No. 827,633. PATENTED JULY 31, 1906.

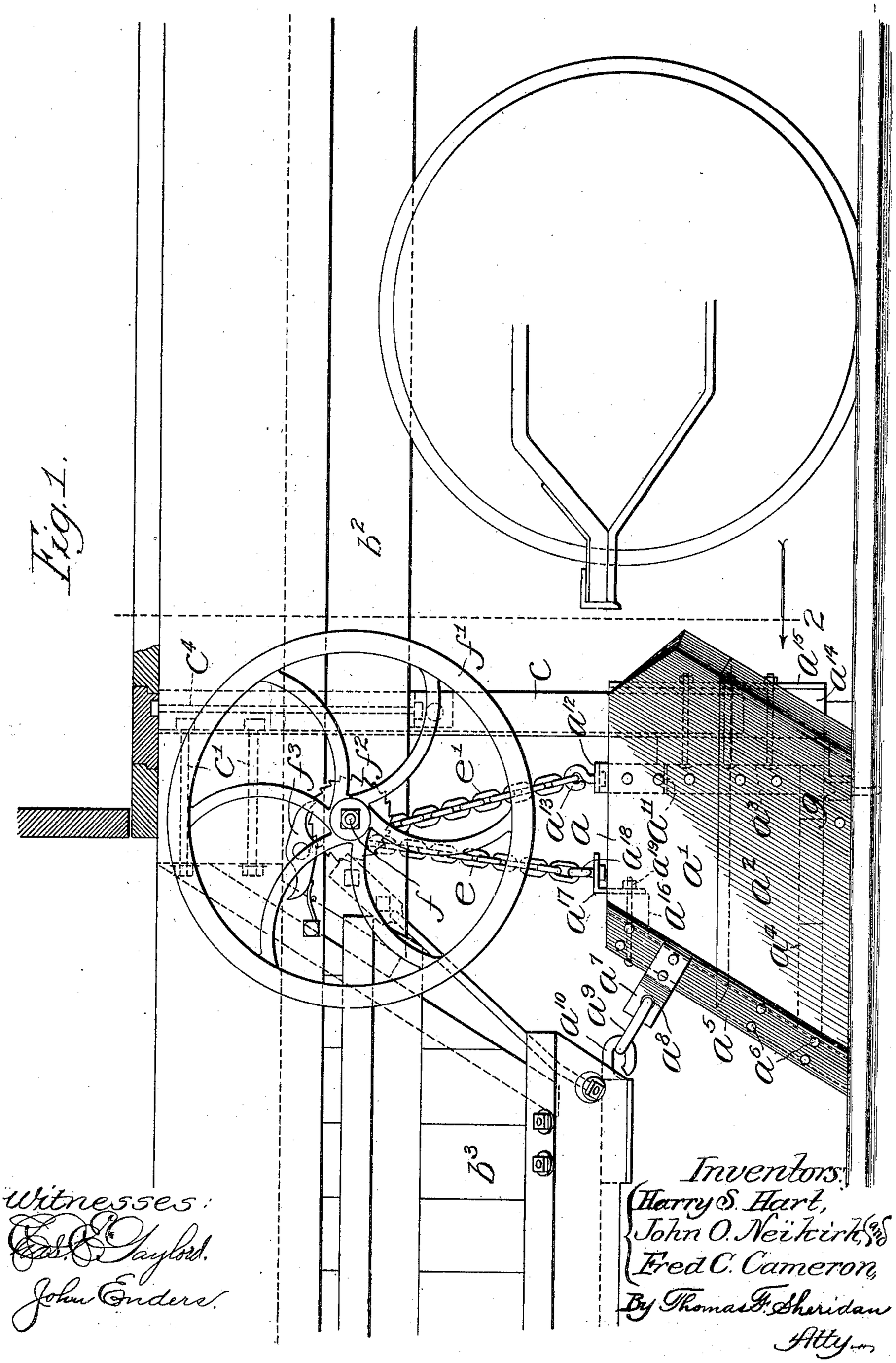
H. S. HART, J. O. NEIKIRK & F. C. CAMERON.

RAILWAY BALLAST CAR.

APPLICATION FILED JAN. 15, 1906.

3 SHEETS—SHEET 1.

Fig. 1.



