J. L. FRIESNER.

LOADING APPARATUS.

APPLICATION FILED APR. 30, 1915.

1,190,141. Patented July 4, 1916.

Fig. 1.

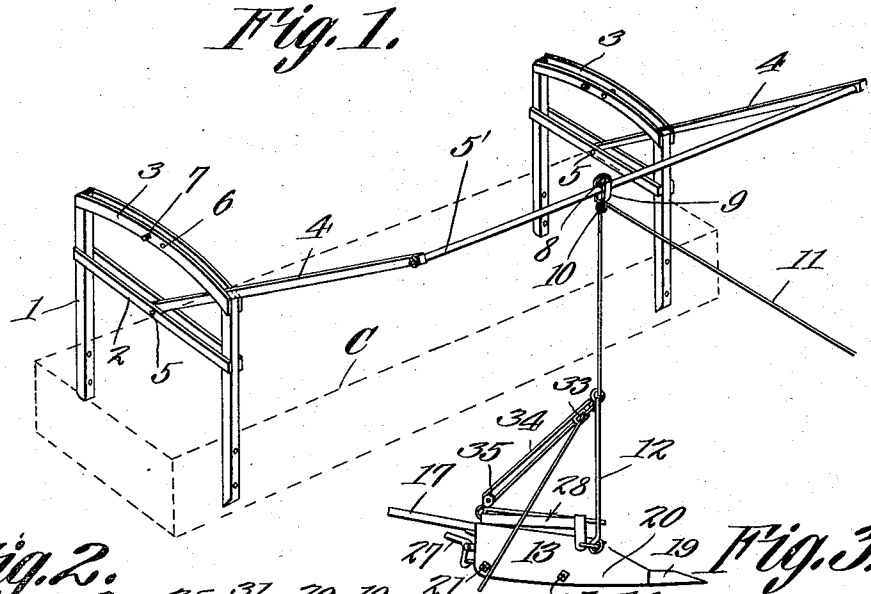


Fig. 2.

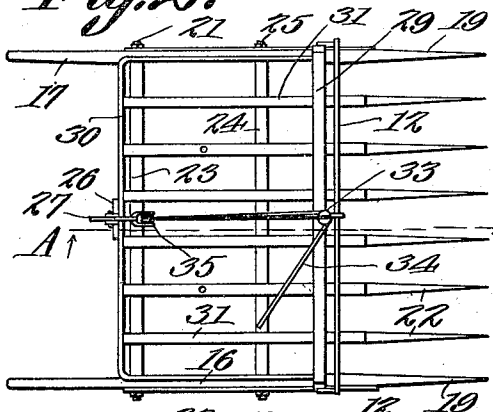


Fig. 3.

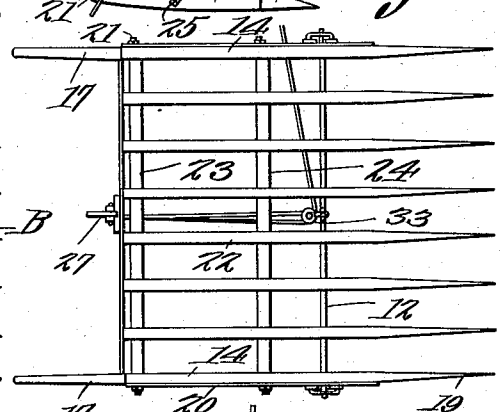


Fig. 4.

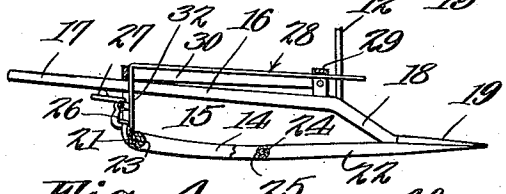


Fig. 5.

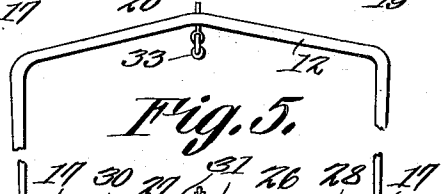


Fig. 7.

