

H. CATMULL.
BEET TOPPER.

APPLICATION FILED APR. 15, 1909.

947,222.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.

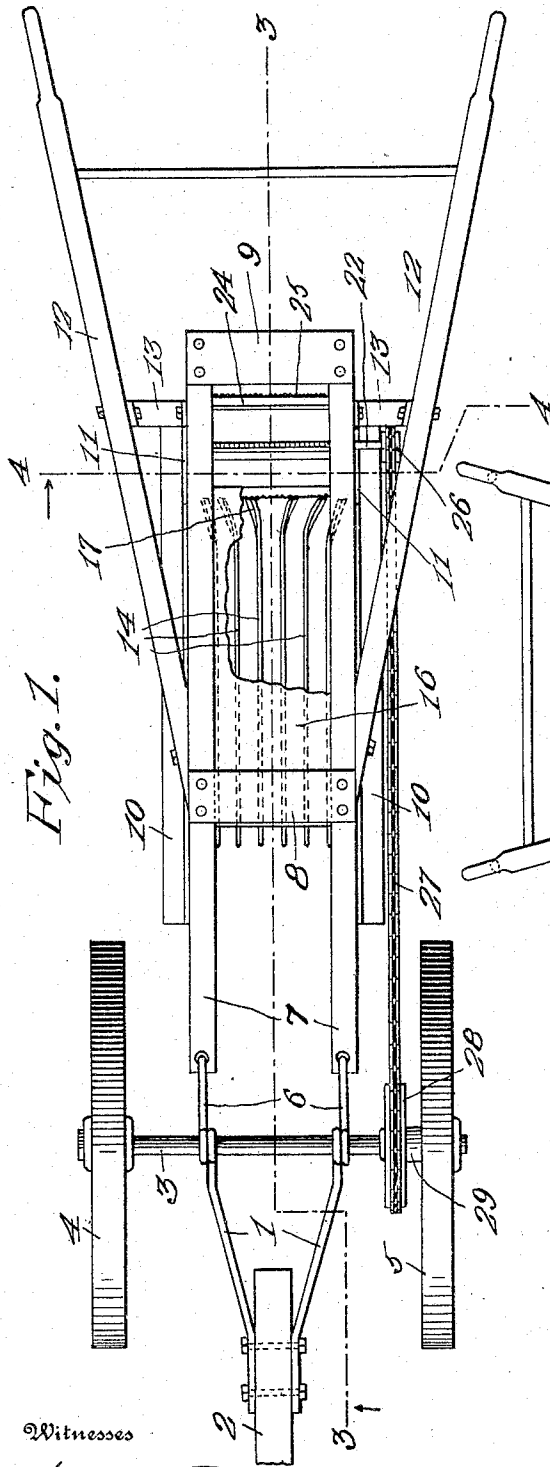


Fig. 1.

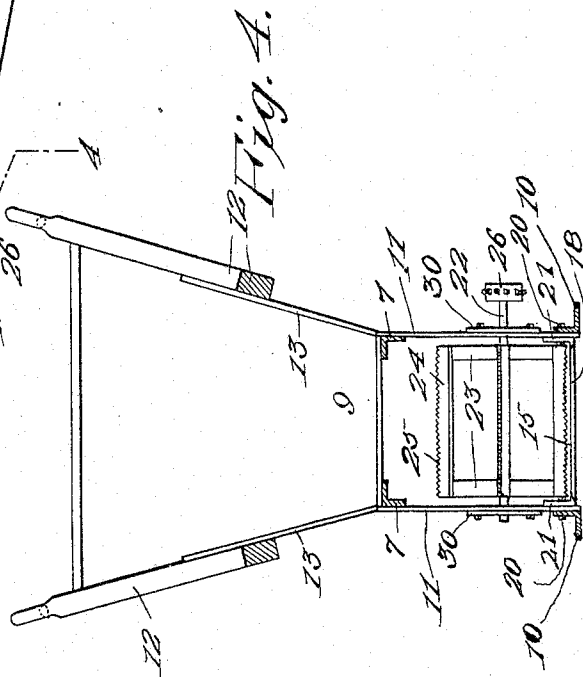


Fig. 4.

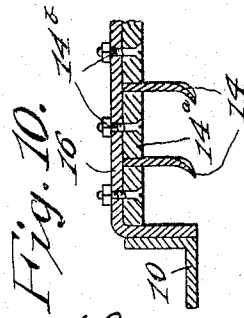


Fig. 10.

