Dec. 29, 1925. 1,567,509

H. E. JACKSON

BEET LOADING MACHINE

Filed Sept. 20, 1922 4 Sheets-Sheet 1

Fig. 1.

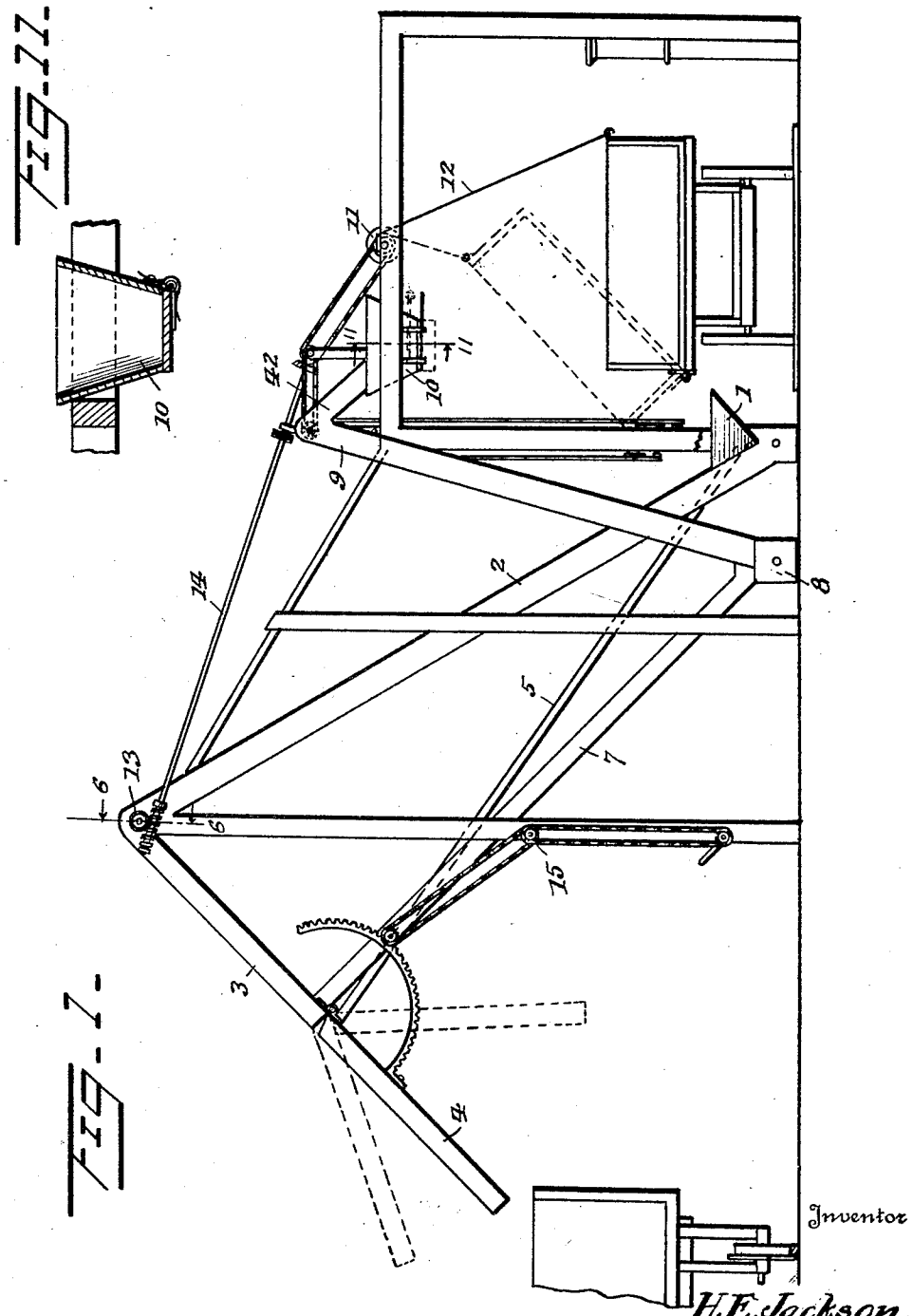


Fig. 11.

