

No. 745,556.

PATENTED DEC. 1, 1903.

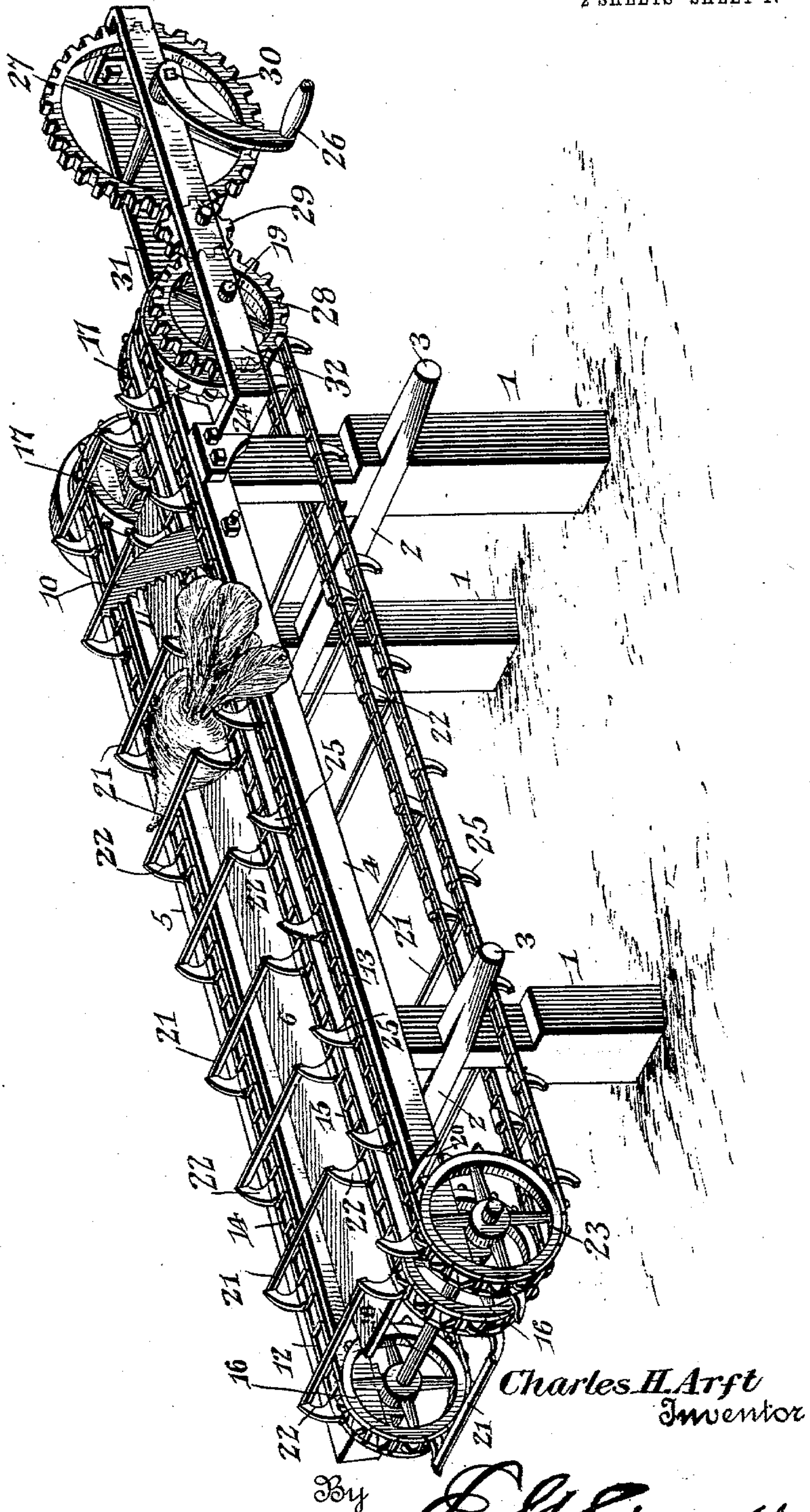
C. H. ARFT.
BEET TOPPER.

