May 5, 1925. 1,536,331

W. B. CONANT

LOADING MACHINE

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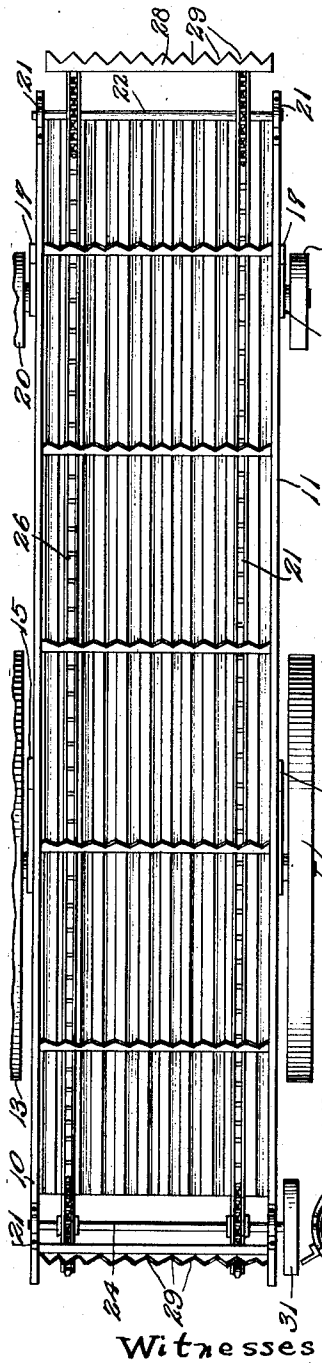


Fig. 1.

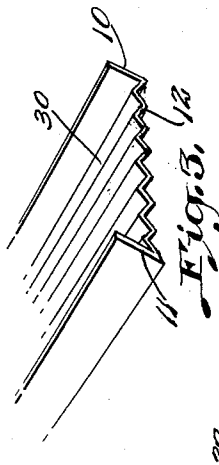


Fig. 3.

Fig. 2.

Witnesses:
Alpha M. Ruble
John P. Peterson

Inventor:
Wallace B. Conant

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UNITED STATES PATENT OFFICE.

WALLACE B. CONANT, OF CONCORD, MASSACHUSETTS.

LOADING MACHINE.

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To all whom it may concern:

Be it known that I, WALLACE B. CONANT, a citizen of the United States, residing at Concord, Massachusetts, have invented certain new and useful Improvements in Loading Machines, of which the following is a specification.

My present invention relates to loading machines, and more particularly to an improved loading machine applicable for loading manure or other loose and like material from piles or pits into vehicles or other containers.

In loading machines in use at the present day for loading loose material into vehicles or other containers, the construction is such as to preclude the use thereof for successfully loading manure or other loose material, such as wet straw or the like, the very nature of the material being loaded causing the material to cling to, and clog, both the traveling portions of the loader and also the trough or runway in which such conveying portions operate. The result is that, with present types of loaders, the cost of maintaining the same in action more than overbalances any advantage to be gained by the use of mechanical loaders for this class of material.

In practicing my present invention I have obviated the objections of prior apparatus of this type and have designed a loader in which the form of the teeth is such as to obtain a firm yet readily loosened grip on the material so as to thereby readily scrape or drag the material from, and break up, the pile in which it is contained, and the trough in which such loading or feeding devices operate is designed to fit either approximately, or as close as may be desired, the shape of the teeth of the scrapers or loaders, thus rendering the troughs self-cleaning and preventing thereby the clinging to, or clogging up of, the machine by the wet or loose material.

The principal object of my invention, therefore, is an improved loading machine adapted to load manure and other loose substances from piles or pits without the necessity of shoveling or forking the same.

Another object of my invention is to provide an improved loading machine which will handle large quantities of manure or other like loose substances without clogging.

Other objects and novel features of the construction and arrangement of parts comprising my improved device will be apparent as the description of the invention progresses.

In the accompanying drawing illustrating a preferred embodiment of my invention,

Fig. 1 is a plan view;

Fig. 2 is a side elevation, partly in section, and

Fig. 3 is a fragmentary perspective view showing the corrugated floor of the conveying trough.

