G. DAVIS.

LOADING AND UNLOADING MECHANISM.

APPLICATION FILED SEPT. 28, 1908.

923,028. **Patented May 25, 1909.**

2 SHEETS—SHEET 1.

Fig. 3.

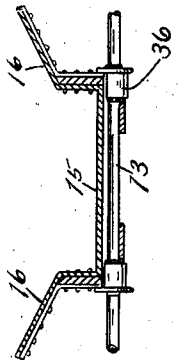


Fig. 4.

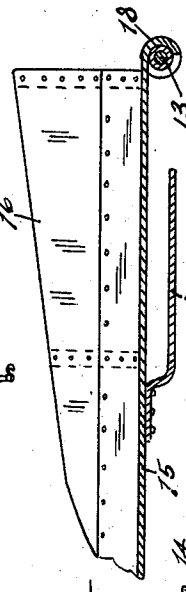


Fig. 5.

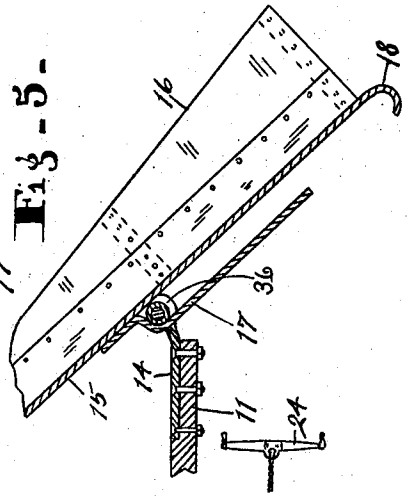


Fig. 1.

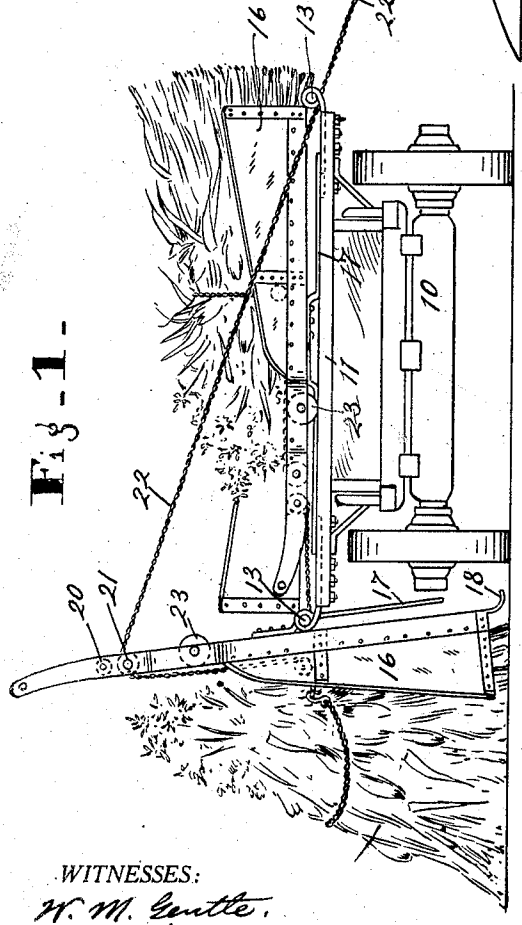
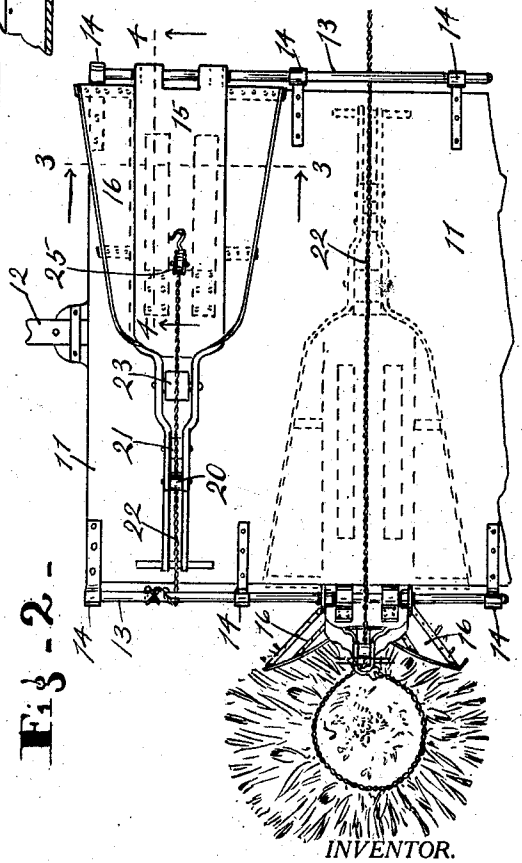


Fig. 2.



