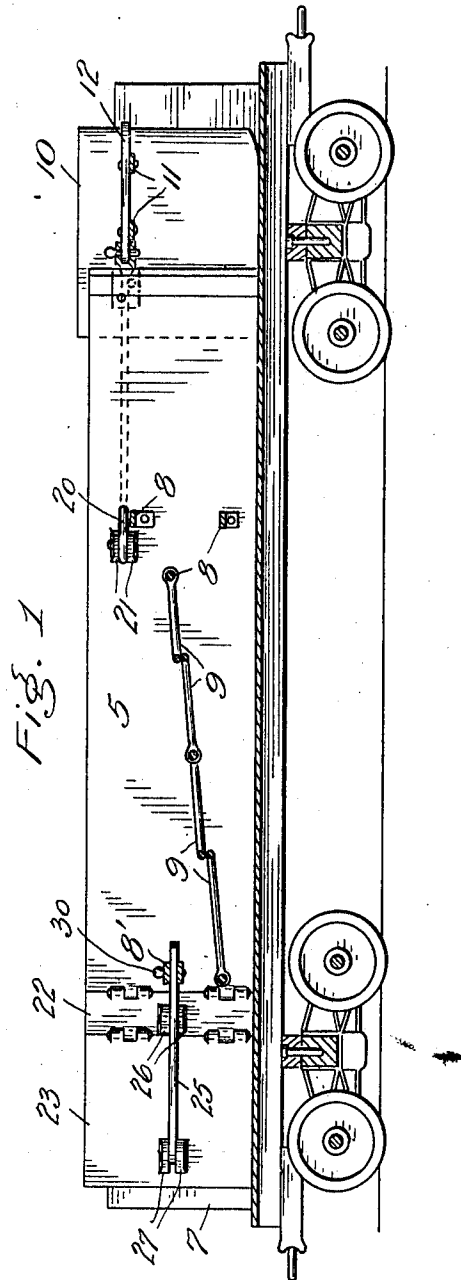


C. H. BYERS.
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 APPLICATION FILED NOV. 17, 1910.

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Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.



WITNESSES:

H. Barnes
E. Peterson

INVENTOR:

Charles H Byers

BY

Pierre Barnes
 ATTORNEY

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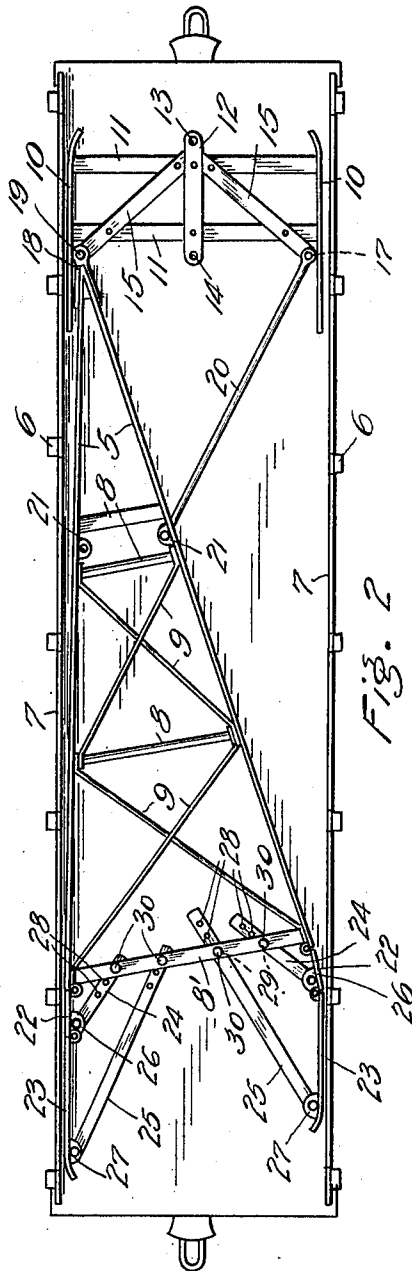


