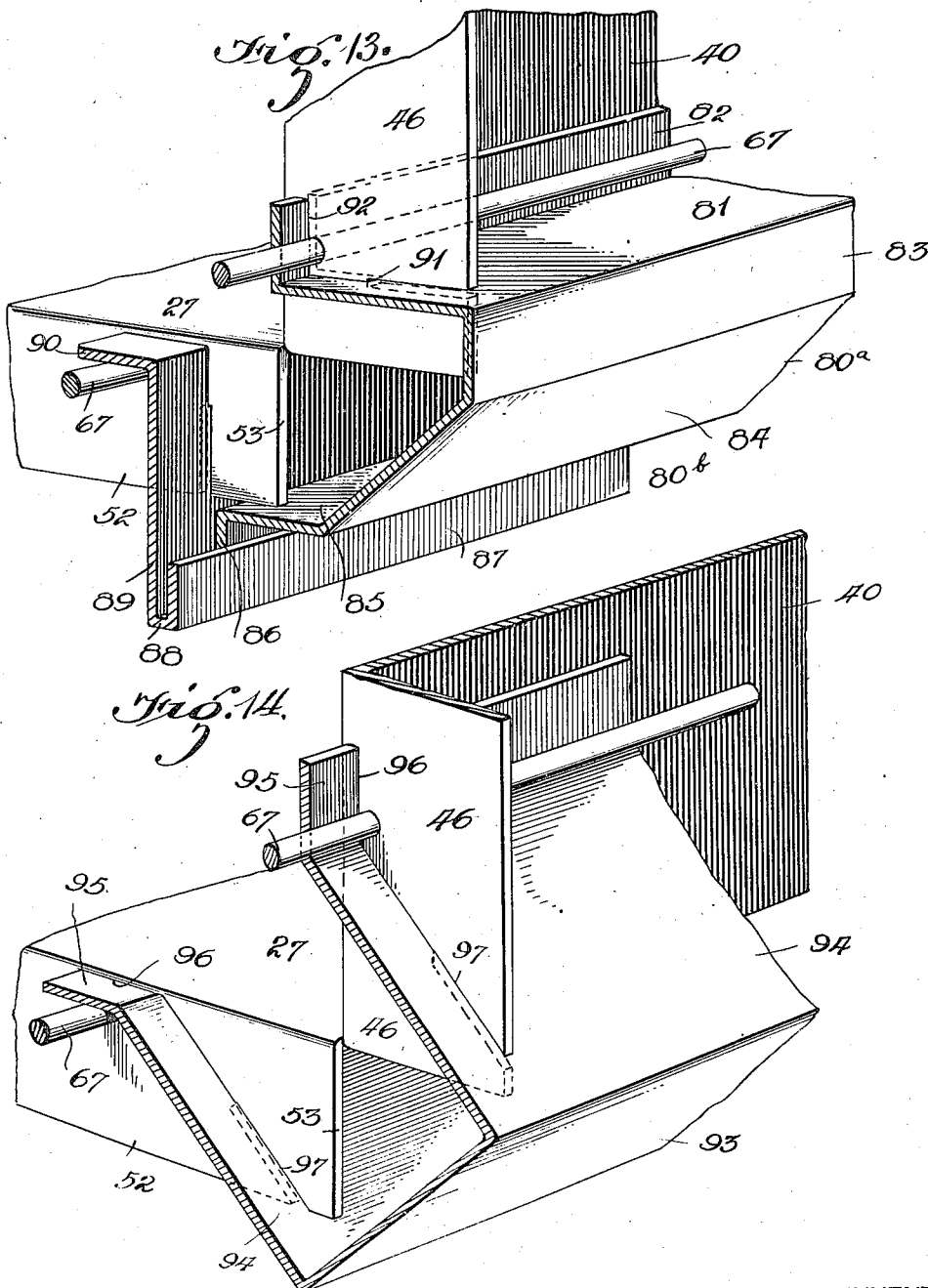
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SHEET METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC

Filed Dec. 26 , 1919

9 Sheets-Sheet 6



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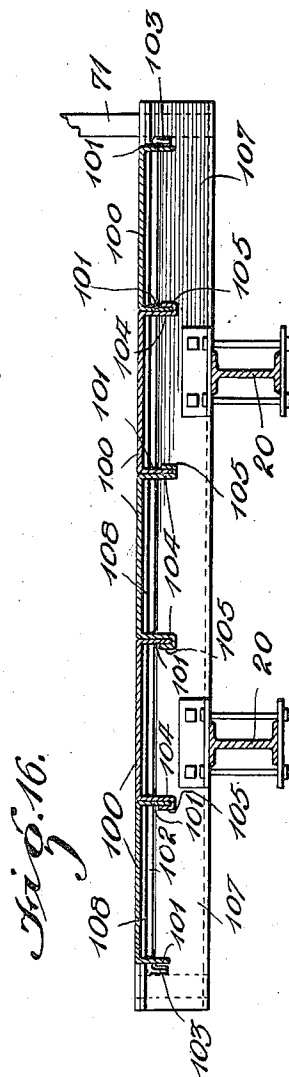
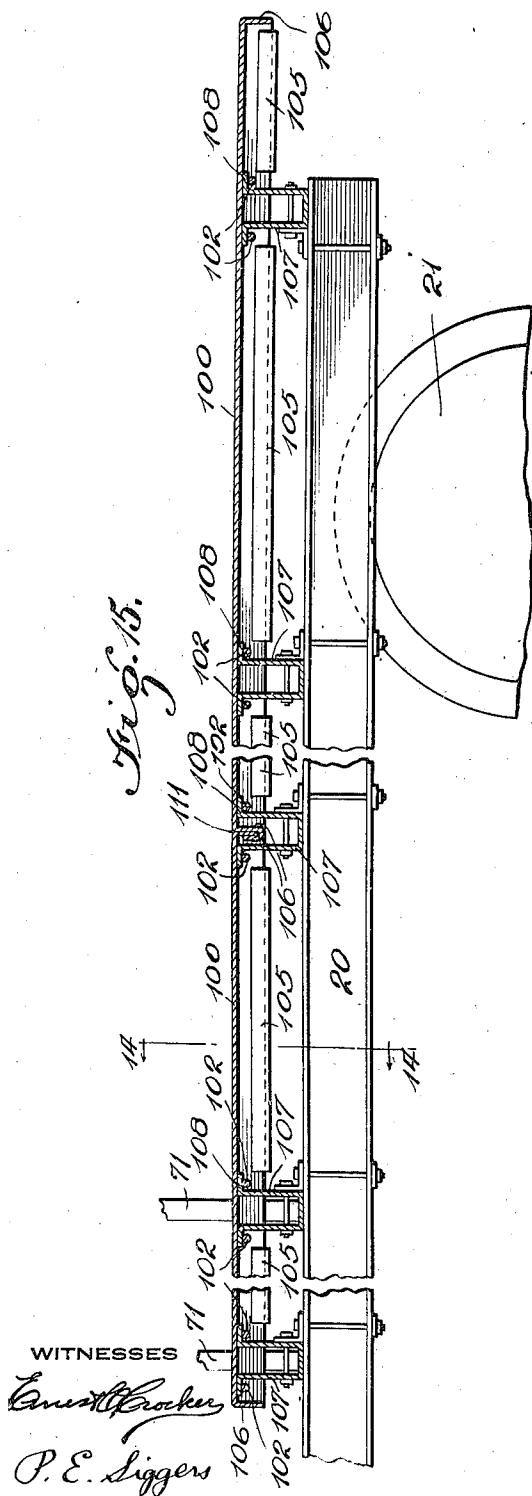
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SHEET METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC

Filed Dec. 26 , 1919

9 Sheets-Sheet 7



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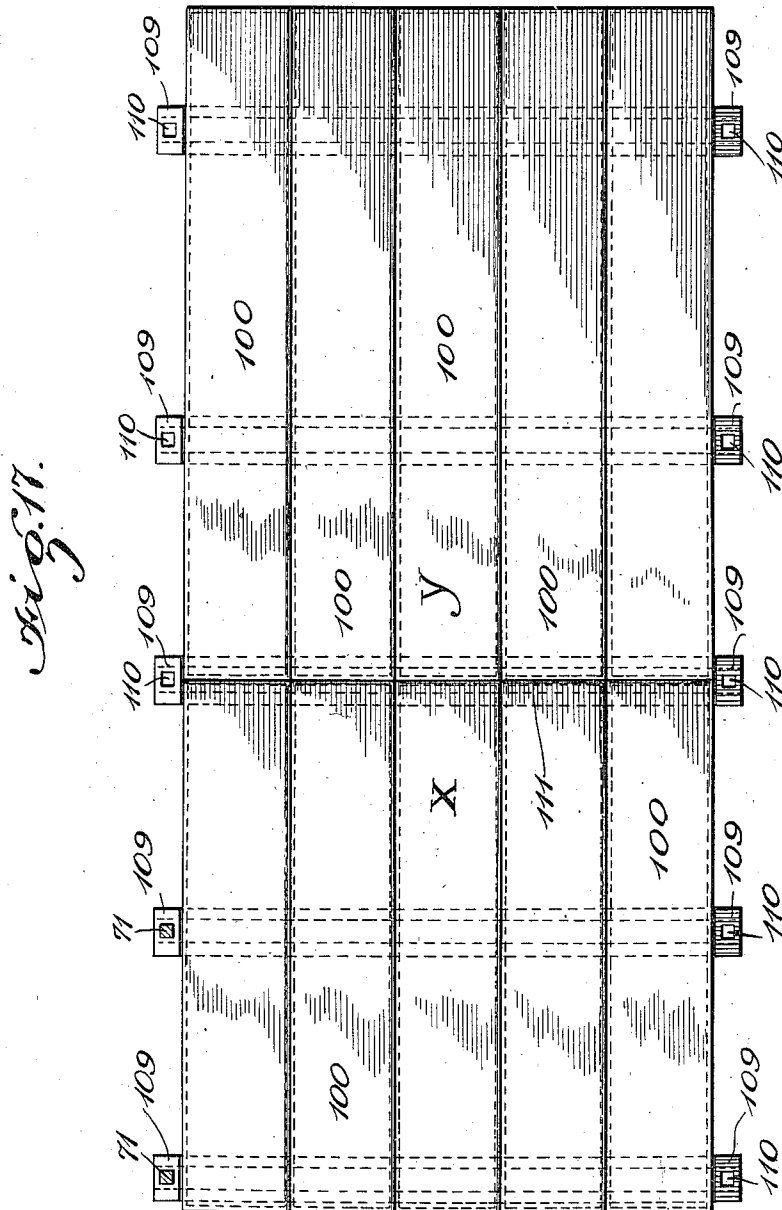
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SHEET METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC

Filed Dec. 26 , 1919

9 Sheets-Sheet 8



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SHEET METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC

Filed Dec. 26, 1919

9 Sheets-Sheet 9

Fig. 18.

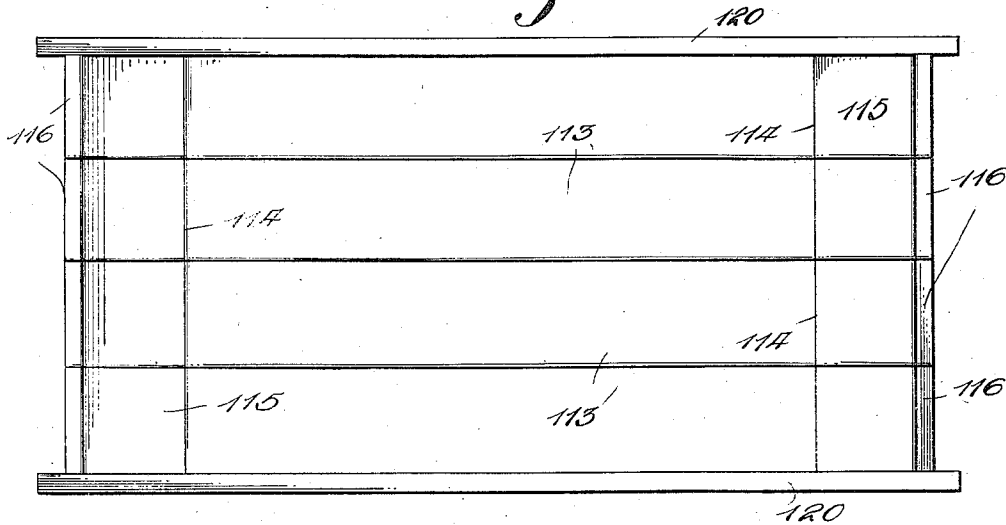


Fig. 19.