Inventor

H. E. Jackson.

By William J. Jacobi

Attorney

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H. E. JACKSON

BEET LOADING MACHINE

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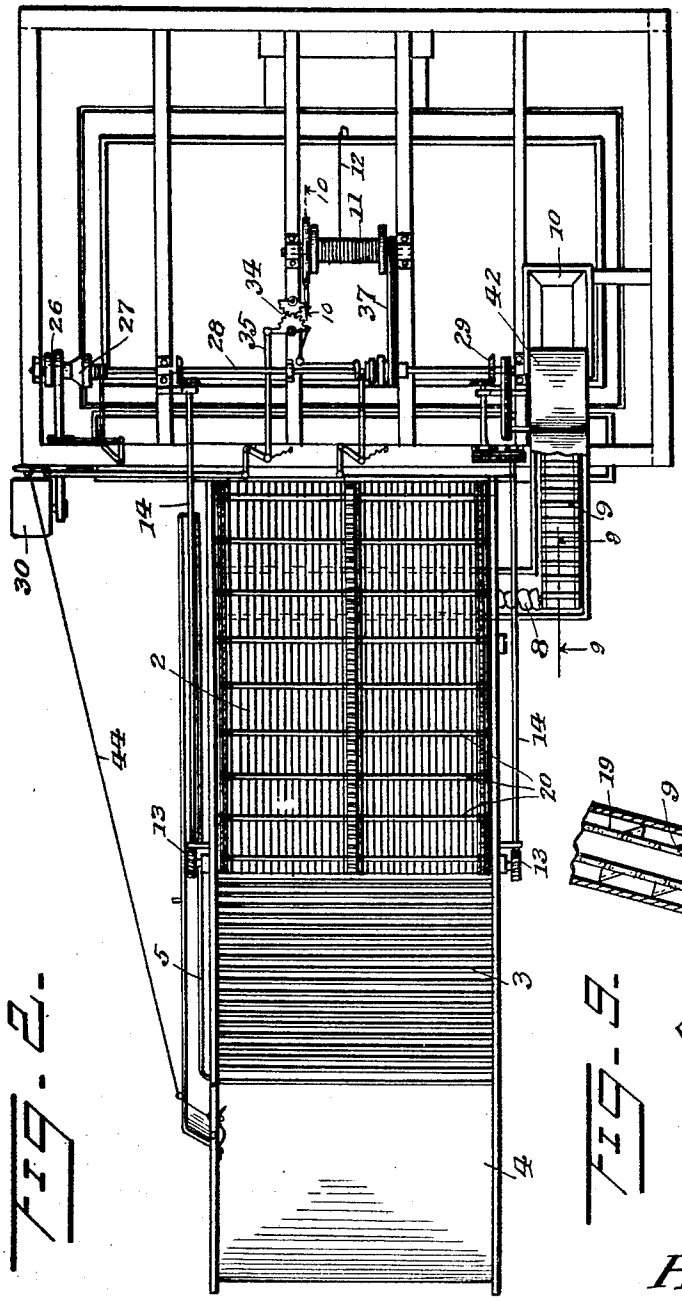


FIG. 1.

FIG. 2.

FIG. 3.