Fig. 2

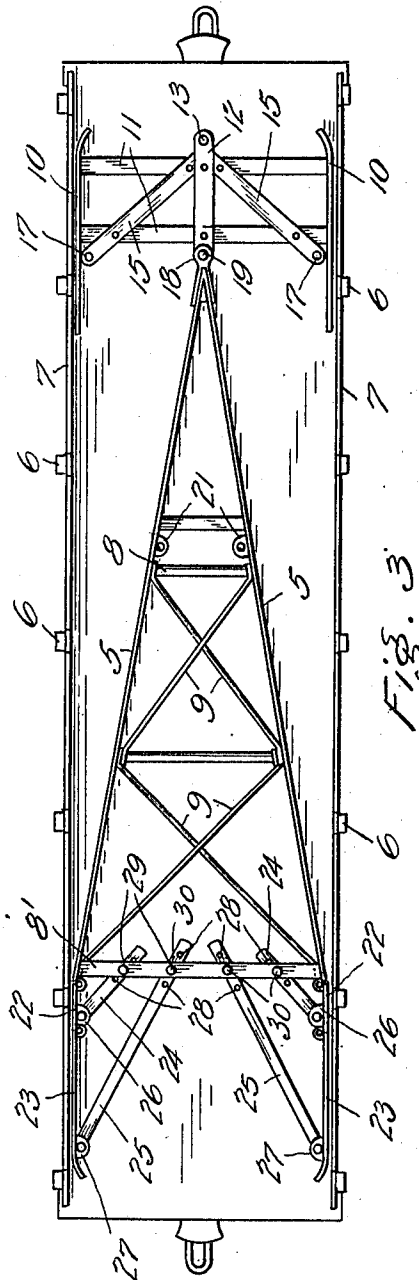


Fig. 3

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UNITED STATES PATENT OFFICE.

CHARLES H. BYERS, OF SEATTLE, WASHINGTON.

PLOW FOR UNLOADING CARS.

988,926.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed November 17, 1910. Serial No. 592,855.

To all whom it may concern:

Be it known that I, CHARLES H. BYERS, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Plows for Unloading Cars, of which the following is a specification.

This invention relates to car-unloading plows which are used for discharging sand, gravel or other like material in bulk from either flat cars or from cars provided with outwardly swingable hinged side doors to effect the discharge of the material as the plow is drawn forward.

The object of my invention is to provide a plow of this type which will be of improved construction, efficient in operation and which may be adjusted for discharging the load from either side of a car, or from both sides, as may be desired.

The invention consists of the plow proper and the novel means for readily affecting the draft of same to cause it to be drawn from the longitudinal axis or from either side of the car, as desired; and of apparatus provided at the rear of such plow devices and capable of adjustment to the varying widths of cars for affording guides and bearings with respect to the car sides to control the operations of the plow in all the various positions at which the plow operates.

The invention further consists in the novel construction and combination of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of an embodiment of my invention applied to a railway car. Figs. 2 and 3 are plan views of the same to respectively illustrate the plow as adapted for discharging a load from the right hand side of the car, and as employed to discharge equally upon both sides.

The reference numeral 5 designates vertically arranged side plates which are connected at their front ends and therefrom diverge toward the rear with a spread which will permit of their movement longitudinally within the space between the opposing car stakes 6, or between the car's side walls 7, according to the character of the car with which the invention is to be utilized. Said plates constitute the side members, or shares, of the plow proper and are rigidly held in their relative positions through the medium of suitable frame-work, such as cross bars

8, 8' and diagonal braces 9. A draft frame for said plow includes guide runners 10 spaced apart to substantially the width between said opposing car-sides 7 by spreaders 11, a longitudinal draft bar 12 rigidly secured midway between said runners and apertured at 13 and 14 for connection with an operating cable and the plow, respectively, and oppositely inclined diagonal bars 15 rigidly secured to said spreaders and having at their rear ends apertures 17. Separable connection is had between the draft frame and the plow, through the medium of a clevis 18, secured to the plow point, and a coupling-pin 19 when the holes of the clevis are brought into register with either of the above mentioned apertures 14 or 17. In the event that said plow is connected by the clevis and coupling pin to either of the side draft apertures 17 a tie rod 20 would be secured in the opposing apertures 17 and connected to the adjacent of the apertured lugs 21 provided in the respective side plates 5 for distributing the strains imparted to the plow and likewise serving to maintain the draft frame against distortion. At the rear of the plow each of said plates 5 is hingedly connected to a vertically arranged apron 22, which, in turn, have similarly connected to their edges mold-boards 23. The aprons and mold-boards are adjustable through the offices of said hinged connections and are respectively secured in adjusted positions relative to each other and to the plow-plates 5 by means of bars 24 and 25 secured at one extremity to lugs 26 and 27 provided on the aprons and mold-boards, respectively, and at their opposite ends to transverse bars 8' secured to said plow-plates in proximity to their rear ends. These transverse bars are provided with holes 29 with which spaced holes 28 provided in the several bars 24 may be brought in register to accommodate pins 30 whereby the bars 24 are engaged to secure the aprons and mold-boards in predetermined positions.