Referring to the drawings, 10 and 11 designate side members spaced apart by a bottom plate 12, the side members 10 and 11 being of any convenient length and width. Numeral 13 designates supporting wheels rotatably mounted on, and at either end of, an axle 14 and secured to the axle 14 and extending upwardly in an inclined plane and on either side of the side members 10 and 11 are plates 15 which are secured to the side members 10 and 11 by bolts or riveting, as indicated at 16. As will be seen from an inspection of Fig. 2, the side members 10 and 11 and bottom 12 extend upwardly in an inclined plane, and to the left, as viewed in said figure, the lower right hand end, therefore, resting adjacent to the ground and being supported on plates 17 secured to the side members 10 and 11 by bolts or rivets 18, these plates 17 being secured to the axle 19 on which is rotatably mounted at either end the wheels 20. Secured to the top edge of both side plates 10 and 11 and at each end thereof, top and bottom, are bearing blocks 21, these bearing blocks, therefore, being arranged in pairs. In the lower pair of bearing blocks 21 is rotatably mounted a shaft 22 and on such shaft 22 are secured sprockets 23 spaced apart from each other any convenient distance, this distance being determined by the distance between the side plates 10 and 11 of the trough. In the upper pair of bearing blocks 21 is rotatably mounted a shaft 24, this shaft 24 lying parallel to the shaft 22. Secured to the shaft 24 and spaced apart from each other are sprockets 25, the sprocket 25 adjacent to the side plate 10 being in alignment with the sprocket 23, also adjacent to the side plate 10, while the same is true of the sprockets 25 and 23 adjacent to the side plate 11. Over the sprockets 23 and 25 adjacent to the side plates 10 and 11 respectively run sprocket chains 26

and 27, such sprocket chains, therefore, lying parallel to each other. Secured to the sprocket chains 26 and 27 and spaced along the length of such sprocket chains are cross bars 28, the length of the cross bars being substantially equal to the distance between the side plates 10 and 11 so as to have such cross bars easily slidable between such side plates. The edges of the side plates remote from their attaching point to the sprocket chains are corrugated, as indicated by the numeral 29 in Fig. 1. In the bottom plate 12 of the trough and extending longitudinally thereof are a plurality of corrugations 30 equal in number and shape to the corrugations designated 29 on the cross bars 28. The bottom plate 12 and the corrugations 30 therein terminate at a point slightly below the extreme upper end of the side plates 10 and 11. This corrugated bottom plate 12 may be made of any suitable material, although I preferably make the same of heavy corrugated sheet metal.

One end of the shaft 24, at the top, extends outwardly beyond the side plate 11, and secured to such extension is a pulley 31 over which runs a belt (not shown) extending from any suitable source of power and by means of which the shaft 24, and therefore the shaft 22, may be rotated, the sprocket chains 26 and 27, under these conditions, moving in the direction of the arrow shown in Fig. 2.

The operation of my device is as follows. The entire apparatus may be forced by a workman grasping the spokes of the wheels 13 into or against a pile or into a pit containing manure, wet straw, or other like loose material, and power is then thrown onto the shaft 24 through the pulley 31. A suitable container, as a vehicle, is placed under the upper exit end of the corrugated trough bottom 30 where the material, which is raked or scraped off the pile by the corrugated teeth 29, is forced up along the corrugations 30 in the corrugated bottom and to the exit end thereof where it falls into the vehicle or other receptacle.

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

1. In a machine of the class described, the combination of an inclined conveying trough, a corrugated bottom for said trough having the corrugations extending lengthwise thereof, and a plurality of notched bars extending transversely of the trough and movable longitudinally of the corrugated bottom.

2. In a machine of the class described, the combination of an inclined conveying trough, a corrugated floor for said trough having the corrugations extending lengthwise of the trough, sprockets mounted at each end of the trough, conveyor chains running over said sprockets, transverse bars secured to said sprocket chains and extending transversely of the conveyor trough, a plurality of teeth on said cross bars and meshing substantially with the corrugations on the floor of the trough, and means for rotating the sprockets to move the cross bars longitudinally of the conveyor trough.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

WALLACE B. CONANT. [L. S.]

Witnesses:

NELLIE NELSON,

OSCAR E. PEDERSEN.