WITNESSES:

W. M. Gentle.

O. M. Greener.

INVENTOR.

Granville Davis.

BY

V. H. Lockwood

ATTORNEY.

G. DAVIS.

LOADING AND UNLOADING MECHANISM.

APPLICATION FILED SEPT. 28, 1908.

923,028.

Patented May 25, 1909.

2 SHEETS—SHEET 2.

Fig. 8.

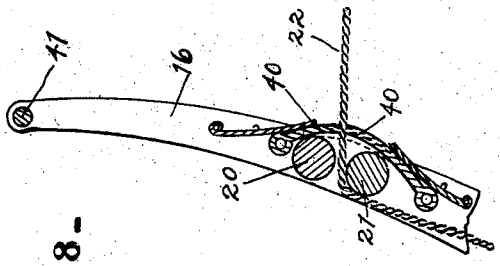


Fig. 9.

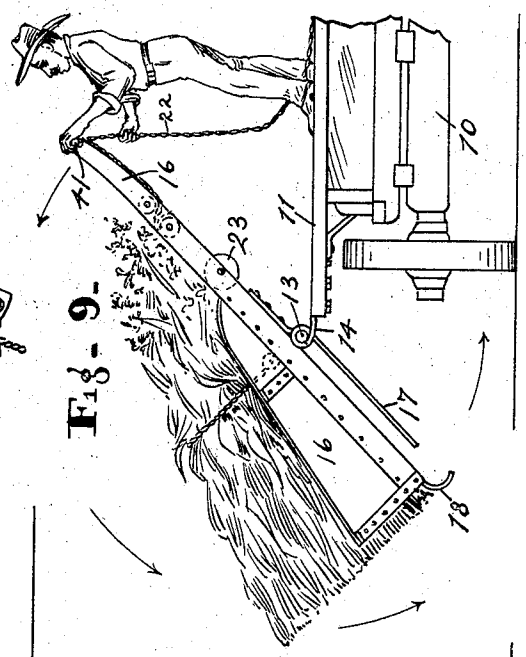


Fig. 6.

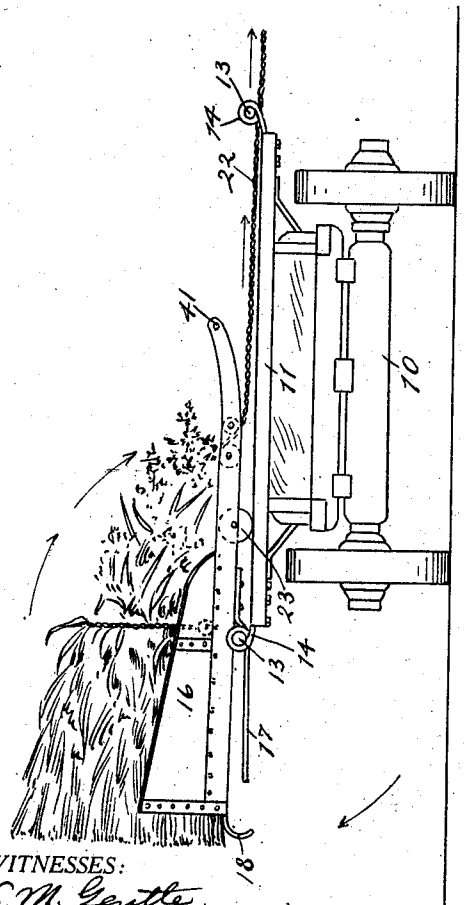
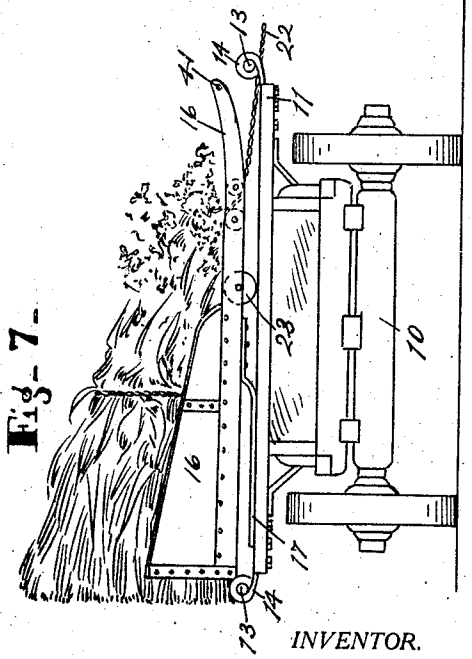