APPLICATION FILED NOV. 29, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

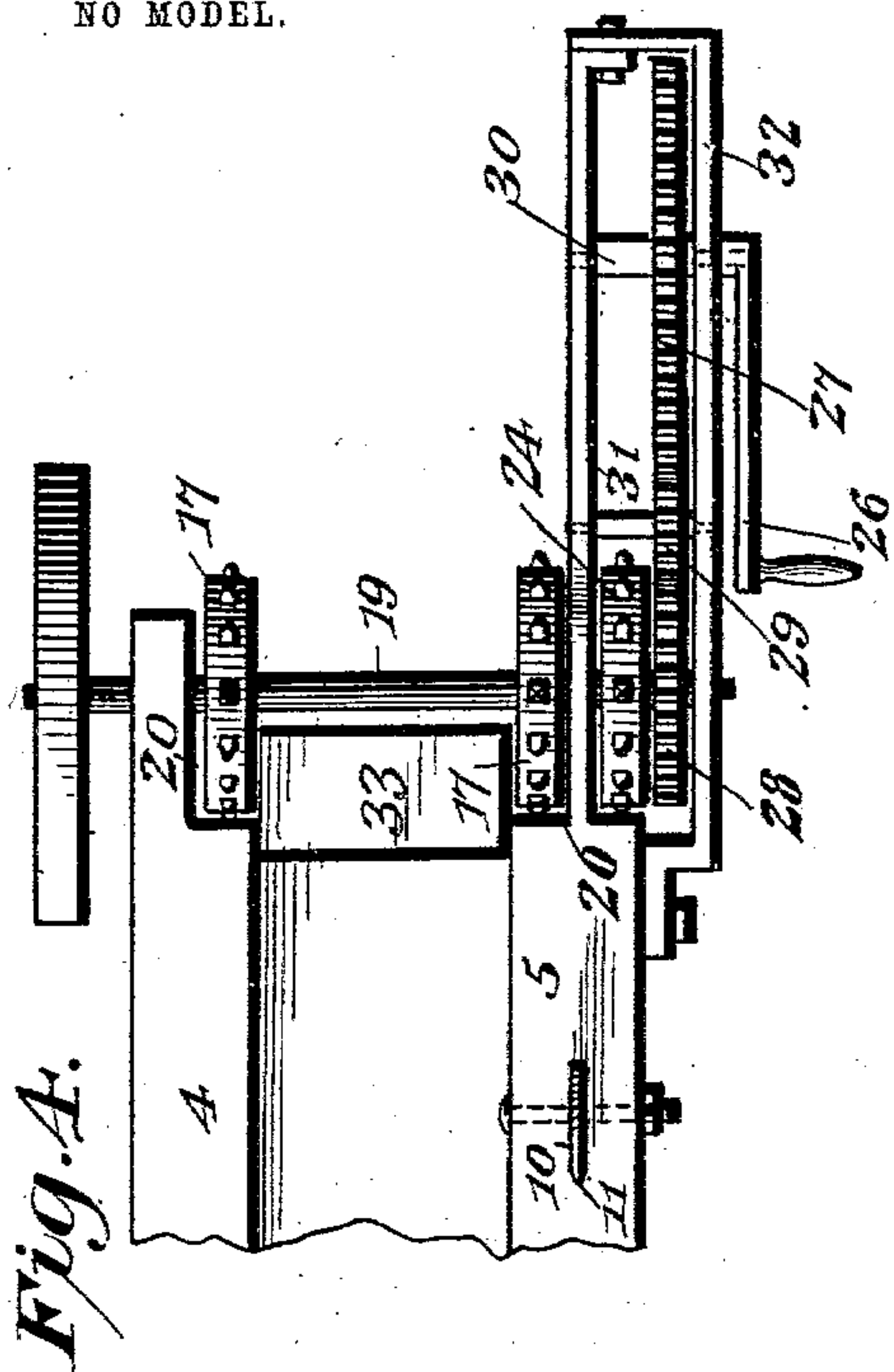


Fig. 1.

