E. BROWN.

LOADER.

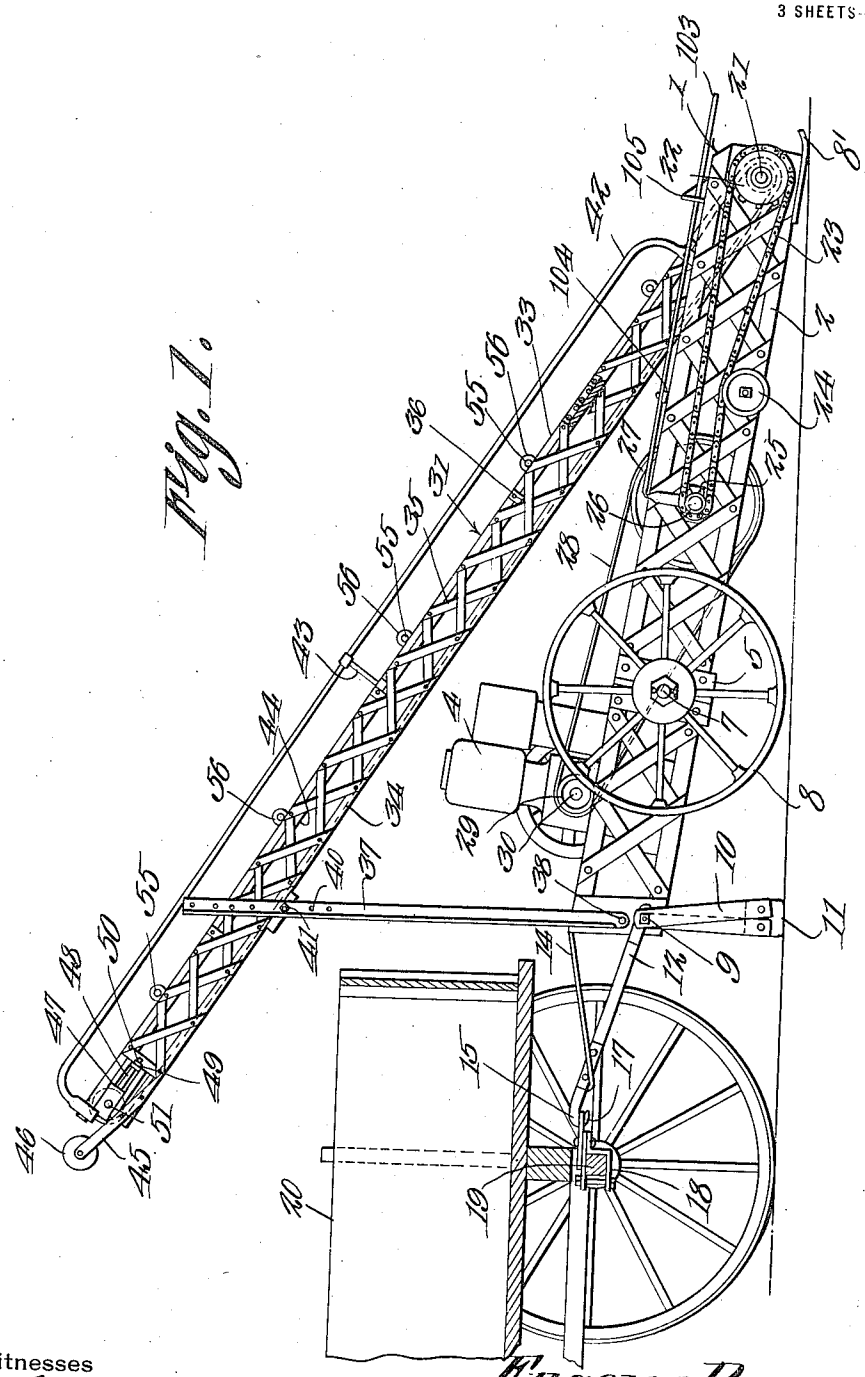
APPLICATION FILED OCT. 30, 1915.

1,244,024.

