F. S. INGOLDSBY.

CAR.

APPLICATION FILED JULY 2, 1907.

973,788.

Patented Oct. 25, 1910.

2 SHEETS—SHEET 1.

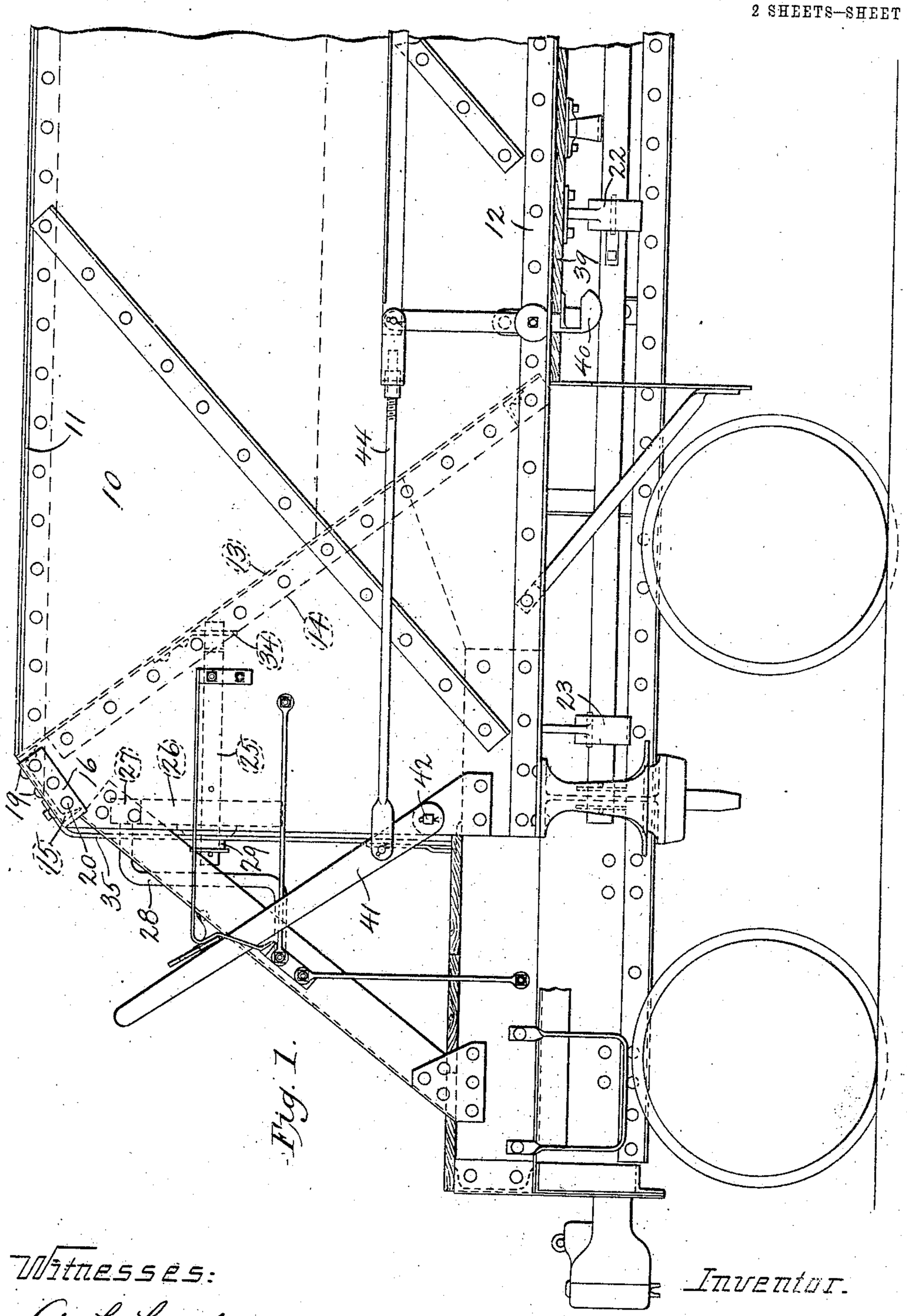


Fig. 1.

