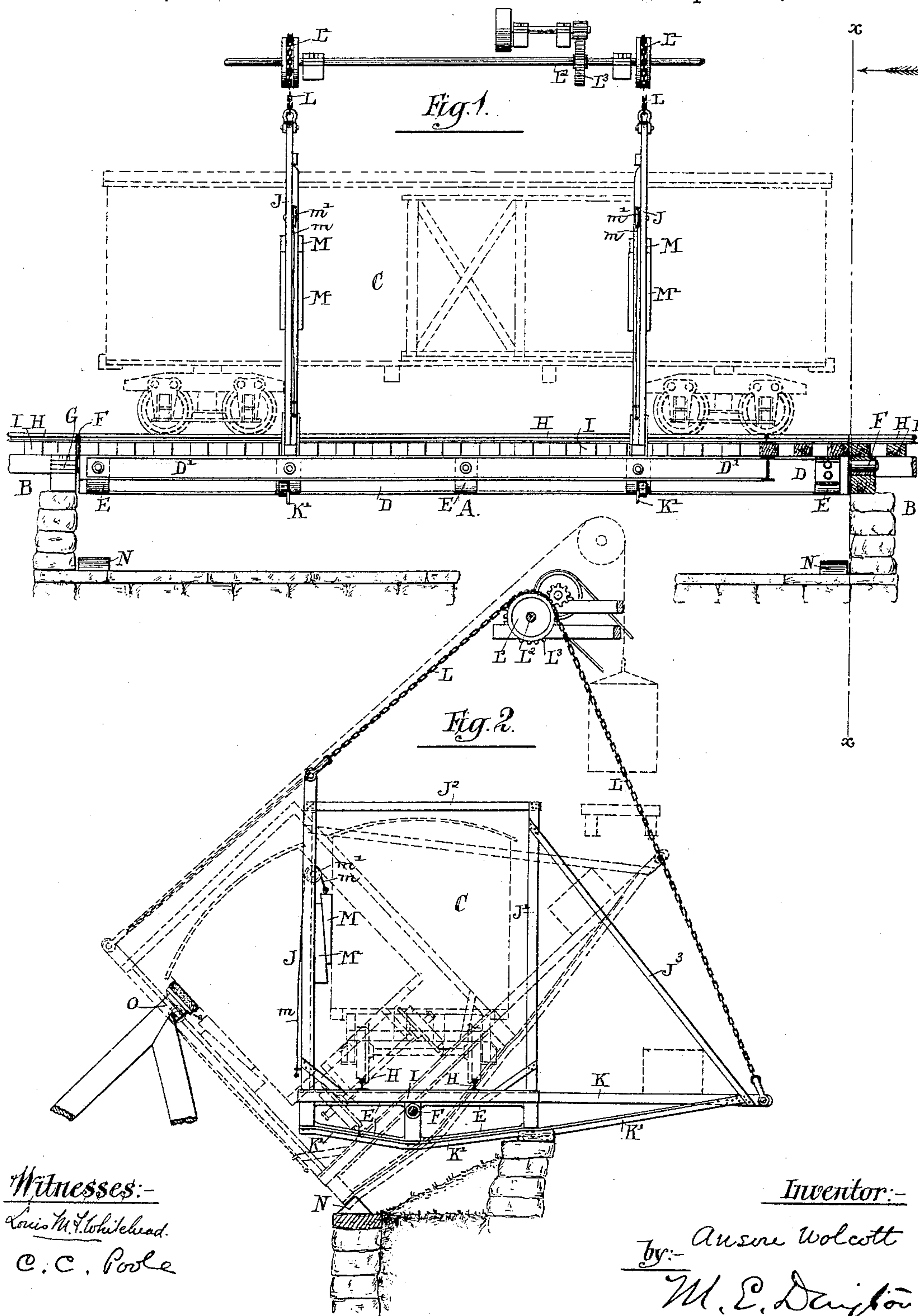


A. WOLCOTT.

CAR DUMP.

No. 327,506.

Patented Sept. 29, 1885.



