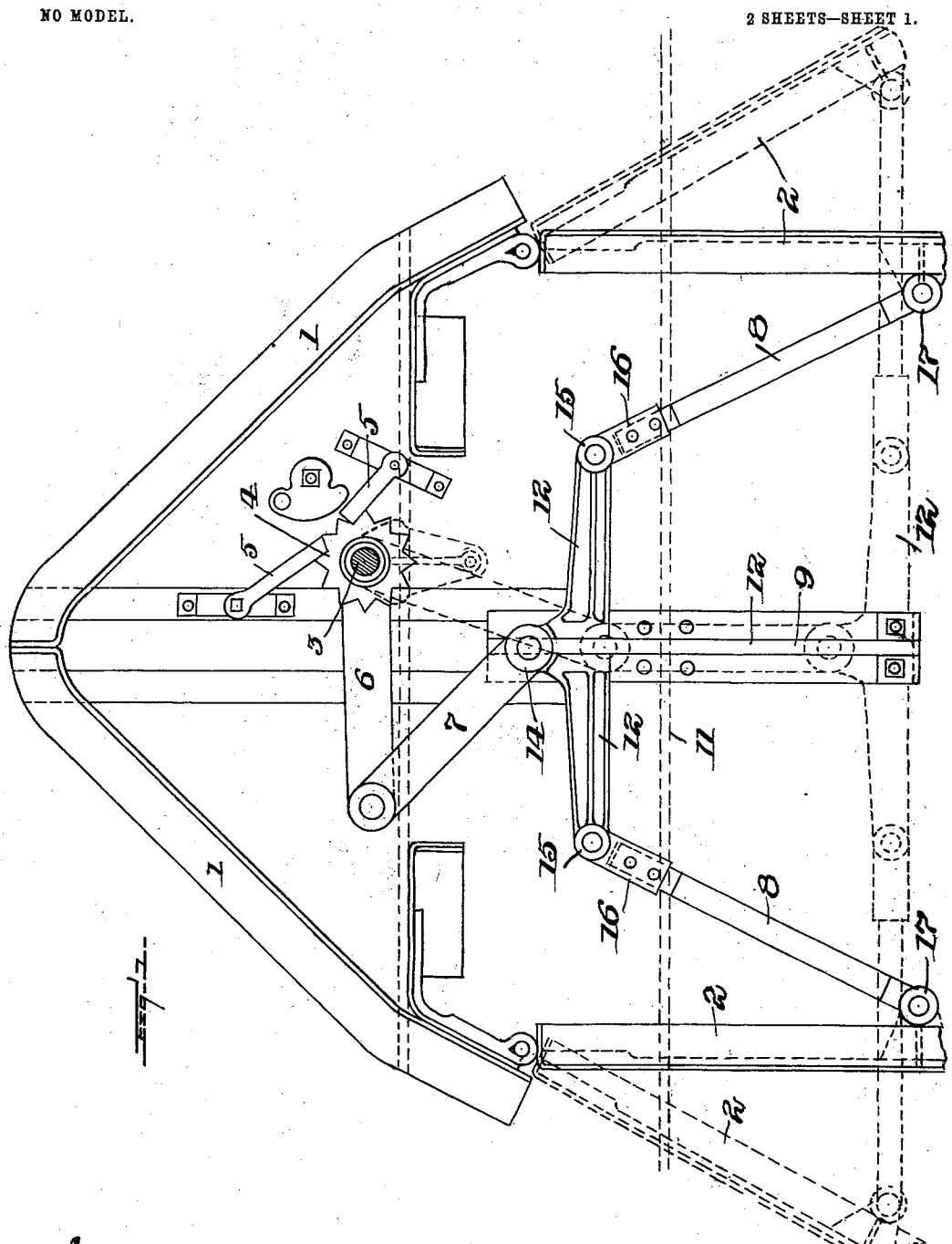
No. 732,425. PATENTED JUNE 30, 1903.

C. W. MOURER.

CAR CONSTRUCTION.