Witnesses
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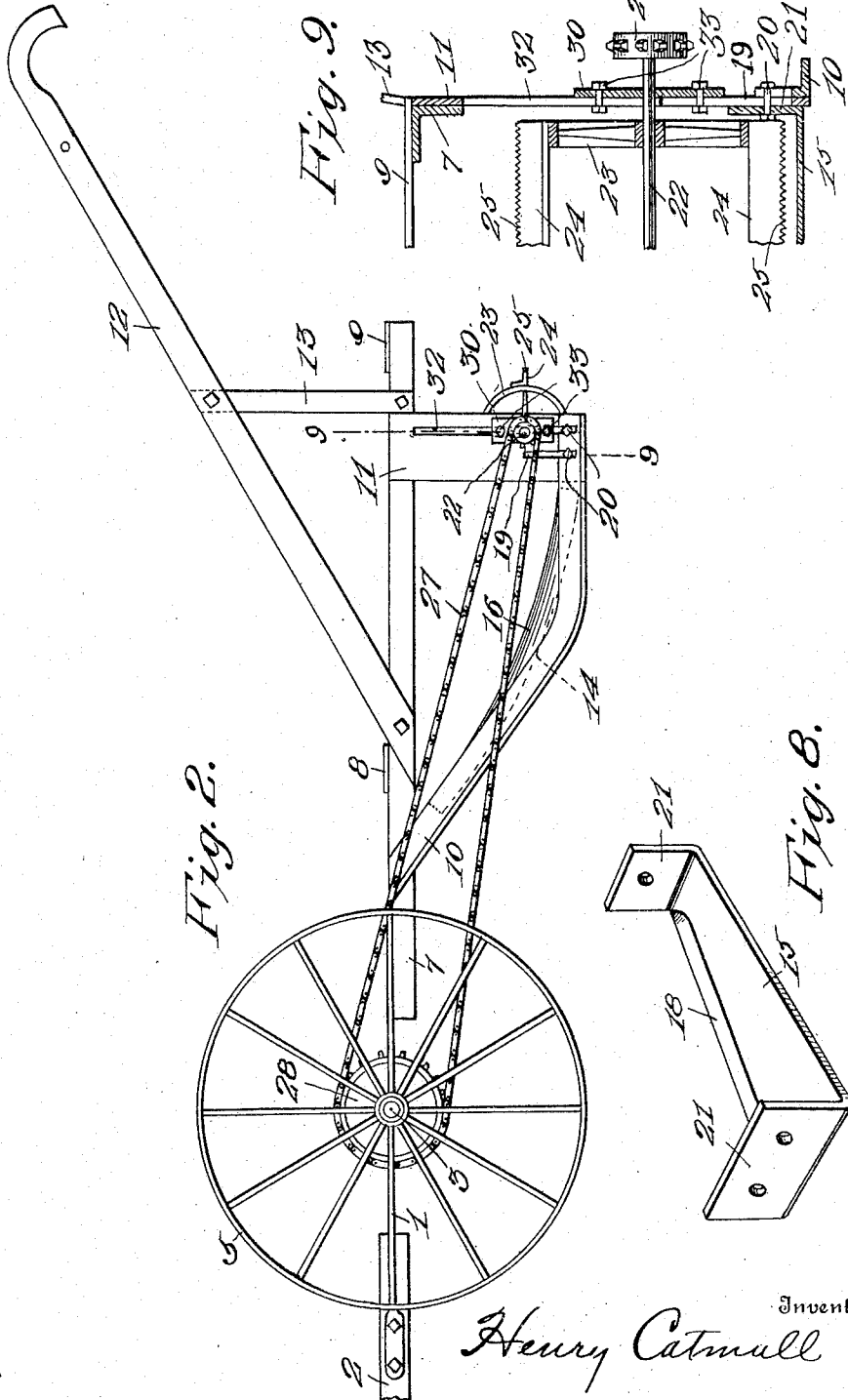
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3 SHEETS—SHEET 2.

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3 SHEETS—SHEET 3.

