No. 812,222. PATENTED FEB. 13, 1906.

O. W. MEISSNER.

RAILWAY BALLAST PLOW.

APPLICATION FILED NOV. 18, 1905.

3 SHEETS—SHEET 1.

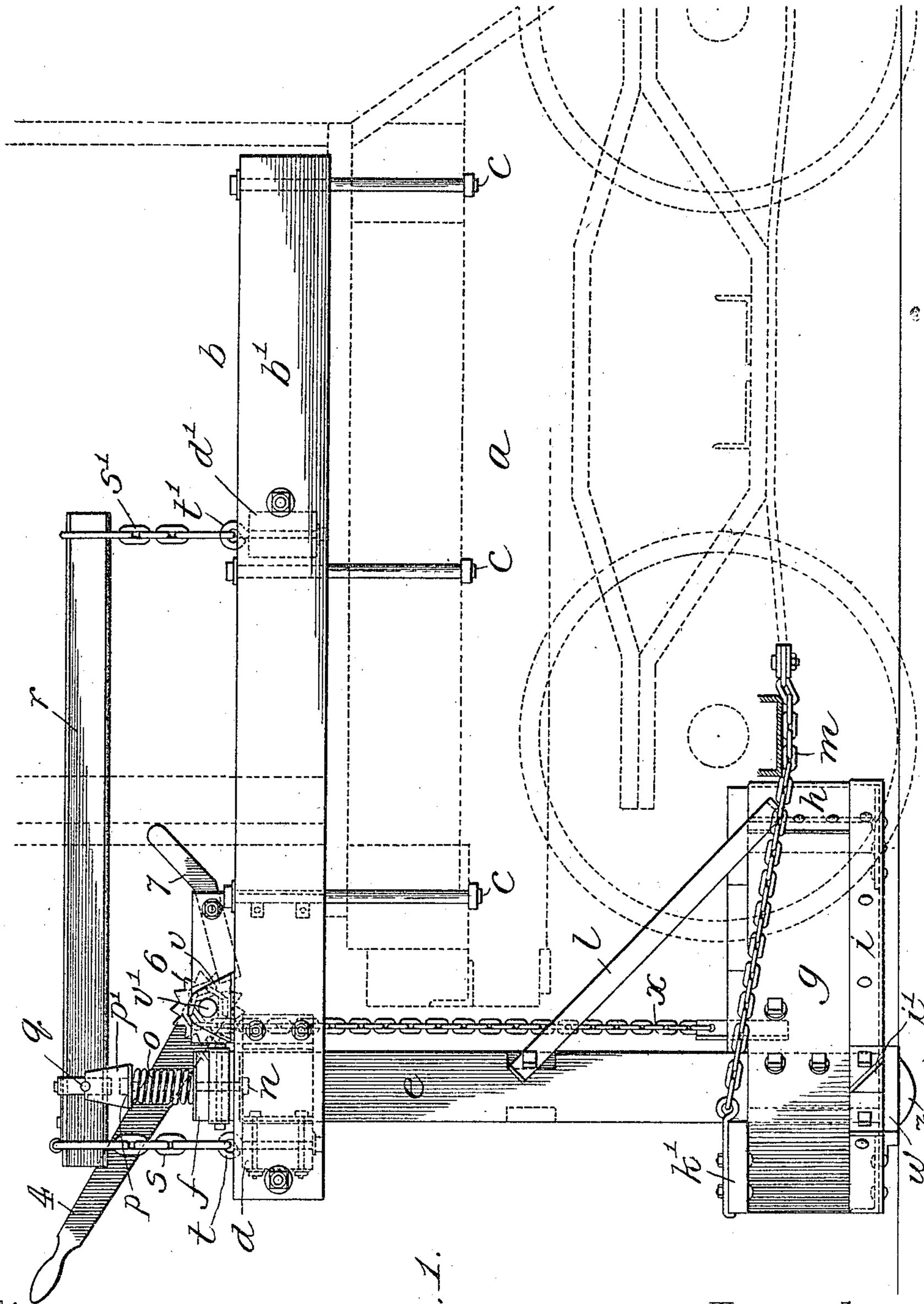

Fig. 1.

Witnesses:
Chas. L. Gaylord.
John Enders.

Inventor:
Otto W. Meissner,
By Thomas F. Sheridan,
Atty.

