

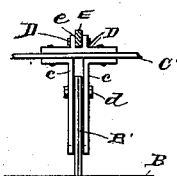
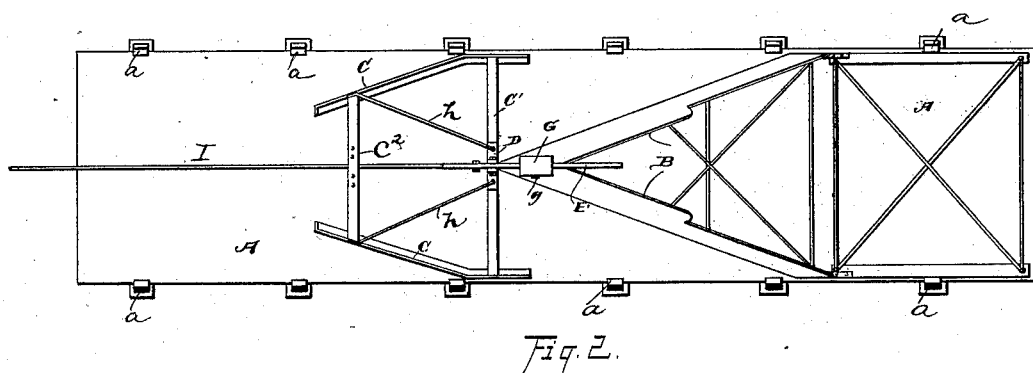
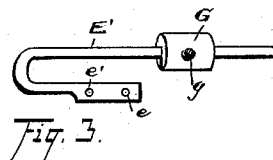
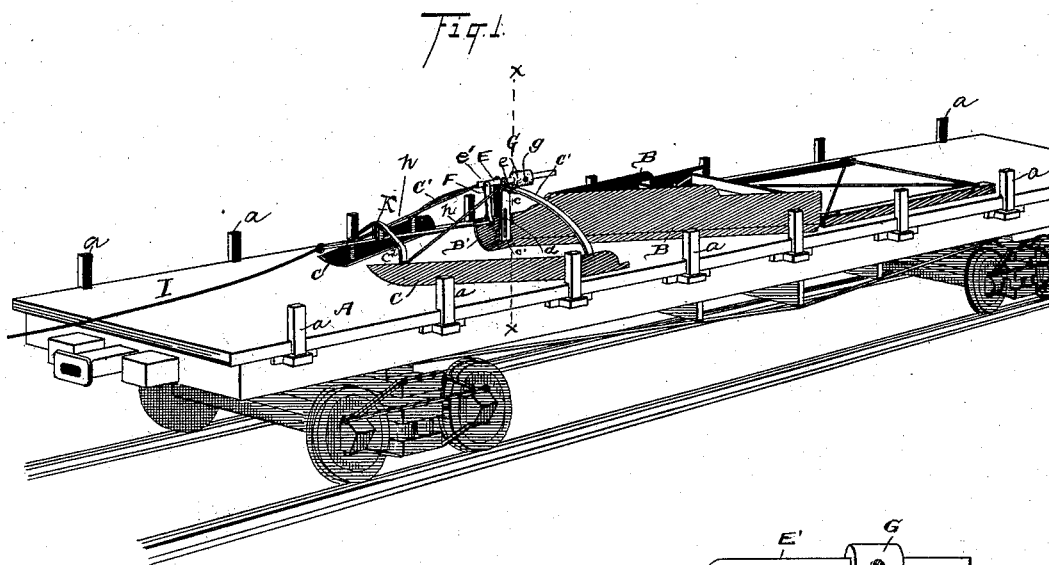
(No Model.)

2 Sheets—Sheet 1.

H. M. BARNHART
CAR UNLOADER.

No. 384,111.

Patented June 5, 1888.



WITNESSES
N. S. Amstutz
Geo. W. King.

Henry M. Barnhart.
INVENTOR.
Leggett & Leggett
Attorney.

