

No. 683,334.

Patented Sept. 24, 1901.

A. H. SCHIERHOLZ.

PORTABLE SUGAR CANE ELEVATOR OR LOADER.

(Application filed Feb. 20, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 3.

Fig. 1.

Witnesses.
W. H. Schierholz
Charles F. Kane.

Inventor.
A. H. Schierholz
by *Mallick*
his atty.

No. 683,334.

Patented Sept. 24, 1901.

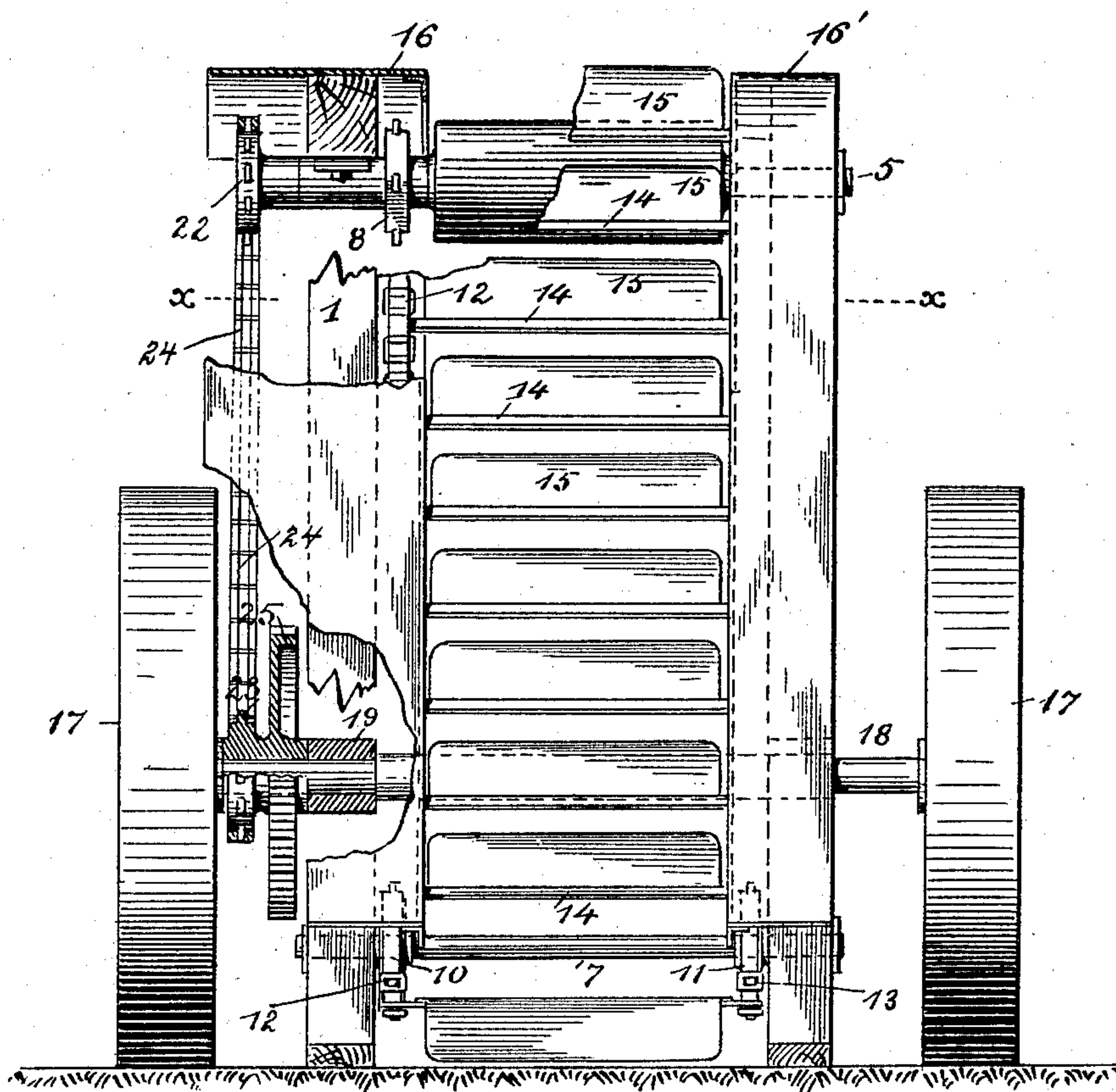
A. H. SCHIERHOLZ.
PORTABLE SUGAR CANE ELEVATOR OR LOADER.