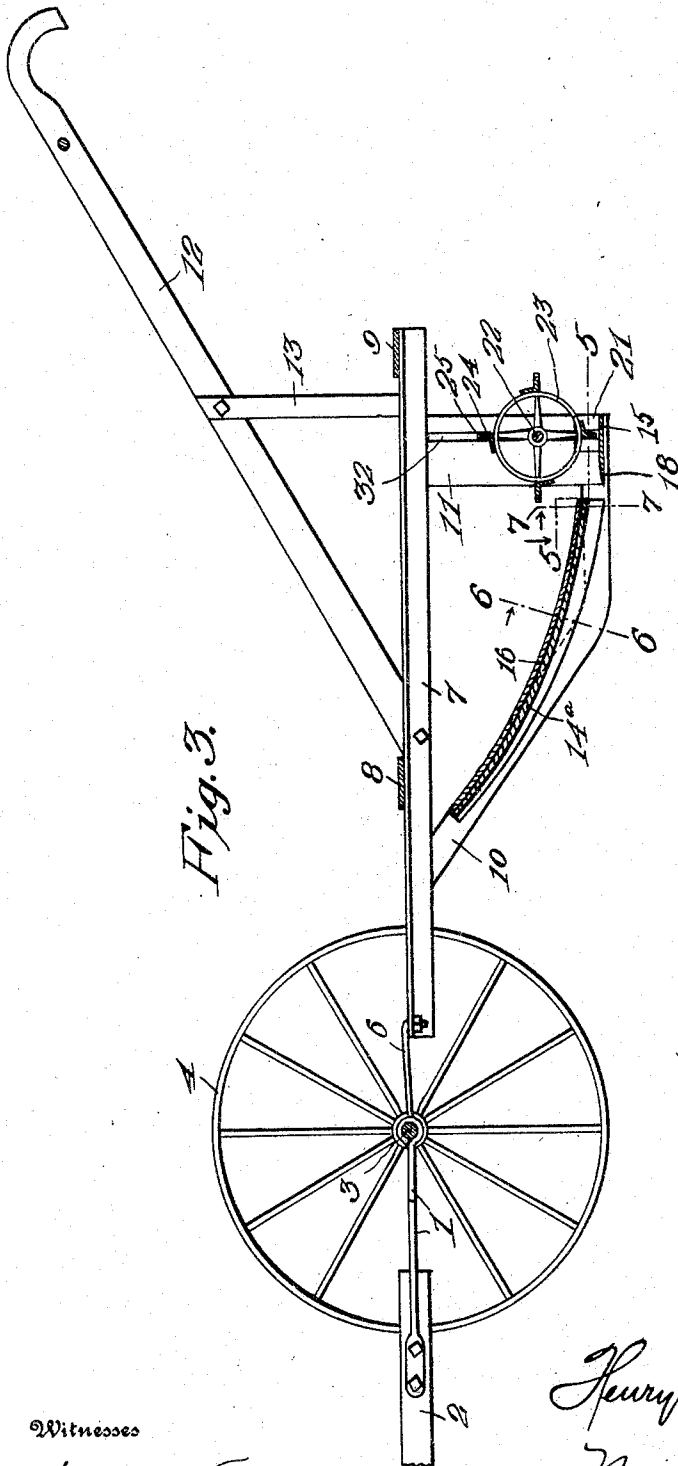


Fig. 3.

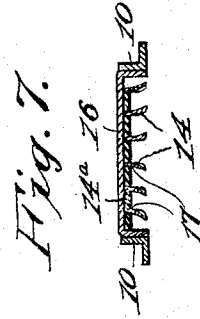


Fig. 7.

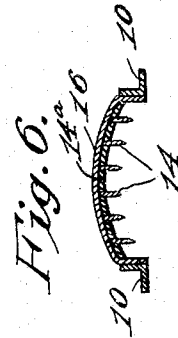


Fig. 6.

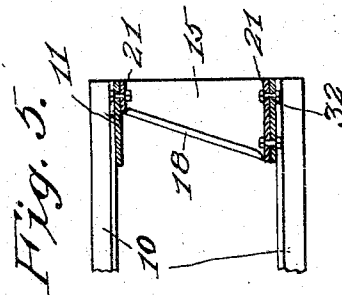


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

HENRY CATMULL, OF RUPERT, IDAHO.

BEET-TOPPER.

947,222.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed April 15, 1909. Serial No. 490,056.

To all whom it may concern:

Be it known that I, HENRY CATMULL, a citizen of the United States, residing at Rupert, in the county of Lincoln and State of Idaho, have invented certain new and useful Improvements in Beet-Toppers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in beet topping machines.

