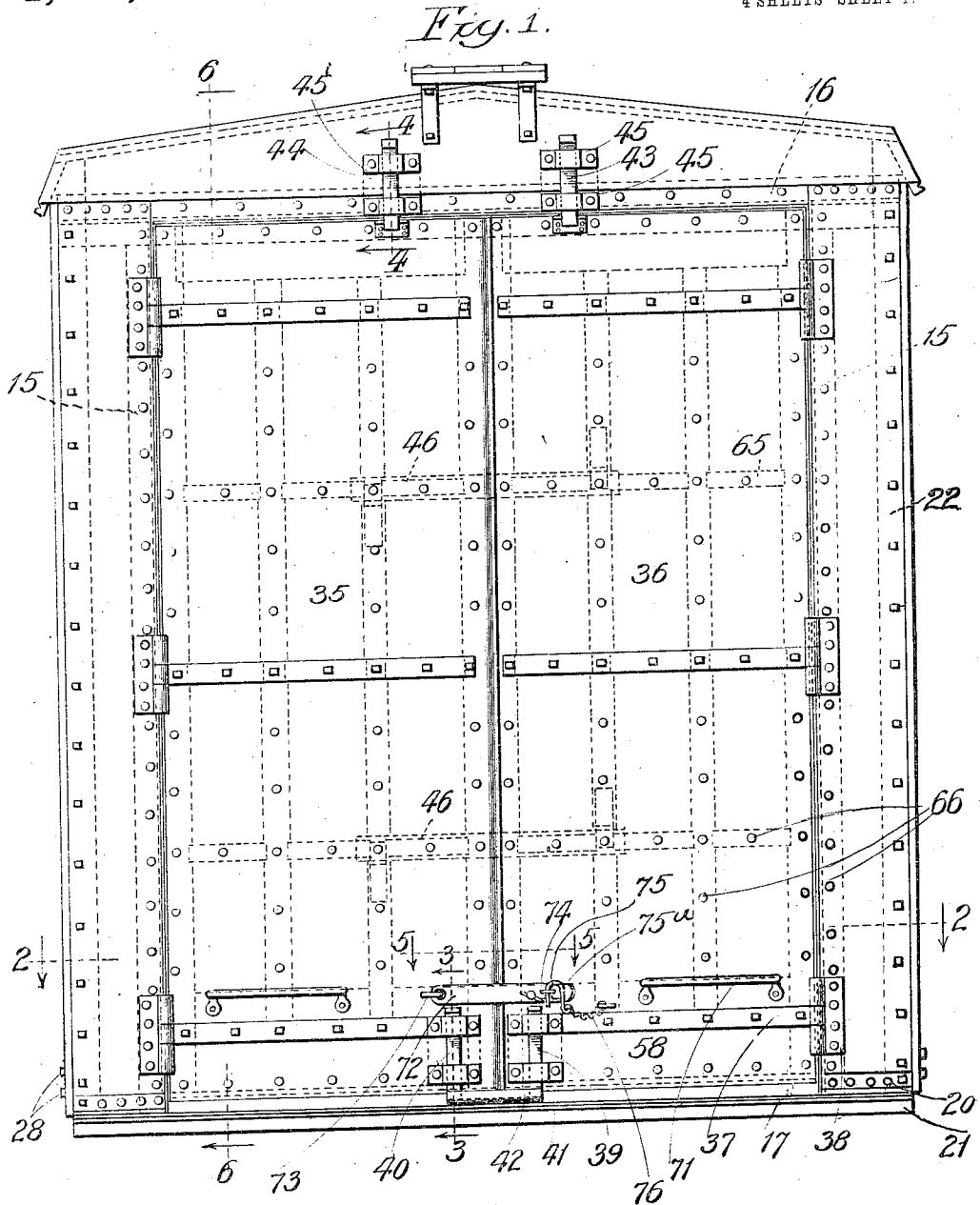


E. POSSON.
END DOOR FRAMING FOR CARS.
APPLICATION FILED MAR. 31, 1910.

1,016,954.