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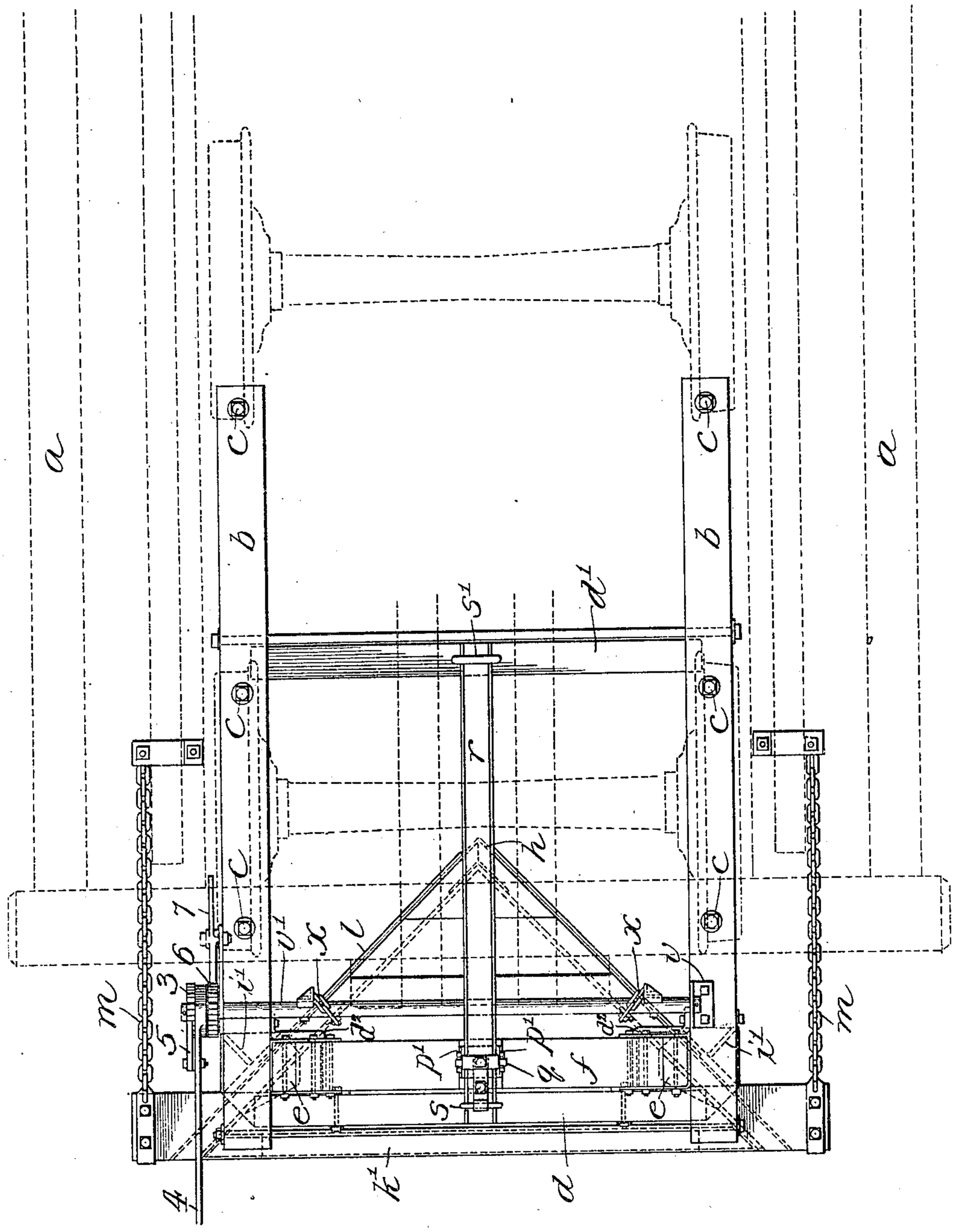

Fig. 2.

Witnesses:
Chas. L. Gaylord.
John Enders.

Inventor:
Otto W. Meissner.
By Thomas F. Sheridan,
Atty.

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3 SHEETS—SHEET 3.

