

No. 861,552.

PATENTED JULY 30, 1907.

E. W. SUMMERS.

CAR.

APPLICATION FILED MAY 19, 1906.

3 SHEETS—SHEET 1.

2 → Fig. 1.

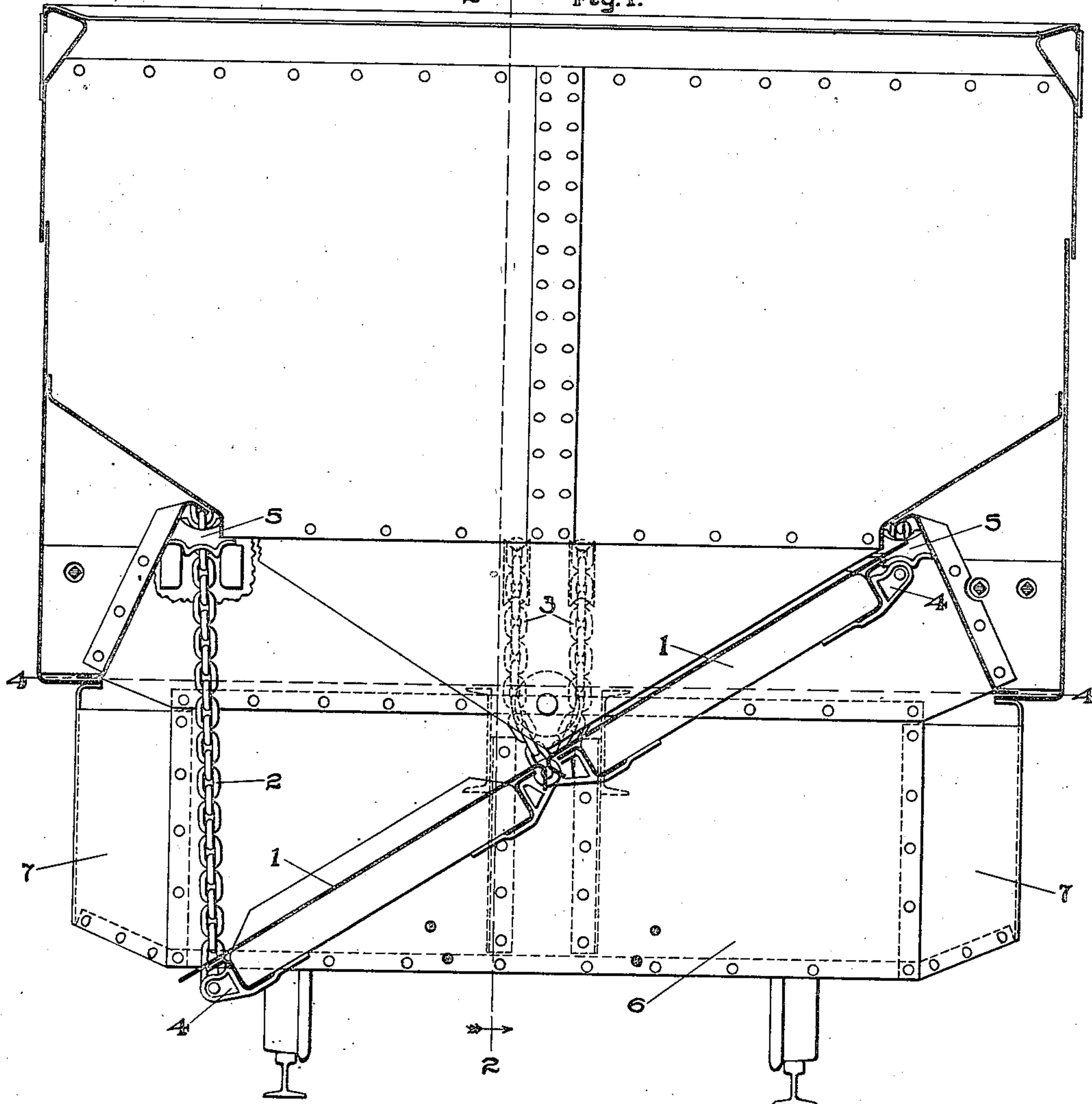
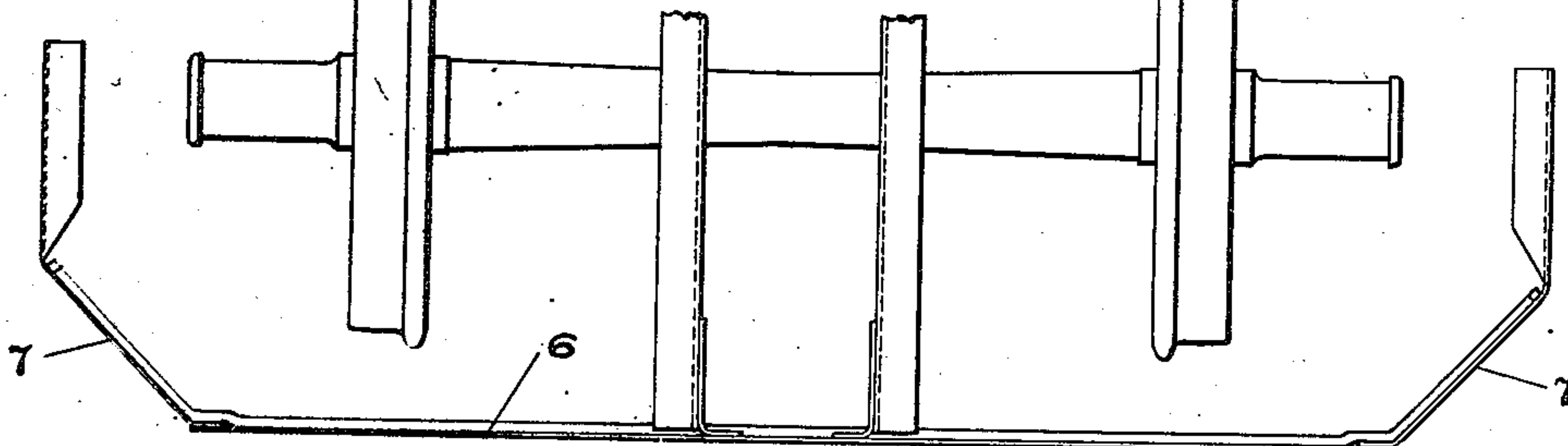