Patented Oct. 23, 1917.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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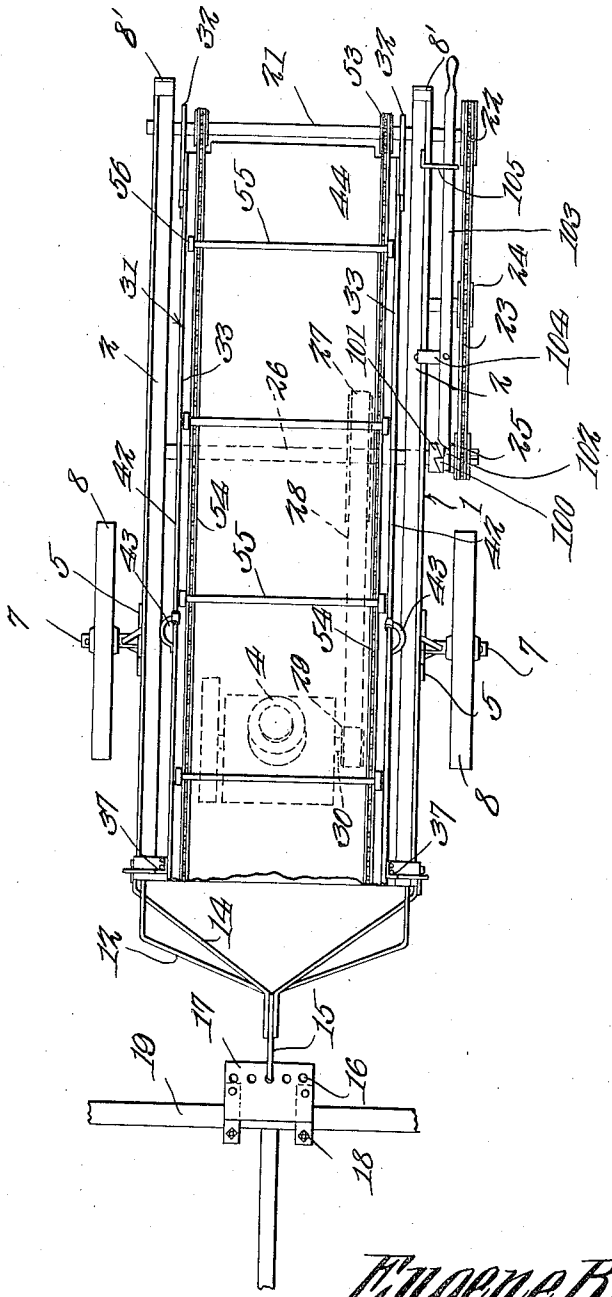
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3 SHEETS—SHEET 2.

Fig. 2.



Witnesses

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3 SHEETS—SHEET 3.

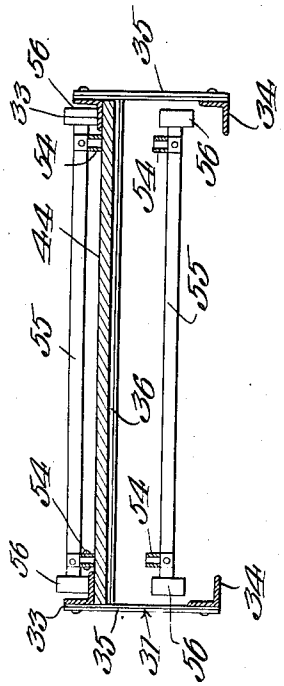


Fig. 4.

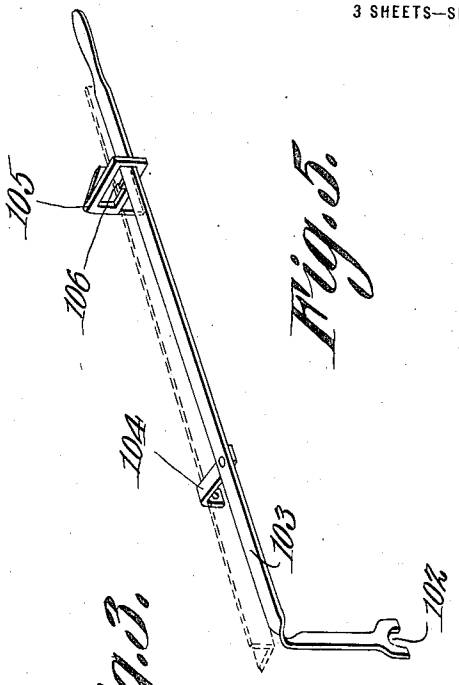


Fig. 5.

