

(No Model.)

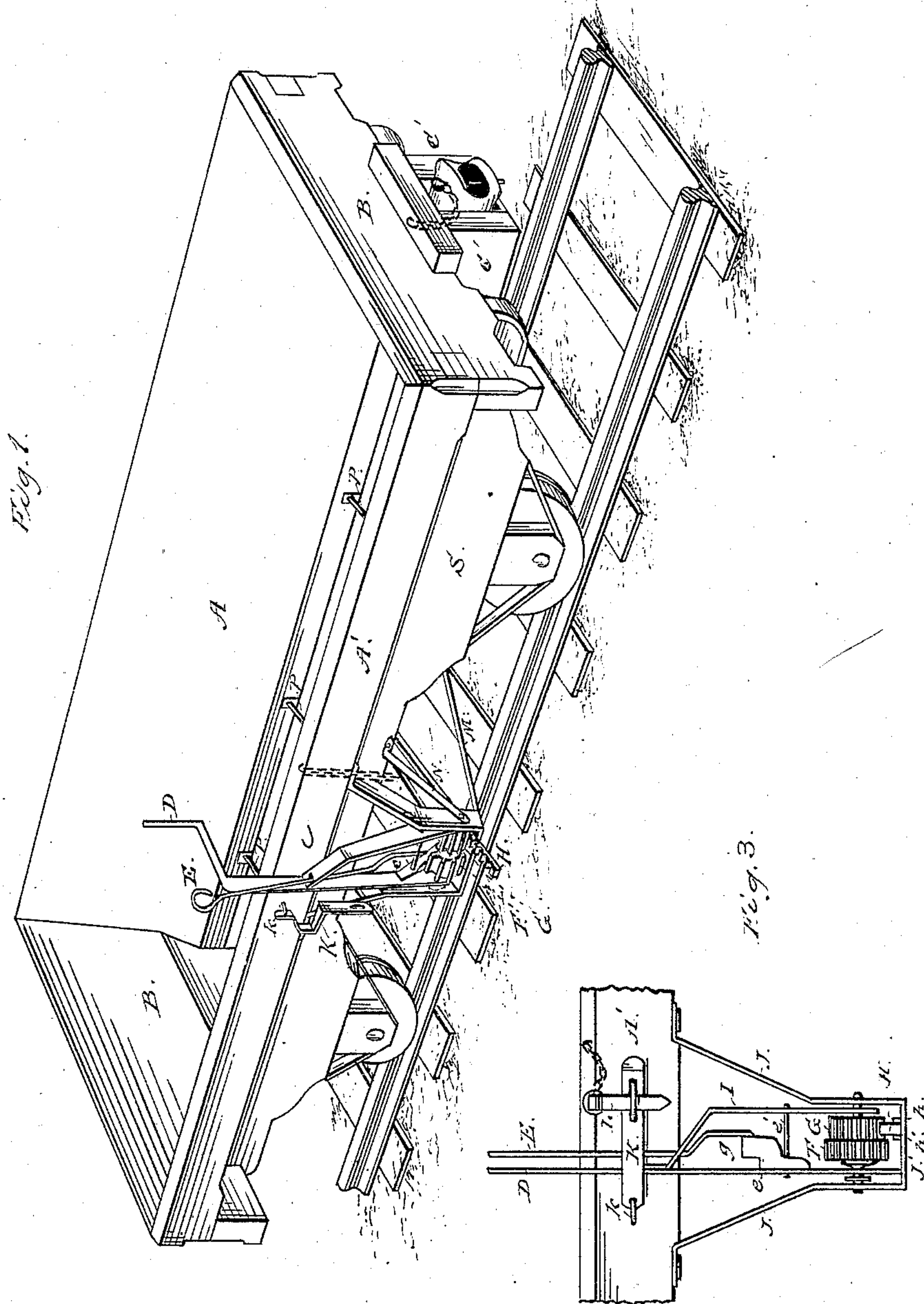
2 Sheets—Sheet 1.

D. B. HARMON.

BALLAST CAR.

No. 257,160.

Patented May 2, 1882.



Attest;
J. W. Howard
William C. McGill

Daniel B. Harmon
Inventor;
By Wm. J. Johnston
and
J. H. MacDonnell
Atty's.

