(No Model.) 2 Sheets—Sheet 1.

J. H. RUNYAN.

LOADING APPARATUS.

No. 493,343. Patented Mar. 14, 1893.

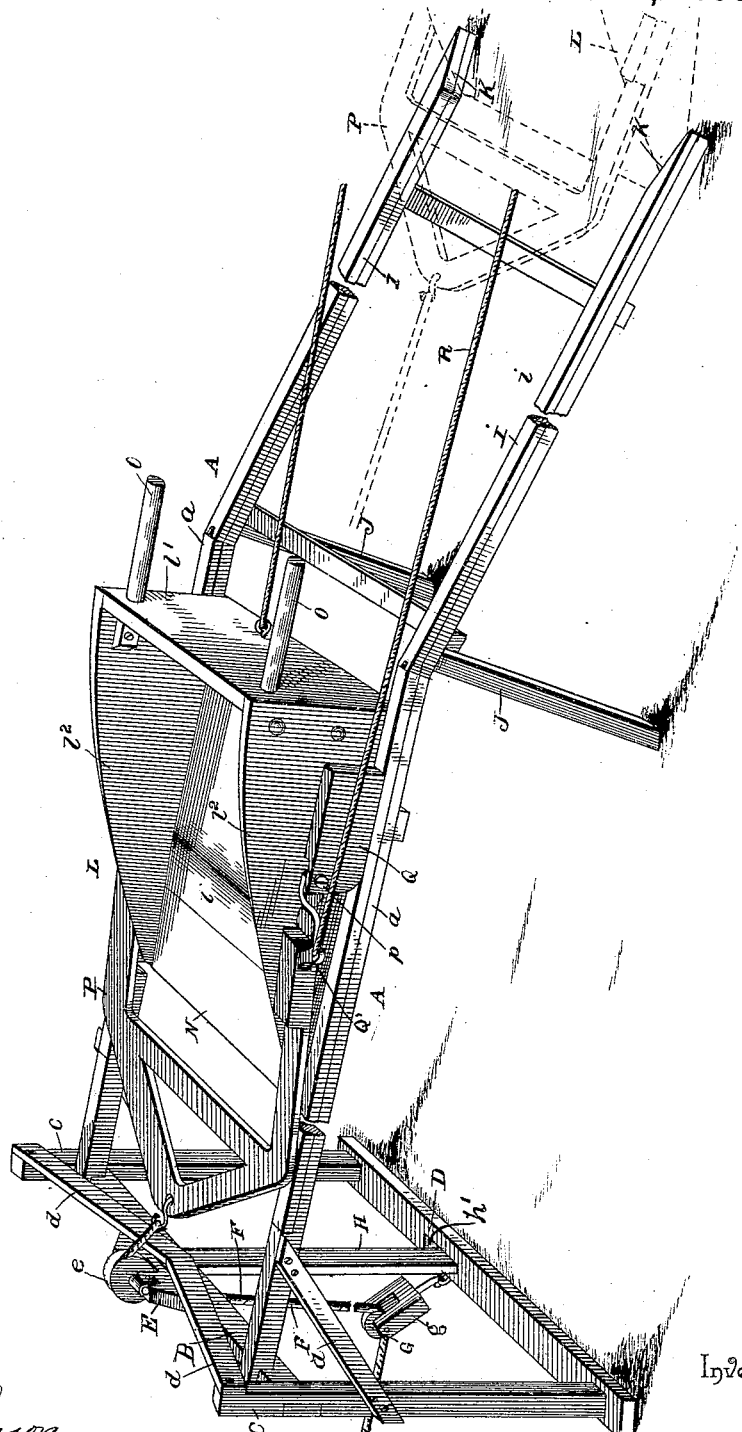

Fig. 1.

Witnesses
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Inventor.
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(No Model.) 2 Sheets—Sheet 2.

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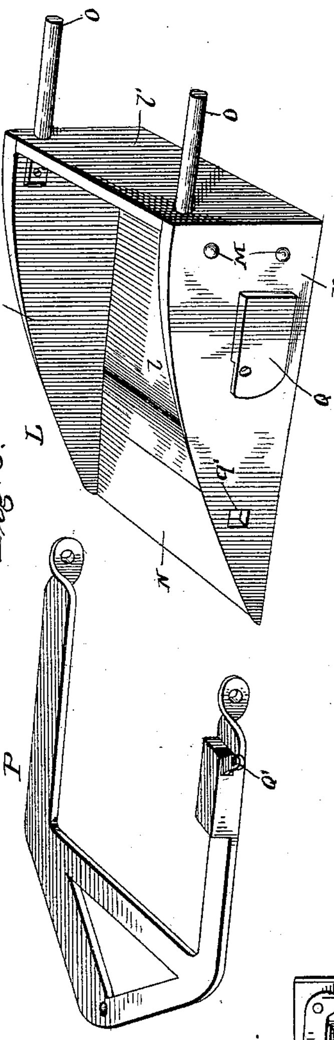

Fig. 3.

