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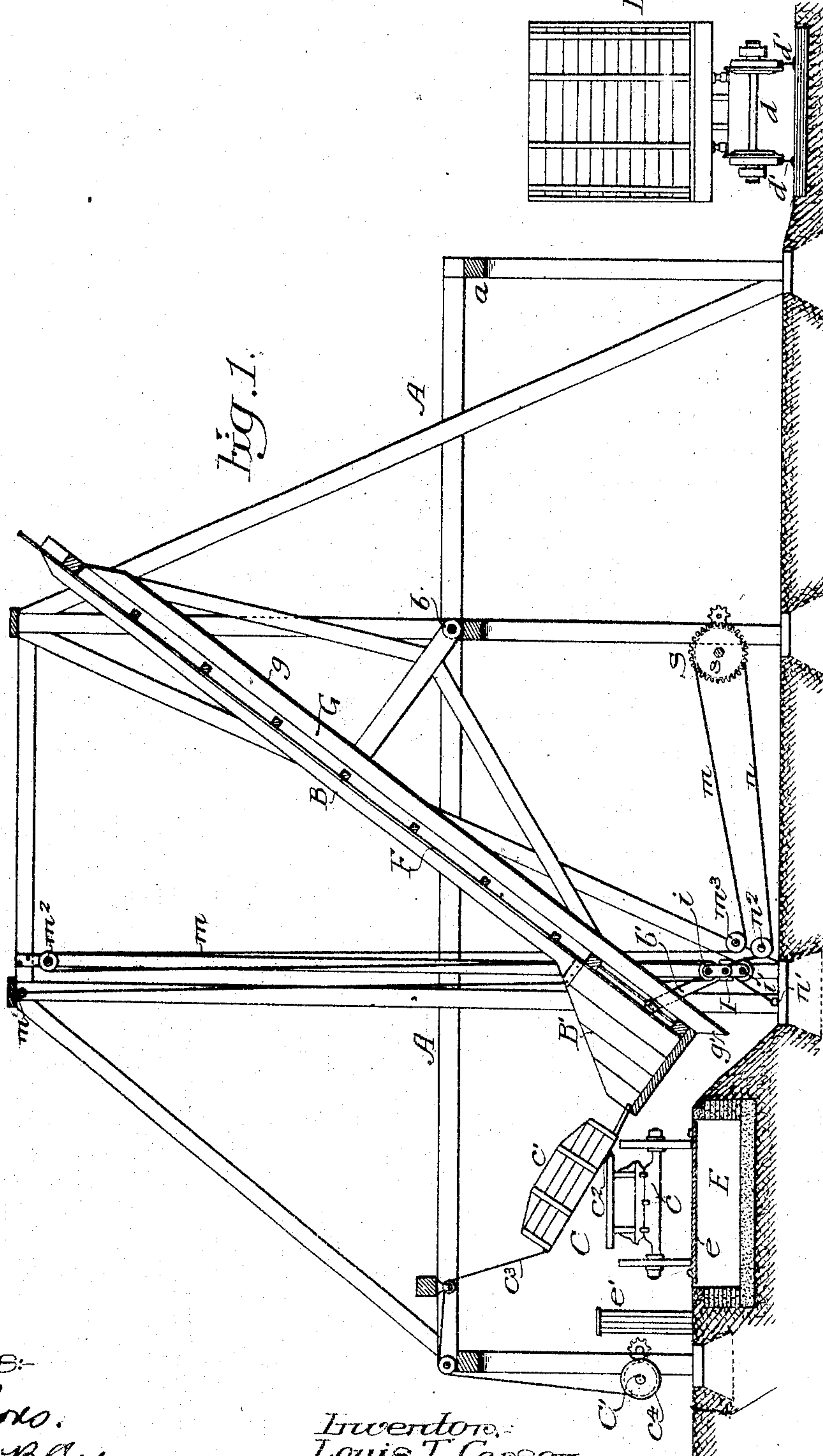
PATENTED SEPT. 3, 1907.

L. T. CARSON.

BEET DUMPING AND SCREENING APPARATUS.

APPLICATION FILED NOV. 8, 1906.

