

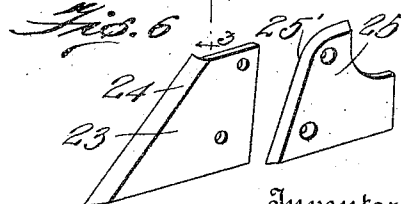
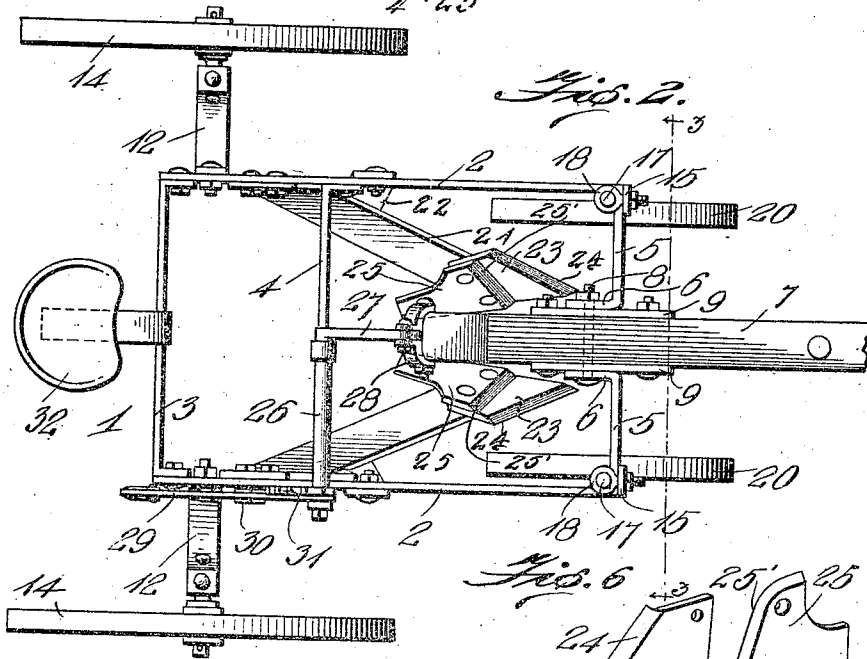
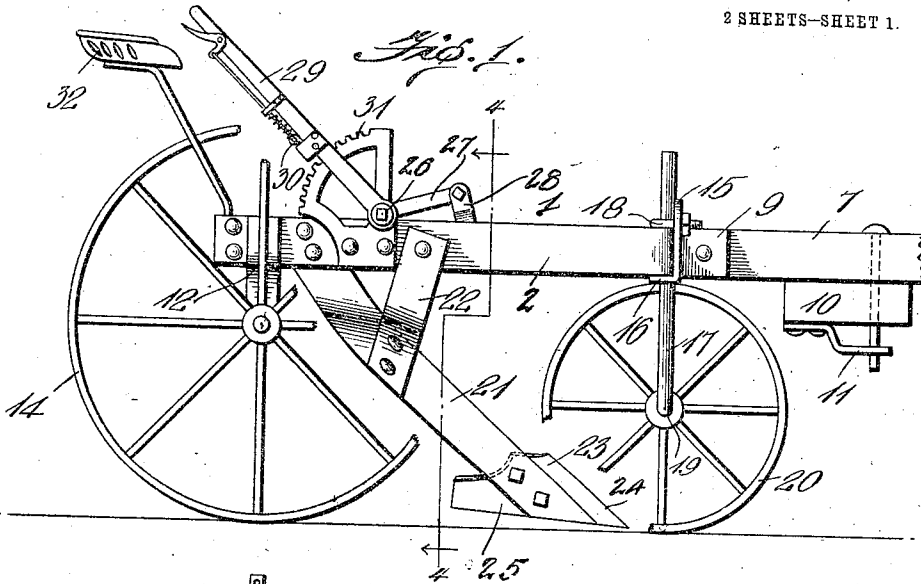
E. A. SMITH.
BEET PULLER.

APPLICATION FILED NOV. 17, 1910.

1,011,867.

