

S. R. GIDDINGS.
 BEET PULLER.
 APPLICATION FILED DEC. 5, 1910.

1,023,836.

Patented Apr. 23, 1912.
 2 SHEETS—SHEET 1.

Fig. 1.

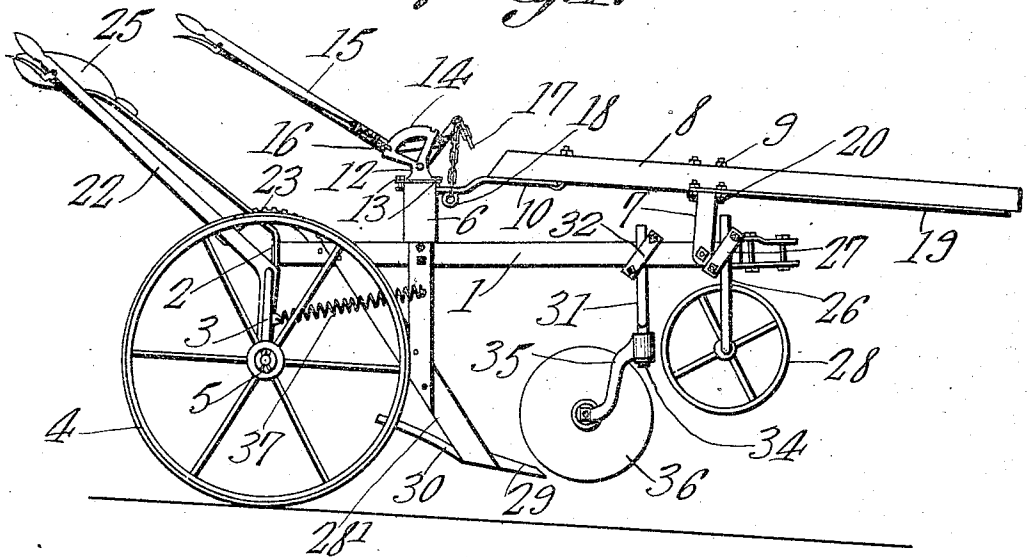
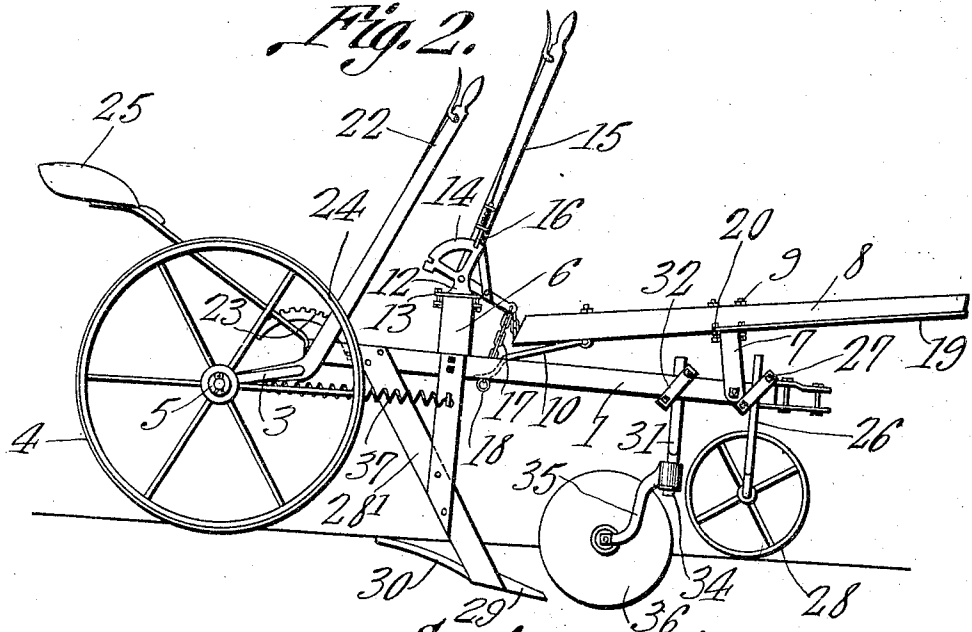


Fig. 2.



