C. C. MALLARD, DEC'D.

C. L. RAWLINS, ADMINISTRATOR.

BALLAST PLOW OR SPREADER.

APPLICATION FILED MAR. 25, 1914.

1,155,429.

Patented Oct. 5, 1915.

3 SHEETS—SHEET 1.

Fig. 1.

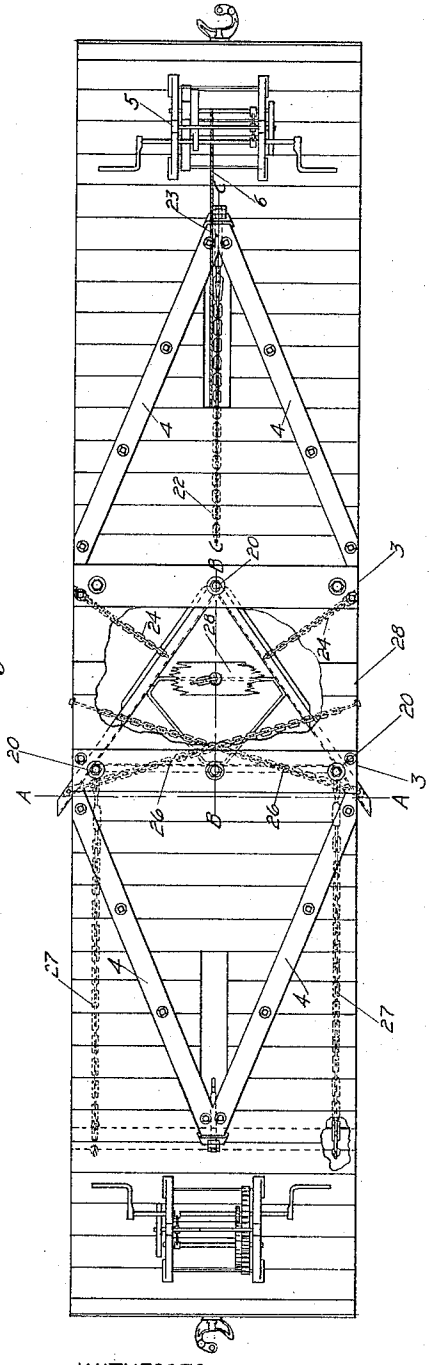
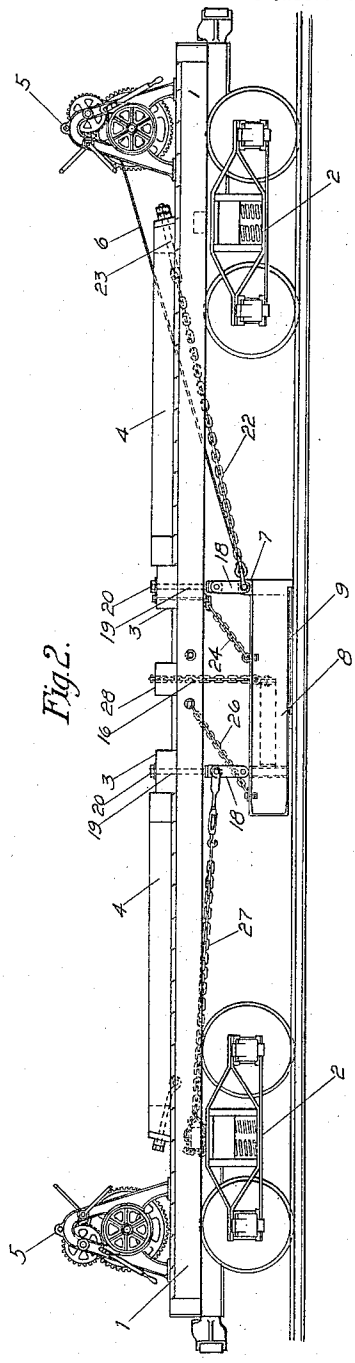


Fig. 2.