Fig. 4.



WITNESSES:-

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Fig. 2.

3 SHEETS—SHEET 2.

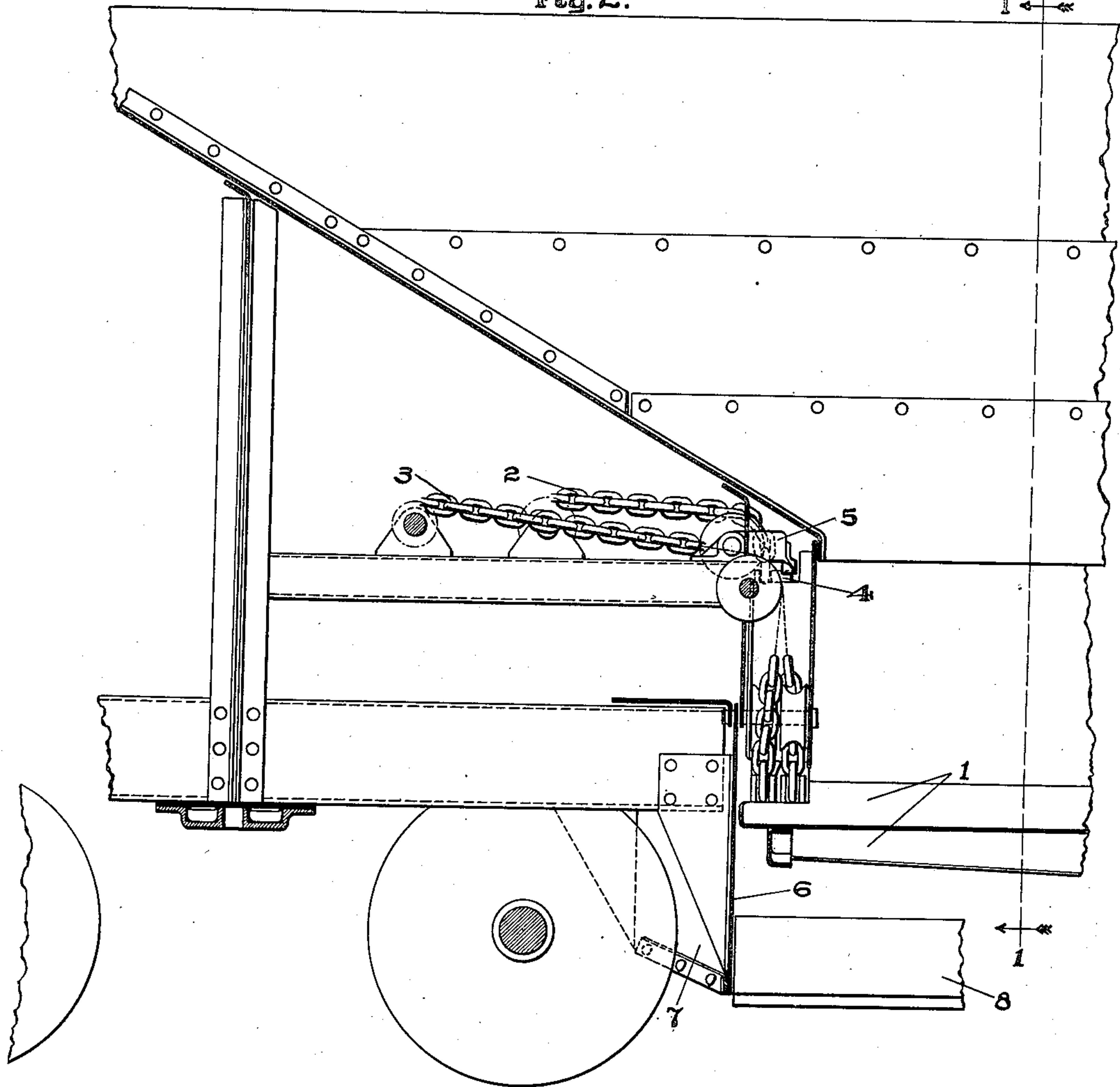


Fig. 5.