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 2 SHEETS—SHEET 2.

Fig. 3.

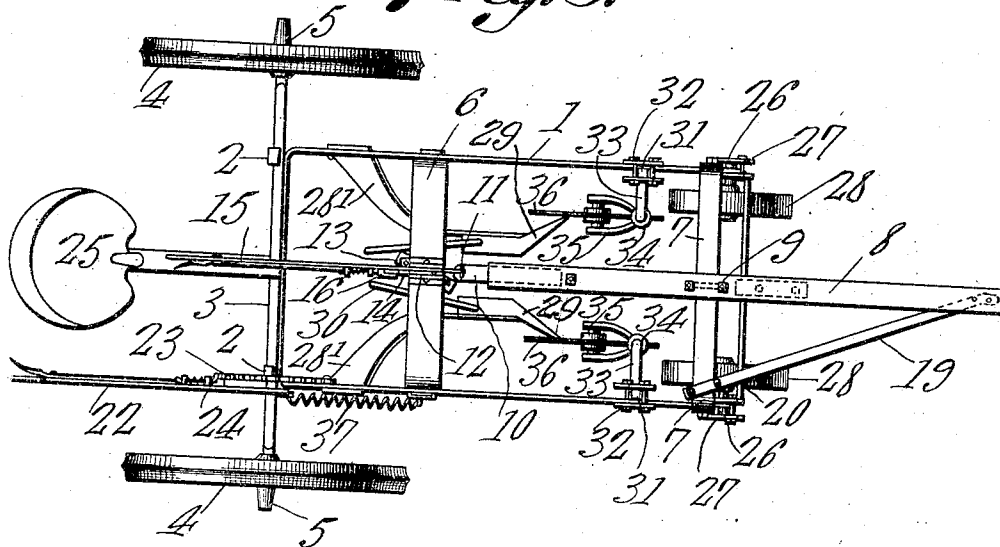
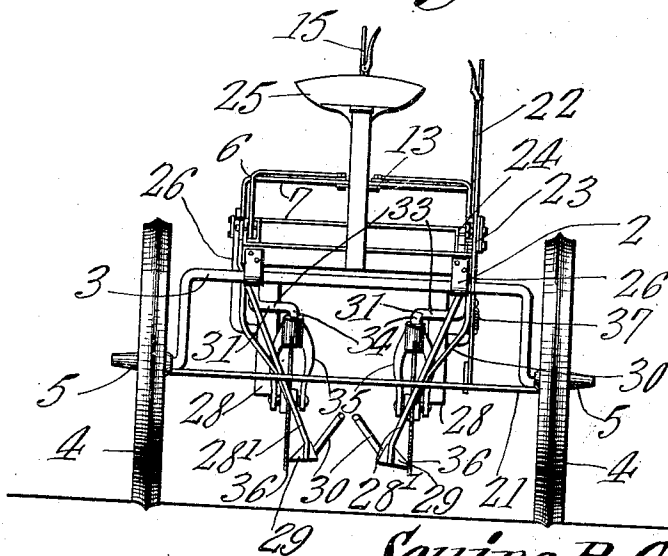


Fig. 4.



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UNITED STATES PATENT OFFICE.

SQUIRE RALPH GIDDINGS, OF TIMNATH, COLORADO.

BEET-PULLER.

1,023,836.

Specification of Letters Patent.

Patented Apr. 23, 1912.

Application filed December 5, 1910. Serial No. 595,650.

To all whom it may concern:

Be it known that I, SQUIRE R. GIDDINGS, a citizen of the United States, residing at Timnath, in the county of Larimer and State of Colorado, have invented a new and useful Beet-Puller, of which the following is a specification.

