

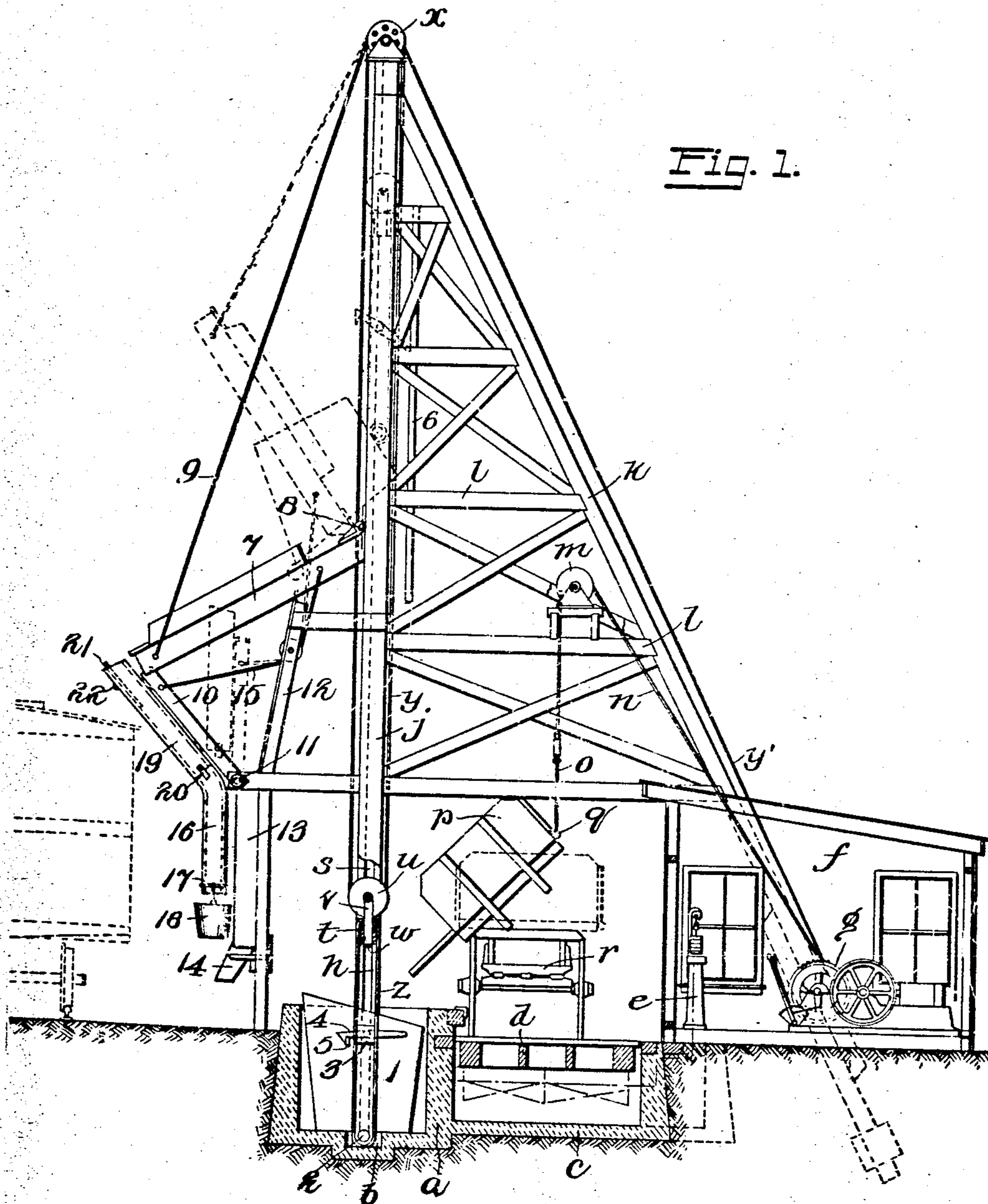
No. 875,529.

PATENTED DEC. 31, 1907.

D. L. JOEHNCK.
APPARATUS FOR HANDLING BEETS.

APPLICATION FILED APR 22, 1907.