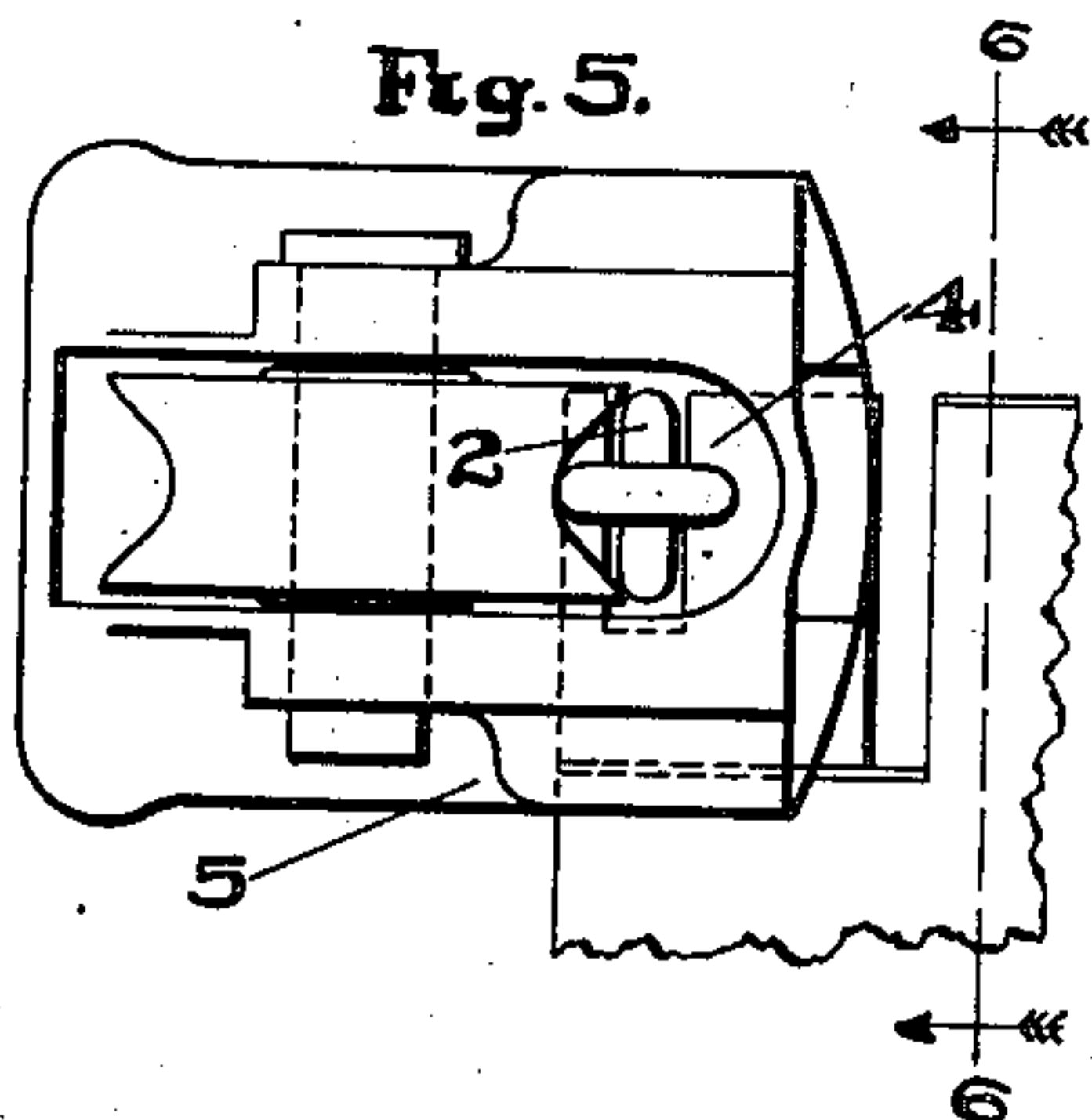
