

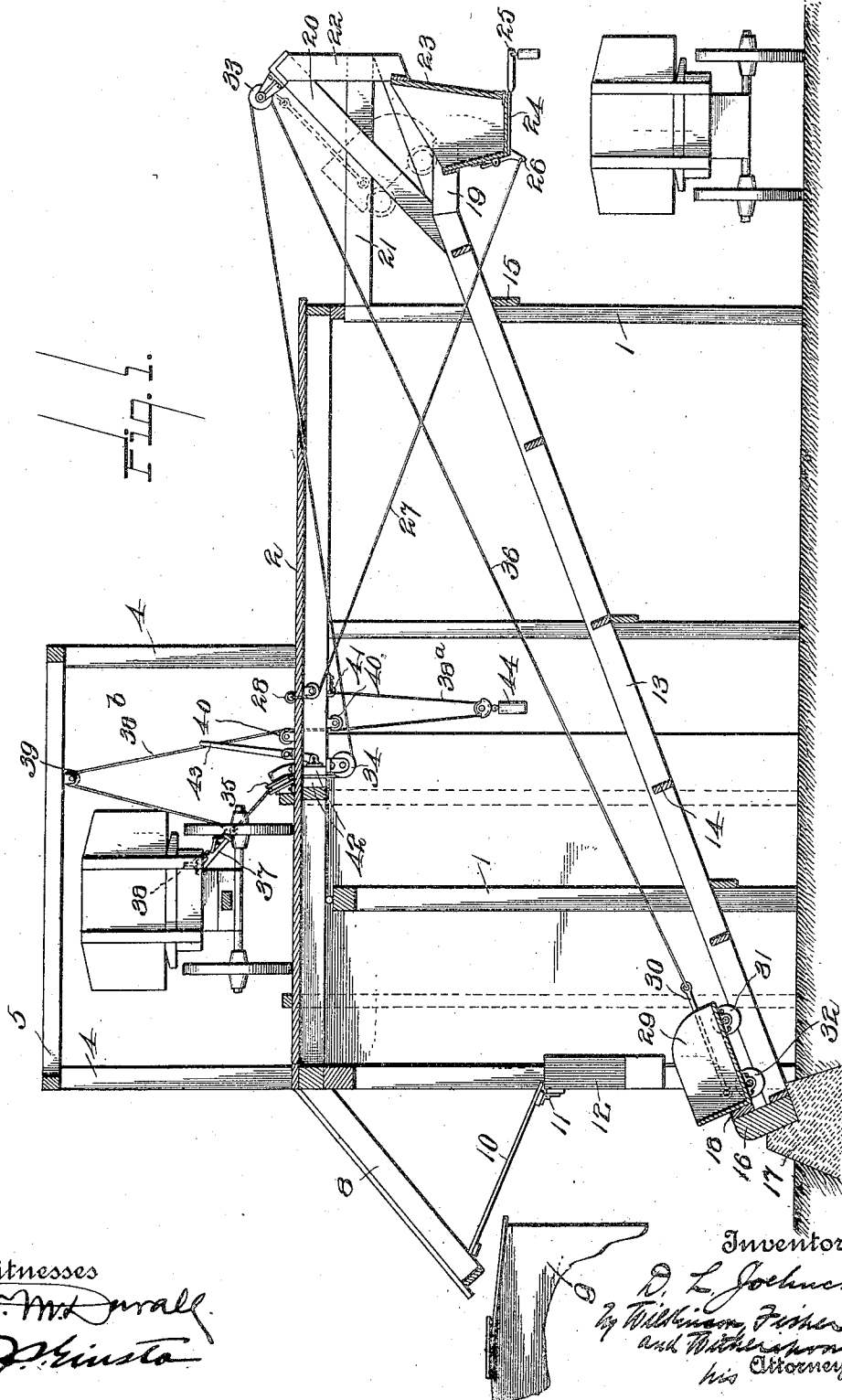
No. 898,112.

PATENTED SEPT. 8, 1908.

D. L. JOEHNCK.
APPARATUS FOR HANDLING BEETS.

APPLICATION FILED JAN. 27, 1908.