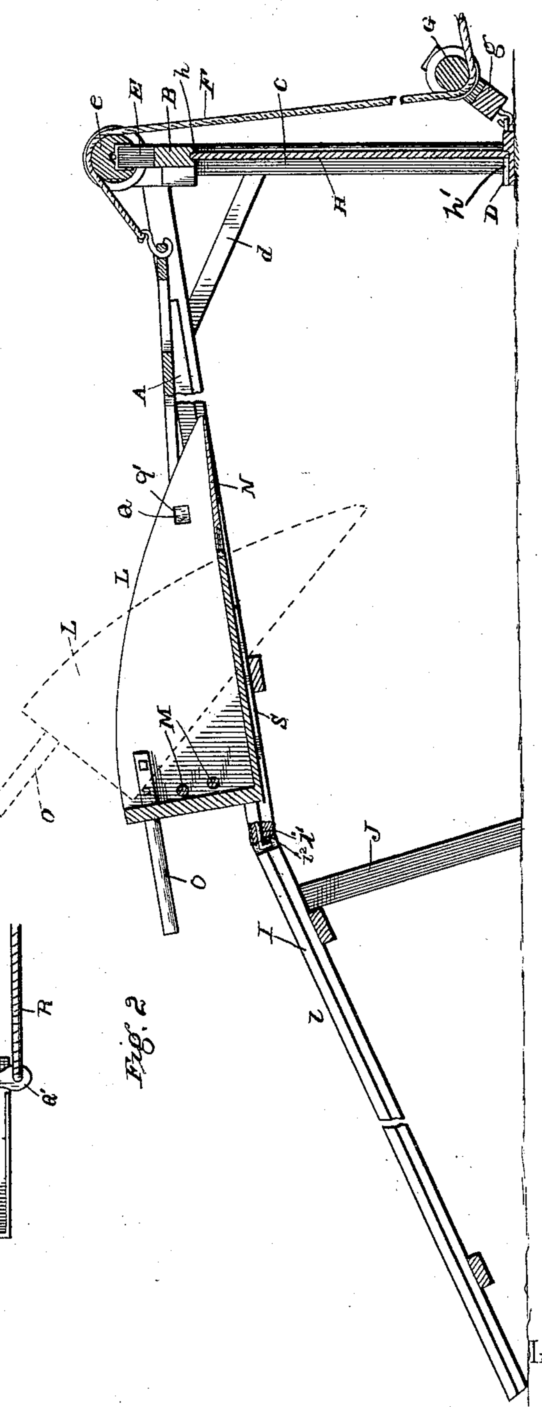

Fig. 2

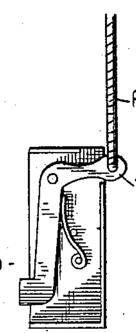

Fig. 4.

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UNITED STATES PATENT OFFICE.

JAMES H. RUNYAN, OF IOLA, KANSAS.

LOADING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 493,343, dated March 14, 1893.

Application filed September 8, 1892. Serial No. 445,384. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. RUNYAN, a citizen of the United States, residing at Iola, in the county of Allen and State of Kansas, have invented a new and useful Loading Apparatus, of which the following is a specification.

This invention relates to loading and unloading apparatus; and it has for its object to provide an improved wagon loader whereby manure, dirt, sand, gravel, &c., can be readily scooped up and loaded on to a wagon without the use of forks and shovels and a number of persons.

To this end the primary object of the invention is to simplify and render more efficient apparatus of this character.

With these and many other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings;—Figure 1 is a perspective view of a loading apparatus constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same, illustrating the dumping scraper in its loaded and dumping positions, in full and dotted lines. Fig. 3 is a detail in perspective of the dumping scraper or shovel and the bail slightly separated therefrom. Fig. 4 is a detail sectional view of the spring-catch.

Referring to the accompanying drawings;—A represents the main elevated track section adapted to be arranged sufficiently high above the ground in order to allow the wagon to be loaded to be backed thereunder to receive the load. The opposite rails *a*, of said track section rest at one end upon the cross beam B, supported at each end by the opposite braced posts C, arising from opposite ends of the base sill D, thus completing a wagon way for the wagon to be backed in under the main open track section A, while at the same time forming a braced support for such track section. Suitable braces *d* connect the rails and posts and the posts and the horizontal cross beam to give rigidity to the structure.

Centrally mounted upon the horizontal cross beam B is the pulley block E, in which is mounted the guide pulley *e*, which pulley accommodates the drag rope F, which is connected at one end to the dumping device to be described, while the other end thereof passes under the lower guide pulley G, and is connected with the draft animals or other power employed. The pulley G is mounted in the block *g* detachably connected to the base sill D.