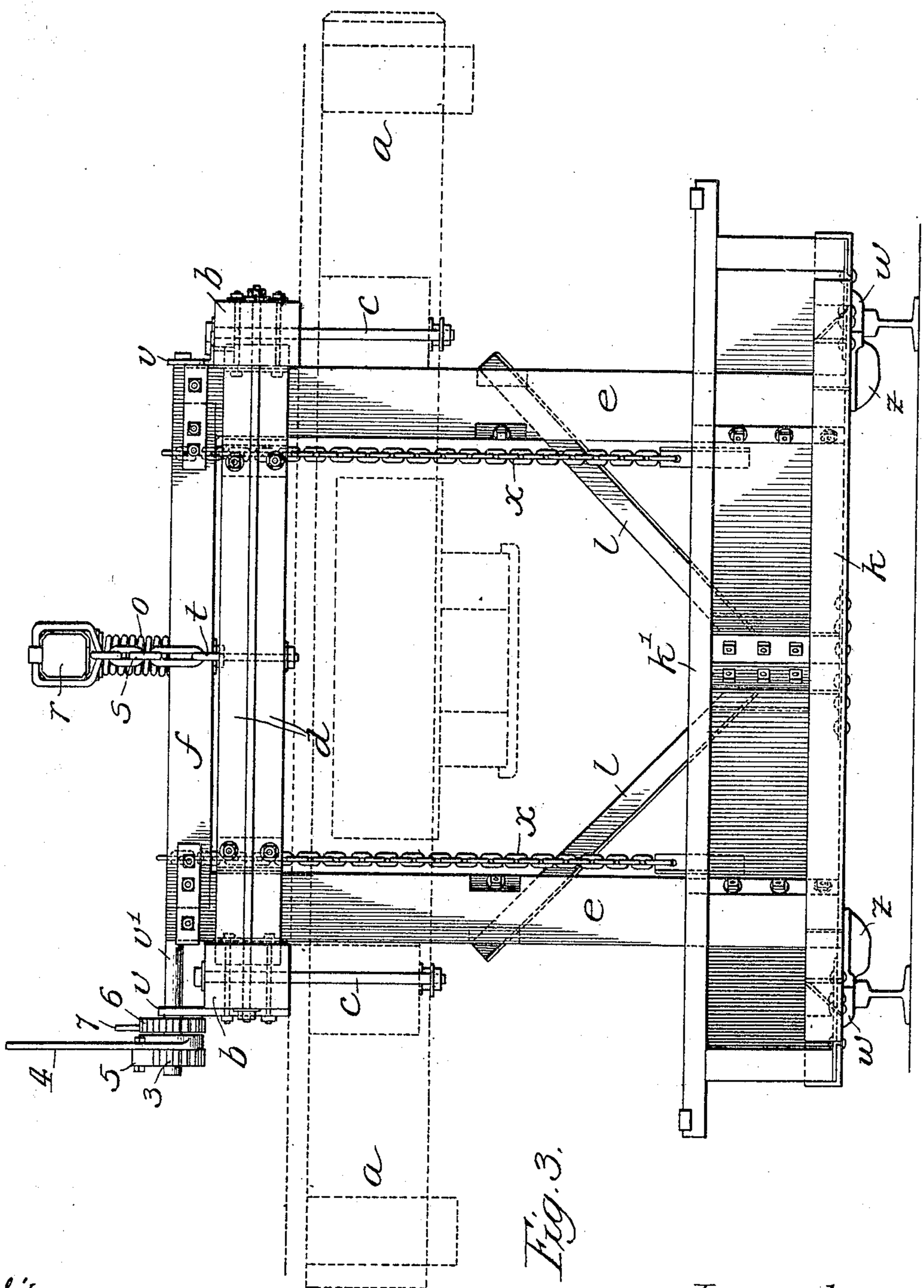

Fig. 3.

Witnesses:
Chas. E. Gaylord.
John Enders

Inventor:
Otto W. Meissner.
By Thomas F. Sheridan.
Atty.

UNITED STATES PATENT OFFICE.

OTTO W. MEISSNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO RODGER BALLAST CAR COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RAILWAY BALLAST-PLOW.

No. 812,222. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed November 18, 1905. Serial No. 288,089.

To all whom it may concern:

Be it known that I, OTTO W. MEISSNER, a citizen 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-Plows, of which the following is a specification.

My invention relates to railway-cars; and it consists in a plow attached to the rear end of a car for the purpose of leveling the ballast heaped up between the tracks; and the object of my invention is to produce a simple and effective plow for this purpose.

In the accompanying drawings, Figure 1 is a side elevation showing a portion of a car with my plow attached thereto; Fig. 2, a top plan view, and Fig. 3 a rear elevation.

As is well known, ballast material, such as crushed stone, &c., is usually deposited between the tracks of a railroad by an automatic dumping or ballast car, which leaves the ballast material heaped up between the tracks and extending under the flanges of the rails. This material must then be leveled off and the portions of it beneath the flanges removed, so as to permit the passage of a train. In order to effect this leveling and clearing operation, I use the device illustrated in the accompanying drawings, in which—

a represents the rear end of a ballast-car—or, it may be, any suitable car—and *b* a supporting-frame rigidly attached thereto by suitable bolts *c*. The frame *b* comprises the side members *b'* and the end members *d d'*, securely connected together. Angle-straps d^2, connected to the side and end bars, form passage-ways for the plow-standards.

g represents a plow member made in the usual triangular form, as shown. To this plow member standards *e* are rigidly secured by suitable bolts. These standards pass through vertical openings formed by the side and end bars and angle-straps. The plow member *g* is suitably reinforced by a metallic shoe *h* and braced by side channel-bars *i*, a rear channel-bar *k*, a rear cross-bar *k'*, and diagonal brace-straps *l*.

m m are suitable chains secured at one end to the rear of the plow member and at the other end to the truck of the car and serve to guide the plow in its movements and prevent undue variations therein.