Inventor

H. E. Jackson.

By William J. Jacobi

Attorney

Dec. 29, 1925. 1,567,509

H. E. JACKSON

BEET LOADING MACHINE

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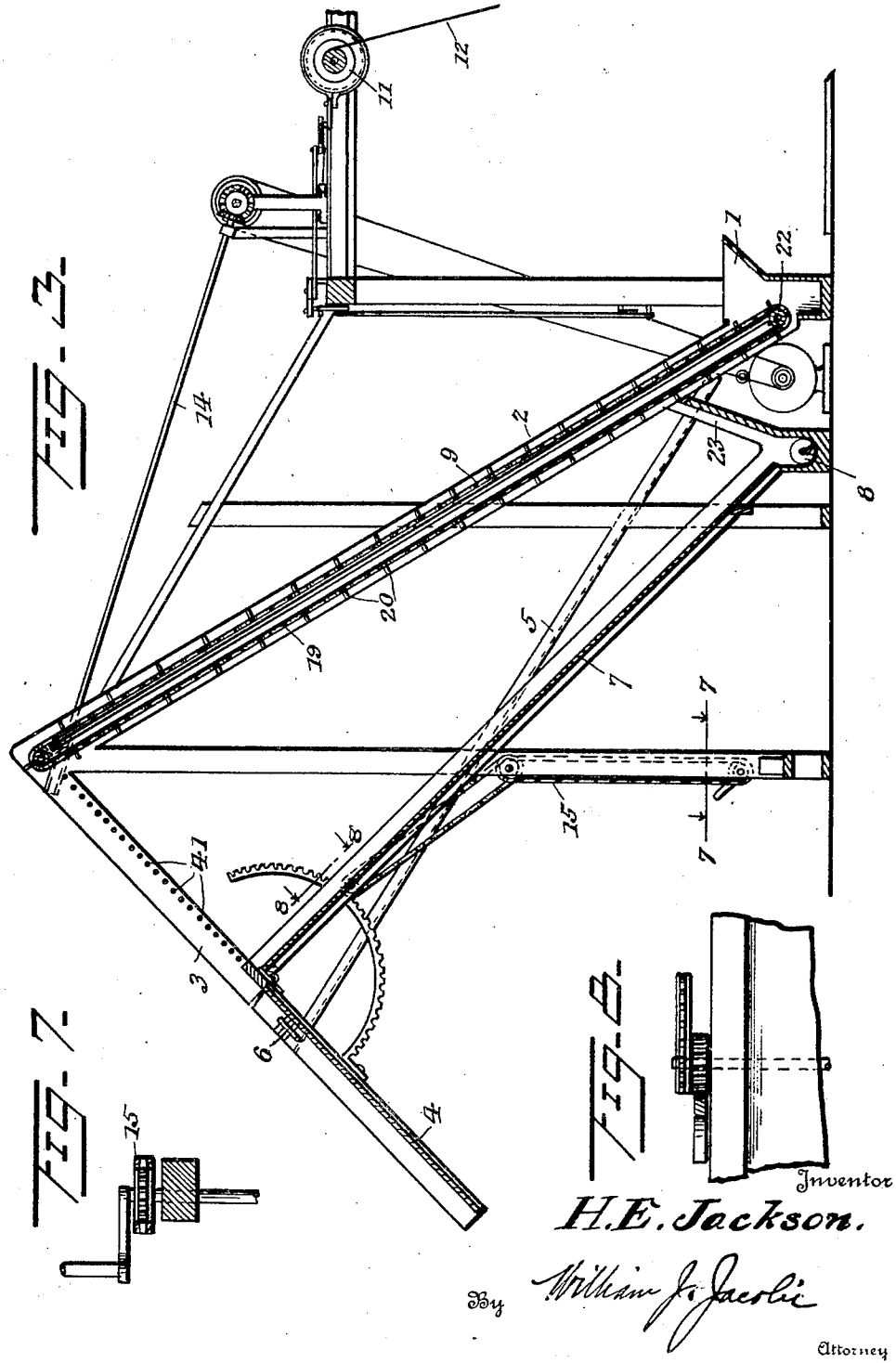


Fig. 3.

Fig. 7.

Fig. 8.

Inventor

H. E. Jackson.

By William J. Jacobi

Attorney

Dec. 29, 1925. 1,567,509

H. E. JACKSON

BEET LOADING MACHINE

Filed Sept. 20, 1922 4 Sheets-Sheet 4

Fig. 4.