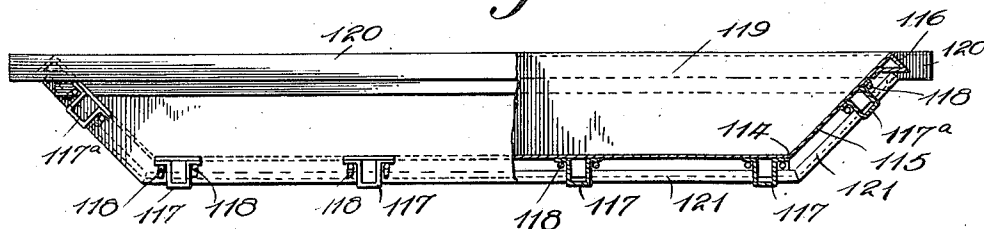
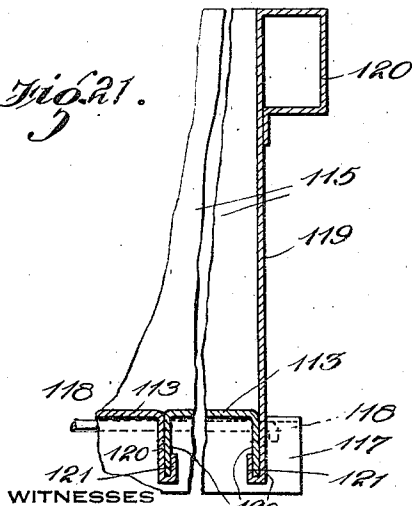
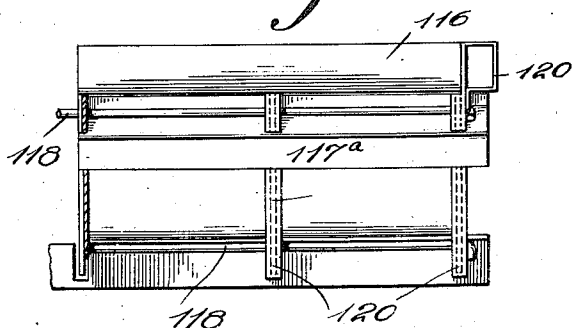


Fig. 21.



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Fig. 20.



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UNITED STATES PATENT OFFICE.

ARTHUR SHERIDAN HUGHES, OF MANSFIELD, OHIO.

SHEET-METAL CONSTRUCTION FOR TRUCK BODIES, RACKS, ETC.

Application filed December 26, 1919. Serial No. 347,428.

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 Sheet-Metal Construction for Truck Bodies, Racks, Etc., of which the following is a specification.

This invention has reference to sheet metal construction designed for auto truck bodies, railroad cars and for many other purposes too numerous to mention.

Its object is to provide a construction which will utilize sheets of pressed steel, or the like, to form carrying bodies of superior strength and rigidity having no interior projections. Bodies formed in accordance with the invention permit of ready replacement of worn or damaged parts.

In conformity with the invention a plurality of sheet metal body members pressed into channel form, are placed in juxtaposition and locked together by means of channel-shaped locking bars engaging with the flanges thereof. The sheet metal body members are bent short of their ends to provide upright side walls or portions which preferably form the sides of the body, and bracing means are provided to interlock with the upright and horizontal portions at the bend or angle thereof so as to strengthen the bend. Preferably the carrying body is made up of a plurality of these channel members running transversely with their flanges set side by side, the webs of the juxtaposed channel members forming a substantially continuous surface and providing a bottom or floor for the body. Spaced channel bars of similar form but of less width run longitudinally of the body parallel with each other, and have their flanges interlocking by means of slots with the flanges of the transverse members. Longitudinal locking means are also provided for the longitudinal corners of the body to straddle the same. Preferably one of two adjacent flanges of the juxtaposed channel members is bent over the edge of the other flange and returned, whereby the channel members in juxtaposition are additionally secured together.

The construction permits spot welding of the sheets or members wherever connections are desirable, thus avoiding interior projections even to the extent of rivet

heads, so that the interior of the body is smooth and no obstruction is offered to either loading or unloading. The parts of the body are secured together in such a manner that rattling is eliminated during the life time of the body, while ready dismantling of the body is permitted when the necessity for the same arises.

In the construction of platform railroad cars, mortar boxes and other articles, the channel members which constitute the body are arranged longitudinally and the locking bars disposed transversely. In making racks and other open structures, the channel-shaped members have their flanges spaced from each other and are not in contact as described.

In a pending application filed March 22, 1919, Serial Number 284,293, I have disclosed a vehicle body comprising side members of sheet metal, a bottom or floor formed of channel-shaped members arranged longitudinally with their edge flanges engaging each other and the side members, and transverse bars traversing and interlocking both the edge flanges of said members and the sides of the body, said interlocking connection holding the channel members, side members and the transverse bars against movement either longitudinally or transversely of the body.

In the present invention, the body members are arranged transversely and they are shaped to constitute the bottom and sides of the body, while the locking bars are disposed longitudinally, or at right angles to the body members. The claims of this application are not only directed to this difference over said application, but they are generic in scope and are designed to comprehend broadly the construction of said application Serial Number 284,293, as well as the structure embodied in an application filed of even date herewith, Serial Number 347,429.

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 in the drawings, but may be changed and modified, so long as such changes and modifications mark no mate-

rial departure from the salient features of the invention as expressed in the appended claims.