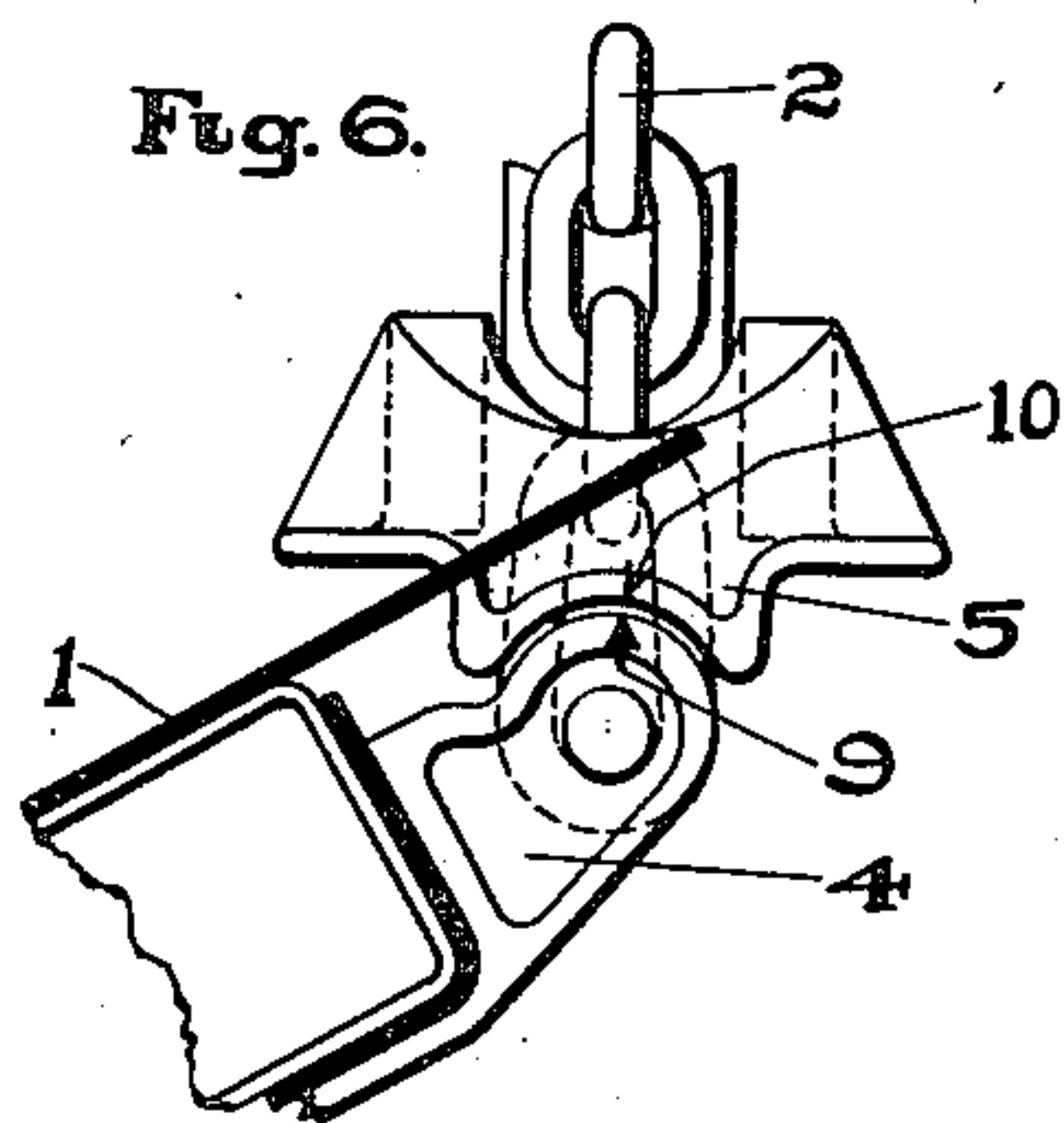