2 SHEETS—SHEET 1.



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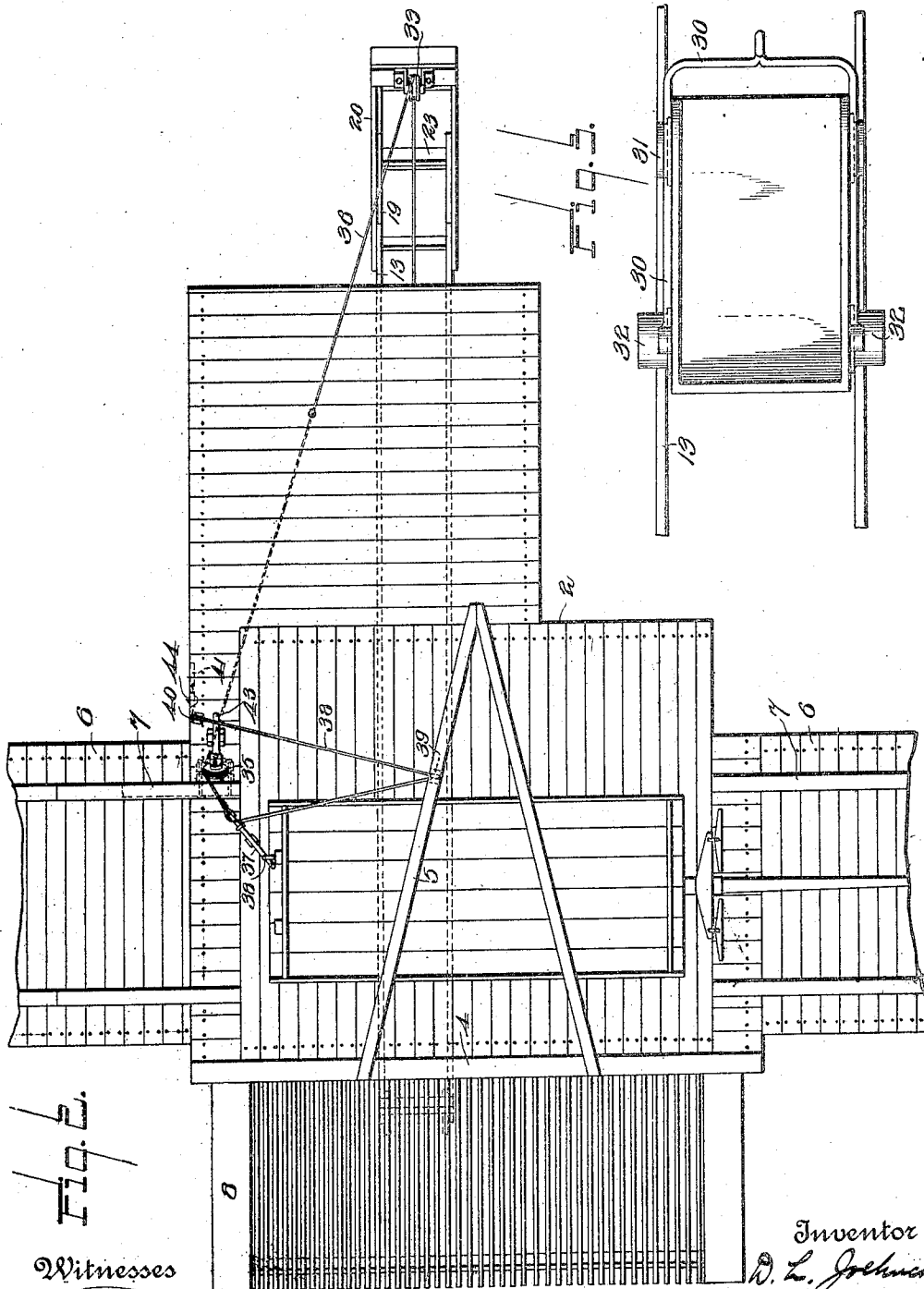
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UNITED STATES PATENT OFFICE.