Witnesses:

A. L. Lord.

T. Brennan Bowes.

Inventor.

Frank S. Ingoldsby,

By Bakewell, Ford & Hull,

Attorneys.

F. S. INGOLDSBY.

CAR.

APPLICATION FILED JULY 2, 1907.

973,788.

Patented Oct. 25, 1910.

2 SHEETS—SHEET 2.

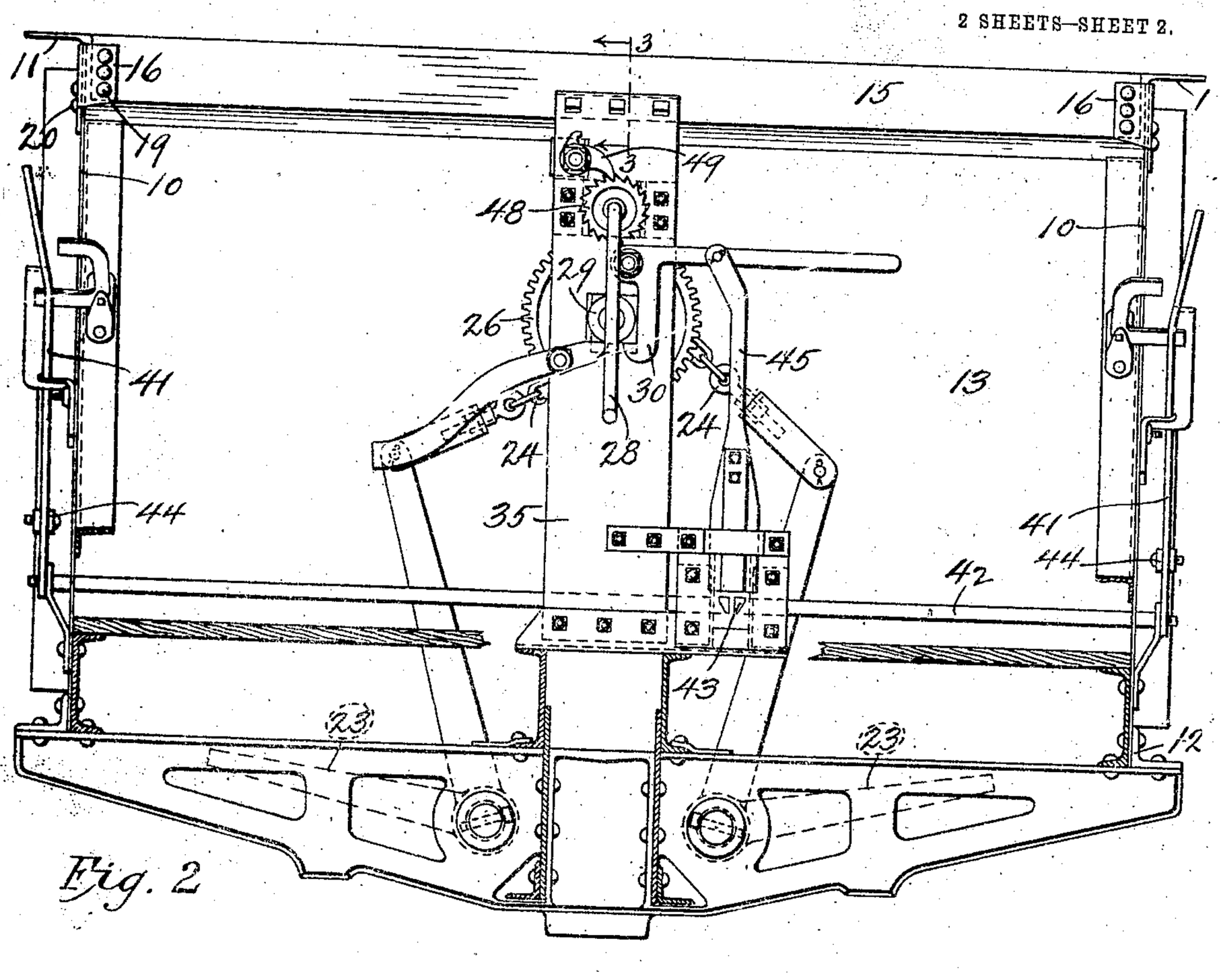