APPLICATION FILED SEPT. 5, 1902.

NO MODEL. 2 SHEETS—SHEET 1.



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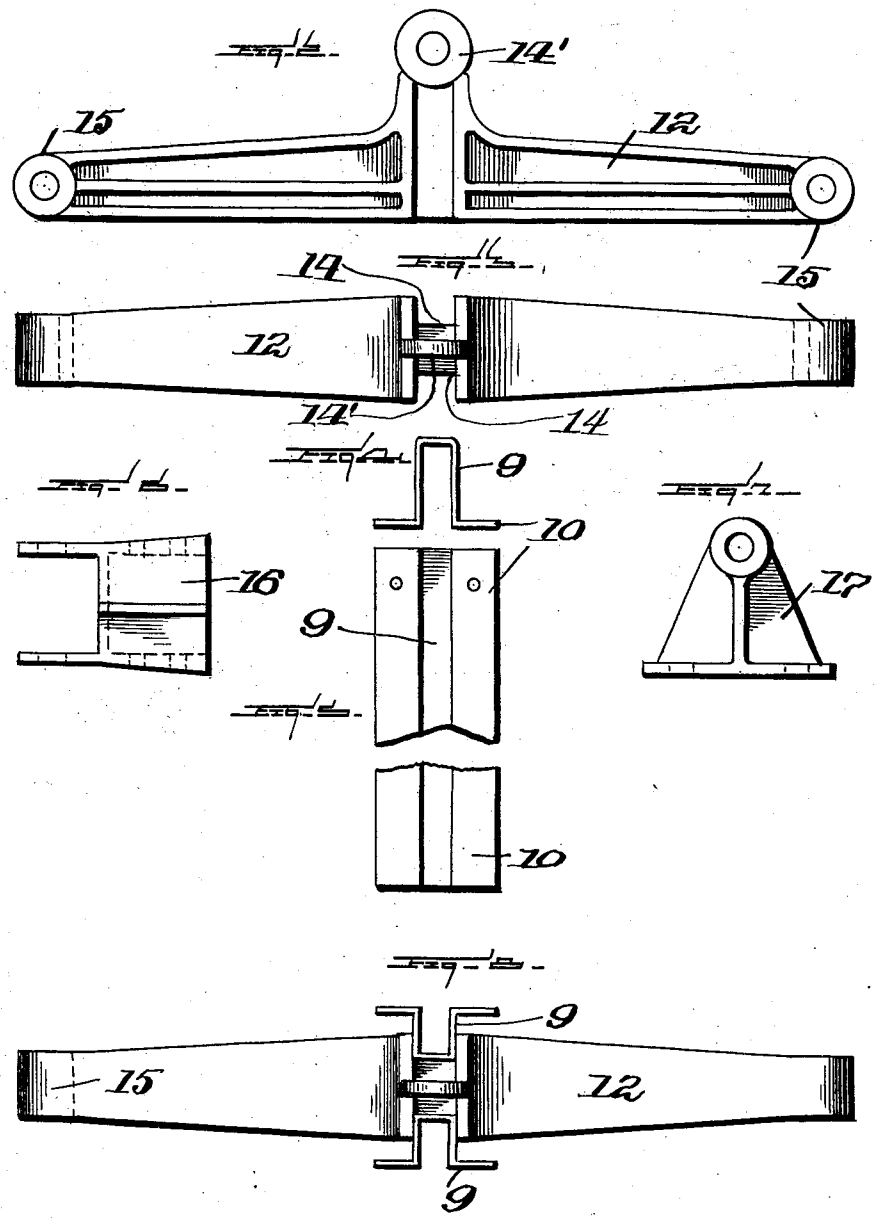

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No. 732,425. Patented June 30, 1903.

UNITED STATES PATENT OFFICE.

CHARLES W. MOURER, OF BELLEVUE, PENNSYLVANIA.

CAR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 732,425, dated June 30, 1903.