Connecting the upper ends of the standards *e* is a cross-bar *f*, rigidly secured thereto. Mounted in this cross-bar at its middle point is a bolt *n*, carrying at its upper end a fulcrum-piece *p*, having spaced ears *p'*, as shown in Figs. 1 and 2. Between this fulcrum-piece and the cross-bar is a cushion-spring *o*. Mounted in the fulcrum-piece by fulcrums *q* is a lever *r*, connected at one end by a chain *s* to an eyebolt *t*, mounted in the transverse bar *d* of the supporting-frame. At its other end this lever is detachably secured to the forward cross-bar *d'* of the supporting-frame by means of a chain *s'* and eyebolt *t'*.

For the purpose of raising and lowering the plow I provide a shaft *v'*, mounted in brackets *v*, secured one to each side of the supporting-frame. Chains *x* are connected to the plow at one end and to the shaft at the other end. Any suitable means may be provided for operating the shaft. I have shown a ratchet-wheel 3, secured to one end of the shaft, a lever 4, loosely mounted on the shaft and carrying a pawl 5, which engages with the ratchet-wheel 3. Also rigidly secured to the shaft is a ratchet-wheel 6, engaged by a detent-pawl 7, which is pivoted to the securing-frame. By operating the lever 4 the shaft *d'* may be turned and held in its adjusted position by the ratchet-wheel 6 and detent.

On the under side of the plow member I provide suitable shoes *w*, (shown in Fig. 3,) which ride over the tracks, and adjacent to these shoes I provide flanged scraping members *z*, having short flanges extending transversely of the plow member. The purpose of these flanges is to remove the ballast material which has been deposited adjacent the track-flanges.

The operation of my invention will be apparent from the above description; but it may be said that when the plow is dragged over the tracks by the car to which it is attached it operates to spread out and level the ballast material which has been deposited between the rails, the flanges *z* serving to clear the space adjacent to the rails. Through the spring *o*, which is adjusted by the lever *r*, the plow is permitted to have a slight vertical play, so as to pass over any slight obstructions. When it is desired to raise the plow, this may be done by releasing the lever *r* at its forward end and winding up the chain *x* on the shaft *v'*. It will be seen that I have provided an extremely simple and efficient

means for accomplishing the purpose desired.

My plow is particularly designed to be attached to railway ballast-cars, which, as is well known, are of the automatic center-dump type. Thus in places where no regular ballast-plow is obtainable or on small roads desirous to avoid unnecessary expense my plow can be attached to any ordinary ballast-car, which thus serves the purposes of depositing the ballast material and subsequently leveling it.

I claim—

1. The combination with a railway ballast-car of a framework secured to the rear end thereof, comprising side and end bars and angle-straps forming vertical passage-ways, a plow, standards rigidly secured to the plow and passing through the vertical passage-ways in the framework, and means for adjusting the standards.

2. The combination with a railway ballast-car of a framework secured to the rear end thereof, a plow, and cushioned means for supporting the plow in the framework.

3. The combination with a railway ballast-car of a framework secured to the rear end thereof having vertical passage-ways therethrough, a plow, standards secured to the plow passing through the vertical passage-ways, a cross-piece connecting the standards above the framework, a fulcrum-bolt having a fulcrum member mounted on the cross-piece, a spring interposed between the fulcrum member and the cross-piece, and a lever fulcrumed in the fulcrum member and connected to the framework at its ends.

4. The combination with a railway ballast-car of a framework, a plow mounted for vertical movement in the framework, cushioned means detachably connected to the framework for securing the plow in operative position, and means for raising and lowering the plow when the securing means is released.

5. The combination with a railway ballast-car of a framework comprising side and end bars, angle-straps mounted on the side and end bars and forming passage-ways therewith, a plow having standards mounted in the passage-ways, a shaft journaled in the framework, flexible connections between the shaft and plow, means for rotating the shaft, a ratchet-wheel on the shaft, and a pawl on the framework engaging the ratchet.

OTTO W. MEISSNER.

Witnesses:
CHAS. S. BICHY,
EMILIE MOYE.