Patented Dec. 12, 1911.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

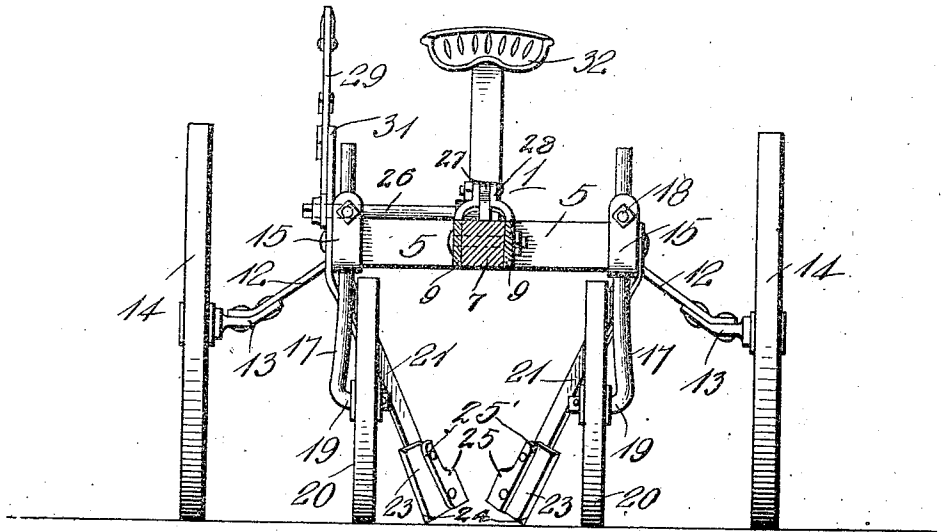


Fig. 4.

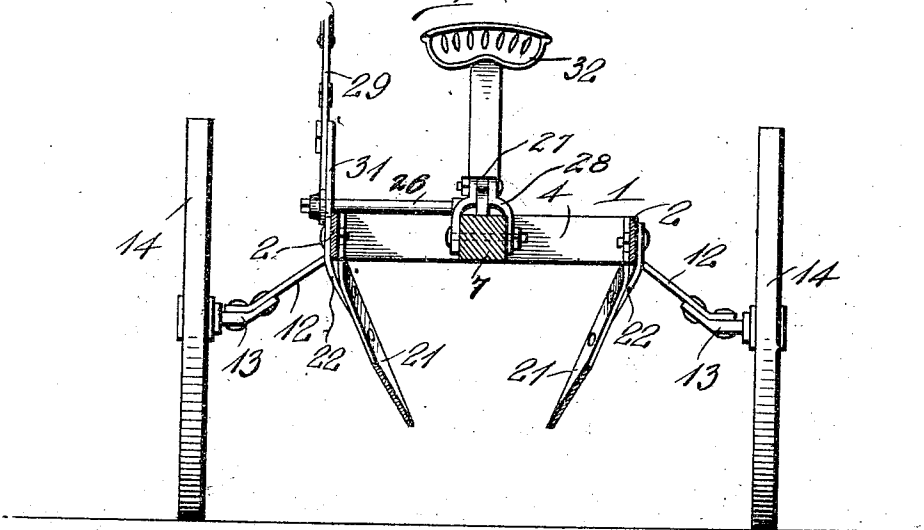
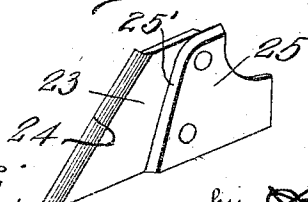


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD A. SMITH, OF LOVELAND, COLORADO.

BEET-PULLER.

1,011,867.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed November 17, 1910. Serial No. 592,931.

To all whom it may concern:

Be it known that I, EDWARD A. SMITH, a citizen of the United States, residing at Loveland, in the county of Larimer and State of Colorado, have invented certain new and useful Improvements in Beet-Pullers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in beet pullers.

One object of the invention is to improve the construction of the beet puller shown and described in United States Letters-Patent No. 885,538, granted to me April 21, 1908, whereby a strong and more durable machine is provided and whereby the efficiency of the operating parts is greatly increased.

With this and other objects in view the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a side view of my improved beet puller; Fig. 2 is a plan view of the same; Fig. 3 is a front elevation thereof; Fig. 4 is a vertical cross section on the line 4-4 of Fig. 1; Fig. 5 is a detail perspective view of the cutting and operating devices for one side of the device; Fig. 6 is a similar view showing the plates separated.

Referring more particularly to the drawings, 1 denotes the supporting frame of my improved beet puller, said frame being preferably formed of flat metal bars and comprising side bars 2, a rear end cross bar 3, an intermediate cross bar 4 and a front cross bar 5. The front cross bar 5 is formed in two parts the inner ends of which are bent rearwardly at right angles to form tongue engaging lugs 6 between which is inserted the inner end of the draft tongue 7 of the machine. The tongue 7 is pivotally connected to the lugs 6 by a pivot bolt 8 and on opposite sides of the tongue where the same passes between the lugs 6 are secured wear plates 9. To the under side of the tongue near the inner end thereof is secured a draft block 10 on the end of which is arranged a clevis 11 by means of which

the draft devices are connected to the machine.