In the drawings:—

5 Figure 1 is a side elevation of a dumping truck body constructed in accordance with the present invention, parts not pertaining to the invention being shown conventionally;

10 Figure 2 is a rear end elevation of the same with the end gate shown partly broken away;

Figure 3 is a perspective view of a portion of the body illustrated in the two preceding figures showing one of the side racks, which forms a part of the invention, in place;

Figure 4 is a detail view in perspective illustrating the construction of one form of the corner binding member;

20 Figure 5 is a cross sectional view of the same showing the interlocking engagement of said binding member with the bottom and side flanges of the transverse channel body members;

25 Figure 6 is a cross sectional detail view showing the manner in which adjacent flanges of the channel body members are held together, the section being taken substantially on the line 6—6 of Fig. 2, but omitting the angle piece for the lower end of the tail gate;

Figure 7 is a section showing the manner in which the front end plate and the side of the truck body are united;

35 Figure 8 is a central longitudinal section;

Figure 9 is a bottom plan view;

Figure 10 is a perspective view of a side rack, parts being shown broken away to illustrate the construction more clearly;

40 Figure 11 is a vertical sectional view through one of the upright posts of the rack shown in position upon the truck body;

Figure 12 is a sectional view taken on the line 12—12 of Figure 11;

45 Figure 13 is a perspective detail view on an enlarged scale showing a slightly modified form of binding member for a corner of the truck body;

Figure 14 is a further modification of a corner binding member;

50 Figure 15 is a vertical longitudinal section of a platform truck body, the positions of two of the upright posts of the side rack being indicated;

55 Figure 16 is a cross sectional view of the same substantially on the line 14—14 of Fig. 13;

Figure 17 is a top plan view of the platform body illustrated in the two preceding figures;

60 Figure 18 is a top plan of a mortar box constructed of pressed steel sheets in accordance with this invention;

65 Figure 19 is a longitudinal side elevation of the same, shown partly in vertical section;

Figure 20 is an end elevation of the mortar box, a segment only being illustrated;

Figure 21 is a vertical cross section showing a detail of the construction of the mortar box.

Referring particularly to Figures 1 and 2, 20 indicates a frame or chassis of an auto truck and 21 the wheels. A cross beam 22 serves as a rest for the forward end of the body, being secured to the frame 20. An angle bar 23 is made fast to the forward underside of the truck body, and a cable 24 or the like is secured in any convenient way to the angle bar. This cable is designed to be secured to a hydraulic hoist or similar means whereby the truck body may dump its load when lifted at its forward end. This constitutes no part of the present invention.

To permit this dumping, a hinge is provided comprising two or more angle plates 25 having a hinge rod 30 secured between the same, and yokes 29 embracing the rod and a neighboring angle plate. The yokes 29 are secured to the underside of the truck body in any desirable way, as to longitudinal channel bars 28. The angle plates 25 are secured upon the frame 20 at the rear end thereof, the arrangement being such that when the forward end of the truck body is lifted, the rear end will be lowered, the movement taking place upon the rod 30 as an axis. Each angle plate 25 is provided with a web 26 upon which a cross rod 31 is mounted. The outer ends of the cross rod 31 are each secured to links 32^a which, in turn, are pivotally connected with other links 32^b. The upper ends of links 32^b are made fast to a rod 33 which runs through the truck body near the upper end thereof and is turnable within its supports. Intermediate the ends of the rod 33 a pair of curved links 34 are secured to rise above the top of the body and project downwardly and outwardly of the same. To the outer ends of these curved links latch rods 35 are pivoted. These latch rods pass beneath guides 38, provided upon a tail gate 36. The tail gate is hinged at its upper end to the truck body as by strap hinges 37 secured on the rod 33, or in any other convenient manner. The latch rods 35 project through perforation on the lower side of the gate, and through similar perforations provided in an angle bar 39, which forms a rest for the lower end of the gate.

When the truck body is to be dumped, the lifting of its forward end will raise the outer ends of the latch bars 35, thereby releasing the tail gate from the angle bar 39, permitting it to swing upon its hinges provided at its upper end. Thus any material contained in the truck body falls freely out the rear without hindrance by the tail gate and without necessitating any opera-

tion of the same. The tail gate, as described above, is entirely automatic in its operation, returning to its closed position when the truck body against rests upon the cross beam 22, and relocking itself. It should be understood, however, that the tail gate and means for operating the same form no part of the present invention, and are only illustrated as one of the many constructions of automatic gates which might be used in connection with a truck body adapted to dump its load.

The present invention relates to a sheet metal construction, and, while described in connection with a dumping truck body primarily, is as well adapted for truck bodies of all kinds, also for freight cars and many other material-holding bodies, and has capabilities of use in many other lines. The accompanying drawings depict, in addition to a truck body which is well adapted for dumping purposes, a platform truck body and a sheet metal mortar box. Furthermore, the truck body is provided with side racks which form an important part of the present invention. The two truck bodies, the side racks and mortar box, each comprise a plurality of channel-shaped members running in one direction and held together by a plurality of locking channel bars running crosswise thereof and interlocked therewith. The present application claims this construction in its broadest aspect, and I wish it understood that I do not limit myself to the special uses herein set forth.

Considering now in more detail the construction of the truck body, particularly disclosed in the first nine figures of the drawings, it is seen that this truck body is made up of a plurality of channel body members running transversely, each channel member comprising a horizontal bottom portion 27 and upstanding or vertical side portions 40. The horizontal portions 27 and the upstanding portions 40 are formed from the same metal sheet. The transverse channel members have their flanges cut as indicated at 53 in Figures 2 and 5 to permit of the bending of the same short of their ends, which provides for the formation of the side portions 40 integral with the bottom portions 27. The several transverse channel or body members are placed with their side flanges 52 extending or facing outwardly substantially parallel with each other so that their webs lie in a single plane to form a smooth floor or bottom for the body. The side portions 40 are likewise arranged to form smooth sides for the body. The flanges 52 of the transverse channel members may be secured to each other in the following manner. (See Figure 6). One of the flanges 52^b is made longer than the other and is bent around the end edge of the adjacent

flange 52^a and then returned upon itself. Thus the juxtaposed channel members are held together independently of and in addition to the locking means.

In the companion application previously referred to, the channel or body members have a plurality of bends formed therein to provide an inclined portion and a straight portion at each end of the said members. I wish it understood that the claims in the present application are broad enough to comprehend that modification of the structure herein disclosed.

To secure the transverse channel or body members together, a plurality of longitudinal locking channel bars 28 are provided. These channel bars are spaced from each other at suitable intervals along the bottom of the truck body, and have channels of considerably greater depth than the flanges of the transverse channel or body members, as seen in Figure 2. As a result, the channel locking bars depend below the flanges of the channel or body members and rest upon the beam 22. Each channel locking bar 28 has its side flanges 28^a provided with spaced entering slots 28^b where they cross the flanges 52 of the transverse channel members, and said flanges 28^a have outturned flanges 28^c. The flanges 52, in turn, have matching slots 52^c, so that the double pairs of slots provided where the flanges cross permit the locking bars to engage with the individual flanges of each transverse channel member, thus forming a very strong and reliable connection.

