A. S. STONE.

MANURE LOADER.

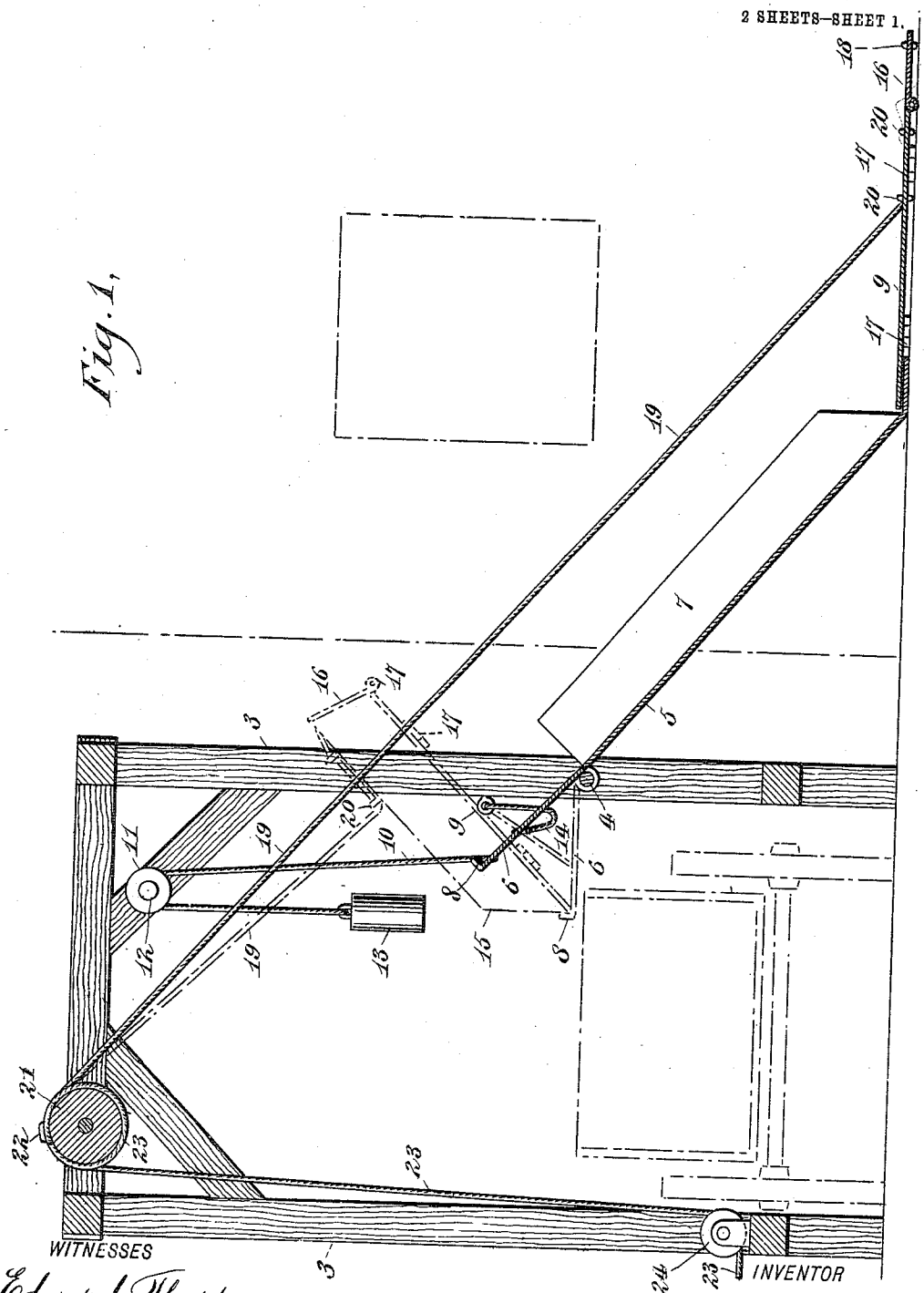
APPLICATION FILED AUG. 11, 1909.

995,302.

Patented June 13, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

Edward Thorpe

E. M. Murdock

INVENTOR

Alfred S. Stone

BY Munn & Co.