Fig. 2

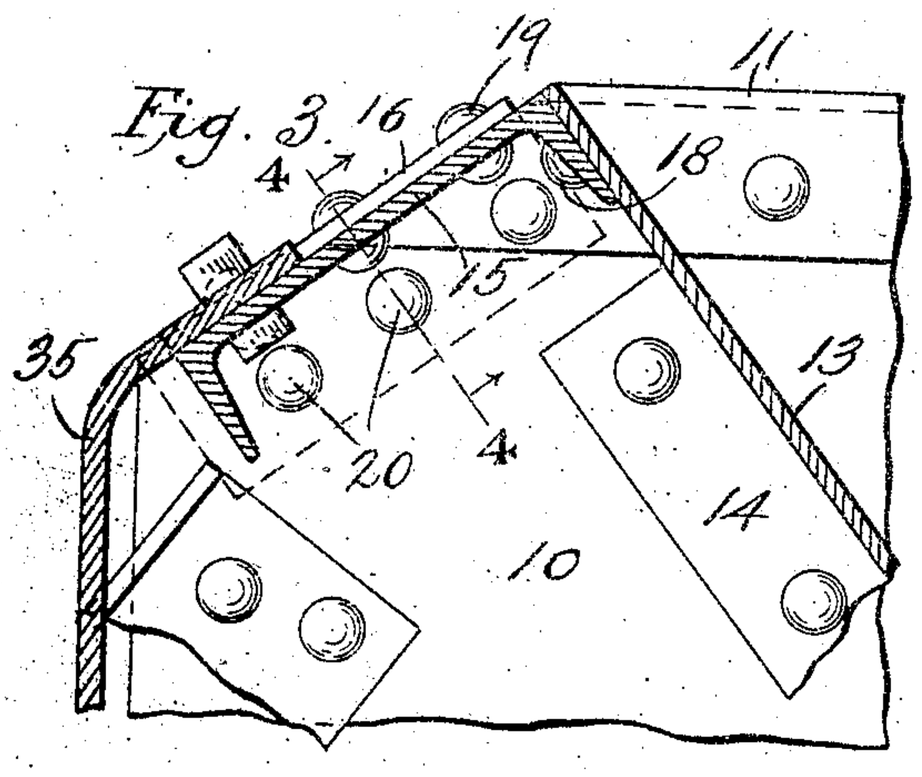
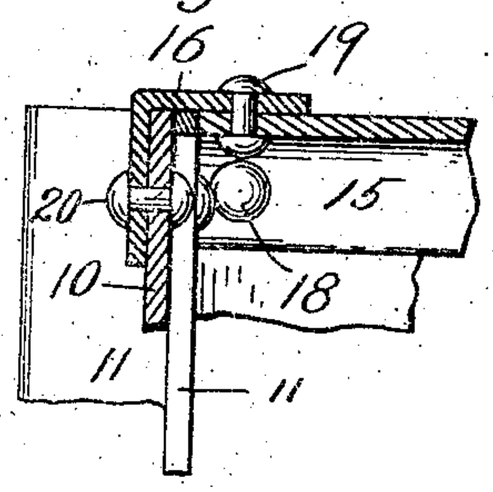


Fig. 4.



Witnesses:

A. L. Lord.

Brannan Barker

Inventor.

Frank S. Ingoldsby.

By Bakewell, Gould & Hull,

Attorneys.

UNITED STATES PATENT OFFICE.