Fig. 6.



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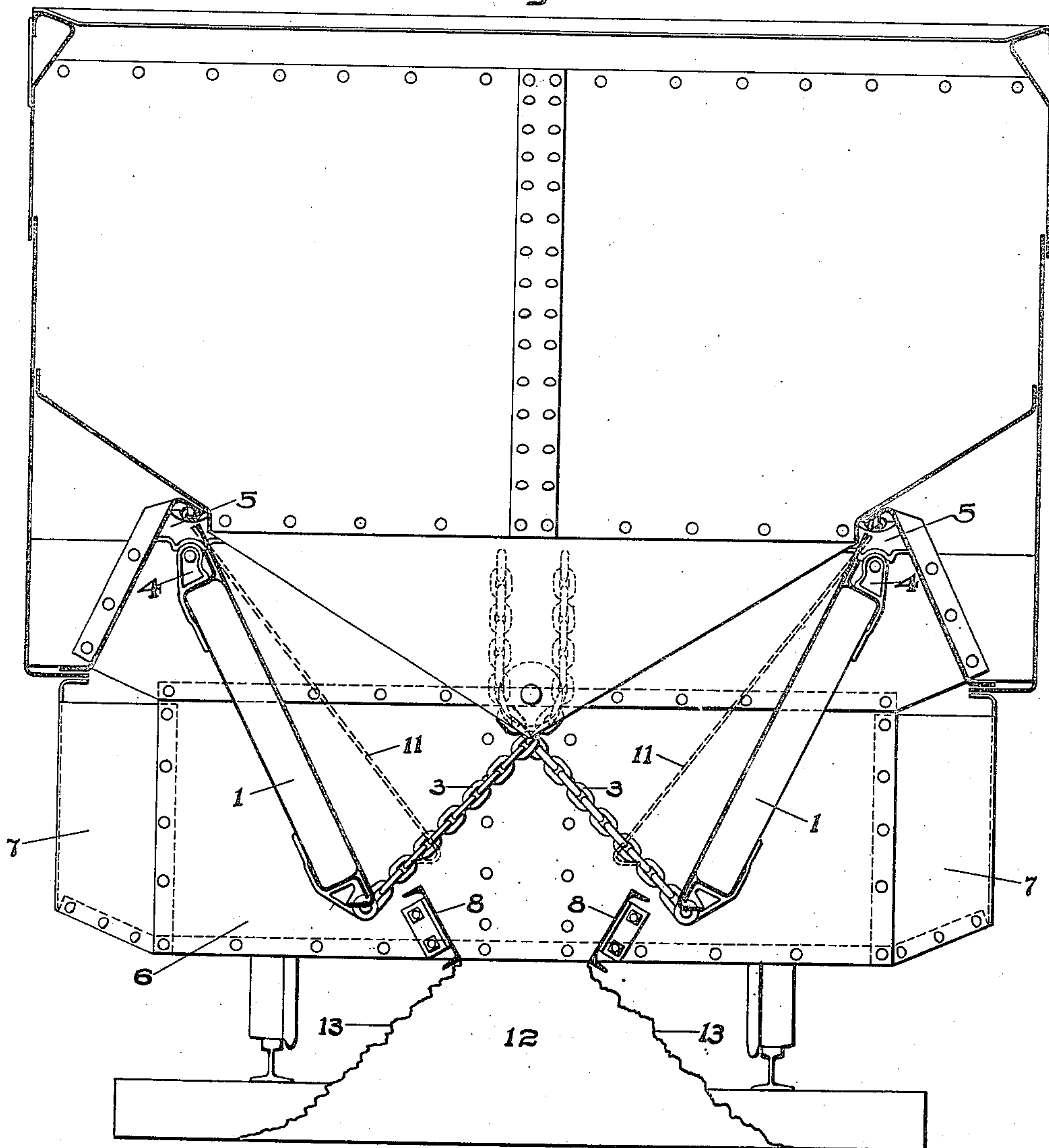
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