3 SHEETS—SHEET 1.



Witnesses

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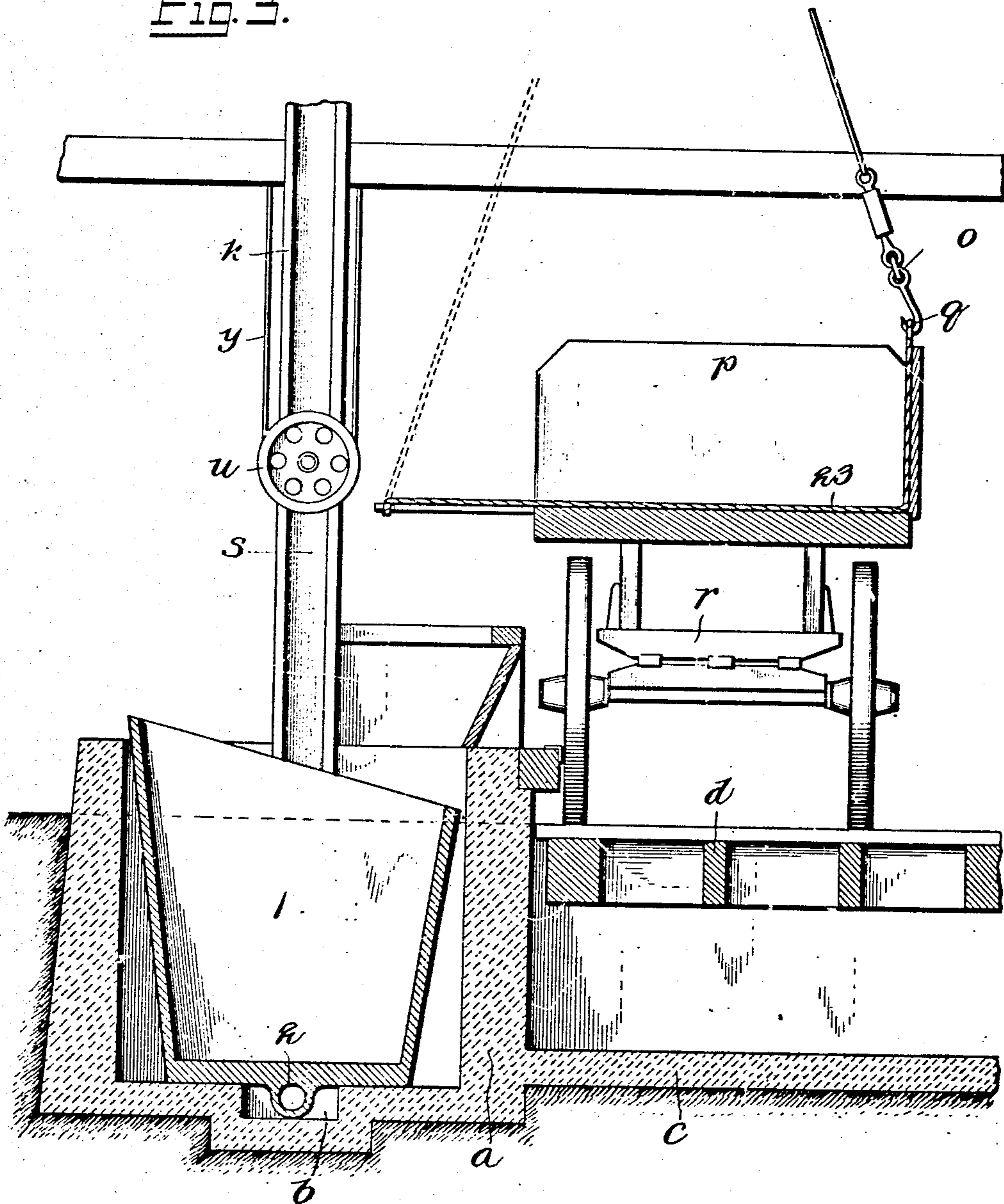
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3 SHEETS—SHEET 3.

Fig. 3.



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APPARATUS FOR HANDLING BEETS.

No. 875,529.

Specification of Letters Patent.

Patented Dec. 31, 1907.

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To all whom it may concern:

Be it known that I, DETLEF L. JOEHNCK, a citizen of the United States, residing at Rocky Ford, county of Otero, 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 loading apparatus.

In the following specification, for the purpose of brevity and clearness, reference is simply made to "beets" as the product to be handled, but it will of course be understood that instead of beets other products may be equally well handled, such for instance as other classes of tubers, corn, grain, coke, coal, stone, etc., and the employment of the word "beets" is not to be construed as restricting the invention to this particular use.

The invention is especially designed for the purpose of storing in large quantities, by directly conveying to the storage chamber such as a railroad car, wagon loads of the product, such as beets, which at the same time are screened from dirt and refuse matter, and a sample of each wagon load being procured while the articles are being transported from the wagon or similar vehicle to the railroad car, or other storing compartment.

While I do not limit myself to the exact details herein referred to, 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 side elevation of my apparatus, the lower portion of the main upright frame being broken away and the bed of the pit being shown in section for the purpose of clearness in illustration. Fig. 2 is a front elevation of the apparatus, the lower portion of the main frame being broken away and the pit and the skip car being shown in transverse section, and Fig. 3 is a fragmentary local view on an enlarged scale showing the pit and skip car in vertical section, and a slightly modified form of dumping wagon.