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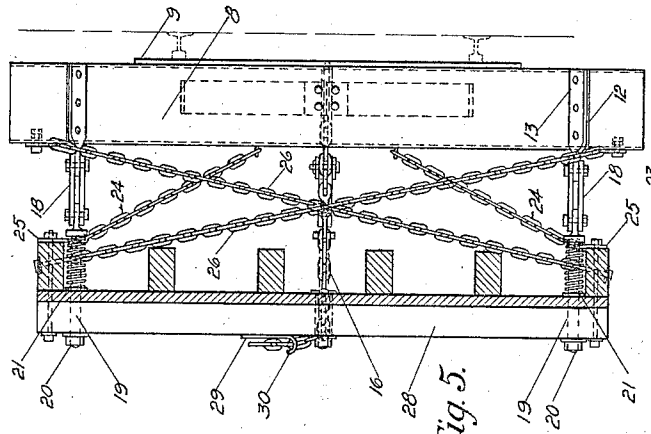


Fig. 5.

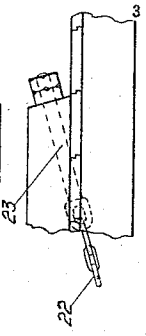


Fig. 7.

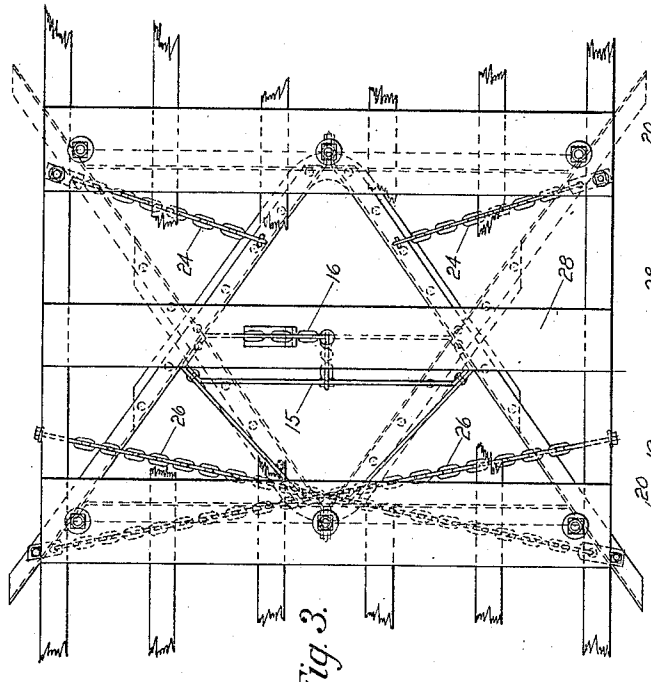


Fig. 3.

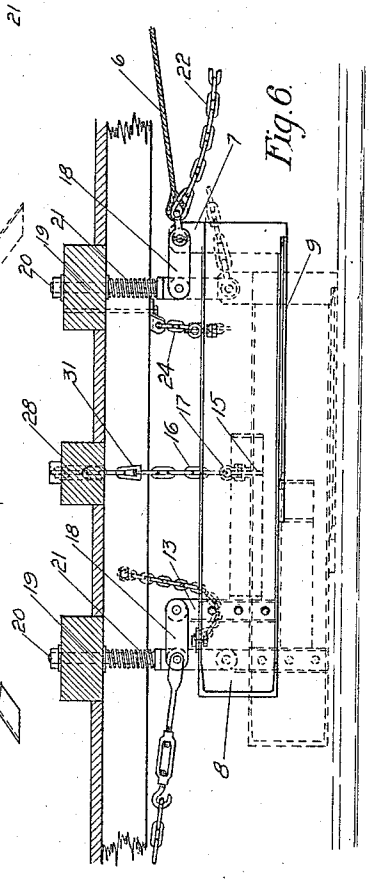


Fig. 6.

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3 SHEETS—SHEET 3.

Fig. 9.

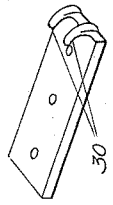


Fig. 8.



Fig. 4.