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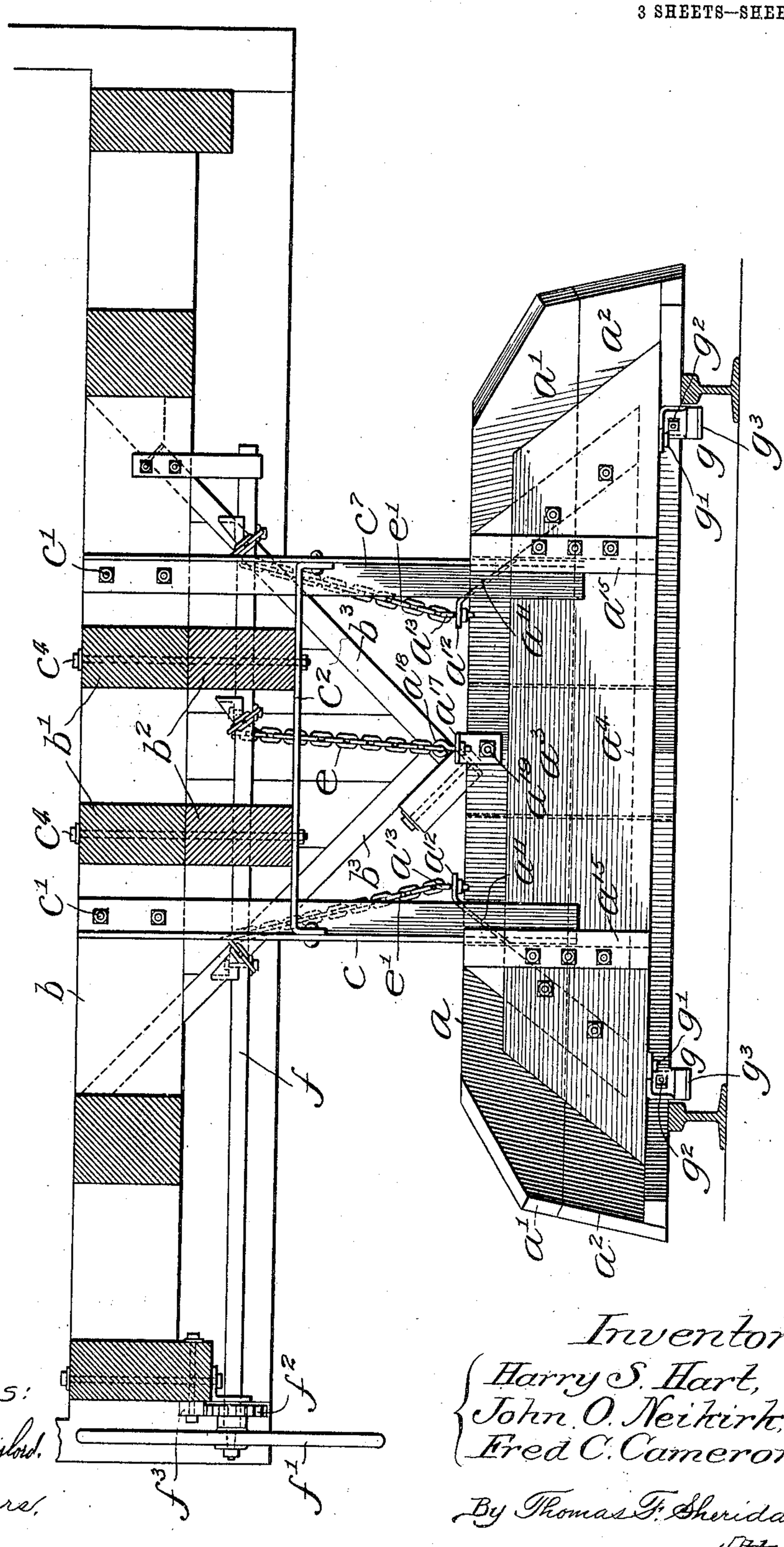
3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