2 SHEETS—SHEET 1.



Witnesses:

Letus H. Loo.

Augustus B. Copper

Inventor:

Louis T. Carson.

by his Attorneys S. Rowson & Rowson

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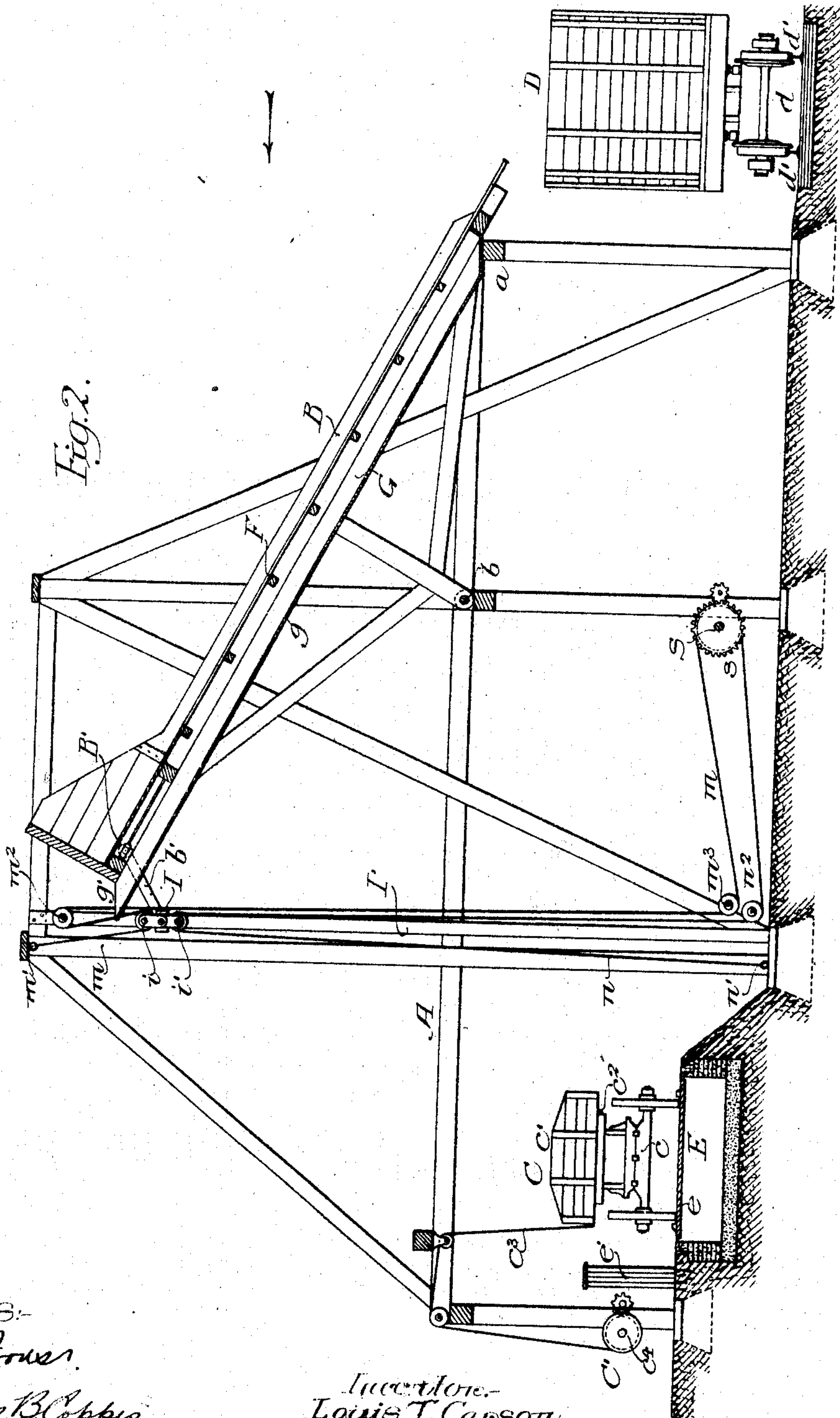
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3 SHEETS—SHEET 2.