Patented Feb. 13, 1912.

4 SHEETS—SHEET 1.



Witnesses:

John Enders.
Henry A. Parks

Inventor:

Edward Posson.

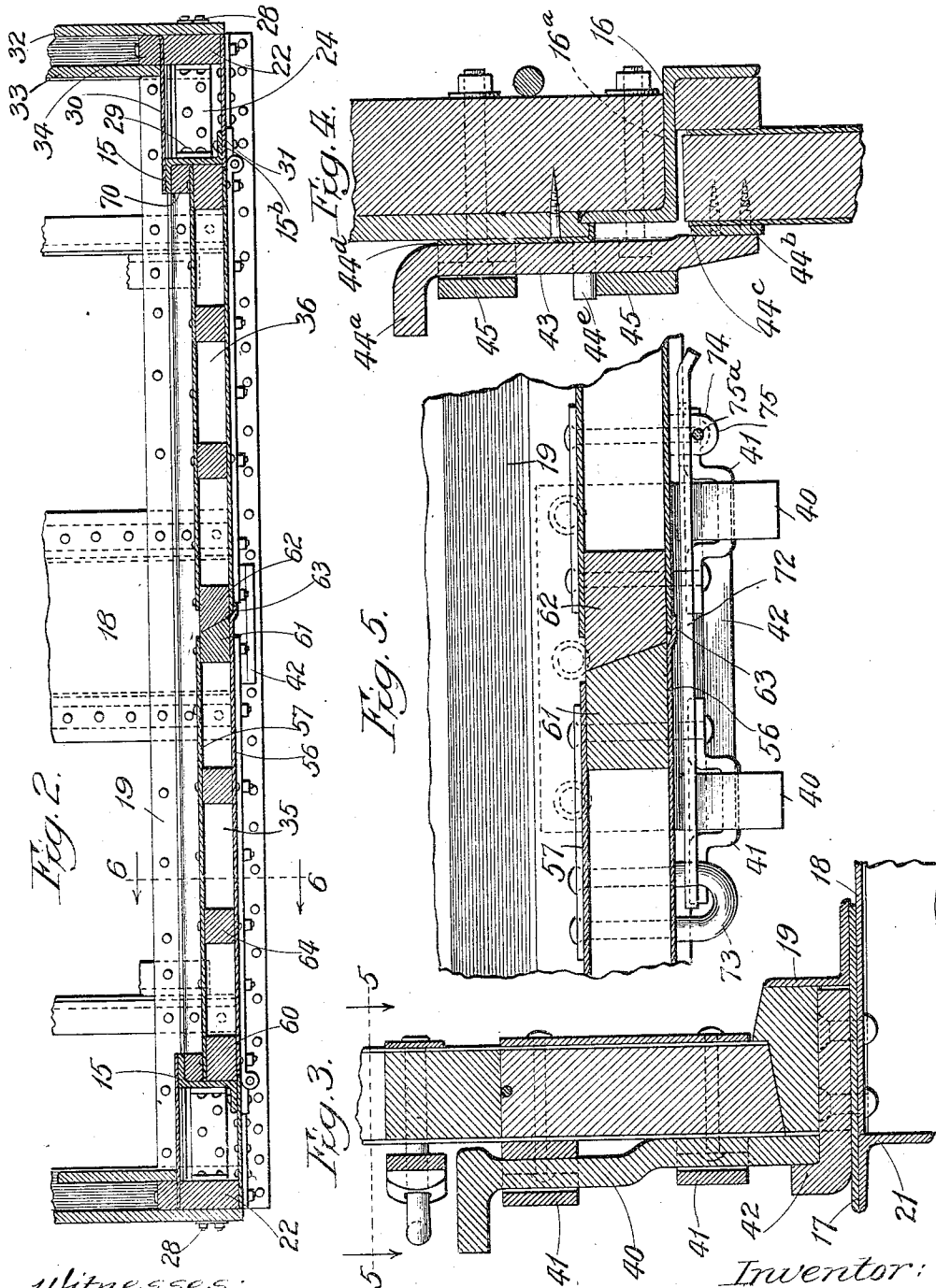