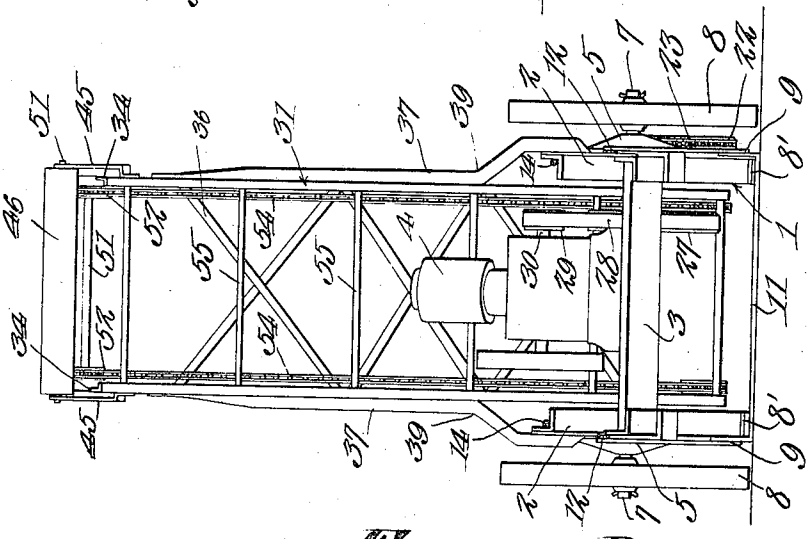


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

EUGENE BROWN, OF COLFAX, WASHINGTON.

LOADER.

1,244,024. Specification of Letters Patent. Patented Oct. 23, 1917.

Application filed October 30, 1915. Serial No. 58,847.

To all whom it may concern:

Be it known that I, EUGENE BROWN, a citizen of the United States, residing at Colfax, in the county of Whitman and State of Washington, have invented a new and useful Loader, of which the following is a specification.

The device forming the subject matter of this application is a loader adapted to be employed for elevating stacks of grain and other articles off the ground and depositing such stacks or other articles in a vehicle.

The invention aims to provide, combined with an incline and conveyer, a novel form of wheel mounted body and means for supporting the body on the ground.

Another object of the invention is to improve the means for holding the incline at various angles.

A further object of the invention is to provide novel means for assembling the structure with a wagon so that the structure may be towed by the wagon.

The invention aims to improve the conveyer which operates on the incline.

Another object of the invention is to provide novel means whereby the conveyer may be stopped, without stopping the engine whereby the conveyer is actuated.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above 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:—

Figure 1 shows the invention in side elevation assembled with a wagon, the latter appearing for the most part in section;

Fig. 2 is a top plan wherein parts of the wagon appear;

Fig. 3 is an end elevation;

Fig. 4 is a fragmental section taken through the incline;

Fig. 5 is a fragmental perspective showing the clutch actuating mechanism.

In carrying out the present invention there is provided a wheel-mounted body denoted generally by the numeral 1 and including side frames 2 connected by a platform 3 carrying an engine 4. The side frames 2 are supplied with side brackets 5 in which are mounted laterally projecting axles 7 carrying ground wheels 8. The rear ends of the side frames 2 of the body 1 may be supplied with earth engaging shoes 8′, the functions of which will be alluded to hereinafter.

Adjacent the forward end of the body, the side frames 2 thereof carry pivot elements 9 upon which are mounted to swing links 10, the links 10 at the opposite sides of the body 1 being connected by a base 11, the links and the base coöperating to form a swinging elevating foot, to be alluded to hereinafter.

Mounted on the pivot elements 9 or otherwise assembled with the side frames 2 of the body 1 is a traction member 12 retained by upwardly extended braces 14 united with the body 1. Secured to the forward end of the traction member 12 or otherwise constituting a part thereof is a hook 15 adapted to be engaged in any one of a series of openings 16 formed in a plate 17 united by clips 18 with the rear axle 19 of a wagon 20.

Journaled for rotation in the rear end of the body 1 is a transverse shaft 21 carrying a sprocket wheel 22 engaged by a sprocket chain 23 coacting with a sprocket wheel 25 carried by a shaft 26 journaled in the body 1 and extended transversely thereof, the sprocket chain 23 being engaged by a belt tightener 24 mounted on one of the side frames 2.

The sprocket wheel 25 may be coupled up operatively with the shaft 26 by a clutch mechanism which will now be described.

The shaft 26 carries a clutch element 101 adapted to coact with a clutch element 100 on the sprocket wheel 25. The clutch element of the sprocket wheel 25 is grooved to receive forks 102 constituting a part of a lever 103 fulcrumed on a bracket 104 carried by one of the side frames 2. The said side frame carries an eye 105 provided with a projection 106 adapted to coact with the

lever 103. The lever 103 may be disposed at either side of the projection 106, thus to couple up and to uncouple the clutch elements 101 and 100 in a manner which will be obvious from the drawing.

Secured to the shaft 26 is a pulley 27 about which is trained a belt 28 engaged with a pulley 29 on the shaft 30 of the engine 4.

The invention comprises an incline 31 mounted as shown at 32 to swing for a vertical adjustment on the shaft 21. The incline 31 preferably comprises top angle members 33 and bottom angle members 34, the angle members 33 and 34 being united at the sides of the incline by lattice strips 35, counters 36 being employed for connecting the top members 33 at the opposite sides of the incline.