ATTORNEYS

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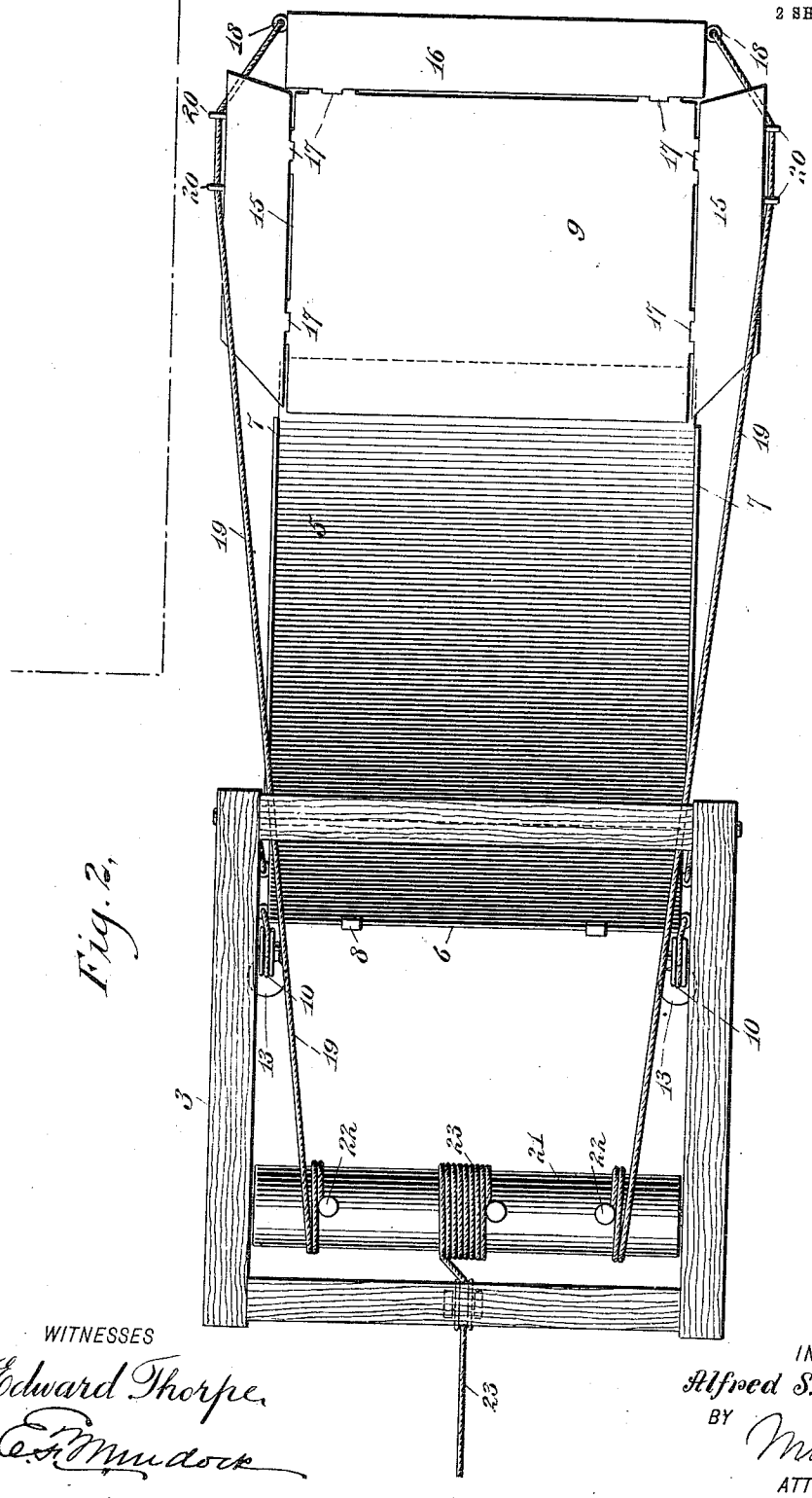

Fig. 2.

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UNITED STATES PATENT OFFICE.

ALFRED S. STONE, OF CLEAR LAKE, SOUTH DAKOTA.

MANURE-LOADER.

995,302. Specification of Letters Patent. Patented June 13, 1911.

Application filed August 11, 1909. Serial No. 512,333.

To all whom it may concern:

Be it known that I, ALFRED S. STONE, a citizen of the United States, and a resident of Clear Lake, in the county of Deuel and State of South Dakota, have invented a new and Improved Manure-Loader, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a device which forms a platform or carrier for the material to be handled as the same is moved in the first instance; to provide a runway or inclined road bed to move the carrier above the body of the vehicle by which it is to be moved; to provide a suitable mechanism for moving the carrier by the said incline to dump the same; and to provide an operating mechanism which is simple and operable by means of the power devices convenient to farms and localities where an apparatus of this kind is most generally employed.

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in both the views, and in which—

Figure 1 is a vertical section of an apparatus constructed in accordance with the present invention, showing in dotted lines the carrier in its dumping position; and Fig. 2 is a plan view of the same.

The employment for which the present invention is essentially designed is that of handling manure.

It consists in a standing structure or scaffold 3, formed of wood scantling or studding, corner braced and horizontally braced, as usual with structures of the character shown. Between two of the upright members is extended and secured a cross bar 4. Upon the cross bar 4 is pivotally mounted a gangway 5 and a platform 6. The gangway 5 is provided with cheek or side pieces 7, 7 which prevent the carrier from moving out of line when the same is being tracked by the gangway 5. The sides 7, 7 are rigidly mounted upon the floor of the gangway 5.

The platform 6 is formed with side pieces and is suitably braced with flat metal braces which are turned at the outer ends to form stops 8, 8 against which the forward end of the platform 9 of the carrier strikes when the same is drawn to the upper end of the combined gangway 5 and platform 6.