The construction is very clearly shown in Figures 8 and 9 of the drawing, from which it will be seen that the depth of the slots 52^c and 28^b is such that the flanges 52 enter the locking bars for a portion of the depth of the latter, with the outturned flanges 28^c of the locking bars bearing against the underface of the bottom of the body. Locking rods 51 are also provided to run longitudinally of the truck body, passing through holes in the flanges 52 of the transverse channel body members and bearing against the outturned flanges 28^c of the longitudinal locking bars 28. These rods 51 at their ends will preferably be bent at an angle so as to prevent longitudinal movement of the same. A pair of locking rods is provided for each locking bar.

The sides of the truck body, as has been pointed out, are formed of upstanding continuations 40 of the bottom members 27, and are locked together by longitudinal locking bars 44 and cooperating locking rods 47 traversing the flanges 46 precisely in the same manner as the interlocking connections between the parts 28 and body members 27. The upper ends of the transverse sheet metal sections are bent at an angle to form a flange 42 and a bead 43. This con-

struction materially increases the strength of the sides of the truck body, besides adding to the appearance of the same. The forward end plate 41 of the body is united to the body by means of the overlapped flange 46^a. (See Figure 7.)

Considering now in detail the construction of the corner locking members indicated generally by the numeral 50 in Figures 1 and 2, reference should be made especially to Figures 4 and 5, where there are disclosed on a large scale the corner binding members or means 50 comprising two sections 50^a and 50^b. The upper section 50^a and the lower section 50^b are interlocked with each other as will be described, and, in turn, are interlocked, respectively, with the side flanges 46 and the bottom flanges 52 of the transverse channel or body members. The upper section or part 50^a includes an upper horizontal portion 55 provided with slots at appropriate intervals to interlock with similar slots provided upon the flanges 46, as indicated at 56. The inner end of the horizontal portion 55 is bent upwardly to form a flange 66, which is also slotted where engaging with the flanges 46. The part 50^a of the corner binding member also has a lower horizontal portion 59, the horizontal portions 55 and 59, making up the upper section along with vertical portions 58 and 54 and the slanting portion 57. The lower horizontal portion 59 has slots 60 at intervals.

The lower section 50^b is approximately channel shaped comprising a horizontal portion 62, a narrow upstanding flange 61, a wide upstanding flange 64 and an outturned flange 65 provided at the upper end of the flange 64. The outturned flange 65 bears against the under face of each transverse channel member 27, and is provided with slots at suitable intervals where the section 50^b intersects the flanges 52. The wide flange 64 likewise has a slotted locking connection 69 with each flange 52. It will be here noted that the flange 64 of the lower section 50^b is similar in every respect to the horizontal portion 55 of the upper section 50^a, while the outstanding flanges 65 and 66 correspond in function. Rods 67 are provided for the same purpose as the rods 51 previously mentioned in connection with the locking bars 28.

The two sections of the binding means or members are held together partly by means of the seating of the upper section 50^a within the channel of the lower section 50^b, as illustrated. Further locking means in the form of tongues 63 struck up from the horizontal portion 62 are provided, the tongues 63 being forced in through the slots 60 and forming a loop above the slots, whereby a rod 68 may be threaded through the loops and resting upon the lower horizontal por-

tion 59, firmly bind the two parts of the locking member together. It will be readily understood from what has been said that the corner locking members straddle the corners at the outside thereof, and have as their special function the prevention of any bending of the sides of the truck body relatively to the bottom. These corner locking members also hold the front end plate 41 in place, in cooperation with the other longitudinal channel locking bars 28 and 44. The specific binding means described above and illustrated in detail in Figures 4 and 5 is the preferred form, but many other binding members might be evolved to do the same work. Two of these are disclosed in Figures 13 and 14 and will be considered at this place.

In Figure 13 the chief difference between the construction there disclosed and the construction of the binding member of Figures 4 and 5, is the manner of uniting the upper and lower parts of the same. In the construction in Figure 13 the interlocking tongues and rods are dispensed with and instead a return bend is provided on the lower part of the binding member, which is bent around or clinched upon the lower end of the upper part of the same. The upper part 80^a is made up of the upper horizontal portion 81 and the lower horizontal portion 85, the vertical portion 83 and inclined portion 84, while the two flanges 82 and 86 are bent outwardly from the respective horizontal portions 81 and 85. The upper horizontal portion 81 has an interlocking slot connection 91 with the flange 46, while the outstanding flange 82 has a similar connection 92 with the same. The lower part 80^b of the binding member comprises a vertical portion 89 having an outwardly bent flange 90, both the vertical portion 89 and the flange 90 having the usual slots to interlock the lower part 80^b and the flanges 52. The lower end of the upright portion 89 is bent, as indicated at 88 about the under flange 86 of the upper part 80^a and then returned upon itself, as indicated at 87. It will be observed that this interlocking means provided for the two parts of the corner binding member is substantially the same as that provided to hold adjacent flanges of the channel members of the truck body together.

Considering now the modification illustrated in Figure 14, it is seen that the problem of strengthening the longitudinal corners of the truck body is here solved by a single channel member placed at an angle to both the bottom and a side of the truck body. Inasmuch as the sides of the truck body will ordinarily stand at right angles to the bottom thereof, the locking channel member here is disposed at an angle of about 45° with reference both to the bottom and

adjacent sides. Here a single channel member 93, having sides 94 at right angles to its web, is used. The outer portions of the sides 94 are bent to form flanges 95. Each flange 95 where it intersects with the flanges 46 and 52 is provided with a slot 96, and each side 94 where it intersects either flange 52 or 46 is provided with the interlocking slot connection 97. It will be seen that one of the flanges 95 will lie in a horizontal position on the under sides of the transverse members 27, while the other flange 95 will lie in a vertical position without the side sections 40 of the truck body. Locking rods 67 are provided as in the previously described constructions.

It will be noted that in the several forms of the corner binding or joining means, the flanges of the channel members are engaged by said means at each side of the bend, and the slot in the flanges at the bend is bridged or spanned.

