No. 854,245.

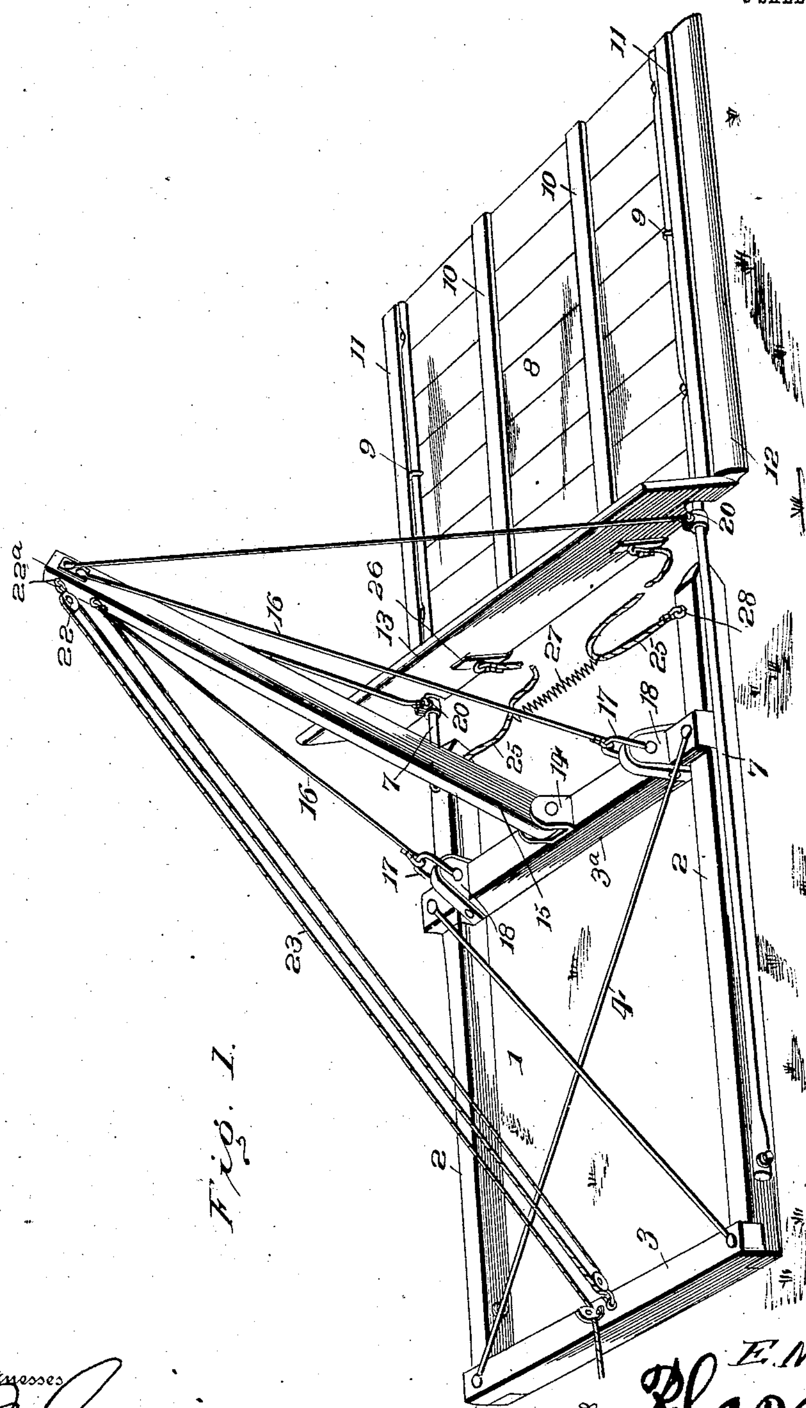
PATENTED MAY 21, 1907.

E. N. SMITH.

LOADER.

APPLICATION FILED DEC. 3, 1906.

3 SHEETS—SHEET 1.



Witnesses

[signature]

W. N. Woodson

Inventor

E. N. Smith,

By [signature]

Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

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3 SHEETS—SHEET 2.