Witnesses:-

John H. Jones.

Augustus B. Coppes

Inventor:-

Louis T. Carson

by his Attorneys, Howson & Carson

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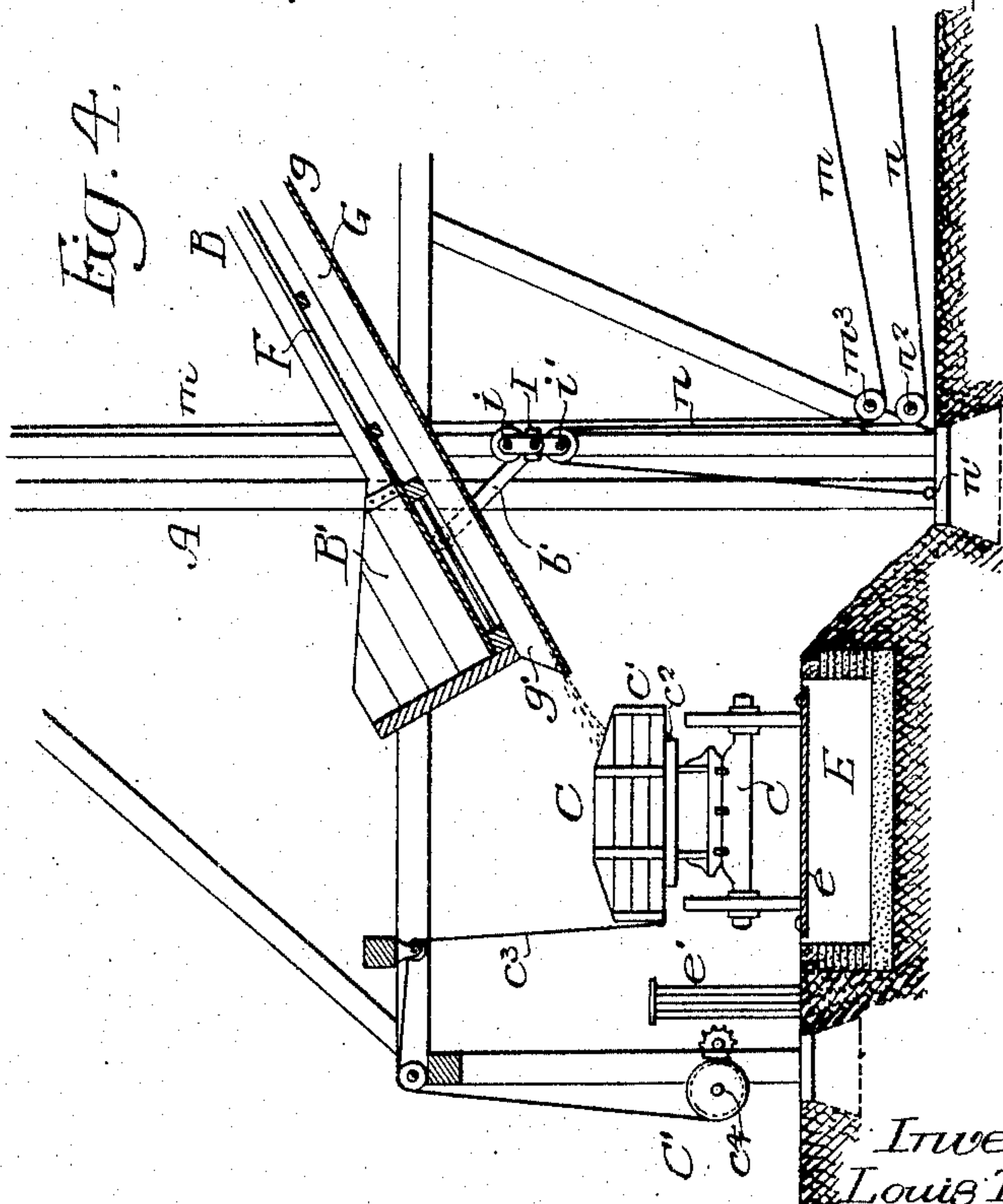
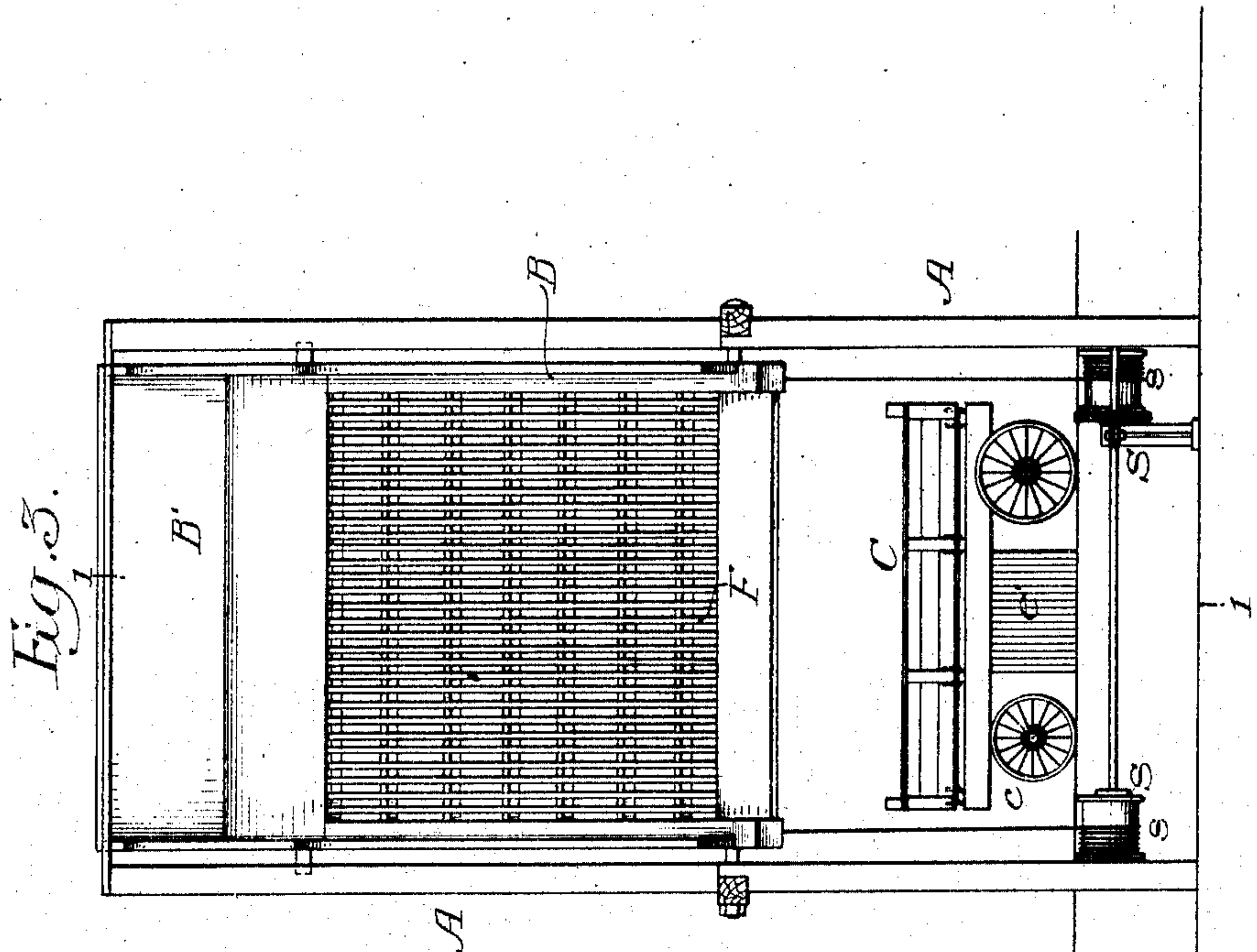
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APPLIOATION FILED NOV. 8, 1906.