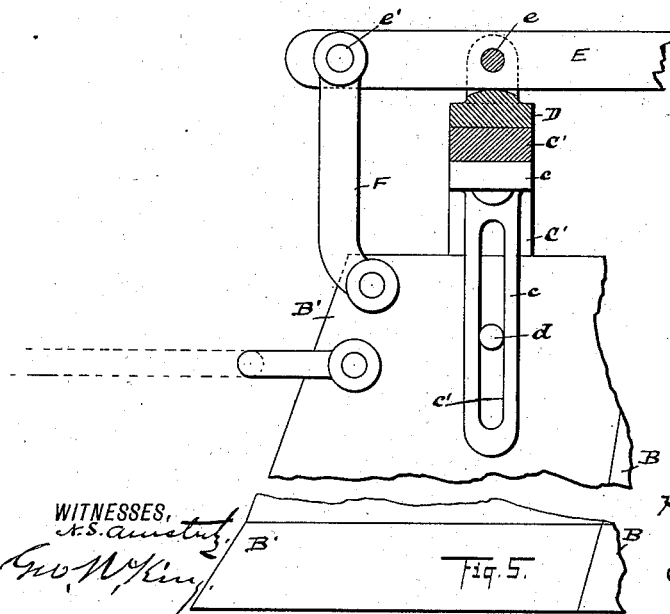
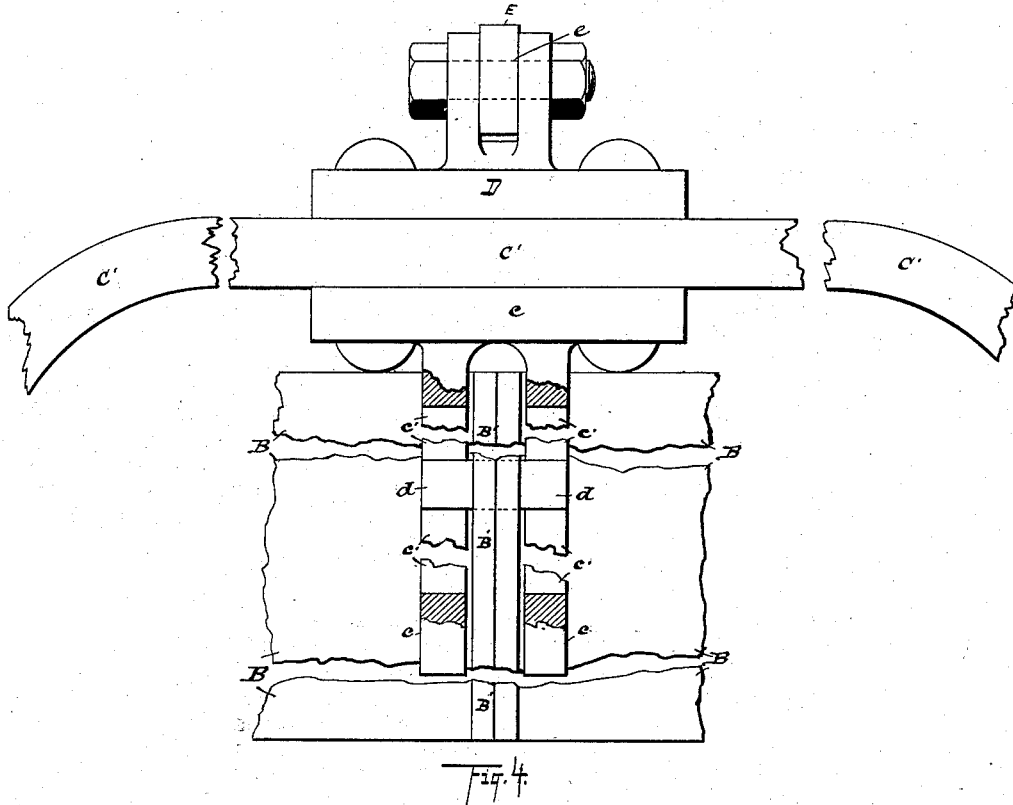
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2 Sheets—Sheet 2.

H. M. BARNHART.
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WITNESSES,

W. S. Amstutz
Geo. W. King

H. M. Barnhart INVENTOR.

Seigett & Seigett
Attorneys.

UNITED STATES PATENT OFFICE.

HENRY M. BARNHART, OF MARION, OHIO.

CAR-UNLOADER.

SPECIFICATION forming part of Letters Patent No. 384,111, dated June 5, 1888.

Application filed August 15, 1887. Serial No. 246,971. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. BARNHART, of Marion, in the county of Marion and State of Ohio, have invented certain new and useful

Improvements in Car-Unloaders; and I do hereby 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 pertains to make and use the same.

My invention relates to improvements in car-unloaders in which a plow and fender are employed, as heretofore, but with a connection between the two parts having considerable vertical play. A lever attachment is had with an adjustable poise mounted on the lever for partially counterbalancing or regulating the downward pressure of the plow, such pressure being made greater or less, according to the kind of material to be unloaded, to the end that, while the plow is always made to do its work, unnecessary wear or tear on the floor of the car is avoided. By means of the lever attachment and loose connection aforesaid the unloader is made to pass from one car to another without difficulty, although the different cars may vary several inches in height.