By Sheridan, Wilkinson, Scott & Richmond.
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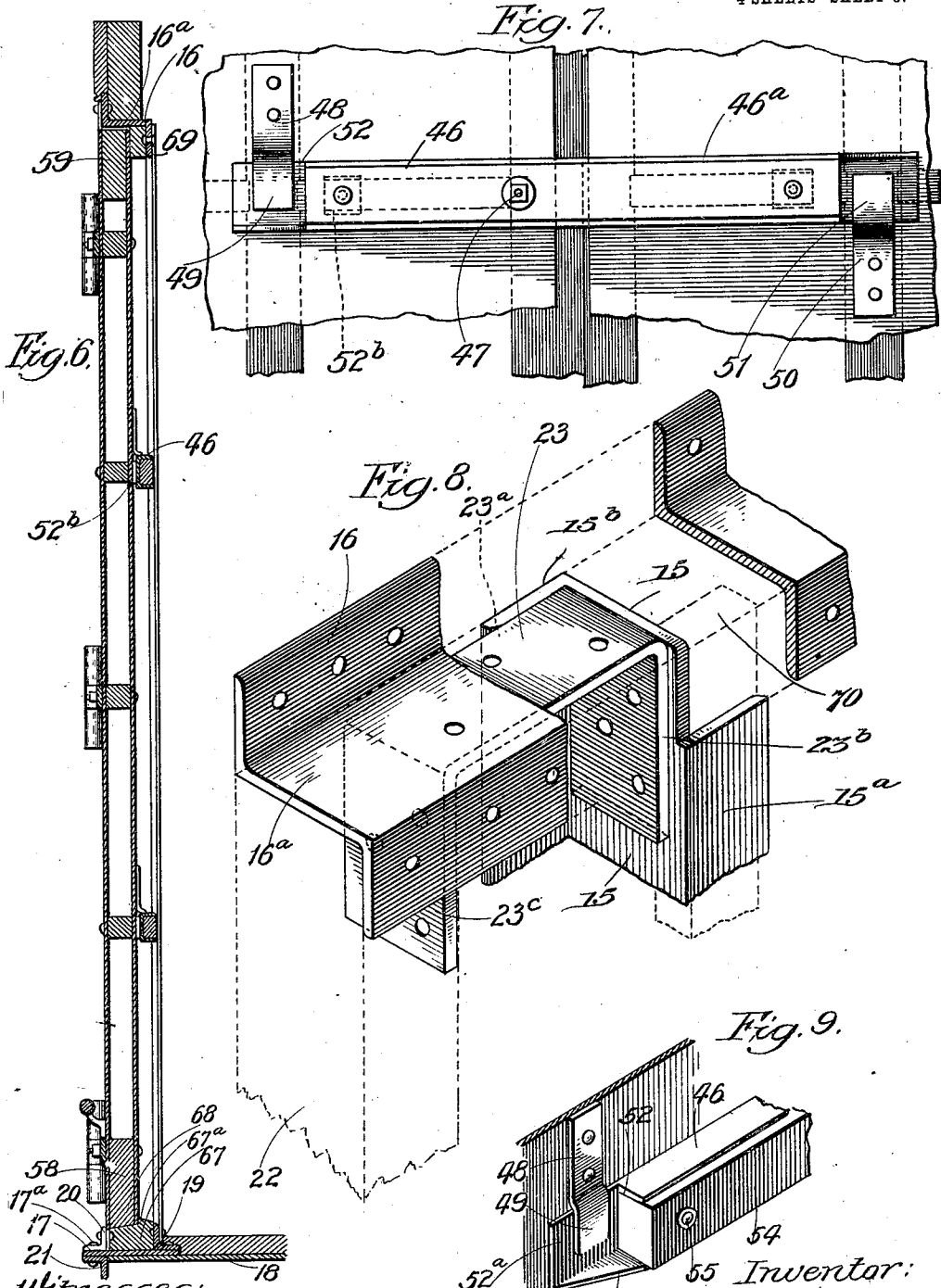
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