The object of the invention is to provide a simple and practical machine or implement of this character which is drawn over a row of beets and guided and controlled by an operator walking behind it, and which will cut down the tops of the beets and then cut them off of the body portions of the beets.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the improved beet topper, parts being broken away and in section; Fig. 2 is a side elevation; Figs. 3 and 4 are longitudinal and transverse sections taken, respectively, on the planes indicated by the lines 3—3 and 4—4 in Fig. 1; Fig. 5 is a detail horizontal section taken on the plane indicated by the line 5—5 in Fig. 3, and showing the stationary horizontal knife; and Figs. 6 and 7 are detail transverse sectional views taken, respectively, on the planes indicated by the lines 6—6 and 7—7 in Fig. 3; Fig. 8 is a detail perspective of the stationary knife; Fig. 9 is an enlarged detail vertical section through one side of the rear portion of the machine the plane of the section being indicated by the line 9—9 in Fig. 2; and Fig. 10 is a detail section showing the filler members or strips arranged between the vertical knives.

The invention comprises a wheeled truck adapted to be pulled by one or more draft animals and from it drags a sled-like body carrying the beet cutting and topping mechanism. As illustrated, the truck consists of two longitudinal body bars 1 having their converging forward ends united to a draft tongue 2 and a transverse axle 3 uniting their rear portions and carrying wheels 4, 5.

Connected to the axle 3 by links 6 or other loose or swinging connections are the longitudinal side bars 7 of the sled-like body

of the machine, said bars 7 being preferably of angle metal and united by intermediate and rear end cross bars or plates 8, 9. Secured to the bars 7 adjacent their front ends are downwardly and rearwardly inclined runner bars 10, which latter are also preferably made of angle metal and have the rear ends of their horizontal portions suitably secured to the lower ends of upright plates 11 which are secured to and depend from the rear portions of the side bars 7. The runners 10 slide upon the ground on opposite sides of a row of beets to be topped and are guided by upwardly and rearwardly inclined handles 12 secured to the intermediate portions of the side bars 7 and supported and braced from the rear ends of said bars by means of braces 13.

For the purpose of cutting up the leaves and tops of the beets and then severing the tops from the body portions of the beets, I provide a plurality of longitudinally extending vertically disposed knives 14, and a stationary horizontal knife 15. The vertical knives 14 are secured to and depend from a transversely curved or hood-like plate 16 arranged between and secured to the runner bars 10. Said plate has its front portion inclined downwardly and rearwardly, and its rear portion disposed substantially horizontal, as shown in Fig. 2. The intermediate portion of the plate 16 is curved transversely, as shown in Fig. 6, and its rear end is flat transversely, as shown in Fig. 7. The vertical blades 14 have a longitudinal curvature or shape corresponding to that of the plate or hood 16 which carries them and they are parallel with each other from their upper front ends to points adjacent to their lower horizontally disposed rear ends, from which points said knives are flared outwardly or laterally from opposite sides of the longitudinal axis of the machine, as indicated at 17 in Figs. 1 and 7 of the drawings. Said flared rear ends of the vertical knives are disposed a short distance in advance of the front cutting edge 18 of the stationary horizontal knife or blade 15, the cutting edge 18 of which latter is arranged diagonally, as shown more clearly in Fig. 5, so as to produce a "draw" cut and thereby effectively sever the tops of the beets after said tops have been divided or sliced vertically by the knives or blades 14. For the purpose of permitting the beets to be topped to a greater or less extent, the

horizontal knife 15 is made vertically adjustable between the side bars or plates 11, preferably by forming in the latter vertical slots 19 to receive clamping bolts 20 which
 5 are arranged in the upwardly bent ends 21 of the knife 15. For the purpose of varying the depth of the cuts made by the vertical knives or blades 14, filler members 14^a may be placed between said knives and suitably
 10 secured. As illustrated, said filler members are in the form of slats or strips which are held in position by bolts 14^b, as shown more clearly in Fig. 10 of the drawings. It will be understood that these filler members or
 15 strips are removable so that others of greater or less thickness may be substituted for them to vary the depth of the cut made by the knives or blades.

For the purpose of keeping the stationary
 20 knife 15 clear of the cut tops and leaves of the beets and rendering the operation of this knife more effective, I preferably provide a rotary beating and cutting wheel above said knife and drive it from one of the truck
 25 wheels. Said rotary beater or knife comprises a horizontal shaft 22 to which are secured circular heads or wheels 23 united by longitudinal bars 24 which may serve either as beaters, or cutting knives or as both. As
 30 illustrated, said bars 24 are of angular shape in cross section and have their upwardly or radially projecting flanges formed with notched or cutting edges 25. On one end of the shaft 22 is a sprocket pinion 26 which
 35 is connected by a sprocket chain 27 to a sprocket wheel 28 fixed to the hub 29 of the wheel 5, as clearly shown in Fig. 1 of the drawings. To permit the beating or cutting wheel to be adjusted vertically to prop-
 40 erly position the same above the horizontal knife 15 with which it co-acts, the bearing plates 30 in which the shaft 22 is rotatably mounted, are vertically adjustable on the side bars or plates 11 by means of clamping
 45 bolts 33 arranged in the vertical slots 32.