3 SHEETS—SHEET 3.



Witnesses:-
Titus H. Jones.
Augustus B. Copes

C7



 Inventor
 Louis T. Carson
 by his Attorneys
 Howson & Howson

UNITED STATES PATENT OFFICE.

LOUIS T. CARSON, OF FORT COLLINS, COLORADO.

BEET DUMPING AND SCREENING APPARATUS.

No. 865,235.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed November 8, 1906. Serial No. 342,445.

To all whom it may concern:

Be it known that I, LOUIS T. CARSON, a citizen of the United States, residing at Fort Collins, Colorado, have invented certain Improvements in Beet Dumping and Screening Apparatus, of which the following is a specification.

Heretofore the transfer of sugar beets from cars to wagons has been accomplished with very expensive and cumbersome mechanism.

10 The main object of my invention is to simplify the construction of the mechanism so that the apparatus can be erected with comparatively small cost and yet will be efficient to transfer the beets from the wagon to the cars, at the same time screening the beets and
15 returning the dirt and other foreign matter to the wagon to be hauled away. Heretofore the dirt was allowed to accumulate around the apparatus or would have to be shoveled into wagons and hauled away at intervals.

A further object of my invention is to arrange the
20 scales in such a position that the wagon with the beets and dirt will be weighed before the beets are discharged into the car and the dirt immediately returned to the wagon and the wagon and dirt re-weighed, so that there is no elaborate calculation necessary to de-
25 termine the weight of the beets.

These objects I attain in the following manner, reference being had to the accompanying drawings, in which:—

Figure 1, is a sectional elevation on the line 1—1,
30 Fig. 3, showing the tilting chute in position to receive a load of beets from a wagon; Fig. 2, is a view showing the position in which the tilting chute is placed when the beets are being screened and transferred to the car; Fig. 3, is a view looking in the direction of the ar-
35 row, Fig. 2, omitting the car, and Fig. 4, is a view of a portion of the apparatus showing the position of the chute when the dirt is returned to the wagon.

A is the frame of the apparatus, preferably built of wood, but it may be built of structural iron work if de-
40 sired.

B is the tilting chute pivoted at *b* to the frame A so that it can be rocked to assume either of the two positions shown in Figs. 1 and 2. The tilting chute B has a hopper B' at one end to receive the load of beets
45 from a wagon C of any of the usual types used in conveying beets to cars. The wagon in the present instance consists of a running gear *c* and a body *c'* pivoted to the running gear at *c''*, and the body can be tilted by connecting the free side of the body to a rope
50 *c'''* which passes around a drum *c'''* of a windlass C' secured to the framework A. The side of the body *c'* is arranged so as to fall down onto the side walls of the hopper B', as indicated in Fig. 1, allowing the beets to roll by gravity into the hopper. The hopper may
55 be designed to hold one or more wagon loads of beets,

depending upon the size of the wagons and the size of the hopper.

E, E are scales having a platform *e* and a frame *e'* inclosing the beam and indicating mechanism. This platform *e* is directly back of the tilting chute, as indicated in Fig. 1, so that the wagon can be weighed while in front of the hopper. The wagon remaining on the scales until the beets are transferred to the cars and the dirt is returned to the wagon, after which the wagon with the dirt in it is weighed and the difference
65 is the weight of the beets.

D is the car into which the beets are to be dumped and this car is mounted on a suitable truck *d* and travels on rails *d'*. The car can be of any ordinary type and so designed that it will readily receive the
70 beets from the tilting chute B. If the apparatus is situated on the banks of a canal or along a waterway then in place of the car any suitable barge or vessel may be used to receive the beets; or, in some instances, instead of the car a wagon may be used where it is
75 wished to transfer the beets from one wagon to another.

The tilting chute B has a screen F extending throughout its length and under the screen is a receptacle G formed by a metallic plate *g* in the present instance.
80 This receptacle is closed at the forward end and open at the rear, forming a spout. When the device is tilted to the position shown in Fig. 2, the beets roll over the surface of the screen and the dirt adhering to the beets is knocked off and passes through the screen into the
85 receptacle G. The dirt accumulates in this receptacle until the beets are finally discharged into the car, then the tilting screen B is returned to its normal position, as in Fig. 1, and on its return the dirt will flow down the incline, as in Fig. 4, and will be discharged
90 directly into the body of the wagon. The tilting chute B may be retained for a few moments in the position shown in Fig. 4, until all the dirt has been discharged into the wagon, after which it is lowered to the position shown in Fig. 1, to receive a load of beets, the wagon in
95 the meantime being moved off of the scales and another wagon can take its place.