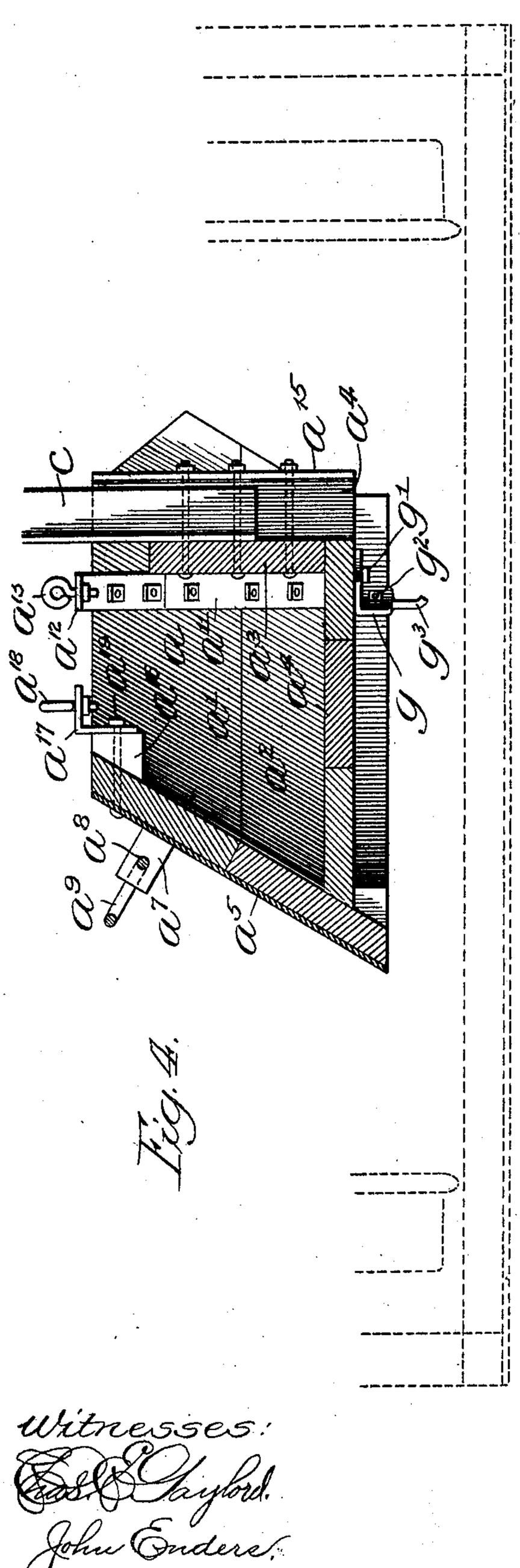

Fig. 4.