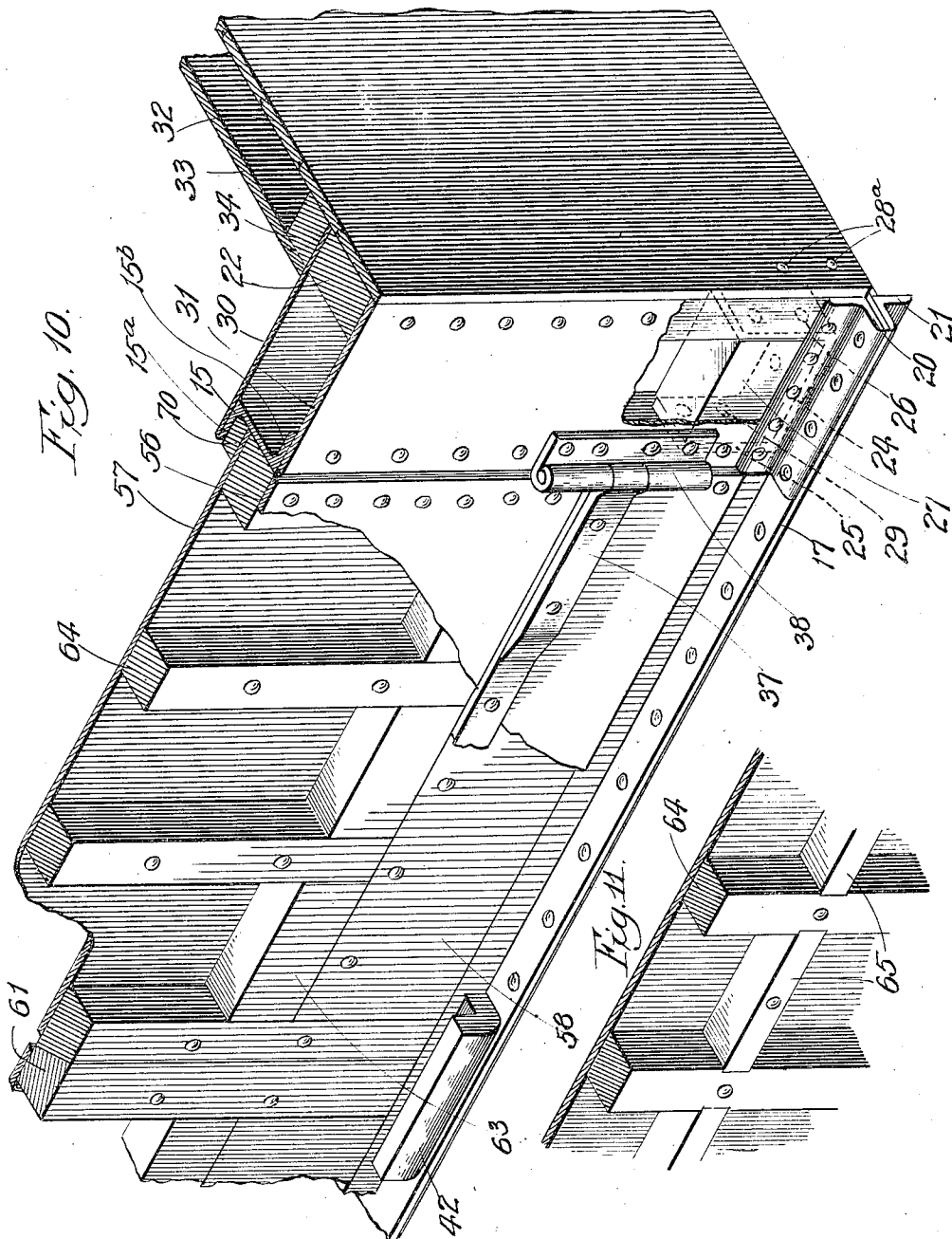
Inventor:
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UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF CHICAGO, ILLINOIS.