Fig. 5.

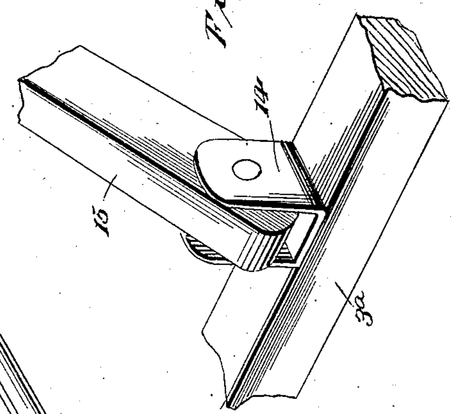


Fig. 6.

Fig. 4.

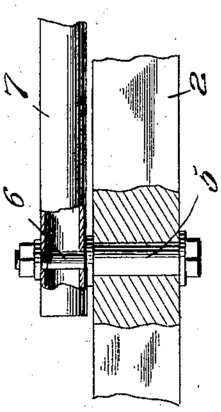
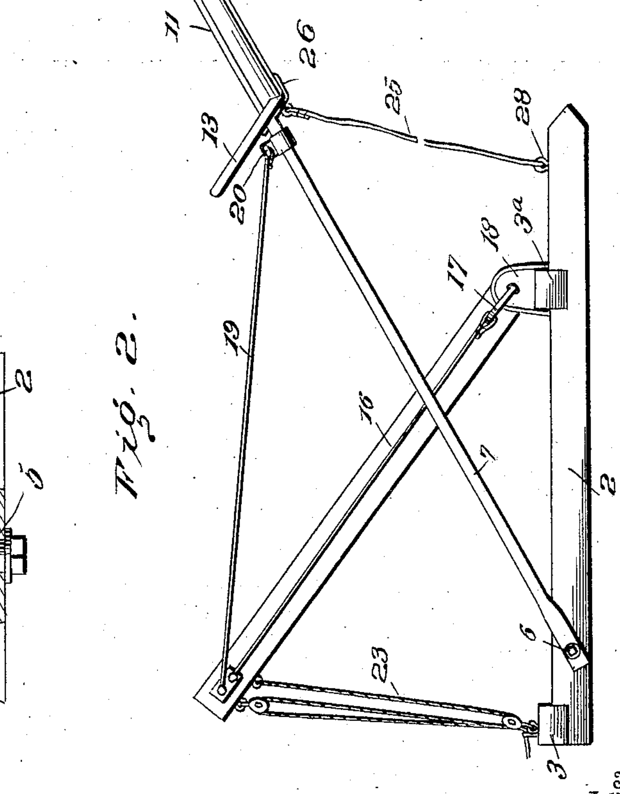


Fig. 2.