EDGAR WEBSTER SUMMERS, OF WILKINSBURG, PENNSYLVANIA.

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No. 861,552.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed May 19, 1906. Serial No. 317,833.

To all whom it may concern:

Be it known that I, EDGAR WEBSTER SUMMERS, of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful
5 Improvement in Cars, of which improvement the following is a specification, reference being had to the accompanying drawings, forming part of this specification, in which;

10 Fig. 1 is a vertical cross section taken in line 1—1 in Figure 2.

Fig. 2 is a partial longitudinal section taken in a vertical plane near the center line of the car, as in line 2—2 in Fig. 1.

15 Fig. 3 is a vertical cross section taken in the same plane as Fig. 1, but with the doors shown opened to the center.

Fig. 4 is a sectional plan view taken in line 4—4 in Fig. 1.

20 Fig. 5 is a plan view of the chain guide and hinge centering device for the outside door supporting chains.

Fig. 6 is a side elevation of hinge centering device, showing a portion of the door and taken in line 6—6 in Fig. 5.

25 My invention relates to the class of cars having drop bottoms for discharging the load and is designed to provide a simple and efficient means of discharging the load all in the center between tracks or all outside of rail on either side and to spread the load when discharged between the rails or to push it outward when
30 discharged outside of the rails and thereby prevent the material from falling on the track and obstructing the pathway of the wheels.

The arrangement of the car and of the doors and door mechanism is designed along lines brought out in my
35 Patent No. 778,384, Dec., 27th, 1904. Some of the improvements in this present application being, 1st., the hinge centering device for the outer edge of the doors. 2nd., the fender plates at the ends of the doors for the prevention of an overflow of material at the ends when
40 the doors are lowered and for distributing and spreading the material after its discharge. 3rd., the throttling beams for checking the flow and controlling the amount of flow when discharging material in the center, between rails.

45 In the drawing, I show the doors 1, the outer support-chains 2, the inner supporting chains 3, the outer hinge lug 4, the chain guide and hinge centering device 5, the fender plate 6, with its sloping end portion 7, the throttling beams 8.

50 The door chains 2, at the outer edge of the door pass through the hinge centering device 5, and drawing the door-hinge-lug 4 with its convex surface 9 in contact with the concave surface 10 of the centering device 5, permits the inner edges of the doors to be lowered as
55 shown in Figure 3. This construction serves to retain

the outer edges of the doors in their hinge centered position, and also to permit the outer edge of a door to be lowered as shown in Figure 1, and to be returned to its closed position, by any means whereby the chains 2
60 are drawn in and let out. A means is thus provided for centering the hinge at the outer edge of the door while the inner edge is being opened, and for releasing the hinge at the outer edge and opening that portion while the inner support is acting as a hinge.