Fig. 7.



WITNESSES:

W. M. Gentle.

O. M. Greener

INVENTOR.

Granville Davis,

BY

D. H. Fortwood.

ATTORNEY.

UNITED STATES PATENT OFFICE.

GRANVILLE DAVIS, OF NORTH SALEM, INDIANA, ASSIGNOR OF ONE-HALF TO WILLIAM E. KURTZ, OF INDIANAPOLIS, INDIANA.

LOADING AND UNLOADING MECHANISM.

No. 923,028. Specification of Letters Patent. Patented May 25, 1909.

Application filed September 28, 1908. Serial No. 455,024.

To all whom it may concern:

Be it known that I, GRANVILLE DAVIS, of North Salem, county of Hendricks, and State of Indiana, have invented a certain new and useful Loading and Unloading Mechanism; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

The object of this invention is to provide improved means for loading and unloading vehicles.

The particular device shown and described herein is for loading shocks of corn in the field and for unloading the same but it is not intended that the invention shall be limited to such use, for it can be employed as well for loading hogsheads, barrels, bales and like heavy articles that are more or less uniform in shape and size.

The chief feature of the invention consists in mounting a loader in connection with the body or frame of the vehicle so that it will be slidable thereon as well as fulcrumed thereto, whereby said loader can be turned down vertically beside the article to be loaded and the article connected therewith and then the loader can be turned to a horizontal position and drawn upon the platform in the final position for it to be carried. With this feature of the invention, the loader when the vehicle is not loaded will not extend materially beyond the sides of the platform and yet when the vehicle is in position for loading, the loader can be pushed laterally to the fulcrumed position at the edge of the platform and turned down to a vertical position beside the article, and after the article has been loaded it will not project materially beyond the side of the platform. These advantages not only result from this invention but it enables the ready unloading of the article by a mere reversal of the loading operation, so that the device is used not only as a loader but as an unloader. This contemplates that there shall be one loader for each article, that is, for each shock of corn, hogshead, or bale of cotton, and that said shock, hogshead or bale remain on the loader during transportation and be unloaded by said loader.

Along with the foregoing is the arrangement for so fulcruming the loader to the side of the platform that it will be pivotal thereon and be slidable thereover and readily removable entirely.

Hence, another feature of the invention consists in providing a pivot rod along each side of the platform and providing a number of loaders with the fulcruming means mentioned so that any loader can be placed on said fulcruming rod at any point desired and readily removed therefrom and a number of said loaders can be employed with the same platform. When this latter is done, the loaders on the two opposite sides of the wagon are arranged so as to alternate with each other, whereby for instance, in loading shocks of corn, the tapering end or top of one shock will lie beside the widened end or butt of the adjacent shock and various shocks fit closely together against each other to make up a load. With a wagon of usual dimensions six shocks of corn, three on each side, can be carried in one load.

The full nature of this invention will be understood from the accompanying drawings and the following description and claims.

In the drawings Figure 1 is an end elevation of the loading mechanism showing one shock of corn in loaded position and the parts arranged for loading another shock of corn that is standing on the ground. Fig. 2 is a plan view of the forward part of the loading mechanism, showing one loader lying on the vehicle in the unloaded position and another loader shown in full lines adjacent to the standing shock of corn and by dotted lines in the unloaded position. Fig. 3 is a transverse, longitudinal vertical section on the line 3—3 of Fig. 2. Fig. 4 is a transverse section on the line 4—4 of Fig. 2. Fig. 5 is a vertical transverse section through a portion of the platform and a loader in position while being lowered to a shock of corn or after it has unloaded a shock of corn. Fig. 6 is an end view of the apparatus showing the position of the parts when the shock of corn is being loaded and has been lifted from the ground to a horizontal position. Fig. 7 is the same after the shock and loader have been drawn horizontally toward the middle of the vehicle platform. Fig. 8 is a central, vertical section through the upper end of the loader. Fig. 9 is an end elevation of the left hand half of the vehicle with a loader and shock of corn thereon in the positions they occupy while being unloaded.