DETLEF L. JOEHNCK, OF ROCKY FORD, COLORADO.

APPARATUS FOR HANDLING BEETS.

No. 898,112.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed January 27, 1908. Serial No. 418,918.

To all whom it may concern:

Be it known that I, DETLEF L. JOEHNCK, a citizen of the United States, residing at Rocky Ford, in the county of Otero and State of Colorado, have invented certain new and useful Improvements in Apparatus for Handling Beets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in apparatus for handling articles requiring screening and weighing before storage, and while for the purpose of brevity the apparatus is referred to through the specification and claims as a beet handling apparatus, it will be understood that the word "beets" is not to be construed as restricting the invention, as other products, such, for instance, as other classes of tubers, coal, stone, etc., may be handled equally as well.

In handling beets, it is customary to haul the uncleaned beets from the field by wagon loads, which loads are weighed and screened from the dirt and refuse matter before being conveyed to a storage compartment, such, for instance, as a railroad car for transportation. One of the disadvantages of this, however, is that allowance must be made for tare, and in order that this may properly be done without weighing the beets separately, it is essential that the weight of the dirt and other refuse matter be taken into consideration.

A primary object of the present invention is to facilitate the handling of beets by providing means whereby a wagon load of beets mixed with their refuse matter is initially weighed and then is dumped, so that the beets are conveyed to the car compartment, and during such conveyance are screened, the screenings being discharged in a suitable skip car that is automatically operated by the wagon, and conducts the screenings to a position where the same may be discharged into the wagon and the wagon and dirt reweighed.

While the invention is not restricted to the exact details shown and described, still for the purpose of disclosure reference is had to the accompanying drawings illustrating a practical embodiment of the invention, in which like letters designate the same parts in the several views, and in which—

Figure 1 is a longitudinal section through the improved apparatus showing a wagon in

position on the elevated platform after the contents have been dumped and the same wagon in position under the hopper to receive the screenings. Fig. 2 is a plan view of the apparatus. Fig. 3 is a plan view of the skip car.

1 designates suitable uprights forming a support for a platform 2, which platform may be provided with further uprights 4 carrying a horizontal supporting member, shown in the drawings in the shape of a triangular member 5.

On opposite sides of the platform, the same is provided with inclines 6, one of which may be termed the approach, and the other the exit. These inclines may be provided with raised rails 7 forming means to prevent the wagon from skidding laterally off the incline.

8 designates a grizzly screen disposed at one end of the platform, and adapted to project over a transportation car 9. This grizzly screen may be adjustably supported in any suitable way, but in the drawings there is shown an apron member 10, hinged to the framework of the support at 11, and discharging into a chute 12, disposed above the lower end of a track 13, inclining upwardly and extending towards the opposite end of the apparatus. This track simply consists of the side rails provided with transverse brace bars 14, and supported at its upper end by a cross bar 15 of the frame support, and its lower end terminating in a block 16, inset in a suitable foundation 17, the block being provided with any suitable buffer means 18 if desired. At the upper end, a short section of the track, as at 19, extends substantially horizontal, and on each side of these short extensions are arranged upwardly diverging tracks 20 of a wider gage than the main track and short horizontal section.

21 and 22 designate supports carried by the frame support, which supporting members 21 and 22 assist in holding the diverging ends of the track rigidly in position, and also suspend the outer end of a hopper 23, the opposite wall of said hopper being shorter in length and hung from the short sections of track 19. The upper edges of the side walls of the hopper extend from the longer to the shorter wall, and form a rearwardly-directed opening at the upper end of the hopper. The lower opening of the hopper is provided with a swinging gate 24, having an arm and counterbalanced weight 25 normally tending to force said gate to a horizontal position, and

the gate is locked in such position by the latch 26 pivoted to the short wall of the hopper and operated by a cable 27, which may extend to any suitable operative position shown in the drawings by the ring or handle 5 28 on the platform.