The operation of the invention is as follows: Draft animals pull the machine over a row of beets and the driver of the team walks behind the machine, and, with his
 50 hands on the handle bars 12, guides the sled over the row and applies a downward pressure to the same so that the vertical knives 14 will effectively slice or cut the tops of the beets and the leaves of the same and the
 55 horizontal knife 15 will sever the sliced portions of the tops while the rotary beater will keep the horizontal knife clear of the cut tops and leaves. The slicing of the beet tops by the vertical knives enables the horizontal
 60 knife to more effectively top the beets and the inclined cutting edge of said horizontal knife insures the cutting of the beets even when they grow in very loose soil. The vertical adjustment of the stationary horizon-
 65 tal knife 15 and the rotary beater enables

the beets to be topped at any desired depth and at a uniform depth. A practical demonstration of my improved beet topper has proven that it will effectively accomplish its intended purpose.

While I have shown and described in detail the preferred embodiment of the invention, it will be understood that I do not limit myself to the precise construction set forth and that various changes in the form, proportion, arrangement and minor details may be resorted to without departing from the spirit and scope of the invention.

Having thus described the invention what is claimed is:

1. In a beet topping machine, the combination of a body, a horizontally disposed knife to top the beets and vertically disposed knives arranged in advance of the horizontal knife for slicing the tops of the beets
 85 before they are severed by the horizontal knife.

2. In a beet topping machine, the combination of a body, a horizontally disposed knife to top the beets, vertically disposed
 90 knives arranged in advance of the horizontal knife for slicing the tops of the beets before they are severed by the horizontal knife, and means for removing the severed tops of the beets from the horizontal knife.

3. In a beet topping machine, the combination of a body, a horizontally disposed knife to top the beets, vertically disposed knives arranged in advance of the horizontal knife for slicing the tops of the beets before
 100 they are severed by the horizontal knife, a rotary beater arranged above the horizontal knife to co-act therewith, a wheel truck connected to the body and means for driving the rotary beater from said truck.

4. In a beet topping machine, the combination of a body, a horizontally disposed knife to top the beets and vertically disposed knives arranged in advance of the horizontal knife for slicing the tops of the beets before
 110 they are severed by the horizontal knife, said vertical knives being curved longitudinally and having their front ends inclined downwardly and rearwardly and their rear ends flared laterally from opposite sides of the longitudinal axis of the machine.

5. In a beet topping machine, the combination of a body, a longitudinally extending hood carried thereby and curved longitudinally, its front end being elevated and inclined downwardly and rearwardly and its rear end being substantially horizontal, vertical cutting blades depending from the hood and extending longitudinally and a horizontally disposed cutting mechanism arranged in rear of the rear ends of said vertical knives.

6. In a beet topping machine, the combination of a body, a horizontally disposed knife to top the beets, vertically disposed
 130

knives arranged in advance of the horizontal knife for slicing the tops of the beets before they are severed by the horizontal knife, and means for adjusting said horizontal knife vertically.

7. In a beet topping machine, the combination of a wheeled truck, a sled-like body hung loosely from the same and having runners, a handle upon said body, a downwardly and rearwardly inclined hood arranged upon said body, vertical knives depending from said hood, and a horizontal knife arranged in rear of said vertical knives.

8. In a beet topping machine, the combination of a wheeled truck, a sled-like body hung loosely from the same and having runners, a handle upon said body, a downwardly and rearwardly inclined hood arranged upon said body, vertical knives depending from said hood, a horizontal knife arranged in rear of said vertical knives, a rotary beater disposed above the horizontal

knife to co-act therewith and means for driving said rotary beater from the wheels of the truck.

9. In a beet topping machine, the combination of a wheeled truck, a sled-like body hung loosely from the same and having runners, a handle upon said body, a downwardly and rearwardly inclined hood arranged upon said body, vertical knives depending from said hood, a vertically adjustable horizontal knife arranged in rear of the vertical knives, a vertically adjustable rotary beater disposed above the horizontal knife and adapted to co-act therewith and means for driving said rotary beater from one of the wheels of the truck.

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

HENRY CATMULL.

Witnesses:

C. L. TOYER,
N. J. GOLDFAILL.