In the drawings herein 10 is a vehicle, and 11 the platform thereof.

12 is the tongue which, however, is shown partially broken away. Along each side of the platform 11 there is a fulcrum rod 13 extending for the full length of the vehicle and held a slight distance from the edge of the platform by arms 14 secured to the platform. This constitutes the various features forming an integral part of the vehicle.

The loader is separable from the vehicle and there may be any number of them and shaped so as to accommodate themselves to the sort of article that is to be loaded. For instance, bales, hogsheads and shocks of corn would require loaders somewhat differently shaped. The loader herein shown is for shocks of corn 16 and is, therefore, somewhat tapering in general form. That is, it is a frame having a bottom or back portion 15 and lateral wings 16 that extend flaringly from the bottom or back 15, as shown in Fig. 3, so as to partially envelop the shock of corn and the loader as a whole tapers so that the outer end is very wide, while the inner end is very narrow, thus conforming in a general way to the shape of the shock of corn.

The loader is fulcrumed to a fulcrum rod 13 by a fulcrum plate 17 secured near the upper part of the bottom or back 15 thereof and projects outwardly or downwardly for a considerable distance, almost to the lower or outer end of the loader and parallel with the bottom or back thereof, as appear in Figs. 4 and 5. It rides and bears on roller 36 mounted on the rod 13. It is obvious, therefore, that this enables the loader to be readily removed or put in place on the rod 13 and serves to fulcrum the loader on said rod and at the same time permits the loader to be drawn across the rod in one direction or the other, either for lowering the loader to the shock or for drawing it and the shock upon the platform. At the outer or lower end of the loader there are a pair of stops 18 turned to a position to engage the rod 13 when the loader is drawn horizontally upon the platform.

On the upper end of the loader there are pulleys 20 and 21 between which a cable 22 extends and near the middle of the loader there is an anti-friction roller 23 mounted in connection therewith in position to roll on the platform as the loader is moved horizontally thereon. One end of the cable 22 may pass under the rod 13 at the opposite side of the wagon and has a swingletree 24 thereon so that a horse can be hitched to it for loading purposes. The other end of the cable runs under a pulley 25 about midway and thence in position to be fastened around the shock of corn.

The operation of the mechanism is as follows: The vehicle or wagon is driven near a shock of corn and one of the loaders is pushed by hand horizontally off the platform as far as the fulcrum bar 17 will permit and then it is turned downwardly into a vertical position, as shown in Fig. 1, and the vehicle moved immediately beside the shock of corn so that the loader will be adjacent it. Then the cable 22 is fastened about the shock of corn and the horse hitched at the other end of the cable pulls the cable. The first effect of the pulling of the horse is to tighten the cable around the shock of corn and draw it snugly against the loader but when that has been done a further pull of the horse on the cable tends to tilt the loader from a vertical to a horizontal position, the loader carrying the shock with it. When the loader has reached almost a horizontal position, its outer end and the butt of the shock will extend quite a distance beyond the side of the platform, but then the position of the loader has become so nearly horizontal that the further pull of the cable draws it horizontally over and along the top of the platform and the shock is carried with it until the stops 18 on the loader engage the rod 13 and stops the loading movement. The horse is then detached and it will be obvious that the loader and shock will be upon the middle portion of the platform, at least the same will not extend materially beyond the side of the platform. After a shock has been thus loaded the vehicle is driven to another shock and it is taken in on the opposite side of the vehicle and the process continued until say six shocks have been loaded. This constitutes a load.

For unloading, all that is necessary to be done is to slide the loader outwardly on the platform of the vehicle until it over-balances and then the shock will drop down into its original vertical position and after releasing the cable the loader can then be returned to the platform.

For loading and unloading other articles than shocks of corn substantially the same operation is pursued as in the case of the shocks of corn. I do not wish to be limited to a horse for pulling the loaders into position for the same may be otherwise done.