29 represents a skip car provided with the shackle 30 pivoted to the side walls thereof towards the rear end. The gage of the forward wheels 31 of the car is such that they suit the narrow gage main track 13 and short extensions 19, while the treads of the rear wheels 32 are extended so as to adapt them to the wider gage of the upwardly diverging 15 rails 20.

33 designates a sheave carried by the support 22 at the upper end of the diverging rails 20, and 34 is a similar sheave mounted below the platform, a suitable sheave being also 20 provided above the platform, as shown in the drawings at 35 inclining. Reeving over these sheaves is a cable 36, one end of which is attached to the pivoted shackle 30, and the other end carrying a trip hook 37 adapted to be secured with a suitable hook, shown at 38, 25 at the rear end of the wagon. To the latch of this tripping hook is secured a tripping cable 38^b passing over a pulley 39 mounted on the triangular support 5, and then passing downwardly through the platform, being guided 30 by suitable sheaves 40, the other end of the tripping cable being secured to the platform, as at 41, and the loop 38^a of said cable carrying a weight 44 suspended by a block.

42 designate brake jaws interposed between the sheaves 34 and 35, and the cable 36 passes between these jaws, one of said jaws being movable with relation to the other, and operated by a brake lever 43 pivoted to the 40 platform.

In operation, a wagon-load of beets is initially weighed, and is ridden up the approach incline 6 to the position shown in Fig. 1 on the platform. The wagon may then be 45 dumped by any suitable means, the contents discharging on the screen 8, and while the beets pass into the car the dirt and refuse matter fall through the bars of the grizzly screen onto the apron member 10 down 50 through the chute 12 into the skip car 29. The load having been dumped the tripping hook is attached to the wagon, and while the wagon is driven down the exit incline the cable 36 pulls the skip car 29 up the inclined 55 track, and at the upper end thereof the forward wheels ride over the horizontal extensions 19, while the rear wheels run up the wider gage track, thus tilting the skip car automatically and dumping its contents into the hopper. At the same time that the skip 60 car has been fully tilted and has discharged its contents into the hopper, the weight 44 will have been elevated and being stopped by the platform will exert a pulling force on 65 the trip cable 38^b and release the trip hook

37, at which time the weight of the skip car will cause the rear wheels to run down the rails 20, thus assuming its normal position and descending by gravity down the inclined rails 13 to its initial position beneath 70 the chute 12, and at the same time returning the trip hook 37 to its initial position, the weight 44 returning the trip cable. The wagon is then driven below the hopper, and the cable 27 being pulled the latch 26 will release the gate 24, and the weight of the contents in the hopper will cause the gate 24 to swing downwardly, discharging the entire contents of the hopper into the wagon, the door being automatically returned by the 80 counterweight 25, and is latched in its closed position by the spring-operated latch 26. The wagon is then again driven to the scales, and the combined weight of the wagon and refuse matter may be ascertained 85 and deducted from the initial weight of the wagon load of beets.

Having thus described the invention, what I claim is:—

1. The combination of stationary means 90 for screening a weighed load of beets, a receptacle for the screenings, a hopper, means for shifting said receptacle from the screening means to said hopper by the vehicle initially conveying the load of beets as said vehicle 95 is moved away, and cooperating means automatically dumping said receptacle, and allowing its return to its normal position, substantially as described.

2. The combination with means for screening 100 a weighed load of beets, of an automatically dumping skip car normally located adjacent said screening means for receiving the screenings, a hopper distant from said screening means, and means cooperating to convey 105 said skip car to said hopper comprising sheaves and a cable connecting said skip car with the vehicle initially conveying the load of beets, substantially as described.

3. The combination with screening means, 110 of a track terminating at one end adjacent said screening means and at its other end provided with an inclined extension of wider gage than said main track, a skip car operating on said track and provided with wheels 115 having flanges of different width, and means operating said skip car by the vehicle initially conveying the weighed load of beets, substantially as described.

4. The combination with screening means, 120 of a track terminating at one end adjacent thereto, and at its other ends the rails thereof terminating in short angular extensions, a second track of wider gage diverging upwardly from said short extensions, a skip car 125 having rear wheels cooperating with said wide gage track to ride thereon while the forward wheels ride on the short extensions, and means for operating said skip car along said tracks by the vehicle initially convey- 130

ing the weighed load of beets, substantially as described.