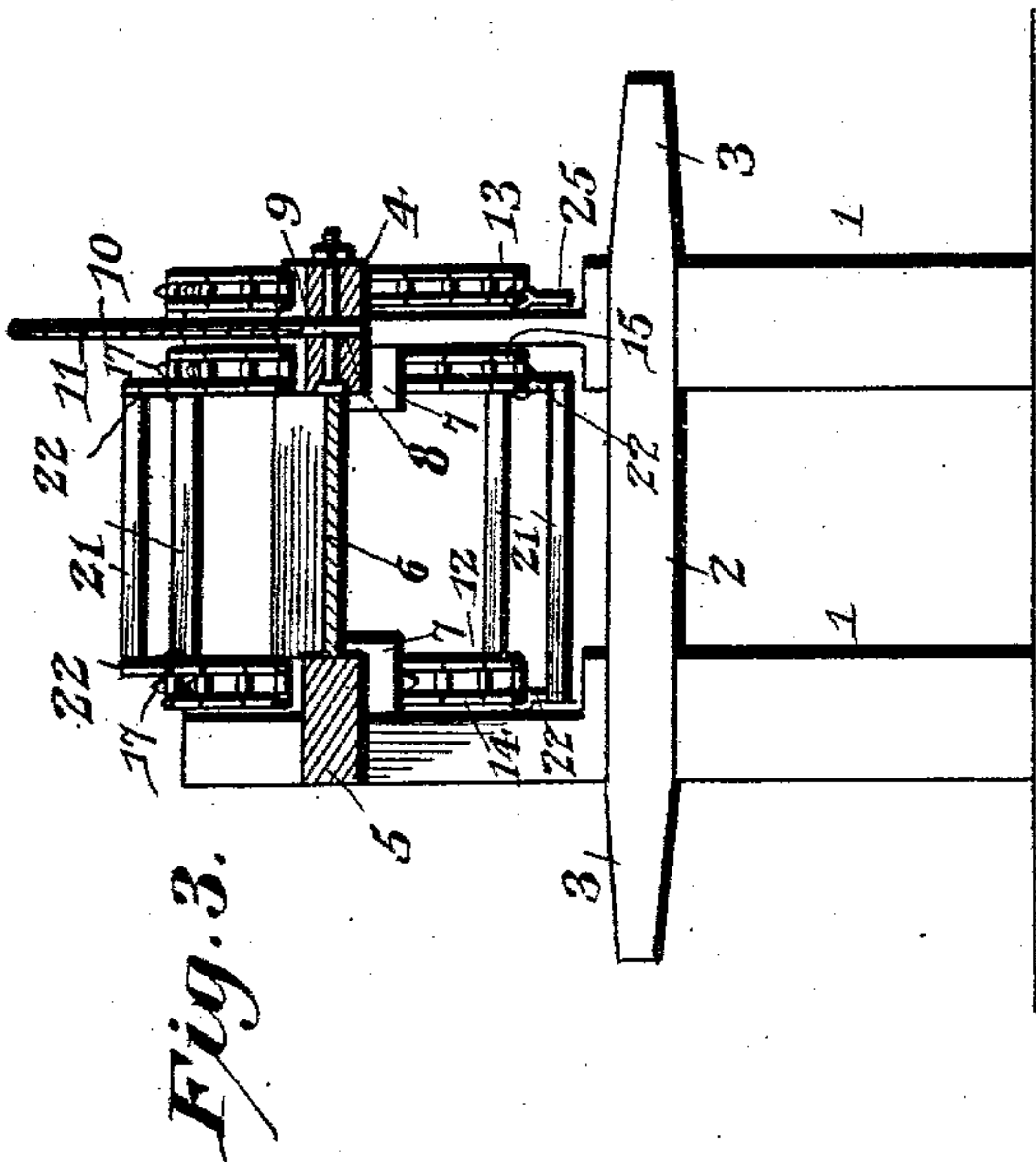


Fig. 2.

