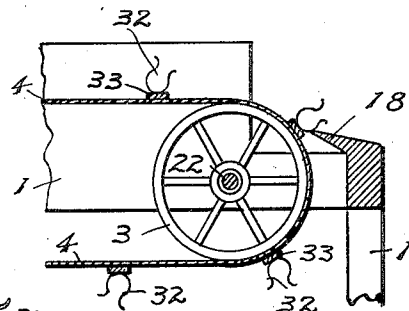
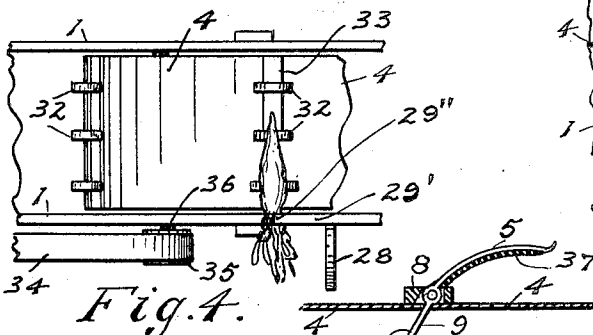
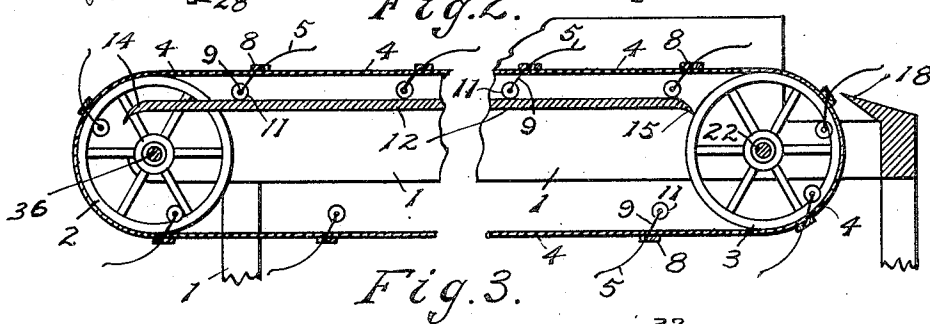
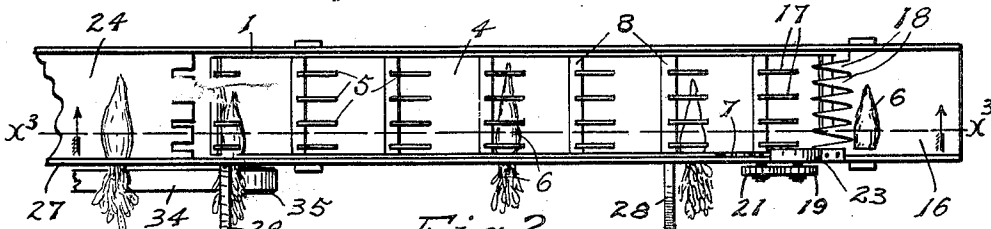
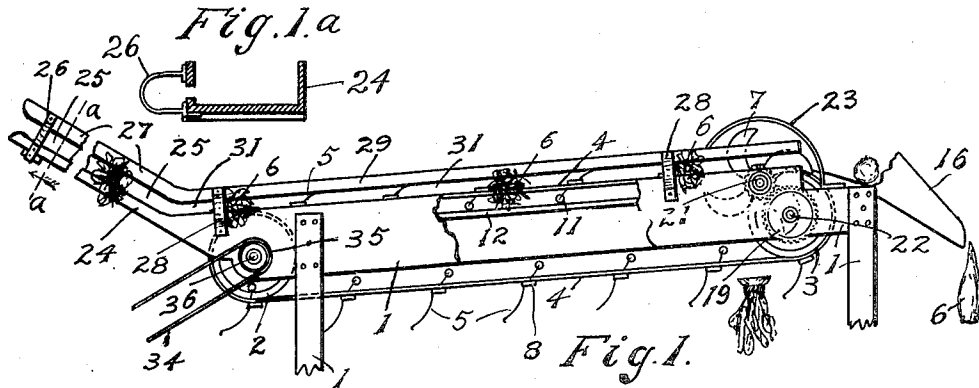


R. GRAUER.
BEET TOPPER AND LOADER.
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1,057,636.

Patented Apr. 1, 1913.



Witnesses:
H. H. Hunt,
Henry C. Pitt

Fig. 6.

Inventor:
Robert Grauer
By Albert H. Merrill

UNITED STATES PATENT OFFICE.

ROBERT GRAUER, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-HALF TO ARTHUR C. HARPER, OF LOS ANGELES, CALIFORNIA.

BEET TOPPER AND LOADER.

1,057,636.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed December 23, 1910. Serial No. 599,008.

To all whom it may concern:

Be it known that I, ROBERT GRAUER, a subject of the Emperor of Austria-Hungary, having declared my intention to become a citizen of the United States, residing at Los Angeles, California, have invented a new and useful Beet Topper and Loader, of which the following is a specification.

One of the principal objects of this invention is to provide means for topping the beets in a more economical manner by regulating more exactly the amount of top to be removed from the beet thus preventing waste which now often results by cutting away too much or too little of the top.

A further object is to provide for removing the top by a smoother and more regular cut.