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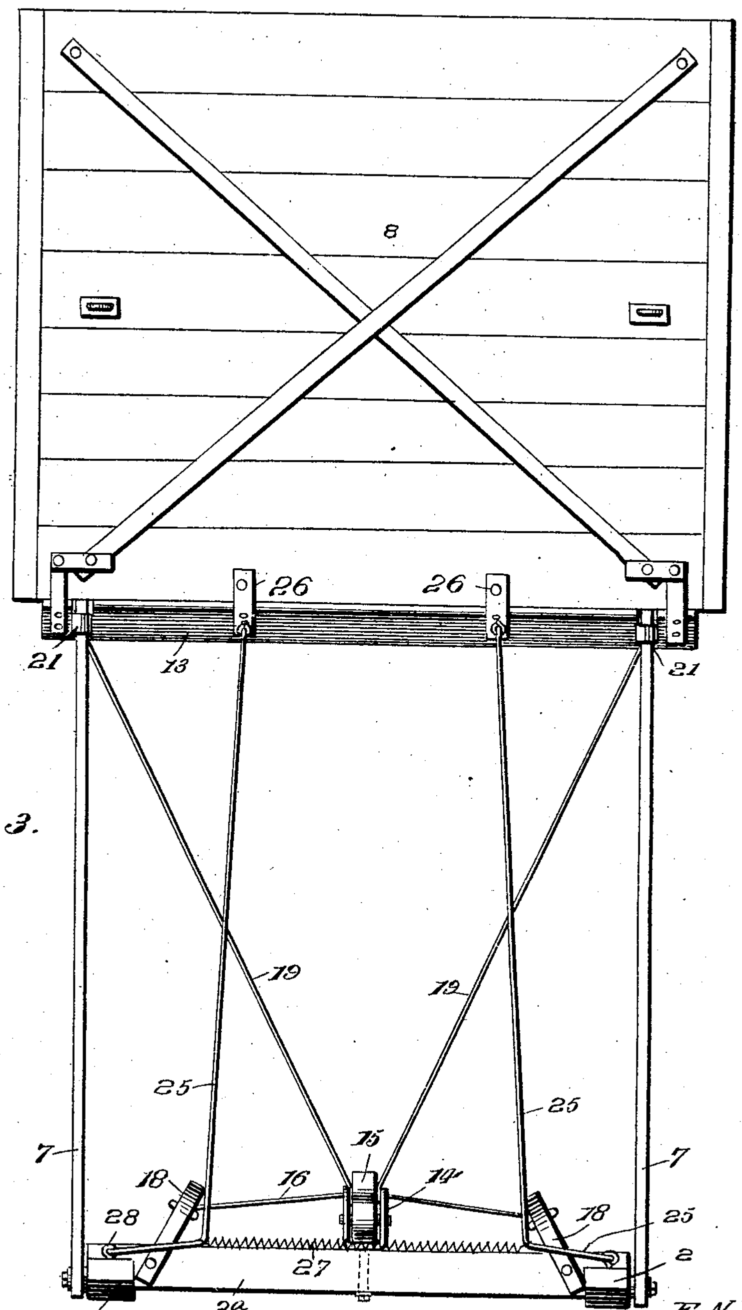
3 SHEETS—SHEET 3.

Fig. 3.



Witnesses
[signature]
W. N. Woodson.

Inventor
E. N. Smith.

By [signature]

Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ERNEST N. SMITH, OF BURNS, KANSAS.

LOADER.

No. 854,245. Specification of Letters Patent. Patented May 21, 1907.

Application filed December 3, 1906. Serial No. 346,108.

To all whom it may concern:

Be it known that I, ERNEST N. SMITH, a citizen of the United States, residing at Burns, in the county of Marion and State of Kansas, have invented certain new and useful Improvements in Loaders, of which the following is a specification.

The object of my invention is to provide an improved construction of loader, particularly designed for manure spreaders, but equally applicable for use in loading loam, sand and gravel, or any other material that will admit of handling with a drag or other scraper.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of my improved loading apparatus, the platform being shown in lowered position. Fig. 2 is a side elevation of the platform partially raised. Fig. 3 is a rear plan view with the platform elevated. Fig. 4 is a detail view, parts being in section, of the connection between the oscillating bars that support the platform and the base of the machine. Fig. 5 is a detail perspective view illustrating the connection between the actuating bar and one of the cross sills of the base. Fig. 6 is a fragmentary view of a portion of a platform illustrating the sheathing.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates the base of the apparatus which embodies longitudinal sills 2 and front and rear cross sills 3, 3^a connected together by diagonal brace rods 4.

Bushings 5 are mounted within the longitudinal sills 2 near the front ends thereof and are adapted to receive pivot bolts 6. These bolts extend through oscillating arms 7, which are in the present instance in the form of tubes or pipes so as to combine strength with lightness. The arms 7 are adapted to swing in a vertical plane by being pivoted at one end on the said bolts 6. A platform 8, which may be constructed of any desired number of transversely extending boards as shown, is rigidly secured to the free ends of the arms 7 by means of two or more bolts at the outer ends of the arms and also preferably by stirrups 9, so as to preclude the necessity of drilling many holes through the pipes, which would manifestly weaken them. The platform 8 is reinforced by cleats 10 and is provided with protecting strips 11 arranged contiguous to the arms 7 so as to prevent the same from injury, while at the same time they may assist in dumping a scraper when a slip or tongue scraper is used. Beyond the strip 11, the side edges of the platform 8 slope downwardly, as indicated at 12, to form approaches, and preferably these inclined sloping side edges are sheathed with metal at both top and bottom, as shown, and extend into contact with the ground when the platform is in its lowered position in readiness for being loaded. At one end of the platform is a laterally projecting ledge 13 so as to prevent the material from slipping off of the platform before the proper time.