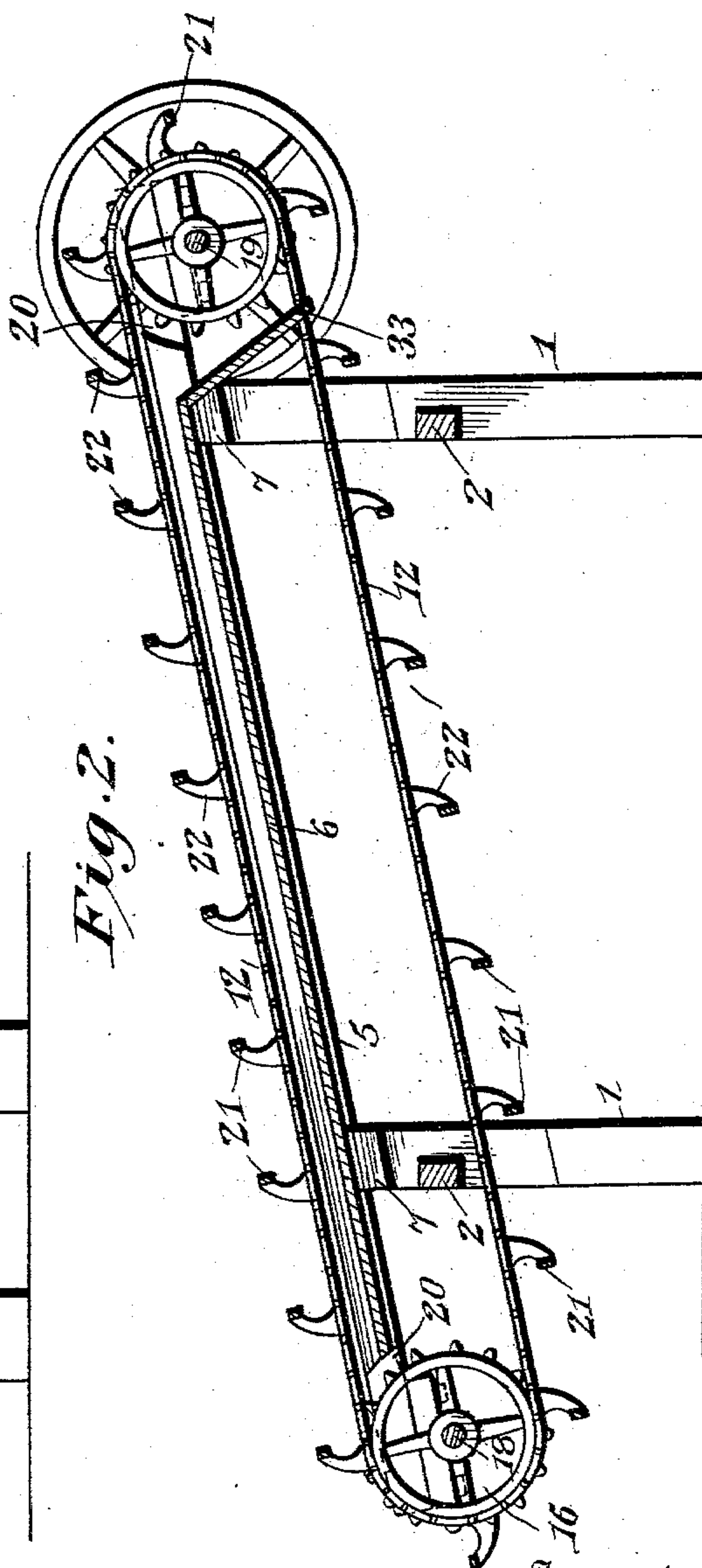


Fig. 3.

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UNITED STATES PATENT OFFICE.

CHARLES H. ARFT, OF HEMLOCK, MICHIGAN, ASSIGNOR OF ONE-HALF TO
WILLIAM M. FRED LANG, OF SAGINAW, MICHIGAN.

BEET-TOPPER.

SPECIFICATION forming part of Letters Patent No. 745,556, dated December 1, 1903.

Application filed November 29, 1902. Serial No. 133,173. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. ARFT, a citizen of the United States, residing at Hemlock, in the county of Saginaw and State of Michigan, have invented a new and useful Beet-Topper, of which the following is a specification.

This invention relates to a novel beet-topper, and has for its object to produce a simple and inexpensive machine capable of being manipulated by an unskilled person and involving a topping-knife and mechanism for presenting the tops of the beets to the knife and for conveying the topped beets to a suitable point of delivery.

To the accomplishment of this general object the invention in its preferred embodiment resides in the construction and arrangement of parts to be hereinafter described, illustrated in the accompanying drawings, and succinctly defined in the appended claims.

In said drawings, Figure 1 is a perspective view of my beet-topper complete. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a transverse sectional view, and Fig. 4 is a plan view of the delivery end of the machine.

Like numerals of reference are employed to designate corresponding parts throughout the several views.