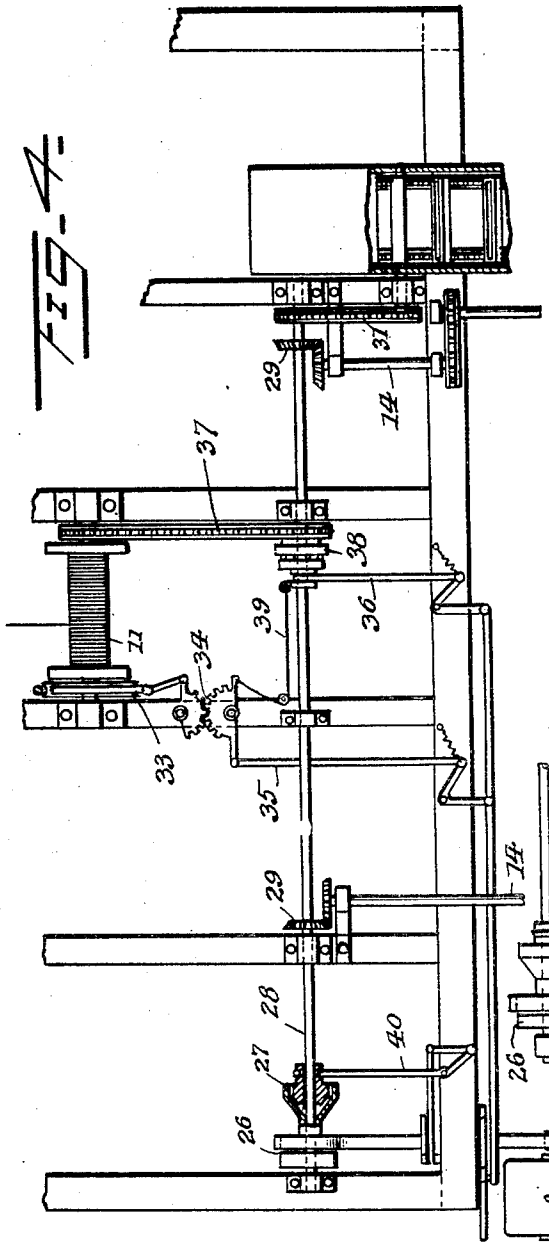


Fig. 6.

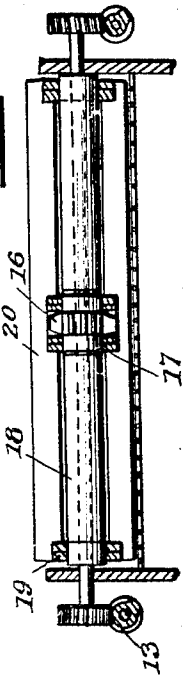


Fig. 5.

Inventor

H. E. Jackson

By William J. Jaerlin

Attorney

Patented Dec. 29, 1925. 1,567,509

UNITED STATES PATENT OFFICE.

HARVEY E. JACKSON, OF IDAHO FALLS, IDAHO.

BEET-LOADING MACHINE.

Application filed September 20, 1922. Serial No. 589,459.

To all whom it may concern:

Be it known that I, HARVEY E. JACKSON, a citizen of the United States, residing at Idaho Falls, R. F. D. No. 2, in the county of Bonneville, State of Idaho, have invented a new and useful Beet-Loading Machine.

My invention relates to an improved combination of mechanical devices to unload farm wagon on weighing scales, transportation and loading of beets on railroad car, screening the dirt from the beets during the transit and the return of the dirt from the individual to its wagon, separating a sample of the beets impartially from each load and delivering to a given position.

That is, first, by providing a hoist to elevate one side of the beet hauling farm wagon bed which is hinged on one side and provided with link or eye bolt on the other side, for dumping the load; second, by providing an elevator and gravity chutes for transportation of load from hopper to car; third, providing screening floor in elevator and gravity chute below which a chute receives and by gravity delivers dirt to a hopper from which a screw conveyor transfers it to a bucket elevator on which it is elevated and discharged through a chute to a hopper above wagon bed which hopper has a dumping bottom; fourth, providing a gate in the side of the last chute of the transportation before the car to swing over a portion of the floor of the chute and divert the beets from their course to the car to a side chute which by gravity delivers them to a given position.

I attain these objects by the mechanism illustrated in the accompanying drawings in which—

Figure 1 is a side elevation of a device constructed in accordance with my invention;

Figure 2 is a plan view thereof;

Figure 3 is a vertical longitudinal section therethrough;

Figure 4 is an enlarged plan view of the operating mechanism;

Figure 5 is a detailed rear elevation showing control for the operating mechanism;

Figure 6 is a transverse section as seen on the line 6—6 of Fig. 1;

Figure 7 is a detailed section as seen on the line 7—7 of Fig. 3;

Figure 8 is a detailed section as seen on the line 8—8 of Fig. 3;

Figure 9 is a detailed section as seen on the line 9—9 of Fig. 2;

Figure 10 is a detailed section as seen on the line 10—10 of Fig. 2; and

Figure 11 is a detailed section as seen on the line 11—11 of Fig. 1.