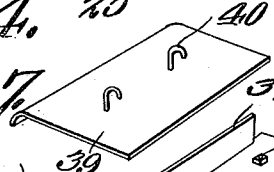
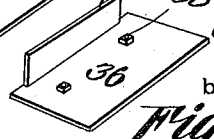


Fig. 6.



Witnesses

A. B. Woodew.

M. E. McCarthy.

Jesse L. Friesner Inventor,

by C. A. Snow & Co.

Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO. WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JESSE L. FRIESNER, OF LIMA, OHIO.

LOADING APPARATUS.

1,190,141. Specification of Letters Patent. Patented July 4, 1916.

Application filed April 30, 1915. Serial No. 25,020.

To all whom it may concern:

Be it known that I, JESSE L. FRIESNER, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented a new and useful Loading Apparatus, of which the following is a specification.

This invention relates to loading apparatus especially designed for use in collecting manure, stone, dirt, etc., and elevating it into a wagon or other receptacle.

One of the objects of the invention is to provide a novel form of a scoop or scraper so constructed as to enter readily into a pile of material to be elevated, said scoop or scraper being capable of discharging material from either end thereof.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings, the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a perspective view of an adjustably supported rail and means provided therefor for connection to a wagon body, the scoop or scraper being shown in side elevation connected thereto. Fig. 2 is an enlarged top plan view of the scoop. Fig. 3 is a bottom plan view thereof. Fig. 4 is a section on line A—B of Fig. 2. Fig. 5 is a rear elevation of the scoop. Fig. 6 is a perspective view of a bottom plate designed to be used in connection with the scope, when handling fine material. Fig. 7 is a perspective view of a top plate to be used in conjunction with the plate illustrated in Fig. 6.

Referring to the figures by characters of reference 1 designates standards adapted to be secured to the sides of the vehicle body adjacent the ends thereof, and disposed in pairs, the standards of each pair being connected by parallel stop strips 2 and by upper arcuate strips 3. An arm 4 is extended between the strips 2 and 3 connected to each pair of posts, and is pivotally attached to the middle portions of the strips 2, as shown at 5. Transverse openings 6 are formed in the strips 3 and are adapted to receive a pin 7 whereby swinging movement of the arm 4 is limited. The two arms 4 are connected at their outer or free ends by a rail 5′ and mounted on this rail is a wheel 8 supporting a block 9 to which a small pulley 10 is connected. This pulley 10 is engaged by a rope 11 one end of which is attached to a bail 12. The ends of the bail are pivotally connected to a scoop 13 of novel form. Each side wall of the scoop includes a bottom bar 14 the rear end portion of which is upturned, as at 15, and is secured to a top bar 16 extending rearward to form a handle 17. This top bar is bent downwardly, at its front end, as shown at 18 and secured to the bar 14 and the front end portion of said bar 14 is extended forwardly from the bar 18 and is pointed to form an arm 19. A plate 20 is secured to the outer faces of the bars 14 and 16 and extends from the upturned portion 15 to the downwardly inclined portion 18.

A transverse rod 21 connects the rear portions of the bars 14 and extends through the rear ends of tines 22, the front ends of these tines being pointed and disposed in alinement with the ends of the bars 19. Spacing sleeves 23 are arranged on the rod 21 and between tines 22. Another transverse rod 24 is extended through the tines at points adjacent the centers thereof and also through the lower bars 14, there being spacing sleeves 25 upon the rod 24 for holding the times at proper distances apart.

A lip 26 extends rearwardly from the central tines 22 and is adapted to be detachably engaged by a latch 27 pivotally connected to the back portion of a cover 28. This cover includes a yoke 29 straddling the scoop and pivotally connected to it adjacent the bail 12. A rigid frame 30 is secured to and extends rearwardly from the side portion of the yoke 29. Slats 31 extend under and are secured to the top portion of the yoke 29 and these slats are extended rearwardly and have their rear end portions bent downwardly as at 32, these downwardly extended portions being secured to the rear portion of the frame 30. The latch 27 is mounted upon certain of these downwardly extending portions 32.