Referring to the accompanying drawings, which illustrate the invention, Figure 1 is a broken side elevation of the complete device; Fig. 1^a is a cross section on line *a-a* of Fig. 1; Fig. 2 is a plan; Fig. 3 is a vertical section on line *x²-x³* of Fig. 2; with parts broken away. Fig. 4 is a broken plan of a modification; Fig. 5 is a broken vertical section of said modification; Fig. 6 is a sectional detail of one of the beet-retaining devices of the form of the invention illustrated in Figs. 1 to 3.

Referring in detail to the drawings, upon a frame 1 are mounted wheels 2 and 3 over which is passed an endless carrier 4. Upon said carrier are mounted a series of retaining devices 5 which move with said carrier to carry the beets 6 to the rotary knife 7 against which said beets are moved by said carrier to remove their tops. Each retaining device 5 is pivotally mounted upon a cross-piece 8 made fast to the carrier. Inside the carrier each of said retaining devices is provided with a tail-piece 9 carrying at its free end an antifriction roller 11. In order to automatically move said retaining devices 5 into a position to hold the beets in place until they reach the knife, a track 12 is provided, said track having a cam portion 14 at the feed end of the carrier. When the rollers 11 encounter said cam portion 14 the retaining devices are automatically moved to the position shown in Fig. 3 along the upper run of the carrier to hold the beets in place until they reach the knife. Said track 12 terminates near the delivery end of the machine with a re-

lease cam portion 15 which loosens the beets after they are operated upon by the knife. The bodies of the beets will then be removed by a chute 16. Each of the retaining devices may have fingers 17, the chute 16 having fingers 18 which extend between the fingers of the retaining devices to remove the beets.

The knife 7 may be rotated by gears 19 and 21 which operatively connect said knife with shaft 22 of wheel 3. A shield 23 may be provided for protection from said knife.

The beets may be conducted to the carrier through a feed-trough 24 having a slot 25 extending lengthwise through the side thereof to serve as a guide, the narrow parts of the beets between the expanded portions of the tops and their crowns being fed into the open upper end of the slot either by hand or automatically. Supporting arms desirably formed as U-shaped yokes 26 are provided to support the guide rail 27 above the slot 25 of the trough. Similar yokes 28 are provided to support the guide rail 29 along the carrier without obstructing the forward movement of the tops. The guide slot 31 of the carrier is formed as a continuation of slot 25 of the feed trough so that the beets may be properly guided during their travel from the feed trough to the knife.

Referring now to Figs. 4 and 5 wherein is shown a modified form of retaining device to keep the beets in place on the carrier, said retainers consist of spring yokes 32 made fast to cross pieces 33 of the carrier. The rail 29' of the guide along the carrier terminates at 29'' short of the feed end of the carrier in order to enable the operator to place the beets into the U-shaped springs before being carried into the slot of the guide. The beets are inserted by hand between the spring arms of yokes 32, said yokes being desirably forwardly inclined in order to make it easier to place the beets between their spring arms while the carrier is in motion. The fingers 18 of the chute 16 remove the beets from said spring yokes after the tops have been removed by the knife 7. In Figs. 4 and 5 such of the other parts as are the same as already described are similarly lettered.

In both forms the device may be driven by a belt 34 passing over a pulley 35 made fast to shaft 36 to which wheel 2 is fixed.

The retaining arms 5 (best shown in Fig. 6) are of spring metal to permit them to accommodate themselves more perfectly to beets of different sizes. Said arms may have a covering 37 of cloth or leather or other protecting material (shown in section in Fig. 6) to keep them from bruising the beets.

The invention, boardly considered, is not limited to the use of the retaining devices 5 and 32, but the cross-pieces 8 in combination with the slotted guiding means may alone be used to keep the beets extending transversely of the carrier and in the right position with respect to the width thereof during their travel to the topping knife.

By referring to Figs. 2 and 3, it will be seen that the arms 5 are operated in such a manner that they assume substantially an upright position as they ascend at the left end of the carrier. This causes said arms to pass readily between the bodies of the beets while they lie in the guide slot 31 near the foot of the inclined guide slot 25, (see Fig. 1) said arms 5 being caused to clamp down automatically upon the beets to convey them positively to the topping knife.

The guide rail 27, supported by the U-shaped members 26 (see Figs. 1 and 1^a), coöperates with the spring fingers 5, or spring holders 32 shown in Figs. 4 and 5,

to securely hold the beets against transverse movement during their travel to the cutter 7, so that said cutter severs the tops of the beets at the precise point required. This will be evident when it is noted that the slot beneath the guide rail 27 is contracted to embrace the top of the beet below the bushy portion thereof, this sort of guide being peculiarly adapted to coöperate with the cutter in the proper removal of the tops of the beets.

I claim:

In a device of the character described, a carrier, a guide consisting of a frame having a rail spaced thereabove to form a guiding slot, said slot having an open end to provide for feeding beets to said carrier, said rail being supported by a series of out-curved U-shaped members having flanged ends which are secured to said frame and rail to space the same apart.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses at Los Angeles, in the county of Los Angeles and State of California, this 17th day of December, 1910.

ROBERT GRAUER.

Witnesses:

ALBERT H. MERRILL,
LILLIAN YOUNG.

It is hereby certified that in Letters Patent No. 1,057,636, granted April 1, 1913, upon the application of Robert Grauer, of Los Angeles, California, for an improvement in "Beet Toppers and Loaders," an error appears in the printed specification requiring correction as follows: Page 2, line 9, for the word "boardly" read *broadly*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 20th day of May, A. D., 1913.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.