The platform 6 is normally held in a raised position, in which it extends substantially in line with the gangway 5, by suspension cables 10, 10. The cables 10, 10 are reeved over pulleys 11, 11 which are pivoted at 12, 12 upon the corner braces of the scaffold 3. The cables 10, 10 are suitably provided with weights 13, 13 adapted to maintain the platform 6 in its raised position when not overbalanced by some article resting upon the said platform. The platform is designed to be depressed to horizontal position, shown in Fig. 1 of the drawings in broken lines. In this position it is sustained rigidly by means of suspension side lines 14, 14. These side lines, when the platform is raised to the raised position, are flexed, and when the said platform is depressed they are taut.

The platform 6 is depressed when receiving the carrier loaded. The carrier consists of the platform 9 and side boards 15, 15 and a tail board 16. The said side boards and tail board are hingedly mounted at 17 upon the said platform 9. At the upper edge the tail board is provided with eyelets 18, 18 through which hoisting cables 19, 19 are either threaded or secured. The said cables 19 are threaded through eyelets 20, 20 which are mounted in the upper edge of the side boards 15, 15. The cables 19, 19 are the extensions of a single cable and are passed upward and around a windlass 21 where they are anchored in a perforation in which stop plugs 22, 22 are driven. When now in the course of operation the windlass 21 is rotated to wind upon it the cables 19, 19, the first effect upon the carrier is to fold upward the side boards 15, 15 and the tail board 16, forming in effect a three-sided box. The carrier constituting the three-sided box above mentioned has a width which snugly enters between the sides 7, 7 of the gangway 5. When the carrier is within the fold of the sides 7, 7 they prevent the said parts from collapsing under the super-imposed load.

The windlass 21 is operated as above stated by means of a cable 23 which is wound upon the said windlass and carried downward to extend under a pulley 24 and away to any suitable power. A horse-power may be used if desired and convenient. The

spread of the upright of the scaffold 3 is sufficient for a wagon, such as shown in dotted lines in Fig. 1 of the drawings, to be driven between the same so that the body of the wagon shall fall beneath the edge of the platform 6 when the same is extended in its depressed position, as shown in dotted lines in said Fig. 1.

Having an apparatus constructed substantially as above described and as illustrated in the accompanying drawings, the operation is as follows: In normal position the carrier rests upon the ground or floor of a platform suitably situated with regard to the window or chute for the depositing of manure from the stables, and in the outspread condition as illustrated in Fig. 2 of the drawings. The manure is either dumped or thrown upon the platform, forming thereon a mound. When the wagon is driven between the uprights of the scaffold 3, as shown, and the cable 23 is drawn down, the action above described occurs, wherein the side boards and tail board are folded upward and upon the platform of the carrier in the first instance, and the continuation of the strain on the hoisting cables moves the carrier up the gangway 5 until the forward edge of the platform 9 strikes upon the upturned stops 8. The continuation of the pull on the cables 19 forces the carrier to the position shown in dotted lines, throwing the load upon the platform 6, depressing the same to the position shown in dotted lines, and tilting the carrier to the position shown in dotted lines in said Fig. 1, in which position the load is dumped within the body of the wagon or spreader, as the case may be. When the carrier has been dumped it is permitted to slide down the gangway 5 to the bottom thereof. Arrived at the bottom of the said gangway, and the cable 19 being slackened, the sides 15, 15 and 16 fall outward of their own weight to constitute the platform shape originally assumed. As a rule one operation is sufficient to load the vehicle, but should a repetition be required that is accomplished by allowing the carrier to return down the gangway when the same is again loaded either manually or by mechanism. It will be seen by this method of handling manure that contact therewith is substantially avoided.

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

1. A loader, comprising an inclined gangway having sides, a pivoted and counter balanced platform at the upper end of the gangway, said platform being provided with stops at its free end and normally in alinement with the gangway, means for limiting the swinging movement of the platform, a carrier having hinged sides and a hinged end, a windlass, means for operating the windlass, cables secured to the windlass and connected with the hinged sides and end of the carrier, whereby when the windlass is operated the hinged sides and end of the carrier will be folded upward and the carrier drawn up the gangway onto the platform and the latter tilted to dump the load of the carrier.

2. In a loader of the character described, an inclined gangway, a carrier comprising a platform, hinged sides and a hinged end, a windlass, cables secured to the windlass, passed through guides on the hinged sides of the carrier and secured to the hinged end of the carrier, whereby when the windlass is operated, the sides and end of the carrier will be folded upward and the carrier drawn up the gangway, and means for tilting the carrier to dump its load when it reaches the upper end of the gangway.

3. In a loader of the character described, a carrier, comprising a platform, hinged sides having guides adjacent to their outer ends, and a hinged end, a windlass, and cables secured to the windlass passed through the guides on the hinged sides of the carrier and secured to the hinged end of said carrier.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED S. STONE.

Witnesses:
L. F. HANLY,
W. W. BARNES.