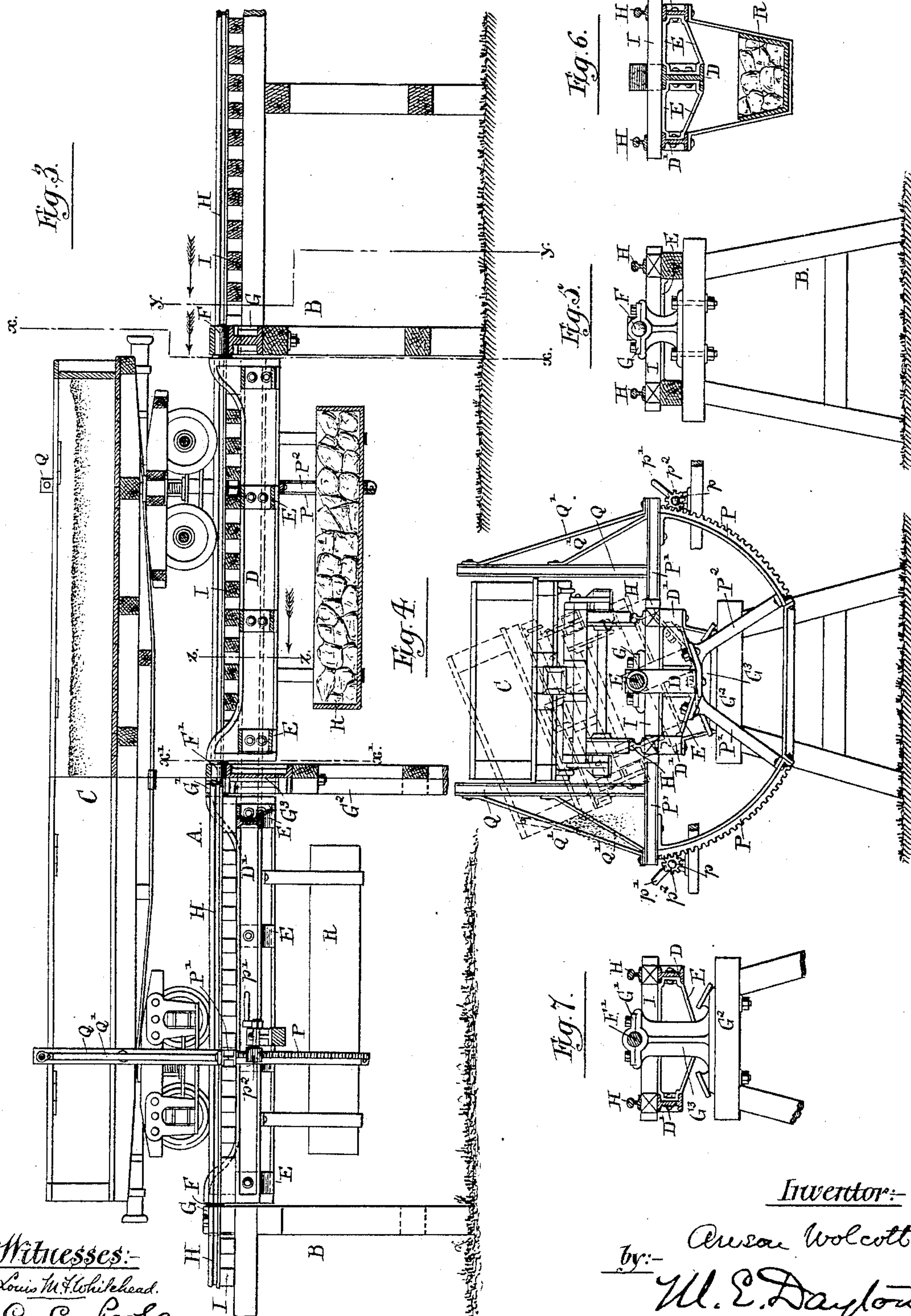
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

ANSON WOLCOTT, OF WOLCOTT, INDIANA.

CAR-DUMP.

SPECIFICATION forming part of Letters Patent No. 327,506, dated September 29, 1885.

Application filed April 28, 1885. (No model.)

To all whom it may concern:

Be it known that I, ANSON WOLCOTT, of Wolcott, in the county of White and State of Indiana, have invented certain new and useful Improvements in Car-Dumps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in dumping devices for unloading railway-cars; and it consists in the matters hereinafter described, and pointed out in the appended claims.