To hold the cable or rope 22 taut and from slipping backward gripping means 40 are provided substantially as shown in Fig. 8, consisting of upper and lower pawl-like members with their free ends meeting each other and pivoted at their remote ends to the upper part 16 of the loader frame 15 and spring-pressed toward the rollers 20 and 21 in position to grip the cable when it is relaxed, to permit the drawing movement thereof while tightening the cable around the shock and drawing it and the load up on the wagon platform.

The upper end of the loader frame 16 is extended to the full length of the wagon platform and provided with a handle 41 at the

end thereof so as to render the loader capable of being manipulated by hand if desired. The extension thereof to the full length of the platform increases the leverage as much as possible and also renders the unloading easier. The loader in unloading is usually handled by a man and he can readily grasp the handles 41, catch the cable 22 over the same so as to prevent its slipping and thereby readily manipulate the same as shown in Fig. 9. The extended end of the loader is curved upwardly as shown so that it will be convenient to grasp the handle while unloading.

What I claim as my invention and desire to secure by Letters Patent is:

1. A loading mechanism including a platform, and a loader adapted to hold the article to be loaded that is slidably fulcrumed to the edge of the platform whereby the loader may assume horizontal and vertical positions and will be slidable on the platform when in a horizontal position for drawing the loader and load upon the platform.

2. A loading mechanism including a platform, and a loader that is removable and slidably fulcrumed on the platform, substantially as set forth.

3. A loading mechanism including a platform, a loader adapted to hold the article to be loaded that is slidably fulcrumed to the edge of the platform, and a stop on the loader for limiting the sliding movement thereof on the platform.

4. A loading mechanism including a platform, a rod secured along the edge thereof and spaced therefrom, a loader adapted to receive the load, and a fulcrum bar secured to the upper portion of said loader and extending parallel with the loader toward the lower end thereof in position to be slipped over said rod and between said rod and the platform for slidably fulcruming the loader.

5. A loading mechanism including a platform, a rod secured along the edge thereof and spaced therefrom, a loader adapted to receive the load, a fulcrum bar secured to the upper portion of said loader and extending parallel with the loader toward the lower end thereof in position to be slipped over said rod and between said rod and the platform for slidably fulcruming the loader, and a stop on the lower end of the loader adapted to engage said rod when the loader is drawn upon the platform.

6. A loading mechanism including a platform, a rod secured along the edge thereof and spaced therefrom, a loader adapted to receive the load, a fulcrum bar secured to the upper portion of said loader and extending parallel with the loader toward the lower end thereof in position to be slipped over said rod and between said rod and the platform for slidably fulcruming the loader, and means running to the upper end of the loader for tilting it when loaded.

7. A loading mechanism including a platform, a loader adapted to hold the article to be loaded that is slidably fulcrumed to the edge of the platform, a cable running through the upper portion of the loader one end adapted to be secured to the article to be loaded, and means for pulling on said cable.

8. A loading mechanism including a platform, a loader slidably fulcrumed to the platform near the middle of the loader, means for tilting the loader and drawing it over the platform, and a roller mounted in the upper part of the platform that is adapted to roll along the platform when the loader is being drawn thereon.

9. A loading mechanism including a platform, a loader slidably fulcrumed between its ends to said platform, a pulley near the upper end of the platform, another pulley near the middle of the platform, and a cable passing over the pulley at the upper end of the loader and about the pulley near the middle thereof and in a position to be secured to the article to be loaded, whereby the cable will hold the article to be loaded against the loader and also will tilt the loader.

10. A loading mechanism including a platform, a rod secured along the edge thereof and spaced therefrom, a loader adapted to receive the load, a fulcrum bar secured to the upper portion of said loader and extending parallel with the loader toward the lower end thereof in position to be slipped over said rod and between said rod and the platform for slidably fulcruming the loader, and means on the end of the loader for manually operating the same, substantially as set forth.

11. A loading mechanism including a platform, a loader adapted to hold the article to be loaded that is slidably fulcrumed to the edge of the platform, a cable running through the upper portion of the loader with one end adapted to be secured to the article to be loaded, means for pulling on said cable, and means mounted on the loader for gripping a cable and holding it taut and preventing its return movement while loading and unloading.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

GRANVILLE DAVIS.

Witnesses:
O. M. GREENER,
V. H. LOCKWOOD.