5. The combination with screening means, of a track terminating at one end below said screening means and inclining upwardly towards its other end, the rails thereof terminating in short angular extensions, a second track of wider gage diverging upwardly from said short extensions, a skip car having rear wheels of wider gage than said forward wheels, the said forward wheels cooperating with said short rails, and the rear wheels cooperating with said wider gage track to tilt said skip car towards the end of its movement up said incline, and means for operating said skip car by the vehicle initially conveying the weighed load of beets, substantially as described.

6. The combination with a vehicle platform and a screening means, a track terminating at one end beneath said screening means, an open hopper at the other end of said track provided with a counterbalanced gate at the bottom thereof and a latch for said gate, a skip car operating on said track, means automatically dumping said skip car during the latter part of its movement at the hopper end of said track, means for operating said skip car, and means for unlatching said hopper from said platform, substantially as described.

7. The combination with screening means, a track terminating at one end beneath said screening means, an open hopper at the other end of said track provided with a counterbalanced gate at the bottom thereof and a latch for said gate, a skip car operating on said track, means automatically dumping said skip car during the latter part of its movement at the hopper end of said track, means for operating said skip car comprising a cable extending from said skip car to a vehicle initially conducting a load of beets to the screening means, and means for unlatching said hopper gate, substantially as described.

8. The combination with screening means, a track terminating at one end beneath said means, a skip car operating on said track, means at the other end of said track to automatically dump said skip car, a sheave mounted adjacent the dumping end of said track, a cable secured at one end to said skip car, thence reeving over said sheave, and at its other end provided with a tripping hook adapted to engage the conveying vehicle for a load of beets, and means for automatically releasing said tripping hook from said vehicle substantially at the time that the skip car is being dumped, substantially as described.

9. The combination with screening means, a track terminating at one end beneath said means, a skip car operating on said track, means at the other end of said track to automatically dump said skip car, a sheave mounted adjacent the dumping end of said

track, a cable secured at one end to said skip car, thence reeving over said sheave, and at its other end provided with a tripping hook adapted to engage the conveying vehicle for a load of beets, and means for automatically releasing said tripping hook from said vehicle substantially at the time that the skip car is being dumped comprising a tripping cable secured at one end to a support, thence extending downwardly to form a loop having a weight, thence extending upwardly to a supporting sheave, and thence downwardly to engage the trip member of said tripping hook, substantially as described.

10. The combination with a suitably supported platform, a grizzly screen inclining downwardly from one end thereof, a chute, an apron member disposed beneath said grizzly screen and extending from the base thereof to said chute, a track terminating at one end beneath said chute, a skip car operating on said track, means provided at the other end of said track for automatically dumping said skip car at that end, means for operating said skip car comprising as an element a cable extending between said skip car and a vehicle, and means for automatically detaching said cable from said vehicle when said skip car is dumped, substantially as described.

11. The combination with a platform, an inclining screen at one end thereof, a track terminating at one end below said screen and inclining upwardly towards the other end of said platform, the rails of said track at the upper end thereof terminating in short angular extensions, a second track of wider gage than said first track and diverging upwardly from said short extensions, a hopper adjacent said extensions and provided with a counterbalanced gate at the bottom thereof, latching means for said gate, a sheave mounted at the upper end of said wide gage track, sheaves carried by said platform, a skip car operating on said tracks and provided with rear wheels of wider gage than its forward wheels, a cable reeving over said sheaves and secured at one end to said skip car, and at its other end provided with a tripping hook adapted to engage a vehicle, means for automatically operating said tripping hook when said skip car reaches the upper end of said rails, braking means for said cable to control the descent of said skip car to its normal position, means for unlatching said hopper gate, and means for discharging the screenings from said screen to said skip car comprising a hinged apron member and a chute, substantially as described.

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

DETLEF L. JOEHNCK.

Witnesses:

H. A. BERG,
EDWD. F. WILKINSON.