Devices of the character above mentioned have heretofore consisted either of dumping devices forming a part of the cars themselves or of a tilting section of track adapted to tip endwise, so as to cause the discharge of the material from the end of the car. The construction first mentioned is objectionable, inasmuch as it involves a special and expensive construction in each car; and the second one mentioned is also objectionable from the fact that it is of practical use only in the case of short cars, such as are used in coal-mines for conveying coal, and can be applied only to the end of a section of railway-track.

The object of this invention is to provide a track-dump which may be used for any kind of railway-cars and for any number of such cars it may be desired to handle at one time, and which also may be applied at any point in a railway-track, so that cars may pass over it when it is not in use as a dump, and so that the car or cars after being dumped may move over it to an adjacent stationary part of the track, so as to allow the approach to the dump of other cars on the same track.

The invention consists, essentially, of a part or section of track pivoted to rotate upon a longitudinal axis, so that it may be tipped laterally or sidewise together with the car or cars resting thereon, whereby the load may be discharged by gravity from the cars. This particular feature of the invention may obviously be carried out in a number of ways which will readily suggest themselves to a practical

mechanic. In the particular form of device embodying my invention herein shown as one way of carrying it into practice, a section of the track-rails, of suitable length, is carried upon a rigid frame formed by suitable longitudinal and cross girders, said frame being provided with trunnions or journals mounted in suitable bearings upon the adjacent ends of the stationary track structure, the said frame being suitably placed to permit the load to be discharged from the cars upon the dump into wagons, other cars, vessels, bins, or other receptacles, or upon the ground.

The invention may be more fully understood by reference to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in central longitudinal section, of one form of a track-dump embodying my invention. Fig. 2 is a transverse section of the same, taken upon line *x x* of Fig. 1. Fig. 3 is a side elevation, partly in sectional longitudinal section, of another form of track-dump embodying my invention. Fig. 4 is a transverse vertical section of the same, showing the end of the pivoted frame or platform, taken upon line *x x* of Fig. 3. Fig. 5 is a transverse section through the stationary part of the track-supporting structure, looking toward the dump, taken upon line *y y* of Fig. 3. Fig. 6 is a detail transverse section through the dump frame or platform, taken upon line *z z* of Fig. 3. Fig. 7 is a transverse detail section, taken upon line *x' x'* of Fig. 3, illustrating the construction of a bearing or support at the middle of a long dump-frame.

As illustrated in the drawings, A is the dump-frame as a whole. B are portions of the track structure adjacent thereto, and C is a railway-car shown as resting upon said frame. The form of the device illustrated in Figs. 1 and 2 is more particularly adapted for box-cars, such as are used in carrying grain, the intention being in this case to tip or tilt the car at such an angle that the grain, or the greater part thereof, will be discharged through its door. The main part of the frame or platform is, as shown in the said drawings, formed of a central longitudinal beam or girder, D, lon-

gitudinal side girders, D', and cross pieces or brackets E, connecting the middle with the side girders, the frame thus formed being pivotally supported at its ends by journals or trunnions F, held in suitable bearings G, sustained upon suitable cross-timbers of the stationary track structure B, as shown or otherwise.

The track-rails H are shown as supported upon cross-ties I, placed upon the longitudinal girders in the usual manner.

The form of the dump shown in said figures is intended to tilt in one direction only, to prevent possibility of the dump-frame being accidentally tilted, and to avoid the necessity for the use of locking devices to hold the frame horizontal. The longitudinal girder D and the trunnions F are located in a vertical plane at one side of the center of gravity of the frame and cars thereon, so that the said frame, unless forcibly moved, will remain in its horizontal position.