In carrying out the invention broadly, I employ a platform scale, located adjacent a pit, and cooperating with a suitable upright

support, a skip car therefor, hoisting means for the skip car, means for tripping the skip car at a predetermined position of elevation, means for screening the beets from the refuse matter and conveying the cleaned beets to the car or other storage compartment, and means for obtaining samples of each wagon load of beets, the whole cooperating to form an efficient apparatus for practically carrying out in a continuous operation the weighing of the load of beets, the conveying of same in a clean state to the car, and the obtaining of a sample of each wagon load.

a designates a pit for the reception of the skip car, which may be provided with the recessed center *b*, to receive the depending means for pivoting the skip car to the hoisting apparatus; *c* designates a base chamber for the reception of the platform *d* of the scales *e* located in a suitable shed *f*, containing drums operated by any suitable power, and designated by an engine conventionally, as at *g*. The pit *a* and compartment *c* may be of lumber, or cement or other masonry work, as shown.

Disposed above the pit *a* is located an upright support, which may be stayed in any suitable manner. In the drawings, this upright support consists of a vertical frame comprising the side members *h*, the top cross-piece *i*, the whole stayed by the laterally-extending truss frames *j* and the rearwardly-extending trussing frames *k*; each of said trussing frames consisting of the inclining main timbers and the cross bars *l*.

On one of the cross bars *l* may be suitably mounted a roller or sheave *m*, disposed above the platform of the scales, over which reeves a cable *n*, connected at one end to an operating drum of the engine *g* or other operating power and at its other end provided with a swivel and hook connection *o*, adapted to be secured to a tilting wagon body *p* as, for instance, by means of an eye *q*. The vehicle for conveying the beets to the scales, as shown in Fig. 1, simply consists of the wagon body *p*, detachably mounted on a suitable running gear *r*. The uprights or standards *h* of the vertical frame are preferably composed of channeled iron to form a guideway *s* for the reception of the ends of the vertically-slidable I-beam *t*, carrying at its center a pulley *u* preferably of the compound type, mounted in any suitable way, but shown in the drawings as carried by the side bars *v* passed through the I-beam and bent beneath

and secured to the lower web thereof, as shown at *w*. *x* designates a pulley preferably of the compound type, suitably mounted on the top cross-piece *z*, and *y* designates a cable secured in any suitable way at one end and associated with said compound pulleys and passing as at *y'*, to a drum operated by the engine or other power.

Suspended by the I-beam *t*, by means of the hanger straps *z*, is the skip car 1, consisting of a tilting bucket provided with base bearings, having trunnion pins 2, around which pass the hanger straps *z*. Rigidly mounted between the straps *z*, at a suitable position thereon, is a pair of spacing blocks 3, each carrying a pivoted latch 4, on opposite sides of the skip car, which pivoted latches 4 are adapted to engage with lugs 5 on the skip car. Disposed above said pit, and in alignment with the rear end of the latches 4 are a pair of trip bars 6, which obviously may be adjustably or rigidly connected with the framework. At a position on said upright frame, slightly above the bottom of said trip bars 6, is pivotally mounted a grizzly screen 7, which is shown as hinged to the upright frame, as at 8. The outer end of this grizzly screen is suspended by means of a cable or cables 9, reeving over pulleys on the cross bar (not shown) in passing to the operating drums, 10 designating the front wall of an open hopper supporting the outer edge of the grizzly screen, and pivoted as at 11 to a suitable support on the upright frame. This front wall 10 of the hopper cooperates with the rear wall 12 to deflect any screenings to a chute 13 communicating by means of a spout 14 with a wheelbarrow, or other means for conveying off refuse matter. The front wall 40 of the hopper 10 is also connected with the grizzly screen 7 by means of a flexible connection 15, secured at one end to said front wall, thence reeving around a pulley mounted on said rear wall 12 of the hopper, and secured at its other end to the rear or hinged end of the grizzly screen.

Disposed at the lower or discharge end of the screen is mounted a sampler tube, preferably of sectional construction. This sampler tube is designed to be disposed in any position along the lower edge or discharge end of the screen. In the drawings, the lower section 16 of the sampler tube is shown as carried by the framework construction, and at its lower end is provided with a bracket 17 for suspending a receptacle 18 for the sample beets. The upper section 19 of the tube is shown as mounted on the pivoted front wall 10 of the hopper, a joinder with the lower section being made as at 20. The upper end of the section 19 is provided with a baffling plate 20 which may be adjustably connected to the tube in any suitable way, designated conventionally as by a locking screw 22. The construction shown in Fig. 3

is the same as that shown in the other figures, but instead of the tilting wagon body *p*, the same is provided with a rope net 23 for discharging the load of beets into the skip bucket 1.