(Application filed Feb. 20, 1901.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2.



Witnesses.

J. H. Steverde
Walter F. Vane

Inventor.
August H. Schierholz
by *N. A. Acker*
his atty.

UNITED STATES PATENT OFFICE.

AUGUST H. SCHIERHOLZ, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO
RISDON IRON AND LOCOMOTIVE WORKS, OF SAME PLACE.

PORTABLE SUGAR-CANE ELEVATOR OR LOADER.

SPECIFICATION forming part of Letters Patent No. 683,334, dated September 24, 1901.

Application filed February 20, 1901. Serial No. 48,076. (No model.)

To all whom it may concern:

Be it known that I, AUGUST H. SCHIERHOLZ, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented a certain new and useful Portable Sugar-Cane Elevator or Loader; and I do hereby declare the following to be a full, clear, and exact description of the same.

10 The present invention is designed for use in the sugar-cane field; and the object thereof is to provide means whereby the cut cane may be rapidly fed or elevated and delivered into the car or vehicle designed to receive the
15 cane for transportation. Ofttimes the tracks upon which the cars are run extend into the cane-field, and in such cases the cane is elevated and delivered into the car itself, the elevator or loader for such purpose being located at a point convenient to the railway-
20 tracks. However, when so desired, the elevator may be employed for the loading of the cane into vehicles working within the field. Ordinarily the sugar-cane is deposited or piled
25 alongside of the railway in a manner similar to wood and afterward loaded onto the cars by hand. This is an exceedingly slow and expensive manner of handling the sugar-cane, and it is time and expense attached to this
30 hand-loading of the cane that the present invention is mainly designed to dispense with.

In order to comprehend the invention, reference should be had to the accompanying sheet of drawings, wherein—

35 Figure 1 is a side view, partly broken away, showing the elevator or loader in position for loading into a car. Fig. 2 is a front view of the elevator or loader, partly broken away; and Fig. 3 is a cross-sectional view of the carrier and frame, taken on line *x x*, Fig. 2.

40 In the drawings the numerals 1 2 indicate the side pieces of the ladder, and 3 the bottom. Within bearing-boxes 4, secured to the under face of the side pieces at their upper end, works a cross-shaft 5, and within adjustable bearing-boxes 6, secured to the under face of the side pieces at their lower end, works a cross-shaft 7. To cross-shaft 5 the chain-wheels 8 9 are attached and to cross-shaft 7
50 the chain-wheels 10 11. Over chain-wheels 8 10 works endless chain 12 and over wheels

9 11 endless chain 13. These chains 12 13 are united throughout their length by a series of cross rods or bars 14, each cross rod or bar being placed an equidistance apart. To each
55 cross rod or bar 14 is attached an upwardly-extending finger 15. Preferably this finger is made in one piece and the full width of the cross bar or rod 14 and is made slightly curved.

The endless chains 12 13, cross rods or bars 60 14, and fingers or plates 15 constitute the endless carrier for the cornstalk. This endless carrier rests upon and works over the bottom 3 of the ladder and is thus prevented from sagging. By the employment of this bottom
65 sagging of the endless carrier during its upward travel is not only prevented, but I am enabled to use a much lighter and cheaper carrier than otherwise could be employed, as without this bottom it would be necessary
70 that the space between the cross rods or bars 14 be closed, else the canestalks would fall through the endless carrier after being delivered thereto, and thus fall to the ground.