My present invention is designed as an improvement on car-unloader and ballast-discharger patented October 14, 1884, No. 306,688.

In the accompanying drawings, Figure 1 is a view in perspective. Fig. 2 is a plan view. Fig. 3 is a view in perspective showing a modification of lever, hereinafter described. Fig. 4 is an enlarged section on line X X of Fig. 1, and Fig. 5 is an enlarged elevation showing the end of the plow and attached mechanism for operating the same.

A represents a railway-car of the variety known as "flat."

B is the plow, and C the fender. These parts are substantially the same as heretofore used, except such modifications as hereinafter described. The rear arch-bar, C', of the fender has depending brackets *c* that embrace loosely the forward end or cutter, B', of the plow. These brackets have vertical slots *c'*, and a bolt or pin, *d*, is made to pass through the cutter and to extend loosely through the slot *c'*, such bolt having considerable vertical play—say eight or ten inches, more or less—in the said slot by means of which in passing over cars of differ-

ent elevations the point of the plow may be elevated or depressed from the plane that the fender is traveling upon. Brackets D extend above the arch-bar C'. These brackets embrace a lever, E, which latter is pivoted thereto at *e*. At *e'*, a few inches in front of the fulcrum *e*, a link, F, is pivoted to the lever E, the lower end of the link being connected with the extreme end of the plow-cutter. By means of this lever attachment the front end of the plow may be elevated or assisted in mounting a car of higher elevation, the fender of course having first mounted such higher car. A heavy poise or counter-balance, G, is mounted on the lever E. The poise is adjustable endwise of the lever and has a suitable device for securing it in its adjusted position, such securing device being usually a set-screw, *g*.

The plow, in order to be able to cope with all kinds of material, must be of considerable weight, especially at the forward end. Otherwise with obstinate materials—such, for instance, as dense mud—the point of the plow would be likely to ride upon the ballast instead of unloading the latter. On the other hand, a heavy plow in unloading light material would drag and scrape along the car and cause needless wear and tear of the floor of the car. By adjusting the poise G along the lever E the fender is made to carry more or less of the weight of the plow according as the poise is moved rearward or forward on the lever. A lever, E', of the return-bend variety shown in Fig. 3 may be used, in which case the poise may be moved over the fulcrum *e*, so as to be inoperative in its relation with the plow, or the poise may be moved forward over the link F, in which case the weight of the poise would be added to the weight of the plow, or the poise might be moved still farther forward, so that the pivot *e* would serve as a fulcrum for the lever, in which case a portion of the weight of the fender would be added to the weight of the plow and poise. With this variety of lever a lighter plow can be used, or a plow of ordinary weight could in extreme cases be made more effective in unloading exceptionally heavy and obstinate material.

The draft-rod I is connected to the forward end of the plow. This rod passes through a slot made in the bracket K, the latter being

connected with and extending from the forward arch-bar, C², of the fender, by which arrangement the forward end of the fender is kept in line with the draft-rod, while the rear end of the fender, by means of the bracket *c*, keeps the forward end of the plow substantially in the central line of the car, the rear end of the fender being kept in place by means of the car-stakes *a*. Stay-rods *b* connect the arch-bars C' and C².

What I claim is—

1. In a car-unloader, the combination, with a plow and fender, the said parts having a vertical sliding connection with each other, of a lever fulcrumed on the fender and loosely connected to the plow, whereby the relative height of the plow to the fender may be regulated, substantially as set forth.

2. The combination, with a plow, a fender, and arch-bars connected with the fender, of vertically-slotted brackets connected with the rear arch-bar and made to embrace the forward end of the plow, a pin made to pass through the cutter of the plow and into the slots of the bracket, substantially as set forth.

3. The combination, with a plow and a fender, of a lever pivoted to the fender, a link

connecting the lever with the plow, whereby the front portion of the plow may be elevated, substantially as set forth.

4. The combination, with a connected plow and fender, the former having vertical play, substantially as indicated, of a lever pivoted on the fender and connected by a link with the cutter of the plow, substantially as set forth.

5. The combination, with a plow, a fender, and a lever, of a poise or counter-balance mounted on the lever, substantially as set forth.

6. The combination, with a plow, a fender, and a lever, of a poise mounted on the lever, said poise being adjustable lengthwise of the lever, substantially as set forth.

7. The combination of a plow, a fender, a lever, and a poise, substantially as indicated, said lever having a return-bend, whereby the poise may be moved on either side of the fulcrum of the lever, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 21st day of July, 1887.

HENRY M. BARNHART.

Witnesses:

GEO. D. COPELAND,
GEO. W. KING.