After the wagon has been backed under the cross beam B and under the open track section A, the pulley block is placed in position, and also the vertical cross beam and upper guide pulley brace H. The said vertical brace H has the upper end thereof take into the mortise *h* in the underside of the cross beam B directly under the upper guide pulley, while the lower end thereof is designed to be removably placed within the open mortise or recess *h'* in the base sill D. The other ends of the rails *a* are detachably connected in alignment with the inclined ground rails I of the outer or ground rail sections *i*, by means of the hooks *i'*, at the ends of the rails *a* engaging hook sockets i^2 at the upper inner ends of the rails I. The outer ground rail section *i* is arranged to be supported upon the opposite legs J, at its inner end connected with the main track section, directly in rear of the wagon to be loaded, and the rails of such track section incline to the ground at a point adjacent to the material to be loaded, and the rails of such section terminate at their lower outer ends upon the ground with the beveled guide portions K which are designed to guide the dumping scoop L onto the track after the same has been loaded. The rails of both track sections may be provided with metallic facings as illustrated or may be entirely constructed of metal.

The dumping scoop or scraper L is provided with a flat bottom *l*, the closed back end *l'* and the opposite inclosing sides l^2 curving from the upper edge of said back to the front cutting edge of the scraper or scoop.

The various parts of the scoop are suitably connected together and braced by the back end brace rods M, to securely bind the sides to the back board, and said scoop is also provided with the metallic scraper plate N, arranged at the front end thereof so that as the scoop is dragged along before reaching the track, the same scoops up its own load.

Suitable handles O are secured to the back

end of the scoop or scraper and provide means whereby the operator can guide the scoop to the track, and also throw the same into locking engagement with the drag bail P after the scoop has been filled. The bail P embraces the front scraping end of the scoop and the opposite sides thereof, and is pivotally connected at its end as at p to the opposite track follower and scoop supporting blocks Q arranged on opposite sides of the said scoop. The free end of the bail is connected to one end of the drag rope F, which when the power is applied drags the scraper into the material to be loaded, and also drags or slides the scoop over the track sections to the point of dump. While loading the scoop, the bail drags the same flat upon the ground and is out of locking engagement therewith as is illustrated in the drawings, and as soon as the scoop has become filled just before reaching the track, the handles thereof are pressed down to raise the scraping end of the scoop between the bail, which movement throws the spring catch Q′ into engagement with the locking notch q' in one of the sides of the scoop. The spring catch Q′ is secured to one of the arms of the bail and has connected thereto the trip cord or rope R passing to the operator to the back end of the scoop. After the scoop has been filled and locked to the bail, the same slides, upon the slide runners S upon the bottom thereof, to the ground track section upon which it is guided by the beveled ends K. The opposite track follower blocks Q, and the opposite arms of the bail slide over the rails of the track sections and carry the scoop over the open main track section A, and directly over the wagon to be loaded thereunder. The trip cord or rope is now pulled, and the scoop swings below the bail from which it is released and dumps its load into the wagon as will be readily apparent. After dumping, a rope or chain may be connected to the back end of the scoop to drag the same back to its loading position to repeat the operation just described.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a loading apparatus, the combination of the opposite inclined track rails having their lower ends resting directly on the ground, a self-loading scoop having side follower blocks adapted to slide on said opposite track rails to guide and support the scoop there-between, a bail pivotally connected to the opposite sides of the scoop and also adapted to slide over the opposite rails, and drag and tripping devices for the scoop, substantially as set forth.

2. In a device of the class described, the combination of the main elevated track rails supported above a wagon or car way, an outer ground section of rails removably connected to said elevated track section, a self-loading dumping scoop having bottom slide runners and side follower blocks, which latter are adapted to move over said rail sections and guide and support the scoop thereon, a drag bail pivoted to said follower blocks and also sliding on said rails, and means for connecting and disconnecting the bail to and from the sides of the scoop, substantially as set forth.

3. In a device of the class described, the combination of the base sill having an open mortise or notch, the horizontal cross beam supported above said base sill and having a mortise in the underside thereof, an upper guide pulley mounted upon said cross beam directly over the mortise therein, a lower guide pulley removably connected to said base sill, a drag rope passing over both of said pulleys, the main elevated track section resting at one end upon said horizontal cross beam, a vertical brace removably engaging the mortises in the cross beam and base sill, an outer ground track section removably connected to and supporting the other end of said elevated track section, and a self loading dumping scoop connected to said drag rope and moving over said track section, substantially as set forth.

4. In a loading apparatus, the combination of an inclined track terminating in beveled guide ends at the ground, a drag scoop or shovel adapted to be moved over the ground and upon said track, a drag and locking bail pivotally connected to said scoop and suitable operating mechanism, and means for locking and unlocking the scoop to and from the bail, substantially as set forth.

5. In a device of the class described, the combination of the track; of the self-loading drag scoop having an inclosing back end and sides, a metallic scraping plate at the front edge of the bottom thereof, rearwardly extending handles and a locking notch in one side thereof, slide runners upon the bottom of the scoop, opposite track followers and scoop supporting blocks secured to opposite sides of the scoop, a bail embracing the front end and sides of the scoop and pivotally connected thereto, a spring catch secured to one of the arms of said bail and adapted to engage said locking notch, a trip rope connected to said catch, and means for moving said scoop upon the ground and said track, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES H. RUNYAN.

Witnesses:
JOHN E. IRELAND,
WILLIAM L. BARTEL.