The hinge centering device 5 is preferably made of
65 cast metal, but may be made of any material.

The fender plate 6 is arranged transversely of the car, with its major portion extending in a vertical plane and at right angles with the hinge axes of the doors, and with its end portions 7 extending at an angle with
70 its major portion, and preferably in a vertical plane, the angular direction being away from the door and the door opening for the purpose of pushing or plowing a mass of discharged material outward from the car track by the car moving along the track while the load is being discharged.
75

The throttling beams 8 shown in section in Fig. 3 and in partial longitudinal elevation in Fig. 2 are purposely omitted in Figs. 1 and 4, and extend from fender plate 6 near one end of the car to a corresponding fender
80 plate near the other end of the car, the car being by preference symmetrical in this respect about its transverse center line. The throttling beams 8 are located at such a height above the track and have such distance between the beams taken transversely of the track that
85 materials discharged from the car by opening the doors 1 in the center to any position 11 as shown by dotted lines in Fig. 3 will cause the materials to lodge in some position 12 as shown by irregular lines 13 in Fig. 3, leaving the track rails free of obstruction by the discharged materials. The said throttle beams 8 have
90 also a position which leaves an open space between the lower edge of door 1 and the top edge of beam 8 which will permit the insertion of a bar to dislodge any material that may bridge the opening and check the flow.
95

For the sake of clearness the doors 1 are shown in Fig. 1 with one of them in its closed position and the other one in its open position for outside dumping, but either door may be lowered or raised at its outer edge independent of the other or both doors may be lowered
100 or raised at their inner edge simultaneously.

Many changes may be made in the form, arrangement and number of doors, position and shape of the hinge centering device, location or shape of the throttling beams, position, extent or angular location of
105 fender plate without departing from my invention.

I claim:—

1. In a car, a hinge member on a door which is releasable from its hinging position, and a hinge centering member fixed on the car, one of such members having a
110

- convex surface and the other of such members having a cooperating concave surface.
2. In a car, a hinge on a door which is releasable from its hinging position, and an open sided pocket fixed on the car for centering the door hinge lug.
3. In a car, a door having a movable support for its hinge, a hinge centering device fixed on the car, the said hinge centering device having an open sided pocket which is concentrically arranged around the hinge center, to permit of the removal of the hinge from the pocket.
4. In a car, a fender extending transversely of the car for its middle portion, its end portions extending at an angle between the transverse and longitudinal direction of the car, and a door opening positioned for discharging materials to the side of the car and adjacent the end portion of the fender, which materials may be moved outward from the car by the action of the inclined fender when the car is moved along its line of travel.
5. In a car, a fender having a position at an angle with a longitudinal line of the car, a door opening in the car positioned for discharging material outside of the car tracks, which material may be moved transversely of the car by the action of the inclined fender when the car is moved along its line of travel.
6. In a car, a pair of throttling beams having a location under and longitudinally of the car, and a door opening for discharging material between the throttling beams, the throttling beams being located in position to control the flow of the material.

7. In a car, a pair of beams located longitudinally of the car and near the car track surface, the beams being separated to permit of a discharge of material between the beams, a door opening above the beams, and a space between the door and beams when the door is open, for the purpose set forth.

8. In a center dumping car, a pair of doors hinged on longitudinal axes, the doors opening at the center line of the car, a pair of beams arranged under the door opening, with an open space between the beams, the lower edges of the beams being at such a height above the car track as to check the lateral flow of discharged granular materials and heap it away from the rails.

9. The combination with a dump car adapted to discharge at the side and at the center, of a fender comprising a central portion extending across the car at substantially a right angle to the axis of the car and an obliquely extending end portion.

10. The combination with a dump car provided at its lower portion with a door adapted to swing laterally to permit of a discharge to the side of the car, of a fender extending across the car adjacent the end of the door at substantially a right angle to the axis of the car and provided with an obliquely extending end portion.

In testimony whereof, I have hereunto set my hand.

EDGAR WEBSTER SUMMERS.

Witnesses:

CHARLES BARNETT,
R. N. LOWRY.