Application filed September 5, 1902. Serial No. 122,174. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. MOURER, a citizen of the United States of America, residing at Bellevue, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car Construction, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in car constructions, and it relates particularly to that type of cars known to the trade generally as "pressed-steel" cars, and relates to a form of car of this type which has drop-doors with mechanism for releasing the same from their closed position, whereby the contents of the car can be emptied onto the road-bed between the rails thereof.

My invention relates particularly to improvements in the spreader mechanism for operating the drop-doors so as to move the same from the closed to the open position, and vice versa, and my description and showing are consequently confined specifically to the improvements claimed.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is an inside side view of the mechanism employed in connection with cars of this type for actuating the doors, showing my improvements applied with the doors shown in the open position in full lines and in the closed position in dotted lines. Fig. 2 is a side elevation of my improved spreader detached from the mechanism. Fig. 3 is a top plan view of the same. Fig. 4 is an end view of the spreader-guide. Fig. 5 is an underneath plan view of the same. Fig. 6 is a detail view of one of the bearings carried by the spreader and to which the links connecting the doors are attached. Fig. 7 is a like view of one of the bearings carried by the doors and to which the links are attached. Fig. 8 is a top plan view showing how two spreader-guides may be employed in lieu of one, as shown in Fig. 1 of the drawings.

In Fig. 1 of the accompanying drawings, 1 indicates the central ridge, 2 the doors, 3 the operating-shaft, 4 the ratchet mounted on this shaft, 5 5 pawls to engage said ratchet, 6 the lever connected to the shaft, 7 the link which in the ordinary construction connects with the spreader-links, and 8 the spreader-links, all of which are of the usual form of construction.

My improvement, as stated, resides in the spreader and the guides therefor, and to this end I provide a spreader-guide 9, in the form of a channel-bar, provided with flanges 10, by means of which the same may be conveniently secured to any desired part of the car—for instance, to the transverse sill 11. (Shown in dotted lines in Fig. 1.) In connection with this spreader-guide I employ a spreader 12, preferably constructed with two central channels 14, so that the same may be employed with a single guide, as shown in Fig. 1, or two of the guides may be employed, as shown in Fig. 8 of the drawings. This spreader 12 has an eye 14′ at its upper end, which is pivotally connected to the lower end of the link 7 and is provided at its outer ends with like eyes 15, to which the bearings 16 are pivotally attached. These bearings receive the upper ends of the links 8, the lower ends of the latter being pivotally connected to the journal-bearings 17, which are attached to the doors 2.

The operation of the doors in this type of car is clearly shown in Fig. 1 of the drawings, wherein the said doors appear in the open position in full lines and in the closed position in dotted lines. By the employment of the spreader and the connecting of the links 8 to the ends of this spreader and attaching the ends of the link 7 securely to the spreader I am enabled to operate the doors in a more positive and direct manner than has heretofore been possible with the connecting of the links 8 direct with the link 7. When the shaft 3 is released, which is accomplished by disengaging the pawls from engagement with the ratchet *m*, the spreader descends to the position shown in dotted lines of Fig. 1, so as to force the doors to the closed position, as shown in dotted lines, and when the shaft is turned so as to raise the spreader to the position shown in full lines the doors are opened by being

moved to the position shown in full lines of this view.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the operating-shaft, the lever attached to said shaft, a link attached to said lever and the hinged doors, of a spreader pivotally connected to the link, links connecting the outer end of said spreader to the doors, and a spreader-guide on which said spreader operates, substantially as described.

2. In steel-car construction, the combination with hinged doors, of mechanism including a spreader for actuating said doors, said spreader being channeled, and a spreader-guide engaging the channeled portion of the said spreader, substantially as described.

3. In steel-car construction, the combination with the hinged doors, of a spreader formed with a pair of channels, guides projecting into the channels of the said spreader, means for operating the said spreader, and connecting means interposed between the said spreader and doors, and actuated by the said spreader, substantially as and for the purpose specified.

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

CHARLES W. MOURER.

Witnesses:
JOHN NOLAND,
A. M. WILSON.