It is to be understood that the platform 8 is loaded with its sloping side edges 12 in contact with the ground so as to form easy approaches at each side of the platform, and after being loaded, the arms 7 are swung upwardly so as to deposit the load at the desired elevated point.

To swing the arms, I have provided the following mechanism: A bracket 14 is secured to the rear cross sill 3^a, preferably about the middle of said sill, and is provided with upwardly extending spaced apart ears, between which an actuating bar 15 is pivotally mounted at one end so as to swing in a vertical plane. It is prevented from sidewise movement or strain by means of the braces 16 that are secured at one end to the upper end of the bar 15 and extend obliquely in opposite directions and are secured at their other ends to yokes 17. These yokes are pivotally mounted upon short posts 18 at opposite ends of the rear cross sill 3^a. The free end of the actuating bar 15 is also connected to the respective arms 7. The means shown in the present instance to effect this connection are oppositely extending link rod, 19 that are attached at one end to the free end of the actuating bar 15 and are secured at their opposite ends to eye-bolts 20 which serve as means for fastening or clamping collars 21 around the respective arms 7, preferably close to the ledge 13 of the platform 8. A sheave 22 is swung from a hook bolt 22^a at the free end of the actuating bar 15, and an actuating cable or rope 23 is passed around

said sheave and also around two pulleys mounted on the front cross sill 3. The cable 23 is adapted to be drawn by means of any suitable power, such as a horse power, if the apparatus be of sufficiently small size, or a suitable engine.

In the practical operation of my improved loading apparatus, the platform is loaded with its contents in a lowered position with its sloping side edges in contact with the ground, and after the platform has received its load, the cable 23 is drawn upon. This effects the downwardly swinging movement of the free end of the actuating bar 15 and a consequent upwardly swinging movement of the two arms 7, so that the load is thus carried upwardly and deposited at the proper point. To insure that the platform will be returned to its lowered position ready to receive another load, and to return it past its center of gravity for the rearwardly swinging movement, I have provided guy ropes 25 that are secured to plates 26 at the inner end of the platform and are also secured together near their lower ends with a transversely extending spring 27, the ends of said guy ropes being secured to staples or the like 28 on the rear ends of the longitudinal sills 2.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a simple and durable construction of apparatus of the character herein set forth, which will operate effectively to receive the contents upon the platform 8, and in which the latter may be swung upwardly to quickly deposit the load into the spreader or other receptacle designed to receive it.

Having thus described the invention, what is claimed as new is:

1. A loader, comprising a base, a pair of arms mounted to oscillate on said base, a platform carried by the free ends of said arms, said platform being provided with strips extending along and close to the arms and constituting protecting means therefor, and means for swinging the arms upwardly to raise the platform.

2. A loader, comprising a base embodying longitudinal sills and cross sills, a pair of arms mounted to oscillate on the longitudinal sills, a platform carried by the free ends of said arms, an actuating bar pivotally mounted at one end on a cross sill and adapted to swing in a vertical plane, brace rods connected to the free end of the actuating bar and extending oppositely therefrom, posts rising from the said cross sill, yokes pivotally mounted on said posts and connected to the other ends of said brace rods, link rods connecting the free end of said actuating bar with the respective arms, and means for drawing the free end of said bar down toward the base, whereby to oscillate the arms and swing the platform upwardly.

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

ERNEST N. SMITH. [L. S.]

Witnesses:
C. L. BRUNER,
J. E. SMITH.