In order to utilize the truck body for carrying bulky materials, side racks may be employed. These side racks may be formed of a plurality of channel or body members placed in juxtaposition so as to form a continuous supplementary side, and such a construction is considered to be within the scope of my invention. However, for many purposes racks composed of a plurality of spaced channel members will prove satisfactory, and that construction is here disclosed. Figure 3 shows one of these side racks in place upon the truck body. Figures 10, 11 and 12 illustrate the construction of these side racks.

Referring to the latter figures, it is seen that the side racks include a plurality of channel or body members 70 interlocked with a plurality of uprights or posts 71, which correspond with the locking bars 28 and 44 in the body construction. The channel members or bars 70 run longitudinally of the truck body and are spaced apart a suitable distance. There may be any number of these longitudinal channel bars and their spacing may be changed as seems desirable. The upright posts 71 are set into the sides of the truck body as disclosed, preferably one post being provided for each transverse channel member 27 of the body, but any other number of posts may be employed. Each post 71 interlocks with the longitudinal channel bars 70 by the same complementary matching slot construction which has already been described above and disclosed in my previously filed application, these slots being indicated by the reference numerals 73 and 74. For a portion of their lengths, the posts are provided with outstanding flanges 72, which flanges have the usual slots for interlocking purposes. The flanges 72 further act as spacers for the longitudinal channel bars 70. Rods 76 are

provided to additionally lock the channel bars and uprights together, these rods extending as do the flanges 72 for only a portion of the lengths of the posts. The flanges at the lower ends of the posts are bent inwardly, as at 75, to form a closed rectangular member which is adapted to fit into a line of holes or sockets 48, 49, 49^a, the holes 48 being provided in the outturned flange 42 of the truck body sides, and the holes 49 and 49^a being provided in the side locking bar 44. The lower ends of the posts fit snugly into these holes or sockets and extend somewhat below the longitudinal bar 44. The lower edges of the flanges 72 abut against the flanges 42 when the posts are in place. Thus the flanges 72 also serve as stops for the racks to prevent them from being thrust too far into the sides receiving them.

Turning now to Figures 15, 16 and 17, there is disclosed a platform truck body constructed in accordance with the invention. This platform truck body includes longitudinal channel or body members 100 which may or may not run the entire length of the truck. These members correspond with the channel or body members 27, 40, previously described. As shown in the drawings, however, the longitudinal members 100 extend for only a portion of the length of the truck body and there terminate. Thus, the truck body is made up of two or more sets of longitudinal members, the sets being indicated generally by the letters X and Y. Any number of sets of these longitudinal members may be provided and the channel or body members 100 of each set may be of equal or unequal length. Where the longitudinal members do not run the entire length of the truck body, a joint 111 will be provided (Figure 15). Where the ends of the longitudinal channel members meet at this joint, downwardly extending flanges 106 will be provided which may be united by one of the flanges 106 being bent over and then returned upon the other in the manner described above.

In order to lock the longitudinal channel members 100 together, transverse locking bars 107 are provided which correspond with the locking bars 28, 44. These transverse channel bars are secured in any desirable way to the frame of the truck and interlocked with the downwardly extending flanges of the longitudinal members by means of the matching slots as described, and rods 102 with bent ends 103 and outturned flanges 108. Adjacent flanges of the longitudinal members are united by a return bend 105 which, in this construction, does not run continuously the length of the longitudinal members, but is broken at intervals.

The platform truck body has its ends provided with downwardly turned flanges 106

to give a finish to the body, and the transverse locking bars 107 have socket pieces 109 at each end provided with square holes 110 designed to receive the posts of a side rack of the construction shown in Figures 10 to 12. Such a side rack, when secured upon the platform truck body, converts it into a body capable of carrying many materials and articles for which it would not be otherwise adapted, and if a side rack is employed which is substantially a continuous or unbroken side, the platform truck body is adapted for other uses.

The sheet metal mortar box illustrated in Figures 18, 19, 20 and 21 comprises a plurality of channel or body members 113 running longitudinally of the box to form the bottom thereof, which are bent as at 114 to form the inclined sides 115, each terminating in a top bead 116. Cross channel locking bars 117, having rods 118 running therewith, interlock with the flanges of the longitudinal members 113 by means of matching slots in the manner now familiar. The other two sides 119 of the box are disposed vertically and are made of separate sheets provided with a rectangular bead 120 extending beyond the ends of the box and providing a convenient means by which the box may be handled. This bead may be spot welded. Adjacent depending flanges of the longitudinal body members 113 are held together by return bends 121. The inclined sides of the box are braced by the channel locking bars 117, similar in all respects to the transverse locking bars 117.

It will be understood that the mortar box here described is an illustration of only one of the many bodies which might be formed by employing the sheet metal construction which is the essence of the present invention. I do not wish to be limited to any particular kind of body or structure or to any particular use of a given body or structure. Whether the channel or body members will be disposed longitudinally or transversely will depend upon the size and the use to which the structure will be put. I deem my invention to be broad enough to permit its use in all sheet metal construction, and desire to employ as many modifications of the same as may be embraced within the scope of the appended claims.

What I claim is:—

1. The combination with a plurality of channel members having their flanges facing in one direction, said flanges having spaced entering slots, of a plurality of channel bars arranged crosswise relatively to the channel members with their flanges facing in the opposite direction, said cross channel bars having their flanges provided with spaced entering slots, the flanges of said members and bars interlocking by means of

said slots, the slots in the flanges of said members being of a depth to cause the flanges of the channel bars to enter the same and bear against the inner faces of said members.

2. The combination with a plurality of channel members having their flanges facing in one direction, said flanges having spaced entering slots, of a plurality of channel bars arranged crosswise relatively to the channel members with their flanges facing in the opposite direction, said cross bars having their flanges provided with spaced entering slots, the flanges of said bars and members interlocking by means of said slots, and supplementary means for holding the bars and members in locked position.

3. The combination with a plurality of channel members having their flanges facing in one direction, said flanges having spaced entering slots, of a plurality of channel bars arranged crosswise relatively to said channel members with their flanges facing in the opposite direction, said cross channel bars having their flanges provided with spaced entering slots, the flanges of said bars and members interlocking by means of said slots and extending at right angles to each other, and the webs of said bars and members being parallel to each other and spaced apart by the width of said flanges.