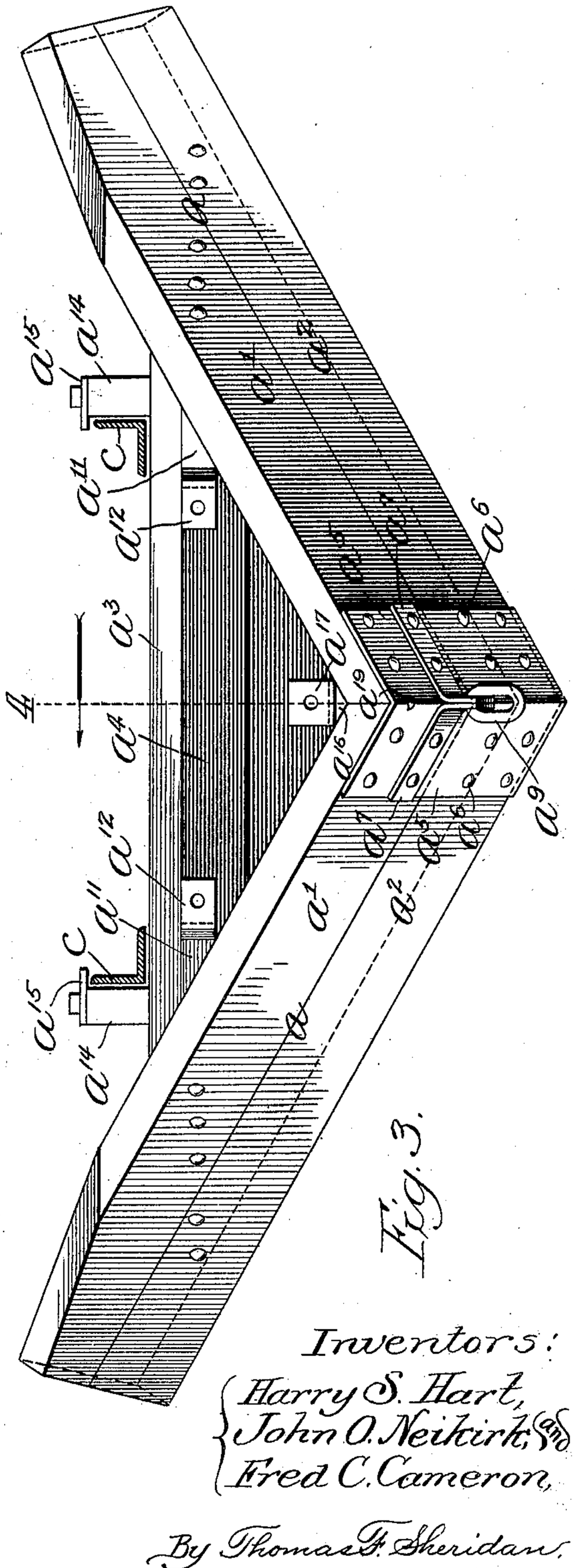

Fig. 3.

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UNITED STATES PATENT OFFICE.

HARRY S. HART, JOHN O. NEIKIRK, AND FRED C. CAMERON, OF CHICAGO, ILLINOIS, ASSIGNORS TO RODGER BALLAST CAR COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RAILWAY BALLAST-CAR.

No. 827,633. Specification of Letters Patent. Patented July 31, 1906.

Application filed January 15, 1906. Serial No. 296,227.

To all whom it may concern:

Be it known that we, HARRY S. HART, JOHN O. NEIKIRK, and FRED C. CAMERON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway Ballast-Cars, of which the following is a specification.

Our invention relates to railway ballast-cars, and has for its object to provide, in combination with a ballast-car, a plow for leveling ballast as it is deposited between the tracks.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a ballast-car, showing our plow in operative position; Fig. 2, a rear sectional elevation taken on line 2 of Fig. 1 looking in the direction of the arrow; Fig. 3, a perspective view of our plow detached from the car, and Fig. 4 a section taken on the line 4 of Fig. 3 looking in the direction of the arrow.

We have shown our improved plow in connection with a ballast-car of the "Rodger" type. This car is well known and needs no specific description, and we have only shown in the drawings those parts of the car which are necessary for a complete understanding of our invention.

Referring to the drawings, the reference-letters b b' b^2 indicate the transverse and longitudinal sills of the car, and b^3 the hopper-bottom thereof.

a represents the plow, having side members a' a^2 and a rear member a^3 suitably secured to the side members and forming a transverse brace therefor.

a^4 represents the bottom portion of the plow, suitably secured to the rear and side members.

a^5 is a metallic shoe forming a protecting member for the point or nose of the plow, and this metallic shoe is suitably secured to the side members by bolts a^6.

a^7 represents metallic straps suitably secured in place by bolts passing through the metallic shoe and the side members. These straps have outwardly-turned ends at the point of the plow, which ends are provided with eyes or perforations a^8.

a^9 is a link mounted in the eyes or perforations, which link is connected at its other end to a hook a^{10}, suitably secured to the hopper-bottom of the car, thus forming a flexible connection between the point of the plow and the car.

a^{11} represents metallic straps secured by bolts or other fastening means to sides of the plow near the rear thereof. These straps are provided at their upper ends with overturned portions a^{12}, having a suitable perforation in which an eyebolt a^{13} is secured.

a^{14} represents guide-standards secured to the rear brace member, one on each side of the middle portion, and these standards are provided with metallic plates a^{15} somewhat wider than the standards and secured thereto by bolts which also secure the standards to the transverse braces. The overhanging edge of this metallic plate, with the standard and the adjacent portion of the rear brace, provides a guide or channel for the angle-guides c, presently to be described.

Within the point of the plow and at the upper end thereof is a block a^{16}, and a^{17} is an angle-plate, having its vertical member secured to the block by a bolt a^{19}, which also serves to secure the block to the point of the plow. The horizontal member of this angle-plate is provided with a suitable perforation within which is mounted an eyebolt a^{18}.