In operation, referring to Figs. 1 and 2, a wagon load of beets is driven onto the scales, and after weighing same, the cable *n* is operated to tilt the wagon body and dump the beets into the skip bucket, after which the cable *y* is operated to elevate the skip bucket, and as soon as the latch 4 engages the lower end of the trip bar 6, the skip bucket is released, the latch being held in its elevated position, shown in dotted lines in Fig. 1, by sliding along the trip bar, and ready to engage the bucket and lock same in position upon its descent. At the same time when the latch is tripped, the forward end of the bucket is in a position just above the rear end of the screen, and consequently the rear end of the screen acts as a fulcrum for the forward end of the bucket which is gradually tilted over until it assumes the position shown in dotted lines. The beets being dumped onto the screen, the dirt, stone, and other refuse matter passes through the coarse screen, down through the hopper, and out of the chute 14 into a wheel barrow or other form of vehicle, while the discharged beets pass into the car or other storing chamber disposed at the end of the screen. During the passage of the beets past the sampler tube, however, some of the beets striking the baffling plate 21 will fall down through the sampler tube into the bucket 18, thereby furnish a sample of the load of beets being dumped.

The wagon with the load of beets having been initially weighed, and having also been weighed after dumping the load into the skip bucket, the true weight of the beets is ascertained by then weighing the refuse matter discharged through the tube 14, and subtracting the weight of this refuse matter plus the weight of the wagon from the gross weight of wagon and beets.

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

1. The combination of an upright support, a skip car vertically movable thereon, an inclining screen projecting therefrom, a hopper disposed beneath said screen, a sampling chute disposed at the outer end of said screen, means for hoisting said skip car, and means for tilting said skip car adjacent said screen for discharging the contents thereon, substantially as described.

2. The combination of an upright support, an inclining screen projecting therefrom, a movable support carried by said upright and means for hoisting said support, a skip car pivotally suspended by said movable support, a latch pivotally mounted on said movable support adapted to engage locking means on

said skip car, and means for tilting said skip car during its upward movement for discharging the contents thereof on said screen, comprising a tripping bar engaging the tail
5 end of said latch, substantially as described.

3. The combination of an upright frame, an inclined screen carried thereby, a cross beam carried by said frame and mounted to slide therein, a skip car having a trunnion pin
10 on each side thereof, a pair of hanger straps passing around said cross bar and said trunnion pins, a spacing block secured to one of said straps, a latch pivoted to said spacing block and cooperating with a lug on said skip car,
15 means for elevating said cross bar, and means for tripping said latch comprising a trip bar projecting in the path of said latch below said inclining screen, substantially as described.

4. The combination of an upright support,
20 a skip car movable vertically thereon and means for elevating same, a screen pivotally secured to said frame, a cable supporting the end of said screen, means for operating said cable, and means for tilting said skip car to
25 dump the contents thereof on said screen, substantially as described.

5. The combination of an upright support, a pivoted screen carried thereby, a hopper disposed below said screen comprising a stationary rear wall and a pivoted front wall,
30 the front wall of said hopper adapted to engage and support the outer end of said screen, a fixed pulley carried by said frame, a cable suspending the outer end of said screen and
35 means for operating same, flexible means reeving around said fixed pulley and disposed between the upper end of said pivoted front wall and the rear end of said screen, a skip car vertically movable on said support,
40 means for elevating said skip car, and means for tripping said skip car to tilt the contents thereof on said screen, substantially as described.

6. The combination of an upright support,
45 an inclining screen projecting therefrom, a sampling tube disposed at the lower end of

said inclining screen, a skip car carried by said frame, and means for elevating said skip car and tilting the contents thereof on said screen, substantially as described. 50

7. The combination of an upright support, an inclining screen projecting therefrom, a sampling tube disposed at the lower end of said inclining screen, a baffling plate projecting above said sampling tube, a skip car carried by said frame, and means for elevating
55 said skip car and tilting the contents thereof on said screen, substantially as described.

8. The combination of an upright support, an inclining screen projecting therefrom, a
60 sampling tube disposed at the lower end of said inclining screen, an adjustable baffling plate projecting above said sampling tube, a skip car carried by said frame, and means for elevating said skip car and tilting the contents thereof on said screen, substantially as described. 65

9. The combination of an upright support, a pivoted screen, a hopper disposed below said screen comprising a stationary rear wall
70 and a pivoted front wall supporting the forward end of said screen, flexible means connecting said screen and pivoted front wall, a cable connected to said screen and means for operating said cable to elevate said screen, a
75 sectional sampling tube the upper section carried by said pivoted front wall and the lower section being supported in a stationary position, a receptacle for catching the sample
80 beets, a skip car vertically movable on said upright support, means for elevating said skip car, means for tripping same to tilt the contents thereof on said screen, and means for delivering a load of beets to said trip car, substantially as described. 85

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

DETLEF L. JOELINCK.

Witnesses:

R. W. GIBBONS,
H. D. MACON.