The mechanism for tilting the chute B consists in the present instance of a slide I connected to the rear end of the chute by a link *b'*. The slide is mounted on
100 a vertical bar I' attached to the frame A so that it is free to slide vertically on this bar.

i, i' are pulleys mounted on the slide I and *m* is a rope attached at *m'* which passes around the pulley *i* on the slide I and around a pulley *m''* in a fixed position
105 on the frame down to a pulley *m'''* at the base of the frame to the drum *s* of a windlass S, preferably of the hand type. On winding this rope *m* around the drum of the windlass S the tilting chute B will be raised from the position shown in Fig. 1 to that shown in Fig. 2. 110

In order to return the chute B to the position shown in Fig. 1, I provide a rope n which is attached at n' to the lower portion of the frame A and this rope passes around the pulley i' on the slide I and returns around a pulley n^2 to the drum s . I preferably arrange the ropes on the drum s so that when the windlass is turned in one direction one rope is wound on the drum and the other rope is paid out. And while in some instances a single set of ropes may be used either at one side or the other of the frame, I preferably use two sets of ropes and two drums, as indicated clearly in Fig. 3, as it will be understood that this structure is preferably designed to handle from one ton to five tons of beets at one tilting.

The reeving of the ropes may be modified without departing from the essential feature of the invention, as this will depend considerably upon the location of the apparatus and while I have shown a particular design of frame A which may be used in erecting the structure, this may be modified considerably without departing from the invention.

I preferably provide a stop a for the tilting chute B when in its raised position, so that the device will not be tilted to such an angle as to prevent the thorough screening of the beets from the dirt.

I claim:—

1. The combination in a dumping and screening apparatus, of a frame, a chute pivoted to the frame, said chute having a screen, a receptacle under the screen, said chute being open to allow the material to discharge at one end thereof, said receptacle being open at the end opposite the open end of the chute to allow the screenings to discharge from the receptacle when the chute is tilted after discharging, substantially as described.

2. The combination in a dumping and screening apparatus, of a frame, a chute pivoted to the frame, a screen in the chute, a receptacle under the screen, a hopper at one end of the chute, said chute open at the opposite end, the

receptacle closed at the discharge end of the chute and open at the receiving end so that the screenings are not discharged until the chute is tilted to receive another load, substantially as described.

3. The combination of a frame, a chute pivoted to the frame, having a hopper with a closed bottom at one end and open at the opposite end, a screen extending from the bottom of the hopper to the discharge end, a screenings receptacle carried by the chute directly under the screen, said receptacle being closed at the discharge end of the chute and open at the hopper end, substantially as described.

4. The combination in a dumping and screening apparatus, of a frame, a chute pivoted to the frame, the bottom of the chute being formed of a screen, a receptacle carried by the chute and situated directly under the screen, said receptacle being closed at the discharge end of the chute and open at the feed end, a platform at one end of the structure upon which a wagon can be run, said platform being in such a position that the chute when tilted will receive a load from the wagon and when the contents of the chute are discharged and the chute tilted to its original position the screenings will flow into the wagon, substantially as described.

5. The combination of a frame, a chute pivoted to the frame and arranged to receive material at one end and discharge the material from the other end, a vertical guide on the frame, a slide on the guide, a link connecting the slide with the chute, and means for causing the slide to travel on the guide to tilt the chute, substantially as described.

6. The combination of a frame, a chute pivoted to the frame, a screen in the chute, a vertical guide, a slide mounted in the guide, two ropes, fixed pulleys for said ropes, and pulleys carried by the slide, both the ropes extending to the drum of a windlass so that on turning the drum one rope will be wound upon the drum while the other will be paid out, thus causing the slide to move on its guide to tilt the chute, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses:

LOUIS T. CARSON,

Witnesses:

ROY C. CRESSWELL,
B. A. GAGE.