A pulley 33 is supported by the middle portion of the bail 12 and mounted on this pulley is a rope 34 one end of which is secured to the bail while the other end portion extends downwardly within reach of a per-

son manipulating the scoop. That portion of the rope between the pulley 33 and the point of attachment with the bail 12 is extended into engagement with a pulley 35 secured to the rear of the frame 30.

After the rail 5′ has been adjusted to position beyond one side of the vehicle body 1, the scoop can be drawn over the ground in any suitable manner or pushed by means of the handles 17, this movement being such as to cause any manure or other material in the path of the scoop to be collected thereby. By providing the prongs 19 and the pointed tines 22, the scoop will pass readily into engagement with the material. After the material has been accumulated the scoop can be raised by pulling on the elevating rope 11. If the material accumulated within the scoop is large, it is preferably discharged therefrom by pulling on the rope 34. This will cause the pulley 35 and the frame 30 to swing upwardly about the lower ends of the bail 12 as a pivot and, as the latch 27 is in engagement with the lip 26, the body of the scoop will also be swung upwardly so that the material will be delivered from the front end of the scoop. If, however, the scoop should contain fine material, said material is preferably dumped simply by shifting the latch 27 so as to disengage it from the lip 26. By then pulling on the cover lifting rope 34, said cover can be caused to move upwardly away from the scoop and the material in the scoop will thus be free to pass outwardly from the rear end of the scoop. As the greater portion of the weight of the scoop and its load is located back of the connection between the scoop and the bail 12, it will be apparent that when the scoop is being elevated, the scoop will hang almost vertically after the manner of a bucket. Consequently, when the cover is released and elevated as described, the material in the scoop will gravitate directly therefrom.

Should it be desired to elevate fine material such as sand, gravel and the like, plates such as shown in Figs. 6 and 7 can be provided. The plate, indicated at 36, has a back flange 37 depending therefrom and bolts 38 may be extended through the plate and secured to certain of the slats 31 of the scoop so as thus to prevent the plate from becoming displaced. A second plate 39 is used on top of the tines 22 and is secured thereto by hook bolts 40.

What is claimed is:—

1. In a loading apparatus, a scoop including upper and lower forwardly converging side bars, side plates secured to said bars and closing the openings therebetween, the forward ends of the bars forming prongs, cross rods connecting the lower bars, spaced tines mounted on the rods and having pointed front ends, a yoke straddling and pivotally connected to the upper side bars of the scoop, a frame secured to and extending rearwardly from the yoke, slats secured to the intermediate portion of the yoke and to the rear portion of the frame, the rear portions of the slats being extended downwardly, said slats forming a grating for closing the top and back of the scoop, a latch connected to the downwardly extended portion of certain of the slats, means upon the rear end portion of one of the tines for engagement by the latch, and a bail pivotally connected to the upper side bars of the scoop and adjacent the yoke.

2. In a loading apparatus, a scoop including upper and lower forwardly converging side bars, side plates secured to said bars and closing the openings therebetween, the forward ends of the bars forming prongs, cross rods connecting the lower bars, spaced tines mounted on the rods and having pointed front ends, a yoke straddling and pivotally connected to the upper side bars of the scoop, a frame secured to and extending rearwardly from the yoke, slats secured to the intermediate portion of the yoke and to the rear portion of the frame, the rear portions of the slats being extended downwardly, said slats forming a grating for closing the top and back of the scoop, a latch connected to the downwardly extended portion of certain of the slats, means upon the rear end portion of one of the tines for engagement by the latch, a bail pivotally connected to the upper side bars of the scoop and adjacent the yoke, a pulley connected to the bail, a pulley connected to the rear portion of the slats carrying frame, and a flexible actuating element mounted on the pulleys and secured to the bail.

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

JESSE L. FRIESNER.

Witnesses:
F. A. WELSH,
W. O. DUNSON.

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