END DOOR-FRAMING FOR CARS.

1,016,954.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed March 31, 1910. Serial No. 552,718.

To all whom it may concern:

Be it known that I, EDWARD POSSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in End Door-Framing for Cars, of which the following is a specification.

The object of my invention is to provide a door at the end of such cars as are used for transporting furniture and other merchandise which it is desirable to load upon the car through the end thereof. Many articles, such as automobiles, are much more conveniently placed in the car in this manner. I have also provided suitable end framing for the car to accommodate the said doors. This end framing is especially adapted to support and receive the doors and I preferably use flanged bars for such portion of the frame as immediately surrounds the doors. The flanges of these bars serve very conveniently as door jambs for the doors to rest against in their closed positions. The flanges also are very convenient for the attachment of steel plates of which the end wall of the car is composed. I find that ordinary rolled Z-bars, which are a common commercial product, are especially preferable for these frame members.

Numerous other features and advantages of my improved end wall and end doors will become readily apparent in the following specification, taken in connection with the drawings and will be more specifically pointed out in the claims.

In the drawings—Figure 1 is an end view of a car body to which my improvements have been applied. Fig. 2 is a horizontal section of the end of the car body taken on the line 2, 2 of Fig. 1. Fig. 3 is an enlarged detail giving a sectional view along the line 3, 3 Fig. 1 in the lower part of one of the doors showing more particularly the holding bolt. Fig. 4 is an enlarged detail on the line 4, 4 of Fig. 1 giving a sectional view of the upper part of the door and frame and showing one of the holding bolts. Fig. 5 is a horizontal section along the line 5, 5 of Fig. 1. Fig. 6 is a vertical section along the line 6, 6 of Fig. 1. Fig. 7 is an interior view of a portion of the doors showing one of the locking bars for said doors. Fig. 8 is a perspective view showing a detail of the framework of the end wall. Fig. 9 is a perspective view showing one end of the said lock-

ing bar. Fig. 10 is a perspective view of one of the lower corners of the end wall showing its relation to the side wall of the car, numerous parts being broken away to show the interior construction. Fig. 11 is a perspective view in detail of a portion of the door construction.

In the drawings the reference numerals 15, 15 refer to vertical members spaced a short distance from the side walls of the car to which the doors are hinged. These vertical members 15 are preferably Z-bars having one of their flanges 15^a disposed directly behind the hinged edge of the door. Another Z-bar 16 near the top of the car is disposed transversely of the car body immediately above the ends of the vertical Z-bars 15. Another transverse member 17 consisting preferably of a narrow steel plate is placed across the car immediately below the ends of the vertical members 15. This transverse plate 17 rests upon the main floor plate 18. The angle bar 19 is riveted to the transverse member 17. This angle bar 19 is placed transversely of the car and together with the plate 17 to which it is riveted serves as an efficient frame member. Other short angle bars 20 are placed above the plate 17 at its outer edge and at each side of the door opening. Another angle bar 21 extends the full width of the car and is placed below the outer edge of the plate 17. The angle bars 20 and 21 are riveted to the plate 17 by rivets 17^a. The angle bar 21 also adds its strength to the plate 17. Other vertical frame members 22 immediately adjacent the side walls of the car and preferably of wood extend from the transverse plate 17 at the bottom to the transverse member 16 at the top. It will be seen that the vertical members 15 and 22 are spaced apart. In this space at the top of said members is placed a U-shaped member 23, which is secured to both of said vertical members 15 and 22 and to the transverse member 16. This U-shaped member is formed of a flat bar which has its two ends bent at right angles to its middle portion. Its middle portion 23^a is secured to the web 16^a of the Z-bar 16 and its ends 23^b and 23^c are secured to the vertical members 15 and 22 respectively. A similar U-shaped member 24 is placed between the lower ends of the vertical members 15 and 22 and is secured to the said vertical members and the lower transverse member 17 in a similar manner. The upwardly turned end 25 is