4. The combination with a plurality of channel members having all their flanges facing in one direction, said flanges having spaced entering slots, of a plurality of channel bars arranged crosswise relatively to said channel members with their flanges facing in the opposite direction, said cross channel bars having their flanges provided with spaced entering slots, the flanges of said bars and members interlocking by means of said slots, each of said cross channel bars having the outer edges of their flanges turned outwardly to form auxiliary flanges at an angle to the main flanges said auxiliary flanges interlocking with the flanges of the channel members to hold the bars and members in locked relation.

5. The combination with a plurality of channel members having their flanges facing in one direction, said flanges having spaced entering slots, and a plurality of channel bars arranged crosswise relatively to said channel members with their flanges facing in the opposite direction, said cross channel bars having their flanges provided with spaced entering slots, the flanges of the said bars and members interlocking by means of said slots, each of said cross channel bars having the outer edges of their flanges turned outwardly to form auxiliary flanges at an angle to the main flanges, said auxiliary flanges interlocking with the flanges of the channel members, and means

engaging with each of the auxiliary flanges of the cross bars and also passed through the flanges of the channel members.

6. In combination with plates of channel form, the flanges thereof forming the sides of the channel, the channels facing in one direction, and said flanges having aligned, spaced, entering slots, and locking bars of channel form having outturned flanges, said flanges having spaced entering slots, the slots of the locking bars matching the slots of the flanges of the plates and being of a depth to permit the flanges of the plates to enter the locking bars to a point to cause said outturned flanges to bear against the faces of said plates and provide an interlocking connection between said elements.

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

8. A body comprising a floor and enclosing sides, the combination with channel members arranged substantially parallel to each other and secured together side by side, each channel member forming a section of the floor and two of the sides of the body and a plurality of locking bars of channel form having the flanges of their channels interlocked with the flanges of each of the channel members substantially at right angles thereto.

9. A body comprising a floor and enclosing sides, the combination with channel members secured together side by side, said members having all their channels facing outwardly, the flanges of said channels having spaced entering slots, each channel member forming a section of the floor and two of the sides of said body, of a plurality of spaced locking bars of channel form arranged crosswise relative to the channel members with their channels facing inwardly, said locking bars having flanges with entering slots, the flanges of said members and bars interlocking by means of said slots.

10. In a body having a floor with an integral side, the combination of a plurality of channel members lying in juxtaposition,

with their webs constituting the inner face of the floor and side, and their flanges facing outwardly and split and bent upwardly at the point where the side is to be formed, of a plurality of locking bars extending at right angles to the channel members and spanning the split and bent portion of said members and engaging therewith to hold the channel members together.

11. In a body having a floor with sides, the combination of a plurality of channel members bent at an angle at points spaced from each end, to form the floor and sides of the body, the flanges of the said members facing outwardly, a plurality of locking bars at right angles to the channel members and spanning the bend of said members and interlocked therewith to hold the channel members in juxtaposition.

12. In a body having a floor with integral sides, the combination of a plurality of channel members each having its flanges facing outwardly, said members being arranged side by side with a flange of one member in lapped engagement with a flange of the adjacent member, said members being bent at an angle at points spaced from each end to form the floor and sides of the body, and a plurality of locking bars extending in an opposite direction to said members and interlocked therewith, said locking bars spanning the bends of said members.

13. In a body having a floor with integral sides, the combination of a plurality of channel members each having its flanges facing outwardly, said members being arranged side by side with a flange of one member in lapped engagement with a flange of the adjacent member, said members being bent at an angle at points spaced from each end to form the floor and sides of the body, and a plurality of locking bars extending in an opposite direction to said members and interlocked with the flanges thereof, some of said locking bars running beneath the floor and also along the sides of the body, while others span the bends of said members.

14. In a body having a floor with sides, the combination of a plurality of channel members bent at an angle at points spaced from each end to form the floor and sides thereof, the flanges of said channel members facing outwardly and a plurality of channel locking bars at right angles to the channel members to hold the same in juxtaposition, the flanges of said locking members facing inwardly the said locking bars being parallel to and spaced from each other and running beneath the floor and without the sides of the body, the flanges of said bars and members being interlocked where they cross each other.

15. In a body comprising a bottom, sides and ends, transverse channel members to-

gether forming the bottom and two sides of the body, and longitudinal channel bars interlocking with each of the transverse channel members to hold them in juxtaposition, the forward ends of the longitudinal locking channel bars projecting beyond the forward end of the body and interlocking with said end.

16. In a body comprising the bottom, sides and ends, transverse channel members together forming the bottom and sides of the body, and longitudinal channel bars interlocking with each of the transverse channel members to hold them in juxtaposition, the forward ends of the channel bars projecting beyond the forward end plate of the body and interlocking with the same, the forward transverse channel members being bent around the edge of the forward end plate to hold said plate and member together.

17. In a sheet metal construction, the combination with channel members having their flanges extending in the same direction and lying side by side, of a series of other channel bars running crosswise with respect to the channel members and interlocking therewith, the adjacent flanges of the channel members being secured together additionally by having one flange of each pair bent over the lower edge of the other flange and returned.

18. In a body having transversely extending channel members forming the bottom and sides of said body and having their flanges extending in the same direction and lying side by side, longitudinally extending channel locking bars for said channel members, said longitudinal bars being engaged with the flanges of the transverse members at the bottom and along the sides of the body, and other locking means running longitudinally of the body and engaging both with the bottom and adjacent side for strengthening the angle between the bottom and side.

19. In a body having a floor with sides, the combination of a plurality of transversely extending channel members secured together side by side, each of said channel members being bent short of its ends, the bent portions forming the sides of the body, the intermediate portions forming the floor or bottom, and longitudinal locking means straddling or spanning the longitudinal corners of the body to brace the sides and floor together.

20. In a body having a floor with sides, the combination of a plurality of channel members secured together side by side, each of said members being bent short of its ends, the bent portions forming the sides of the truck body, and the intermediate portions forming the floor, longitudinal channel locking bars traversing the transverse channel members along the bottom and sides

of the body, and additional longitudinal locking means straddling or spanning the longitudinal corners of the body to brace the sides and floor together, said longitudinal locking bars and means being spaced from and parallel to each other and lying without the load-containing part of the truck body.

21. In combination, a plurality of substantially horizontal channel members each bent short of its ends to form two upright portions and a horizontal portion, the flanges of said members facing outwardly and a locking member traversing the flanges of the horizontal and upright portions and interlocking therewith at the bend or corner.