It is necessary that the side chains 12 13 be 75 protected, so as to provide against the sugar-cane stalk clogging or becoming entangled therein. For this purpose a housing-plate 16 is attached to the side piece 1 and a similar housing 16' to side piece 2, Fig. 3 of the draw-
80 ings.

In order that the apparatus may be readily transported or moved from place to place, the same is mounted upon a suitable carriage. The wheels 17 of this carriage are secured
85 to axle 18, to which axle the bearings 19 are loosely mounted. From these bearings extend the supporting-arms 20 21, which arms are attached to the under face of the beams or side pieces 1 2. In this manner the ladder
90 is fulcrumed to its carriage. Consequently the ladder may give or adjust itself to inequalities or unevenness of the soil. This is necessary inasmuch as the lower end of the ladder rests upon the ground and is not pro-
95 vided with means for raising and lowering the same.

To the upper cross-shaft 5 is secured the gear-wheel 22, which is connected to gear 23, loosely mounted upon axle 18, by means of
100 drive-chain 24. The hub of gear 23 is cast or provided with a larger gear-wheel 25. Pref-

erably the drive-motor 27 (in the present case an electric one) is located upon a suitable support 28, secured in hangers 29, depending from supporting-arms 21. The motor is provided with a pinion 29, which pinion meshes with larger gear-wheel 25. The motion of the motor is thus transmitted to the gear-wheel 25, which drives gear 23, and from said gear 23 to gear 22 by means of drive-chain 24. Motion of the motor or drive mechanism is thus imparted to cross-shaft 5 for the driving of the endless carrier.

By driving the endless carrier from the upper end of the ladder an upward pulling strain is imparted thereto and the carrier prevented from buckling, which is liable to take place where the carrier mechanism is driven from the bottom. To provide against undue sagging of the under run of the endless carrier, each chain of the carrier rides upon supports 30. These supports are suspended from side pieces 1 2 by hangers 31.

A receiving-platform for the sugar-cane is arranged above the ladder at its lower end and attached to the side pieces thereof by supports 32 33. These supports are hinged to the platform and adjustably connected to the ladder by set-screws 34. The inclination of the table may thus be increased or decreased, as desired. Onto this platform the sugar-cane to be delivered into car 35 is deposited. If sufficient inclination be given to the said platform, the sugar-cane deposited thereon will by its own weight slip onto the endless carrier. However, the better plan is to have a boy stationed at this point for feeding the sugar-cane from the platform onto the endless carrier. By means of the tension-regulating device 36 the slack of the endless carrier may be compensated for. As the sugar-cane is fed onto the endless carrier during the travel thereof the same is carried upward by means of the fingers 15.

To provide against the sugar-cane falling

onto the drive-chain 24 in case any should fall from the endless carrier, the housing 16 is extended beyond the side piece 1, so as to form a protecting guard-plate.

It is obvious that in lieu of chain-wheels being secured to cross-shafts 5 7 drums may be attached thereto and the endless carrier work over such end drums. Consequently by the expression "chain-wheels" I wish to be understood as covering drums secured to the said shafts.

Having thus described the invention, what I claim as new, and desire to secure protection in by Letters Patent, is—

1. A portable sugar-cane loader comprising a carriage, brackets pivoted to the axle of the carriage, a ladder secured to the brackets capable of a swinging movement, an endless conveyer working over said ladder, a platform adjacent the lower end of the ladder, and means connecting the platform to the ladder adapted to adjust the former at a proper inclination relative to the latter, substantially as described.

2. A portable sugar-cane loader comprising a suitable carriage, a ladder pivotally secured intermediate its ends to the axle of the carriage, a conveyer adapted to work over the ladder, and means for imparting motion to the conveyer comprising operating means on the axle of the carriage, connections between the same and the conveyer, a motor supported by the ladder and means for maintaining a constant communication between the motor and operating means on the axle irrespective of the adjustment of the ladder on its pivotal bearings, substantially as described.

In witness whereof I have hereunto set my hand.

AUGUST H. SCHIERHOLZ.

Witnesses:

N. A. ACKER,
D. B. RICHARDS.