Any suitable or well-known device may be applied to the dump-frame A for the purpose of tipping or tilting it, a preferred device for this purpose being shown in said Figs. 1 and 2, in which the frame is provided with one or more vertical and horizontal arms, J K, rigidly attached to the frame, and to the outer ends of which are connected suitable ropes or chains adapted to pass over drums or pulleys, which are suitably driven so as to tilt the frame, the said arms J and K preferably being made of considerable length in order to enable the movement of the arm to be controlled by the application of a relatively small amount of power to the chains. As shown in Figs. 1 and 2, the outer ends of the arms J and K are located at equal distances from the center of rotation of the frame, and a chain, L, is connected at its ends with both of said arms and passes at its middle over a sprocket-gear, L', which is rotated by suitable actuating devices in either direction in tilting the frame.

In the operation of this device the outer ends of the arms J and K are obviously moved to the same extent when the frame is tilted, so that the chain L will always remain taut over the pulleys L'. The said pulleys L' may be supported in any suitable manner, and driven by hand or power, the said pulleys, as shown in the drawings, being secured to a shaft, L², provided with a gear-wheel, L³, to which power may be applied from an engine or other source for moving the dump-frame.

In order to prevent the car from tipping over or becoming derailed when the dump-frame is inclined at a considerable angle, supporting devices are preferably provided upon the dump-frame, against which the side of the car may rest when the frame is inclined. One form of such support is illustrated in Figs. 1 and 2, in which the vertical arms or beams J are located opposite the sides of the car, and suitable means are provided between the arm

former. For the purpose last mentioned an adjustable piece or block, M, may be used, which may be forced by means of a wedge or screw against the side of the car after the latter is in place upon the dump-frame, and moved away from the car when placing the latter upon or removing it from said frame. A convenient form which such device may take is shown in Fig. 2, in which the said block is made wedge-shaped, and a second wedge-shaped block, M', is located between the said block M and the arm J, and attached to the latter, said block M being adapted to remain by gravity in position against the car, and having attached to it a cord, m, passing over a pulley, m', by which the said block may be lifted to free it from the car.

Suitable stationary stops, N, will usually be located in position to arrest the tilting of the dump-frame, and one or more stationary stops or buffers, O, may be desirably employed to limit the lateral movements of the car and to take a part of the weight of the latter when the dump is tilted.

In bringing the frame and car back to its normal position, when tilted, the greater part of the strain will come upon the arm J, and in order to properly brace the latter a framework consisting of a vertical and a horizontal beam, J' and J², and an inclined stud, J³, connecting the upper end of the beam J' with the outer end of the arm K, may desirably be used. The arm K is, as shown, bolted to the upper surfaces of the girders D and D', and an inclined brace, K', is used for giving the necessary rigidity to said arm.

The dump-frame shown in Figs. 3 to 7 is constructed with longitudinal girders D and D', and brackets E, and is provided at its ends with the trunnions F, having bearings G upon the stationary part of the frame, in the same manner as before described. In this case, however the pivotal axis is centrally located, so that the frame is adapted to tilt in either direction, and the trunnions are shown as located at a point near the level of the track-rails, and as high as possible without interfering with the parts of the car-trucks, the object of this construction being to bring the axis of rotation as near as possible to the center of gravity of the car and frame, so that the parts will be more nearly balanced, and may be more easily moved when tilted.

A simple lever or any other suitable means connected with the frame may be used for moving the latter. A simple and convenient device for this purpose is shown in Figs. 3 and 4, consisting of two segmental gears, P, located at either side of the frame and connected with the latter by horizontal beams P' and arms P², said segmental gears being engaged with pinions p² upon a shaft, p, mounted upon suitable stationary frames at both sides of the dump, so that the latter may be operated at either side of the track. The shafts p may be actuated by power, or they may, as

shown, be provided with cranks p' for moving the frame by hand. The beams P' afford a convenient means of attachment for posts or supports Q , for sustaining the car upon the dump when the latter is tilted. Said posts are, as shown, located close to the sides of the car, and are attached at their lower ends to the beams P' , and made rigid by inclined braces Q' , having a footing upon the outer ends of the said beams P' .