The operation of the invention, it is thought, will be understood by the foregoing description. It may be said, however, that for the purpose of discharging the load from the car equally upon both sides thereof, connection is made between the plow clevis 18 and the central draft bar 12 whereupon the aprons and mold-boards at the rear of the plow would be adjusted to occupy the positions in which they are illustrated in

Fig. 3, that is to say, symmetrically upon each side of said plow; and the bars 24, 25 secured to the cross-bar 8' in the appropriate holes 29 thereof. When it is desired to unload the cargo upon one side or the other of the car, the plow is connected to the proper apertures 17 of the diagonal bars, as shown in Fig. 2, for example. The apron and mold-boards would accordingly be adjusted and secured as before explained to assume suitable positions.

The invention is simple in construction and the plow may readily be changed to draw from a central point or from either side, as determined upon. Also that the mold-boards may at all times be retained in parallel positions relative to the car-sides and the aprons, in their functions as connecting links between said mold-boards and plow-plates, may be brought to assume the requisite angular position medially between the two latter, to then act in promoting the discharge of the cargo and also permitting of the extension of said mold-boards in lateral directions to an extent that will cause the latter to bear evenly upon the sides of the car or the stake, as the case may be, and thus regulate the lateral position of the plow relative to the car structure.

What I claim as my invention, is—

1. In a plow for unloading cars, a mold-board hingedly connected to the rear of the plow-share, and means to adjustably secure said mold-board in various angular positions relative to said plow-share.

2. In a plow for unloading cars, an apron connected to the rear of the plow-share, means to maintain said apron and plow-share in various angular adjustments, a mold-board connected to said apron, and means to secure said mold-board in adjusted relations to said apron and plow-share.

3. In a plow for unloading cars, the combination of a plow, a draft frame for said plow, a mold-board, an apron connecting said mold-board and the rear of said plow, and a brace for each said mold-board and apron whereby the same may be retained in adjusted angular positions relative to said plow.

4. In a plow for unloading cars, the combination of a plow, a draft frame for said plow, a mold-board, an apron hingedly connected at its forward edge with the rear of said plow and at its rear edge with said mold-board, and adjustable brace connec-

tions between said plow and each said mold-board and each said apron.

5. In a plow for unloading cars, the combination with a plow comprising two side plates inclined in the form of a V, a draft frame for said plow, a mold-board upon each side of said plow, an apron connecting said mold-boards with the respective plates, and adjustable brace connections between said plow and said mold-board and apron.

6. In a plow for unloading cars, in combination with a car, a plow having two side plates joined at their forward ends and diverging rearwardly, means whereby said plow may be drawn longitudinally of the car and the point thereof held in close proximity of either of the sides of the car, a mold-board secured to the rear of each of said plates, and means to adjustably secure said mold-boards in planes substantially parallel to the sides of the car.

7. In a plow for unloading cars, the combination of a plow comprised of side plates inclined in the form of a V and suitable bracing therefor, a draft frame including longitudinal runners arranged to operate in proximity to the opposite sides of a car, connections between said plow and said frame whereby the former may be drawn selectively with its point centrally of the car or in proximity of either side thereof, an apron connected to the rear of each of said plates and adjustable in its angular relation thereto, and a mold-board connected to each of said aprons and arranged to be adjustable in planes parallel to the sides of the car.

8. In a plow for unloading cars, the combination with a draft frame provided with longitudinal runners arranged to control the movements of said frame, and means for connecting a plow to said frame either centrally or in proximity to either of said runners, of a V-shaped plow having vertical side members which are connected at their forward ends, an apron hingedly secured to the rear of each of said side members, a mold-board hingedly secured to the rear of each of said aprons, and brace connections whereby the inclination of each said apron and mold-board may be adjusted and secured relative to the said side members.

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Witnesses:

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E. PETERSON.