FRANK S. INGOLDSBY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE INGOLDSBY AUTOMATIC CAR COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF WEST VIRGINIA.

CAR.

973,788. Specification of Letters Patent. **Patented Oct. 25, 1910.**

Application filed July 2, 1907. Serial No. 381,903.

To all whom it may concern:

Be it known that I, FRANK S. INGOLDSBY, a citizen of the United States, residing at St. Louis, State of Missouri, have invented a certain new and useful Improvement in Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to the end construction of car bodies and particularly to the cross member at the top of such ends. The object is to provide this cross member in a form which shall be stiff, strong, cheaply constructed, and so arranged as to shed any material falling on it.

The invention is especially well adapted for dump cars having inclined end floors, wherein my cross member serves the double purpose of supporting such end floor and protecting the mechanism beneath it which is associated with the dumping operations. In cars of the Ingoldsby type having a central longitudinal member to which are hinged dropping doors which support the load, this mechanism beneath one of the end floors is for the purpose of raising the dropped doors.

The invention is hereinafter more fully explained and its essential characteristics set out in the claims.

In the drawings, Figure 1 is a side elevation of a portion of a car embodying my invention. Fig. 2 is a sectional end view of such a car. Fig. 3 is an enlarged cross section through the upper member of the end parallel with Fig. 1. Fig. 4 is a section, taken on the line 4—4 of Fig. 3 and showing a portion of the upper member and adjacent car side.

In the drawings, the car side is shown as a plate girder having a plate 10, and upper chord 11, and a lower chord 12.

13 represents the inclined end floor of the car which is shown as having downward flanges 14 at its edges riveted to the car sides.

My cross member at the top of the ends includes the channel member 15 which extends across the car abutting the inner sides of the side plates. These channels are located just beyond the end floors and are placed with their webs and flanges inclining, as shown, the flanges being parallel with the end floor. The inner flange of the channel lies against the under face of the end floor, and the end floor is riveted to this flange by rivets 18, so that the channel makes a very stiff and firm support for the upper end of this floor. At its ends the channel 15 is secured to the car sides by cover plates 16 which extend onto the upper face of the web of the channel and then bend downwardly on the outer side of the car, being riveted to both the channel web and the car side, by rivets 19 and 20 respectively.

My door raising mechanism, as shown in the drawings, comprises shafts 21 carrying raising arms 22, there being operating arms 23 on these shafts from which lead chains 24 winding around the shaft 25. This shaft carries a gear 26 with which meshes a pinion 27 on the crank shaft 28. The inner end of the shaft 25 is supported by a suitable bracket 34 carried by the under side of the end floor, while the outer end of this shaft is journaled in a block 29 which is supported by a latch 30. This latch 30 and the crank 28 are both carried by a vertical plate 35, the upper end of which is bent over and bolted to the web of the cross channel 15.

It will be seen from the above construction that the inclined channel 15, in addition to supporting the end floor, protects the winding mechanism and forms a downwardly inclined deflecting surface tending to throw off any material coming from chutes, steam shovels, etc.

As shown, the dumping doors 39 are adapted to be held in closed position by side hooks 40 which are connected by links 44 with releasing levers 41. When either lever 41 is thrown it operates a corresponding rock shaft 42 which, through a short rock arm 43, raises a link 45 and withdraws the latch 30 from beneath the block 29. This causes disengagement between the gear 26 and the pinion 27 just preceding the dropping of the doors. A ratchet 48 is carried by the crank shaft and a pawl 49 by the plate 35 to hold the gain made by the crank in raising the doors.

The door raising and releasing mechanism above described is a construction common in Ingoldsby cars and is covered by my prior patents and applications.

Having thus described my invention, I claim:

1. In a car, the combination of a cross

member for the upper portion of the car end comprising a channel beam set at an angle, and an inclined end floor at substantially the same angle and riveted thereto.

2. In a car, the combination of a cross member for the upper portion of the car end comprising a channel beam with its flanges facing downwardly diagonally and its web inclined downwardly toward the end of the car.