Bolted or otherwise secured to the side bars 2 adjacent to the rear end of the machine are laterally projecting brackets 12 to the outer end of which are bolted or otherwise secured the short stub axles 13 of the rear supporting wheels 14 of the machine.

Secured to the front cross bars 5 of the frame adjacent to the side bars 2 are clips 15 comprising vertically disposed plates having right angularly bent apertured lower ends 16 which project rearwardly beneath the lower edge of the cross bar 5 and are adapted to receive the upper ends of front supporting standards 17. The projecting upper ends of the standards 17 are engaged with eye bolts 18 arranged in the upper ends of the clip plates 15 and projecting rearwardly over the upper edges of the front cross bar 5 as shown. The lower ends of the standards 17 are bent inwardly to form journals 19 on which are revolubly mounted the front supporting wheels 20 of the machine.

Bolted or otherwise secured at their upper ends to the opposite side bars 2 of the frame are downwardly and forwardly projecting inwardly bent blade supporting standards 21 on the lower ends of which are bolted or otherwise secured the beet lifting devices hereinafter described. The standards 21 are further connected to the side bars 2 and are braced by inclined brace plates 22 which are secured to the standards and to the side bars 2 as shown.

The beet lifting devices comprise a pair of cutting blades or colters 23 having downwardly and forwardly inclined beveled or sharpened forward edges 24 which enter the ground and sever the branching rootlets from the beet whereby the latter are more readily pulled. To the rear ends of the cutting blades 23 are bolted or otherwise secured substantially triangular pulling blades 25 which are also provided with beveled forward edges as shown at 25'. By thus forming the cutting and pulling blades and supporting the same at an angle on the lower ends of the standards 21 whereby the blades converge toward their rear ends the dirt will be forced by the blades into engagement with the beets and the beet tops when the latter are lifted or pulled from the ground thereby preventing the beets or the tops from being cut off by the blades by the

pulling or lifting operation thus insuring the positive removal of the beets from the ground. Particular attention is called to the position of the cutting and pulling blades on the lower ends of the standards, said blades being held at an angle or projecting outwardly from their lower toward their upper edges and are also arranged to flare outwardly or diverge from their rear or heel ends toward their points thus forming a wedge shaped space both vertically and horizontally between the blades which will cause the beets to be gradually lifted from the ground and left standing in the rows.

Revolubly mounted in suitable bearings on one of the side bars 2 and the cross bar 4 of the frame 1 is a rock shaft 26 having on its inner end a forwardly projecting crank arm 27 on the outer end of which is connected a stirrup or bail 28 with which is pivotally connected the inwardly extending rear end of the tongue 7. To the outer end of the rock shaft 26 is secured an operating lever 29 by means of which the shaft 26 is rocked thereby raising the inner end of the tongue and the forward end of the machine upwardly to a sufficient extent to bring the front wheels and beet lifting devices above the ground. The lever 24 is provided with a locking pawl 30 which is adapted to engage the teeth of a segmental rack 31 secured to the side of the frame whereby said forward end of the machine and the wheels and lifting devices are supported in an elevated position thus permitting the machine to be readily turned at the end of the row or around curves. On the rear end of the frame is secured a driver's seat 32 which is arranged on a supporting standard or otherwise suitably secured to the frame in the position to permit the driver to readily reach the frame lifting lever 29.

From the foregoing description taken in connection with the accompanying drawings the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion

and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In a beet puller, a wheeled supporting frame, a pair of downwardly and forwardly projecting inwardly bent flat standards with their front edges flared upwardly and outwardly, beet lifting devices secured to the lower ends of said standards and comprising a pair of cutting blades, a pair of substantially triangular pulling blades overlapping and secured to said cutting blades, said cutting and pulling blades diverging toward their front ends and with their lower edges converging whereby a wedge-shaped space is formed between them both in a horizontal and a vertical plane.

2. In a beet pulling machine, a wheeled supporting frame, a pair of downwardly and forwardly projecting standards composed of flat metal strips secured at one end to the frame and converging toward their free ends, beet pulling devices mounted on the lower ends of said standards and comprising a pair of cutting blades having downwardly and forwardly inclined sharpened front edges, a pair of pulling blades having beveled front edges overlapping the rear edges of said cutting blades, means for rigidly securing said pulling blades and cutting blades together and to said standards, said pulling blades being inclined outwardly from their lower toward their upper edges and converging toward their rear ends forming a wedge-shaped space between them.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWARD A. SMITH.

Witnesses:

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