Rigidly secured to the transverse sill of the car by bolts c' are depending angle-guides c, the lower ends of which enter the channel or guideway formed by the guide-standards and the overhanging lips thereon, as above described. These guides are suitably braced by a transverse metallic strap c^2, riveted at its ends to the longitudinally-extending flanges of the guides. This brace member c^2 is also secured intermediate its ends to the longitudinal sills of the car by means of the bolts c^4.

e is a chain or other flexible connection between the angle-plate a^{17} at the point of the plow and the winding-shaft f, suitably mounted in the frame of the car. e e' are similar chains or flexible connections between the plates a^{11} and the winding-shaft, these chains being connected to the eyebolts which are secured in these plates. The winding-shaft may be operated by any suitable means. We have shown a hand-wheel f' for turning the shaft. A ratchet secured to this shaft and a pawl engaging the ratchet and secured to the side sill of the car serve to hold the winding-

shaft, and consequently the plow, in any position to which it may be adjusted. Upon the under side of the plow, near the rear thereof, are secured scraping members *g*, which comprise a horizontal flange portion bolted to the under side of the plow by bolts *g'* and a vertical portion secured to the side members by bolts g^2. A downward extension g^3 of this vertical member serves to remove the ballast from the track, so as to permit the free passage of trains thereover.

The operation of our plow will be understood from the above description; but it may be said that as the ballast is deposited through the hopper-bottom it is immediately leveled by the plow, which is mounted adjacent to said hopper-bottom and between the hopper-bottom and the car-truck. The plow is held in proper position and displacement thereof is prevented by the guides at its rear and by the connection with the hopper-bottom at its forward end. The chains afford a means for vertical adjustment of the plow. When these are wound on the shaft, the plow is raised to the desired position, and it is guided during its adjustment by the angle-guides and also by its flexible connection with the hopper-bottom.

We claim—

1. In a railway ballast-car having the usual hopper-bottom, a ballast-plow suitably connected to the car at a point adjacent the hopper-bottom between the hopper-bottom and the car-truck, substantially as described.

2. In a railway ballast-car having the usual hopper-bottom, a ballast-plow suitably connected to the car at a point adjacent the hopper-bottom between the hopper-bottom and the car-track, means for vertically adjusting the plow, and means for guiding the plow during its adjustment.

3. In a railway ballast-car having the usual hopper-bottom, a plow adjacent to the hopper-bottom, means for flexibly connecting the point of the plow to the hopper-bottom, depending guide members rigidly secured to the car-frame, and guide members rigidly secured to the rear of the plow coöperating with the depending guide members.

4. In a railway ballast-car having the usual hopper-bottom, a plow connected at its forward end to the hopper-bottom, a winding-shaft mounted in the car-frame, flexible connections between the winding-shaft and the front and rear portions of the plow, and means for guiding the plow.

5. In a railway ballast-car, the combination of a plow, means for raising and lowering the plow, depending angle-guides rigidly secured to the frame of the car, guide-standards rigidly secured to the rear portion of the plow, said standards being provided with overhanging lip portions and forming with the rear portion of the plow a channel for the angle-guides.

6. The combination with a railway ballast-car of a plow provided with a protecting-shoe at its point, metallic straps having outturned ends attached to the plow through the shoe, and means for connecting these outturned ends to the car.

7. The combination in a railway ballast-car of a plow provided with a protecting-shoe at its point, metallic straps having outturned ends attached to the plow through the shoe, means for connecting the outturned ends to the car, means for adjusting the plow vertically, and means for guiding the plow during such adjustment.

8. In a railway ballast-car, the combination of a plow provided with guides at its rear portion, depending angle-guides rigidly secured to the car-frame coöperating with the plow-guides, and a transverse brace member connected to the angle-guides.

9. In a railway ballast-car, the combination of a plow provided with guides at its rear portion, depending angle-guides rigidly secured to the car-frame coöperating with the plow-guides, and a transverse brace member connected to the angle-guides and to the car-frame intermediate the guides.

10. In a railway ballast-plow, the combination of a scraping member having horizontal and vertical flanges adapted to be attached to the bottom and side portions of the plow respectively, and a depending scraping extension on the vertical flange.

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