secured to the web of the Z-bar 15 and the other upwardly turned end 26 is secured to the vertical member 22.

Between the upwardly turned ends 25 and 26 is placed a wooden block 27 to hold the bolts 28 in place and prevent their being pushed inwardly while the outer wall boards 32 are being placed in position over their ends. Without this block 27 it would be difficult to place the said wall boards in position without pushing the bolts backwardly in the holes 28^a. The rivets 29 secure the upwardly turned end 25 to the web of the Z-bar 15 and can be placed in position before the other parts are assembled. The inner end wall plate 30 is placed against the flange 15^a of the Z-bar and against the vertical member 22. The outer end wall plate 31 is placed against the outer flange 15^b of the Z-bar 15 and against the outer surface of the vertical member 22. The side walls of the car may be composed of the boards 32 and 33 separated by the spacing pieces 34.

The end doors 35 and 36 of the car are attached to the vertical members 15 by the hinge members 37 and 38. The outer flange 15^b of the vertical Z-bar 15 becomes very convenient for the attachment of said hinge members 38. The bolts 39 and 40 at the bottom of the doors are guided and held in position by the strap bars 41. The lower ends of the bolts 39 and 40 engage the flanged plate 42 and by this means the doors are held securely closed at their lower edges when the bolts 39 and 40 are pushed down. Similar bolts 43 and 44 working in strap bars 45 are provided for holding the upper edges of the doors. These bolts are provided with a forwardly projecting end 44^a by which they can be operated. The upper edges of the doors are provided with plates 44^b having a beveled edge 44^c; said plates serving as a bearing for the lower ends of the bolts when pushed down. Small plates 44^d provide metal seats for said bolts 43, 44. A pin 44^e in each of said bolts serves to limit the downward movement when it strikes one of the guides 45.

In order to more securely hold the doors in closed position I have provided inside locking bars 46 pivoted to one of said doors at 47. These locking bars engage clips 48 and 50 which have raised ends 49 and 51 beneath which the ends of the locking bars 46 are wedged when closed. One of the end portions 46^a of each of said bars is longer than the other in order to permit gravity to assist in holding the said bars in their closed positions.

The bars 46 are composed chiefly of channel bars. These channel bars have their flanges cut away at 52 to permit the entrance of the web 52^a of the channel bar beneath the ends 49 and 51 of the clips 48 and 50.

The other flange of the channel is beveled as shown at 53. A filling block 54 is placed in the channel of said bar 46 and is secured in position therein by rivets 55. The web of the channel bar is spaced from the doors by small plates 52^b which are secured in position by the rivets 55.

The doors 35 and 36 are composed chiefly of two steel plates 56 and 57 which are spaced apart by wood members 58, 59, 60, 61, 62, 63, 64, 65 etc. The wood members 58 are placed at the bottom of said doors between said plates and the member 59 at the tops thereof. The vertical member 60 may be placed at the outer edges of the doors and the vertical member 61 at the inner edge of one door. The member 61 is beveled to fit the corresponding beveled member 62 of the adjacent door. The outer plate 56 of the door 35 is lipped or flanged at 63 in such manner as to properly fit over the edge of the outer plate of the door 36. The wood members 58, 59, 60 and 61 will be seen to serve as an outer framing of the door 35 and at the same time may serve as spacing blocks for the plates 56 and 57. The door 36 is constructed in a similar manner. The interior of said doors have similar spacing pieces 64 arranged in a vertical position and between said members 64 are placed short horizontally disposed spacing blocks 65 having their ends set into notches in the vertical members 64.