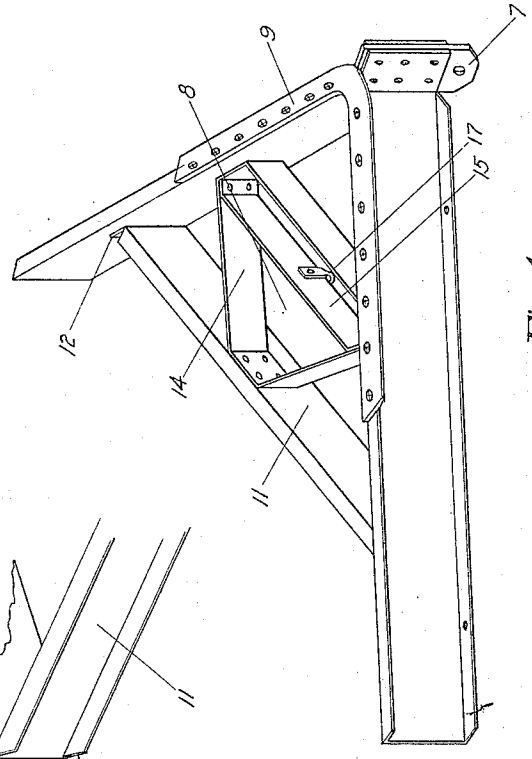
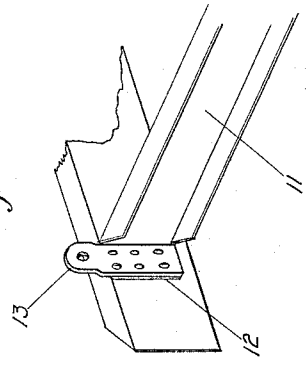


Fig. 10.



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UNITED STATES PATENT OFFICE.

CHARLES C. MALLARD, OF GLOBE, ARIZONA; CHARLES L. RAWLINS ADMINISTRATOR OF SAID MALLARD, DECEASED.

BALLAST PLOW OR SPREADER.

1,155,429. Specification of Letters Patent. Patented Oct. 5, 1915.

Application filed March 25, 1914. Serial No. 827,212.

To all whom it may concern:

Be it known that I, CHARLES C. MALLARD, a citizen of the United States, residing at Globe, in the county of Gila and State of Arizona, have invented certain new and useful Improvements in Ballast Plows or Spreaders, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to ballast plows or spreaders and has for its object the production of an efficient means for raising and lowering the plow relative to the body of the car which supports the same.

Another object of this invention is the production of an efficient means for flexibly suspending the plow from the body of a car adapted to support the same.

With these and other objects in view this invention consists of certain novel combinations, constructions, and arrangements of parts as will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a top plan view of the car provided with the improved ballast spreader. Fig. 2 is a side elevation of the car illustrated in Fig. 1. Fig. 3 is a bottom plan view of the car provided with the improved device. Fig. 4 is a detailed perspective of the plow. Fig. 5 is a sectional view taken on line A—A, of Fig. 1. Fig. 6 is a sectional view taken on line B—B, of Fig. 1. Fig. 7 is an enlarged longitudinal sectional view taken on line C—C, of Fig. 1. Fig. 8 is a detailed perspective of one of the supporting rods which constitute hangers for the plow. Fig. 9 is a detailed perspective of one of the locking plates adapted to hold the plow in an elevated position. Fig. 10 is a detailed perspective of the rear end of one of the plow blades showing the manner of connecting the rear brace to one of the side blades.

By referring to the drawings it will be seen that 1 (Fig. 2) designates the car body which is supported by the usual trucks 2. The body 1 is provided on the top thereof with a plurality of transversely extending braces 3 and a plurality of converging braces 4 near the ends of the car body. It should be understood that if it be so desired, heavy material such as scrap iron may be placed upon the car body to lend additional weight thereto. A plurality of winches 5 of any suitable construction are carried near each end of the car 1 and around the drum of one of these winches 5 is wound a lifting or controlling cable 6. This controlling cable 6 is connected to the upwardly extending ear 7 of the plow 8 for the purpose of drawing the plow 8 forwardly and at the same time raising the same from the position shown in Fig. 6 in dotted lines to the position shown in Fig. 6 in full lines.