The frame of the machine comprises a support, preferably in the form of legs 1, arranged in pairs adjacent to the opposite ends of the machine, each pair being connected by a cross-bar 2, terminating beyond the outer sides of the legs in handles 3 to facilitate the transportation of the machine from one point of use to another. The support is surmounted by a superstructure comprising a pair of parallel side bars 4 and 5, resting upon the upper ends of the legs and separated by an interval sufficient to accommodate the body portion of a beet.

Disposed between the side bars 4 and 5 and in a plane somewhat below the upper sides thereof is a platform 6, retained in place by any suitable means, but preferably by supporting-cleats 7, extending between the legs of each pair. This depressed platform 6 is designed to support the beet as it is carried from one end to the other of the ma-

chine by means to be described, and the relatively elevated side bars 4 and 5 are designed, respectively, to sustain the roots and tops of the beets. By this means the beet is prevented from tilting endwise and the even cutting of the tops is facilitated. The superstructure of the machine is given an upward inclination toward its rear or discharge end, and at a point somewhat in advance of the rear end of the platform 6 the side bar 5 is formed at its longitudinal center with a knife-socket 8 for the reception of the shank 9 of a vertically-disposed topping-knife 10, the cutting edge 11 of which is directed toward the lower or front end of the machine and is preferably serrated, as shown. The beets are designed to be fed to the machine at its front end and to be conveyed rearwardly, first, to present the tops of the beets to the knife 10, and, second, to effect the delivery of the topped beets from the machine. I therefore provide a primary conveyer (indicated by 12) and a secondary or top conveyer 13. The conveyer 12 preferably comprises a pair of endless conveyer-chains 14 and 15, passed around sprocket-wheels 16 and 17, located at opposite ends of the frame and mounted on shafts 18 and 19, afforded bearings in the ends of the side bars 4 and 5. The upper runs of the chains 14 and 15 are designed to rest upon the side bars adjacent to their inner edges, and for this reason said bars are recessed at their outer ends, as indicated at 20 in Fig. 4, to accommodate the sprocket-wheels in the planes necessary to effect the desired disposition of the chains. The chains 14 and 15 of the primary conveyer are connected by transverse bars 21, separated by intervals sufficient to accommodate the beets and secured at their opposite ends to teeth or projections 22 on the chains. A beet supported by the platform 6 between a pair of transverse bars 21, as shown in Fig. 3, will have its roots extended over the chain 14 between a pair of the teeth or projections 22, and its top will extend in a similar manner across the chain 15 and likewise across the secondary or top conveyer 13.

The conveyer 13 is preferably in the form of a single endless chain passed around sprockets 23 and 24 on the shafts 18 and 19, this

chain, like those of the primary conveyer, being provided with teeth or projections 25, disposed to engage the beet-tops and to insure their proper advance. The upper run of the top-conveyer 13, like the upper run of the chain 15, is disposed over the side bar 5 of the superstructure, but is located outside of or beyond the knife or cutter 10. The knife is therefore located between the chains 13 and 15, and the top of each beet being thus engaged at opposite sides of the knife is presented squarely to the latter in order that it may be evenly severed from the beet.

While various forms of driving mechanism might be employed in connection with the machine, I prefer to provide for its manual operation by a crank 26, geared to the shaft 19 by speed-gearing, including cog-wheels 27 and 28 and an intermediate pinion 29. The wheel 27 is mounted on a crank-shaft 30 and is of somewhat greater dimensions than the wheel 28, which is keyed upon the shaft 19, the pinion 29 serving merely to effect the rotation of the wheels 27 and 28 in the same direction for the purpose of having the conveyer move rearwardly when the crank is operated in the direction most natural to the operator. The several shafts of the speed-gearing are journaled in a bearing-bracket formed by an extension 31 of the bar 5 and an angular plate 32, bolted at its opposite ends to the bar and to the extension thereof, as shown in Fig. 4.

If desired, the machine may be provided at its rear end with a downwardly-inclined delivery-board 33 to facilitate the delivery of the topped beets to a crate or other receptacle without bruising.

The operation of the device is as follows: By turning the crank 26 the upper runs of the conveyers will move toward the rear end of the machine and the tops of beets supported upon the platform 6 between the transverse bars 21 will be presented to the knife 10 and severed. The tops will drop down at the side of the machine and the topped beets will drop from the rear end of the platform 6 to the delivery-board and thence to a crate or other receptacle. The location of the supports for the roots and tops of the beets at slightly-elevated points with respect to the platform 6, upon which the beets rest, will prevent the beets from tilting endwise, and the tops will therefore be severed evenly.