22. In combination, a plurality of substantially horizontal channel members each bent short of its ends to form an upright portion, the flanges of said members facing outwardly and a locking member traversing the flanges of the horizontal and upright portions and interlocking therewith at the bend or corner, said locking member lying wholly without the bend or corner and straddling the same.

23. In combination, a plurality of substantially horizontal channel members, each bent short of its ends to form two upright sections or sides, said members having their flanges facing outwardly and arranged in juxtaposition, said flanges being split at the bends, and a locking member spanning the split portion of the flanges and engaged with said flanges at each side of said split portion.

24. In combination, a plurality of substantially horizontal channel members, each bent short of its ends to form two upright portions and a horizontal portion constituting respectively the two sides and floor or bottom of a body, said channel members having their flanges facing outwardly and arranged in juxtaposition, locking members traversing the flanges of the horizontal and upright portions and interlocking therewith at the bends or corners, said locking members having outstanding flanges bearing against the outside of the floor and sides, and locking rods passed through the flanges of the channel members and engaged with the outstanding flanges of the locking members.

25. In combination, a plurality of substantially horizontal channel members each bent short of its ends to form two upright sections or sides, and a locking member traversing the flanges of the horizontal and upright sections and interlocking therewith at the bend or corner, said flanges all extending outwardly, and said locking member lying wholly without the bend or corner and straddling the same and comprising two interlocking parts.

26. In combination, a plurality of sub-

stantially horizontal channel members each bent short of their ends to form an upright section or side, and locking members traversing the flanges of the horizontal and upright sections and interlocking therewith at the bend or corner, said locking member comprising two interlocking parts, one of said parts being in turn interlocked with the horizontal sections of the channel members and the other part being interlocked with the upright sections.

27. In combination, a plurality of substantially horizontal channel members each bent short of their ends to form an upright section, a locking member traversing the flanges of the upright and horizontal sections and interlocking therewith at the bend or corner, said flanges extending outwardly, said locking member lying wholly outside of the bend and straddling the same and comprising two interlocking portions, the first portion comprising an upper portion interlocked with the flanges of the upright sections and a lower portion locked with the second portion, and an upright portion joining the upper and lower portions.

28. In combination, a plurality of substantially horizontal channel members each bent intermediate its ends to form an upright section, a locking member traversing the flanges of the horizontal and upright sections and interlocked therewith at the bend or corner, said locking member comprising two interlocked parts, the first part comprising an upper portion interlocking with the flanges of the upright sections, a lower portion locked with a second part, and an upright portion joining the upper and lower portions, said second part including a channel-shaped member underlying the lower horizontal portion of the first part, said channel-shaped member having flanges, one of said flanges interlocking with the flanges of the horizontal sections, the other flange lying without the upright portion of the first part and aiding in holding the two parts of the locking member together.

29. In combination, a plurality of substantially horizontal channel members each bent short of its ends to form an upright section, a locking member traversing the flanges of the horizontal and upright sections and interlocking therewith at the bend or corner, said locking member comprising two interlocking parts, the lower of said parts being interlocked with the horizontal sections of the channel members and the other part being interlocked with the upright sections of the channel members, said upper part being provided with a plurality of slots, said lower part having a plurality of struck-up tongues in the form of loops forced into said slots, and rods run through

the loops and locking the parts of the locking member together.

30. In a truck body, side racks adapted to be held in vertical position upon the body, said side racks comprising a plurality of longitudinal channel members, said channel members having their flanges extending outwardly with reference to the truck body, said flanges having aligned entering slots and a plurality of upright channel bars having their flanges provided with aligned entering slots and interlocked with said longitudinal channel members, the channels of the uprights facing inwardly with reference to the truck body.

31. In a truck body, side racks adapted to be held in vertical position upon the body, said side racks comprising a plurality of longitudinal channel members, and a plurality of upright bars interlocked with the said channel members, said bars being of channel form and having sides with outturned flanges, said outturned flanges extending for a portion of the length of said uprights to interlock with the longitudinal members and space the same apart.

32. In a truck body, side racks adapted to be held in vertical position upon the body, said side racks comprising a plurality of longitudinal channel members, and a plurality of upright channel bars interlocked with said longitudinal members, said bars having flanges inturned for a portion of their length to form a hollow rectangular post adapted to fit upon said truck body.

33. In a truck body, side racks adapted to be held in vertical position upon the body, said side racks comprising a plurality of longitudinal channel members and a plurality of upright channel bars interlocked with said longitudinal channel members, the channels of the longitudinal members facing in a direction opposite to that in which the channels of the upright bars face, said bars having sides provided with outturned flanges for a portion of the length thereof to interlock with the longitudinal members and space the same apart, said bars also having inturned flanges for a portion of their length to form a hollow rectangular post adapted to be engaged with the sides of said body.

34. In a truck body, side racks adapted to be held in vertical position upon the body, said side racks comprising a plurality of longitudinal channel members and a plurality of upright channel bars interlocked with said longitudinal channel members, the channels of the longitudinal members facing in a direction opposite to that in which the channels of the upright bars face, said bars having sides provided with outturned flanges for a portion of their length to interlock with the longitudinal members and

space the same apart, said bars also having inturned flanges for a portion of their length to form a hollow rectangular post adapted to be engaged with the sides of said body, the lower edges of said outturned flanges forming stops to hold the racks in proper position.

35. In a truck body, side racks removably fitted upon said body, said side racks comprising a plurality of spaced apart longitudinally running parallel channel members; and a plurality of upright channel bars separated from each other and interlocking with each of the longitudinal channel members, and rods traversing the longitudinal channel members and running with the upright channel bars in juxtaposition therewith to further hold the parts of the racks together.

36. In a truck body, a plurality of transversely running channel members forming

the bottom and sides of said body, longitudinal channel members running along without the sides of said body and locking the transverse side sections together, the sides of said body having an upper outturned flange, said outturned flange and the sides of said longitudinal side locking members having vertically alined perforations, whereby the uprights of a side rack may run through said perforations to maintain said side rack in vertical position upon the body and substantially in the plane of the sides of the truck body.

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

ARTHUR SHERIDAN HUGHES.

Witnesses:

AUBREY L. FORD,
CHARLES T. BINKS.