3. In a car, the combination of a cross member for the upper portion of the car end comprising a channel beam with its flanges facing downwardly diagonally and its web inclined downwardly toward the end of the car, and door raising mechanism located beneath and protected by said channel member.

4. In a car, the combination of a cross member for the upper portion of the car end comprising an inclined channel beam, an inclined end floor riveted thereto and angle straps at the ends of the channels riveted to the web of the channel and to the car sides.

5. In a dump car, the combination with the inclined end floor of a flanged rolled structural member extending crosswise of the car at the top of its end and adjacent to the upper end of such end floor and secured to the car sides and having a flange parallel with the end floor and engaging its underside and secured to it.

6. In a dump car, the combination of an inclined end floor, of a channel beam extending crosswise of the car adjacent to the upper end of said end floor and having a flange parallel with the end floor and riveted to it.

7. In a dump car, the combination of an inclined end floor, of a channel beam extending crosswise of the car adjacent to the upper end of said end floor and having a flange parallel with the end floor and riveted to it, said channel having its web extending diagonally downwardly toward the end of the car, and door raising mechanism occupying the space beneath the end floor and protected by such channel beam.

8. In a car, the combination of an inclined end floor, a cross channel beam extending from one car side to the other beyond the end floor, said channel beam abutting the car side and secured to it by angle straps riveted to the car side and the channel beam, said channel beam having its web inclined downwardly toward the end of the car at right angles to the end floor and having its flanges projecting in a general downward direction from the web, one of said flanges engaging the underside of the end floor near its upper end and being riveted to it.

9. In a car, the combination of an inclined end floor, a cross channel beam extending from one car side to the other beyond the end floor, said channel beam abutting the car side and secured to it, said channel beam having its web inclined downwardly toward the end of the car and having its flanges projecting in a generally downwardly direction from the web, one of said flanges engaging the underside of the end floor near its upper end and being riveted to it, a vertical plate having its upper end bent over on the web of a channel and secured to it, and a door raising mechanism located partly in the space beneath the inclined end floor and carried partly by said plate and protected by said channel beam.

10. In a car, the combination of an inclined end floor, a cross channel beam extending from one car side to the other beyond the end floor, said channel beam abutting the car side and secured to it by angle straps riveted to the car side and the channel beam, said channel beam having its web inclined downwardly toward the end of the car at right angles to the end floor and having its flanges projecting in a generally downwardly direction from the web, one of said flanges engaging the under side of the end floor near its upper end and being riveted to it, a vertical plate having its upper end bent over on the web of a channel and secured to it, a door raising mechanism located partly in the space beneath the inclined end floor and carried partly by said plate and protected by said channel beam.

11. In a car, the combination of a cross member in the form of a channel beam, an inclined end floor secured to said channel beam at one side, and an upright member secured to the channel beam at the other side intermediate of its end.

12. In a dump car, the combination with a car side and an inclined end floor, of a rolled structural form which constitutes both the top of the car end and the inclined support for the end floor.

13. In a car, the combination with a cross member, an inclined end floor secured thereto, an upright member also secured thereto, and raising mechanism supported by said upright member.

14. In a car, the combination of a cross member at the top of the car edge, an inclined floor secured thereto, a member beyond said floor secured to the cross member and depending therefrom, and a raising shaft carried by the depending member and the end floor.

15. The combination of an inclined end floor, an angularly projecting supporting member therefor, and raising means mounted beneath such member.

16. In a dump car, the combination with the inclined end floor, of a flanged rolled structural member extending across the car adjacent the upper end and riveted to the

inclined floor, a portion of said structural member being wide and extending away from the end floor to form a cover.

17. In a car, the combination with the end floor, of an angular member extending across the car, one side of said member being riveted to the end floor, another side of said member being widened and extending away from the end floor, and door operating mechanism supported beneath the extending portion of the cross member.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

FRANK S. INGOLDSBY.

Witnesses:
L. E. Booth,
C. L. Bremerman.