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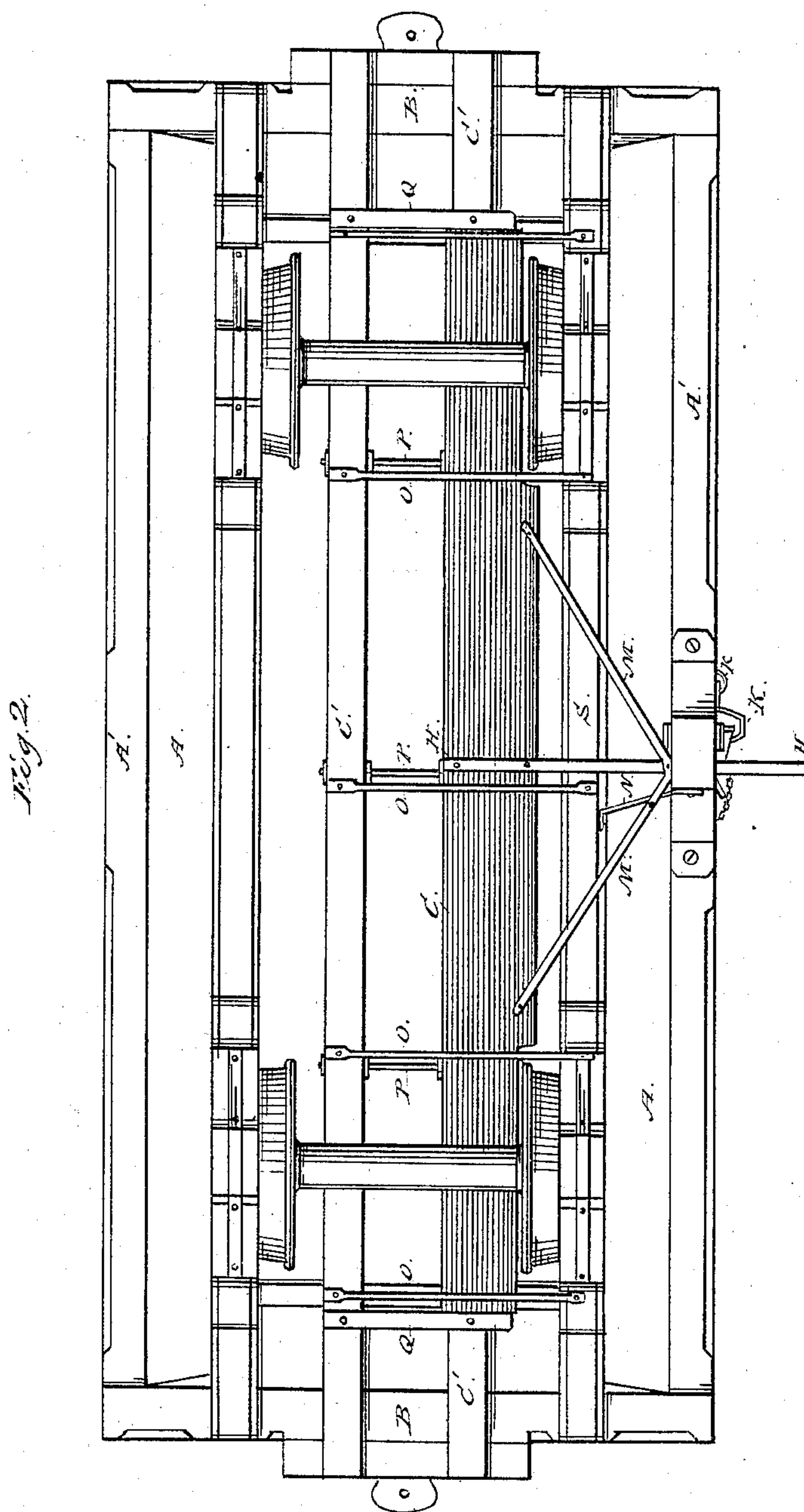
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No. 257,160.

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UNITED STATES PATENT OFFICE.

DANIEL B. HARMON, OF PALMYRA, NEW YORK, ASSIGNOR OF ONE-HALF
TO ISAAC T. VAN DUZER, OF SAME PLACE.

BALLAST-CAR.

SPECIFICATION forming part of Letters Patent No. 257,160, dated May 2, 1882.

Application filed March 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. HARMON, a citizen of the United States, residing at Palmyra, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Ballasting and Surfacing Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in ballasting or surfacing cars for the construction and maintenance of railroads; and it consists in details of construction and arrangement of the several parts, that will be hereinafter more fully set forth in the specification and claims, and pointed out in the accompanying drawings, in which—

Figure 1 is a perspective view of my device; Fig. 2, a plan view of same, and Fig. 3 a detail view of the mechanism for actuating the discharge-gate.