All of the above described spacing members are held in position by rivets 66 which pass entirely through both plates 56 and 57 and through the said spacing members. These rivets serve to hold the plates 56 and 57 firmly in position against said spacing members and by this means a very rigid and substantial door is produced with the minimum weight.

Immediately above the transverse member 17 at the bottom of the end wall of the car I place a transverse wooden strip 67 having a vertically disposed flange or shoulder 67^a and a forwardly inclined surface 68. The lower edges of the doors 35 and 36 are slightly beveled to permit them to make a close engagement with the said strip 67, the said lower edges of the doors bearing against the shoulder 67^a when closed. The upper edges of the doors bear against a spacing block 69 which is placed against the inner flange of the Z-bar 16. The vertical outer edges of the doors bear against vertical strips 70 which are placed immediately in front of the inwardly projecting flanges 15^a of the vertical Z-bars 15.

The doors 35 and 36 are provided with handles 71 of a common form. The link or hasp 72 is pivotally attached to the staple 73 on one of the doors and is provided with a slot 74 at the other end which is adapted to receive a similar staple 75 in the other

door. Through the staple 75 may be placed the usual hook or other device 75^a to which the seal is attached. The hook 75^a may be attached to the door by the chain 76.

5 The use and operation of my improved end door will be readily apparent from the preceding description. It will be seen that I have provided a rigid framework about the door, which also serves as a substantial
10 framing for the end wall of the car. The vertical members 15 being made of rolled bars, commonly known as Z-bars, are very convenient for the purpose. The inner flanges of this Z-bar, being disposed in-
15 wardly with respect to the door opening, serve as very convenient door jambs. The inner flange is also very convenient for the attachment of the inner wall plates. The outer flange of said Z-bar is also convenient
20 for the attachment of the outer wall plates.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto as I contemplate changes in form
25 and the proportion of parts and the substitution of details as circumstances may suggest or render expedient without departing from the spirit of my invention.

I claim:

30 1. An end framing for a car comprising vertical frame members spaced from the side walls of said car and abutting a horizontal frame member at their upper ends, said horizontal member extending beyond
35 the upper extremities of said vertical members, and having a downwardly projecting flange to serve as a lintel for a door.

2. An end framing for a car comprising vertical frame members spaced from the
40 side walls of said car and abutting a horizontal frame member at their upper ends, said horizontal member extending from side to side of the car, and having a downwardly projecting flange to serve as a lintel
45 for a door.

3. An end framing for cars comprising vertical frame members spaced from the side walls of the car, a transverse frame member overlying the ends of said vertical
50 members at the top and having a downwardly projecting flange to serve as a lintel for a door, and a transverse frame member upon which said vertical members rest at their lower ends.

55 4. An end framing for cars comprising vertical flanged bars spaced from the side walls of the car, vertical bars adjacent the side walls of the car, a flanged bar overlying the upper ends of all of said vertical bars,
60 U-shaped members between said flanged bars and said outer bars joined to both said bars and to the overlying bar for securing said parts together, and metal plates spaced apart and secured to the flanges of said bar
65 on both sides of said bars.

5. An end framing for cars comprising vertical flanged bars spaced from the side walls of the car, vertical bars adjacent the side walls of the car, a flanged bar overlying the upper ends of all of said vertical bars,
70 a transverse horizontal member underlying the lower ends of said bars, U-shaped members between said flanged bars and said outer bars joined to both said bars and to the overlying bar and underlying member
75 respectively for securing said parts together, and metal plates spaced apart and secured to the flanges of said bars on both sides of said bars.

6. An end frame for cars comprising ver- 80
tical flanged bars spaced from the outer walls of the car, each of said bars having a flange projecting inwardly and adapted to serve as a door jamb, and a transverse
85 flanged bar overlying the upper ends of said bars and having a downwardly projecting flange adapted to serve as a door lintel.