Similar numerals refer to similar parts throughout the several views.

I prefer a supporting frame work as shown to carry drive shafting, power transmission, hoisting apparatus, dirt hopper, all as shown.

Hoist of cable and hook 12 on winch 11 driven by chain drive gearing 37 from main shaft 28 through engagement of clutch 38, engaged through or released through control rod, 36. Brake 33 operated through control rod 35 by leverage gear 34 brakes winch 11 and when brake 33 to winch 11 is applied automatic clutch release 39 disengages the power from drive gear 37 while brake is in operation.

Load dumped into hopper 1 is received by conveyor of elevator 2 whose conveyor blades 20 attached and supported by chains 19 guided by rollers 17 and propelled by sprocket wheels 16 secured to a shaft in drum 18. Shaft in drum 18 attached to pinion of worm gear 13 driven from tumbling rods 14 from bevel gears 29 one of which is secured to main drive shaft 28 and main drive shaft 28 engaged through clutch 27 with pulleys 26 whose power is provided from either an engine or motor 30. Conveyor of chain 19 and blades 20 are guided and supported at base of elevator 2 in the case of hopper 1 by drum, shaft and rollers 22 which are like unto rollers 17 and drum 18.

Load transported to the top of elevator 2 by the conveyor is discharged to chute 3 and by gravity transportation continues to chute 4 which by gravity passes the load to car.

Chute 4 is adjustable by track brackets 5 and adjustment operated through gear and crank 15, and is for distributing load over car or for clearance of right-a-way with reference to distance of any obstruction to track except at loading time.

Elevator 2 floored by screen of spaced rods 21 over which blades 20 convey and screen beets of dirt, which screening is furthered in chute 3 which is floored with screen of spaced rods 41. The dirt from

screens 21 and 41 drops to chute 7 through which it passes by gravity to hopper of screw conveyor 8, by which it is conveyed to bucket elevator 9 over which it is elevated and discharged to chute 42 and through chute 42 it passes by gravity to hopper 10 whose bottom is hinged to drop load to wagon when lever is pulled which releases the catches which hold bottom shut.

Sprocket wheels attached to shaft of screw conveyor 8 engaged with the chains of the conveyor of elevator 9, said chains 43 carrying buckets of elevator 9 is driven by shaft and sprockets 32 which is driven from main drive shaft 28 through chain gear transmission 31.

Gate 43 in the side wall of chute 4 is hinged to the side of chute 4 and is held open making a sweep of a portion of the floor of chute 4 with a spring at the hinge or axle of the gate and with rope or cable 44 the gate is closed and when released gate automatically swings open diverting a sample of beets passing in transit from their course to the car to chute 5 where by gravity they are transported to a given position.

I am aware that prior to my invention elevators and conveyors and chutes and hoppers and hoists have been made for loading and unloading beets and I do not claim such an invention broadly; but

I claim:

1. In a machine of the class described, the combination with a source of supply; of a hopper, an upwardly inclined conveyor leading therefrom, a screen supported in the frame of said conveyor immediately below the latter, a chute leading downwardly from the upper end of said conveyor, a portion of said chute being screened, a second chute disposed below said conveyor and the first mentioned chute to receive the contents screened therefrom, and means for conveying the contents of the last mentioned chute to the source of supply.

2. In a machine of the class described, the combination with a source of supply; of a hopper, an upwardly inclined conveyor leading from said hopper, a screen mounted in the frame of said conveyor below the latter, a downwardly inclined chute leading from the upper end of said conveyor, a portion of said chute being screened to permit certain contents thereof to be sifted therethrough, the outer end section of said chute being adjustable to various positions, a second chute arranged below said conveyor and said first mentioned chute to receive the contents screened therefrom, and means for returning the contents of the last mentioned chute to the source of supply.

H. E. JACKSON.