The plow 8 comprises a pair of diverging blades formed of channel iron having their forward ends fitting upon opposite sides of the ear 7 and being riveted thereto, as is clearly illustrated in Fig. 4. A cutting blade 9 is carried by each of the diverging blades of the plow 8 for the purpose of relieving the wear from the under face of the channel irons which form the diverging blades of the plow 8. If it is so desired, the blades of the plow 8 may be provided with downwardly extending scraper blades for the purpose of projecting below the rails and thereby allowing the ballast to be spread evenly or nearly to the level of the top of the railroad ties. The diverging blades of the plow 8 are braced by means of a rear channel iron 11 (Fig. 4) which extends transversely of the plow 8 and at its angularly bent ends 12 are riveted to the supporting ears 13 and to the diverging blades of the plow 8. A central brace substantially triangular shaped, indicated by the numeral 14 (Fig. 4) is interposed between the rear brace 11 and the diverging blades of the plow 8, thereby constituting efficient means for bracing the entire body portion of the plow. Within this triangular shaped brace is interposed another brace 15 to which is attached a chain 16 by a clevis 17.

A plurality of links 18 engage the respective ears 13 and 7 for connecting the plow with the suspending eye bolts 19. These bolts pass through the respective transversely extending beams 3 and are provided with adjusting nuts 20 for the purpose of allowing the suspending bolts 19 to be adjusted vertical to the body 1 of the car. Coiled springs 21 are mounted upon the suspending bolts 19 for normally exerting a downward pressure upon the links 18 and also for the purpose of constituting a yieldable suspending means. The upper ends of the springs 21 press against washers on the under side of the transversely extending

beams 3. A bracing chain 22 is adapted to limit the rearward movement of the plow and to take the pulling strain while the plow is being used for the purpose of spreading ballast.

A plurality of guide chains 24 are connected to the plow near the front end thereof, and these guide chains 24 are also connected to the sides of the car body as indicated in 25 in Fig. 5. Auxiliary guide chains 26 are also connected to the rear ends of the plow 8 and cross each other as indicated at Fig. 5 having their respective ends also secured to the side beams of the body 1 of the car. Chains 27 are connected to the rear suspending bolts 19 and these chains are also connected to the body bolster of the car for relieving the forward strain from the rear suspending bolts 19, and to hold the rear suspending bolts in a vertical position when plow is raised.

A brace 28 is carried between the transversely extending beams and this brace carries a chain engaging hook 29 which is provided with a plurality of upwardly projecting spurs 30. These spurs 30 constitute holding fingers, between which fingers is adapted to be placed the chain 16 for holding the plow in an elevated position, and relieving the strain from the lifting cable 6. The chain 16 is secured at its lower end to a clevis 17 attached to a brace 15.

From the foregoing description it will be seen that a very simple and efficient device has been produced for the purpose of spreading the ballast upon a track and also for the purpose of readily lifting the plow from engagement with the track when conveying the car carrying the same from place to place.

If it becomes necessary at any time to turn the plow so that it will operate in the opposite direction the plow can be placed in the raised position and the chain 16 made to engage the fingers 30 of the engaging hook 29 and while the plow is thus suspended its various stay chains, links, hanger bolts and other connections can be disconnected and the plow turned on the swivel 31, and the bolts, links, chains and various connections shifted in the opposite direction.

It should be understood that the present plow or spreader suspending means may be attached to other plows of different shapes and that the device may be modified as to its detail mechanical construction without departing from the spirit of the invention.

What is claimed, is:

A ballast spreader comprising a support, a plow provided with diverging blades, yieldable means carried by said support, links engaging said yieldable means and also engaging said plow for permitting the forward and rearward swing of said plow upon said support whereby said plow may be raised and lowered, a locking chain engaging said plow, means carried by said support for engaging said locking chain and holding said plow in a lifted position, and means for bracing said plow.

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

CHARLES C. MALLARD.

Witnesses:
ROBERT N. FIELD,
HOWARD C. HARPER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."