To the end that the incline 31 may assume different angles with respect to the horizontal, uprights 37 are attached as shown at 38 to the side frames 2 of the body 1, the uprights being offset as shown at 39, intermediate their ends, and being provided adjacent their upper ends with a plurality of openings 40 in any pair of which openings may be mounted securing elements 41 assembled with the incline 31. Obviously, by mounting the securing elements 41 in different openings 40, the angle which the incline 31 assumes with respect to the horizontal may be adjusted, to accommodate the height of the load, or for any other purpose.

Secured at their ends to the sides of incline 31 are guard rails 42 which serve to prevent the sacks of grain or other articles from falling off the incline laterally, the guard rails 42 being reinforced and sustained intermediate their ends by means of struts 43 attached at their lower ends to the incline 31.

Extended between the top angle members 33 of the incline 31 and secured thereto is a platform 44. The upper end of the incline 31 is supplied with forwardly presenting arms 45 in which is journaled for rotation a roller 46 across which the sacks of grain or other articles may be eased from the conveyer which will now be described.

The side portions of the incline 31 are provided adjacent their upper ends with longitudinally adjustable bearings 47 embodying stems 48 passing through lugs 49 on the sides of the incline 31, nuts 50 being threaded onto the stems 48, the nuts coacting with the lugs 49 to move the bearings longitudinally of the incline 31, the shaft 51 in the bearings carrying sprocket wheels 52. Sprocket wheels 53 are secured to the shaft 21 and about the sprocket chains 51 and 53 are trained sprocket chains 54. The sprocket chains 54 are connected by carriers 55 in the form of rods, the carriers being adapted to move above the platform 44. The ends of the carriers 55 are equipped with rollers 56 adapted to traverse the horizontal flanges of the members 33 of the incline 31. Obviously, by adjusting the positions of the bearings 47 in which the shaft 51 is journaled for rotation, the conveyer comprising the sprocket chains 54 and the carriers 55 may be tightened up or loosened.

In practical operation the hook 15 of the traction member 12 is mounted in any of the openings 16 in the plate 17 which is carried by the rear axle 19 of the vehicle 20. In this manner, the elevator or loader forming the subject matter of this application may be towed through a field from place to place. The sacks of grain are cast onto the platform 44 and are carried upwardly over the roller 46 and deposited in the wagon 20 by the carriers 55 which, being attached at their ends to the sprocket chains 54, move upwardly along the platform portion 44 of the incline 31.

The conveyer is actuated by a gear train comprising the shaft 21, the sprocket wheel 22, the sprocket chain 23, the shaft 26 and its sprocket wheel 25, the pulley 27, the belt 28, the pulley 29 and the engine shaft 30.

It is desirable at times to stop the movement of the conveyer without stopping the engine 4 and when such a result is desired the clutch mechanism is manipulated as follows:

The lever 103 is tilted and its free end is engaged behind the projection 106, the fork 102 moving the sprocket wheel 25 outwardly and disengaging the clutch 100 on the wheel from the clutch 101 on the shaft 26.

When the device is in use, as shown in Fig. 1, the foot comprising the links 10 and the base 11 having been swung into a vertical position as shown in said figure by the advancing movement of the structure, the body 1 is supported by the rear shoes 8′ and the ground wheels 8 are elevated and the structure, considered generally, is held in such a position that it will not be likely to move forwardly or rearwardly on the wheels 8.

When it is desired to tow the motor along by means of the wagon 20, the foot 10—11 will swing rearwardly when the wagon 20 is advanced, and permit the wheels 8 to come into contact with the ground.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a body; ground wheels carried by the body intermediate the ends of the body; an incline pivoted for adjustment to the body; means for sustaining the incline at different angles with respect to the horizontal; an engine on the body; a conveyer traversing the incline; means for operatively connecting the engine with the conveyer; vehicle-engaging towing means assembled with the body; and a ground-engaging foot pivoted to the extreme forward end of the body in spaced re-

lation to the wheels, the foot coöperating with the rear end of the body to lift the wheels off the ground when the body is advanced by the vehicle-engaging towing means.

2. In a device of the class described, a body; ground wheels carried by the body intermediate the ends of the body; an incline located above the body; a conveyer traversing the incline; vehicle-engaging towing means assembled with the forward end of the body; and a foot pivotally connected with the extreme forward end of the body, in spaced relation to the wheels, the foot and the rear end of the body constituting means for lifting the wheels free from the ground when the body is advanced by the vehicle-engaging towing means.

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

EUGENE BROWN.

Witnesses:
W. C. FUDGE,
A. G. MARION.