Referring more particularly to the drawings, A represents the inclined sides, and B the inclined ends, of the car, the inside of the car-body being thus formed like a hopper. The sides of the car are no higher than an ordinary platform-car; but the body is carried down between the wheels, thus increasing the capacity of the car. The inclined sides A, at their lower edges, have secured to them two beams or supporting pieces, C', held by the truss-rods P. These rods, placed at suitable intervals apart, prevent any sagging or springing of the sides and frame. The space between the pieces C' at the bottom of the car forms a discharge-opening, which is opened and closed by a movable gate, C, secured to one end of a ratchet-bar, H, actuated by a peculiar pawl-and-ratchet mechanism that will be hereinafter explained. The gate C extends the entire length of the sides A, and at its extremities abuts against guide-pieces Q, (*vide* Fig. 2,) so as to insure a positive action and prevent slipping of the gate at the ends. The gate is supported by rods O, extending from one of

the pieces C' to the opposite side, S, of the car-frame. These rods also tend to prevent the pieces C' from spreading apart. Attached to one or both sides of the car-body, at or near the center, by means of the stirrup J, is a ratchet-lever, D, which extends above the top of the car, and is held in position when not in use by a hasp, K, or other suitable device. This lever is mounted on the axle of the ratchet-wheels F G.

A reversible pawl, e, pivoted on the cross-piece e', is actuated by a rod, E, also extending to the top of the car—that is, the pawl is reversed by said rod E. Now suppose the car loaded and the gate C closed, and it is desired to open it to unload the car. The pawl e is turned on its pivot and thrown down by lever E until its engaging end g drops between the cogs of wheel F, as shown in Fig. 1. The lever D is then thrown backward away from the side of the car. This of course raises the pawl and allows it to drop between the next cogs, and as the lever D is brought back the pawl pushes against the cogs and moves the wheels F G, which are rigidly secured together. The cogs on wheel G mesh with those on bar H and cause it to move, and of course the gate C at the same time. This is continued until the gate is opened. To close it a reverse motion is given to pawl e, and the same operation performed.

It is obvious that the gate can be opened more or less, and either a little or all of the ballast deposited in the center of the track. Thus the load can be dumped by a single person.

In the ordinary flat car the ballast must be thrown first on the sides of the track and then rehandled by throwing it to the center, thus causing loss of time by double handling. Moreover, on embankments the ballast rolls down and is wasted, and in cuts the ditches become filled up. My improved car prevents this loss of time and ballast by depositing it where needed—*i. e.*, in center of track.

These cars can be much more economically constructed than flat cars, one of which twenty-eight feet in length will only carry six yards of ballast, while my car sixteen feet in length (seventeen feet over all) will carry six yards. . I

may provide two gates operated by the ratchet mechanism on each side of the car without departing from the spirit of my invention.

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

1. A ballast-car consisting of a hopper-body the center of which is carried down between the wheels close to the axles, said body having a continuous longitudinal discharge-opening, opened and closed by a sliding plate actuated by a reversible-pawl mechanism and supported by frame-pieces secured by truss-rods, whereby sagging and springing are prevented, substantially as and for the purpose set forth.

2. In a ballast-car having a longitudinal discharge-aperture, a sliding gate, C, whereby the aperture is closed or opened, said gate consisting of a movable plate secured to a ratchet-bar actuated by a reversible-pawl mechanism, as set forth.

3. In a ballast-car having a longitudinal discharge opening, a sliding gate actuated by

pawl-and-ratchet mechanism, as described, the ends of said gate abutting against guides on the frame-pieces and supported by cross-rods secured to the frame of the car-body, as set forth.

4. In a ballast-car having a longitudinal discharge-aperture, the combination of a sliding gate, supported as described, with a ratchet-bar secured at one end to the gate, and ratchet-wheels actuated by a lever and a reversible pawl, substantially as and for the purpose set forth.

5. The combination, in a ballast-car as described, of a sliding gate, a ratchet-bar secured thereto and resting on a stirrup, J, attached to the car-body, ratchet-wheels F G, lever D, and reversible pawl e, substantially as set forth.

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

DANIEL B. HARMON.

Witnesses:

W. C. DUVALL,
JAS. H. MARR.