A dump-frame constructed, generally, as above described, may obviously be made without a central support—as, for instance, when used for single and short cars—or it may be provided with one or more intermediate supports, as would be necessary in case the frame were designed to hold at once two or more cars. In the form of the device shown in Fig. 3 the beam D is provided in the middle of its length with a journal, F' , which has a bearing, G' , supported upon a suitable frame, G^2 . It is of course desirable that the entire frame should be perfectly rigid, and for this purpose, in the construction herein shown, the girders D' are made continuous from end to end of the frame past the point at which the central girder, D , is interrupted or reduced in size to form a journal, as F' , at the intermediate point of support of the frame. The bearing G' is, as herein shown, formed or sustained upon a vertical support or pillow-block, G^3 , which extends upwardly from the frame G^2 between the girders D' , so as to permit the frame to swing freely without the interference of the said girders with the support of the bearing. The bearings G and G' may of course be supported upon any suitable foundation or frame-work, and are herein shown as bolted to transverse timbers, such as are ordinarily used in railway construction.

In order to more perfectly balance the car and dump-frame upon the pivots or journals of the latter, so that a minimum of power need be used for actuating the dump, a counter-balance weight or weights may be applied in any suitable way for this purpose. A simple and convenient form of such weight is shown in Figs. 3 and 6, in which boxes or receptacles R , adapted to receive stone or other material are supported beneath the dump-frame. A similar result may be obtained in the construction shown in Figs. 1 and 2 by locating similar receptacles beneath the dump-frame, or by placing a receptacle containing stone or a weight or weights of other kinds upon the horizontal arm K , as indicated by dotted lines in Fig. 2.

In order to relieve from the posts or arms J or Q , which support the car from lateral movement, a part of the strain to which they would otherwise be subjected, ropes or chains attached to the upper ends of said posts and extending over suitably-located pulleys, may have attached to them weights, which will act in opposition to the weight of the car and tend to sustain the frame and return it, when tilted,

to its normal position. This construction is illustrated in dotted lines in Fig. 2, in which a platform or support is shown as located beneath the weight in position to receive it when the frame is nearly horizontal, so that the weight will act only when the car is tilted at a considerable angle. A weight such as is above referred to and shown in dotted lines in said Fig. 2 may obviously be alone used as a counter-balance, in place of the counterbalance-weights above mentioned in combination with any one of such devices.

It will be understood that I do not limit my invention to the particular features of construction herein shown, except as such features may be specifically herein claimed, but claim, broadly, a railway dump frame or platform mounted to rotate upon a longitudinal axis or one parallel with the track-rails, as set forth in the appended claims.

I claim as my invention—

1. A dump frame or platform mounted to rotate upon an axis parallel with the track-rails, substantially as described.

2. A pivoted dump-frame for railways, mounted to rotate upon an axis parallel with the track-rails and provided with side supports for sustaining the cars, substantially as described.

3. A pivoted dump-frame for railways, mounted to rotate upon an axis parallel with the track-rails and provided with a counter-balance-weight, substantially as and for the purpose set forth.

4. A pivoted dump frame or platform for railways, mounted to rotate upon an axis parallel with the track-rails and provided with suitable journal-bearings at its ends and one or more intermediate journal-bearings, substantially as and for the purpose set forth.

5. A pivoted dump-frame for railways, mounted to rotate upon an axis parallel with the track-rails, said axis being located in a vertical plane at one side of the center of gravity of the frame and cars, substantially as described.

6. The combination, with a pivoted dump-frame for railways, mounted to rotate upon an axis parallel with the track-rails and provided with laterally-extending arms, of means applied to the ends of the arms for moving the frame, substantially as described.

7. The combination, with a pivoted dump-frame for railways, mounted to rotate upon an axis parallel with the track-rails and provided with horizontally and vertically projecting arms J and K , of a drive-chain, L , attached to said arms, a pulley engaged with said chain, and means for actuating said pulley, substantially as described.

8. The combination, with a laterally-swinging dump-frame provided with rigid posts or arms located at the side of the car, of adjustable supports located between the said posts or arms and the sides of the car, substantially as and for the purpose set forth.

9. The combination, with a laterally-swing-
ing dump-frame provided with rigid posts
or arms located at the sides of the car, of mov-
able wedge-shaped blocks M, located between
5 the posts or arms and the car, substantially
as and for the purpose set forth.

In testimony that I claim the foregoing as my

invention I affix my signature in presence of
two witnesses.

ANSON WOLCOTT.

Witnesses:

C. CLARENCE POOLE,
OLIVER E. PAGIN.