7. An end frame for cars comprising ver- 90
tical flanged bars spaced from the outer walls of the car, each of said bars having a flange projecting inwardly and adapted to serve as a door jamb, and a transverse
95 flanged bar overlying the upper ends of said bars and having a downwardly projecting flange adapted to serve as a door lintel, and metal plates secured to said flanges and extending outwardly therefrom to form an end wall for said car around a central door opening.

8. An end frame for cars comprising ver- 100
tical flanged bars spaced from the outer walls of the car, each of said bars having a flange projecting inwardly and adapted to serve as a door jamb and a transverse
105 flanged bar overlying the upper ends of said bars and having a downwardly projecting flange adapted to serve as a door lintel, said vertical and transverse bars also having another oppositely disposed flange projecting
110 outwardly, and metal plates secured to said flanges on both sides of said bars and extending outwardly therefrom to form a double end wall for said car around a central door opening.

9. In a car, an end framing comprising a 115
vertical bar spaced from the side wall of the car, a vertical bar adjacent the side wall of the car, a metal connecting piece between said bars having ends bent to lie flatwise against said bars, and bolts for securing
120 said side wall, said adjacent bar, and said connecting piece together, said connecting piece being secured to said first-named vertical bar.

10. An end framing for a car comprising 125
vertical frame members spaced from the side walls of said car and abutting a horizontal frame member at their upper ends, said horizontal member extending beyond the upper extremities of said vertical members 130

and having a downwardly projecting flange to serve as a lintel for a door, and a door associated with said framing.

11. An end framing for a car comprising 5 vertical frame members spaced from the side walls of said car and abutting a horizontal frame member at their upper ends, said horizontal member extending from side to side of the car and having a downwardly 10 projecting flange to serve as a lintel for a door, and a door associated with said framing.

12. An end framing for cars comprising vertical frame members spaced from the side 15 walls of the car, a transverse frame member overlying the ends of said vertical members at the top and having a downwardly projecting flange to serve as a lintel for a door, a transverse frame member upon which said 20 vertical members rest at their lower ends, and a door associated with said framing.

13. An end framing for cars comprising vertical flanged bars spaced from the side 25 walls of the car, vertical bars adjacent the side walls of the car, a flanged bar overlying the upper ends of all of said vertical bars, U-shaped members between said flanged bars and said outer bars joined to both said 30 bars and to the overlying bar for securing said parts together, metal plates spaced apart and secured to the flanges of said bars on both sides of said bars, and a door associated with said framing.

14. An end framing for cars comprising 35 vertical flanged bars spaced from the side walls of the car, vertical bars adjacent the side walls of the car, a flanged bar overlying

the upper ends of all of said vertical bars, a transverse horizontal member underlying the lower ends of said bars, U-shaped mem- 40 bers between said flanged bars and said outer bars joined to both said bars and to the overlying bar and underlying member respectively for securing said parts together, metal plates spaced apart and secured to the 45 flanges of said bars on both sides of said bars, and a door associated with said framing.

15. An end frame for cars comprising vertical flanged bars spaced from the outer walls 50 of the car, each of said bars having a flange projecting inwardly and adapted to serve as a door jamb, a transverse flanged bar overlying the upper ends of said bars and having a downwardly projecting flange adapted to 55 serve as a door lintel, and a door associated with said framing.

16. In a car, an end framing comprising a vertical bar spaced from the side wall of the car, a vertical bar adjacent the side wall of 60 the car, a metal connecting piece between said bars having ends bent to lie flatwise against said bars, bolts for securing said side wall, said adjacent bar, and said connecting piece together, said connecting piece being 65 secured to said first named vertical bar, and a door associated with said framing.

In testimony whereof, I have subscribed my name.

EDWARD POSSON.

Witnesses:

HENRY A. PARKS,
EDYTHE M. ANDERSON.