It is thought that from the foregoing the construction and operation of my beet-topper will be clearly apparent; but while the illustrated embodiment of the invention is believed at this time to be preferable I do not wish to limit myself to the structural details defined, as, on the contrary, I reserve the right to effect such changes, modifications, and variations of the illustrated structure as may be fairly embraced within the scope of the protection prayed.

What I claim is—

1. In a beet-topper, the combination with

a frame, and a topping-knife carried thereby, of conveying mechanism arranged to move the beets past the knife at one side thereof, and having means located beyond the opposite side of the knife and adapted to engage the beet-tops and force them against the knife.

2. In a beet-topper, the combination with a frame including a platform for the support of the beets, of conveying mechanism including spaced supports located in a higher plane than the platform and adapted to support the roots and tops of beets resting upon the platform, and a knife disposed to top the beets during the conveyance of the latter.

3. In a beet-topper, the combination with a frame including a platform for the support of the beets, of conveying mechanism including spaced supports disposed in a higher plane than the platform, and adapted to sustain the roots and tops of the beets resting upon the platform, a knife disposed in position to sever the tops, and engaging means constituting part of the conveying mechanism and arranged to engage the beet-tops beyond the outer side of the knife.

4. In a beet-topper, the combination with a frame including parallel side bars and a depressed platform, of a primary conveyer including endless chains having their upper runs disposed over the side bars of the frame, projections extending from said chains and cross-bars connecting the projections of one chain with the projections of the other, and arranged to engage beets supported by the platform, an endless top-conveyer having its upper run disposed above one of the side bars of the frame and provided with projections disposed to engage the tops of the beets, a topping-knife carried by the frame and disposed between the conveyers, and means for operating the conveyers in unison.

5. In a beet-topper, the combination with a frame including a depressed platform, of conveying mechanism including spaced supports movable over the frame beyond the opposite sides of the depressed platform thereof, means connecting said supports and disposed to engage the beets resting on the platform, a topping-knife located beyond one of the supports, and means constituting a part of the conveying mechanism and located beyond the topping-knife to engage the tops of the beets and force them against the knife.

6. In a beet-topper, the combination with a frame including a depressed platform, of a primary conveyer including a pair of endless chains moving over the frame beyond the opposite sides of the depressed platform, and transverse connecting-bars extending between the chains to engage the beets supported by the platform, an endless top-conveyer located beyond one side of the primary conveyer and having means arranged to engage the tops of the beets, and a topping-knife located between the two conveyers.

7. In a beet-topper, the combination with

a frame including a depressed platform, of a primary conveyer including endless conveyer-chains located beyond the opposite sides of the platform, and having vertical projections
5 and transverse connecting-bars, a topping-knife located beyond one side of the primary conveyer, and an endless top-conveyer located beyond the topping-knife and having vertical projections arranged to engage the beet-
10 tops to force the latter against the knife.

8. In a beet-topper, the combination with a frame including a depressed platform, of a primary conveyer including endless conveyer-chains located beyond the opposite sides of
15 the platform, and having vertical projections and transverse connecting-bars which are arranged above the plane of the platform, and a topping knife or cutter located beyond one side of the primary conveyer.

20 9. In a beet-topper, the combination with a depressed platform adapted to support the body of the beets, the side bars projecting above the platform at each side and adapted to sustain the roots and tops of the beets, a
25 topping knife or cutter arranged adjacent to one of the side bars, chains adapted to run on said side bars, and transverse bars ar-

ranged at intervals and connecting the chains, said transverse bars being elevated above the horizontal plane of the chains and adapted to
30 engage the body of the beets.

10. In a beet-topper, the combination with a depressed platform adapted to support the body of the beets, the side bars projecting above the platform at each side and adapted
35 to sustain the roots and tops of the beets, a topping knife or cutter arranged adjacent to one of the side bars, chains adapted to run on said side bars, transverse bars arranged at intervals and connecting the chains, said
40 transverse bars being elevated above the horizontal plane of the chains and adapted to engage the body of the beets, and a separate conveyer arranged alongside of a side bar beyond the same and provided with means to
45 engage the tops of the beets.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES H. ARFT.

Witnesses:

WM. E. CRANE,
JULIA GRAEBNER.