This invention has relation to beet pullers and consists in the novel construction and arrangement of its parts as hereinafter shown and described.

The object of the invention is to provide a machine of the character indicated in which the draft tongue may be shifted upon the frame in order to be adapted to utilize two or more draft animals. At the same time means are provided for hitching the tongue at a desired angle with relation to the frame whereby when the tongue is hitched to the breast strap of draft animals the forward portion of the frame may be raised or lowered as desired.

Another object of the invention is to provide in connection with a machine as indicated a pair of diggers or beet pullers proper, with colters mounted on the sides of the frame and adapted to cut incisions in the soil just outside and beyond the path of movement of the said diggers. These colters are of the caster type and are therefore free to swing but are constrained to move in lines approximately parallel with the lines of movement of the diggers by reason of the disposition of their carriages with relation to their supporting pivot points.

In the accompanying drawings:—Figure 1 is a side elevation of the beet puller showing the tongue thereof adjusted in position when the forward portion of the frame is elevated. Fig. 2 is a side elevation of the beet puller showing the parts adjusted when the forward portion of the tongue is elevated and the forward portion of the frame is lowered. Fig. 3 is a top plan view of the beet puller. Fig. 4 is a rear end elevation of the same.

The beet puller comprises an approximately rectangular frame 1 having at its rear side bearings 2 in which is journaled the intermediate portion of an arch axle 3.

Ground wheels 4 are journaled upon the ends of the axle 3 and the said wheels are provided with hubs 5 which project at one end to a greater extent beyond the vertical plane of the wheel than at the other side. Therefore if the said wheels are removed from the end of the axle and turned around and replaced the planes of the wheels may be brought closer together or farther apart as desired, or as the occasion may require. An arch bar 6 is fixed to the intermediate portion of the frame 1 and an arch bar 7 is pivotally attached to the forward portion of the said frame. A tongue 8 is provided with a clamping device 9 which receives the intermediate portion of the pivoted arch bar 7 and at its rear end the said tongue is provided with a plate 10 having an eye 11. A standard 12 is provided with a clamping device 13 which receives the intermediate portion of the fixed arch bar 6. A gear segment 14 is fashioned at the upper end of the standard 12. A lever 15 is fulcrumed to the standard 12 and is provided with a spring actuated pawl 16 which is adapted to engage the notches or teeth of the segment 14. A chain 17 is connected with the working end of the lever 15 and passes down through the eye 11 provided in the plate 10 at the end of the tongue 8. The chain 17 is provided at its lower end with an enlarged link 18 which is of such diameter as to be unable to pass through the eye 11 provided in the plate 10. A brace 19 is fixed at its front end to the tongue 8 and at its rear end is provided with a clamping device 20 which receives the intermediate portion of the pivoted arch bar 7. By this arrangement it will be seen that by swinging the lever 15 the working end of the said lever may be raised or lowered and through the chain 17 the rear end of the tongue 8 may be swung in an upward or downward direction upon the pivot of the arch bar 7 with the frame 1. Thus means are provided for raising or lowering the forward end of the tongue or conversely when the forward end of the tongue is secured to the draft animals for raising or lowering the forward end of the frame 1. Also the clamping devices 9, 13 and 20 may be loosened so that

the parts may be shifted laterally along the arch bars 6 and 7 and thus the tongue 8 may be positioned with relation to the frame so that two or more draft animals may be attached to the same.

A cross bar 21 is secured at its ends to the end portions of the arch axle 3 and a lever 22 is fulcrumed upon the intermediate portion of the said arch axle and is connected at its working end with the said cross bar 21. A gear segment 23 is mounted upon the frame 1 and the lever 22 is provided with a spring pawl 24 adapted to engage the teeth of the segment 23.

By swinging the lever 22 in a forward or backward direction the end portions of the axle 3 may be brought into vertical positions or the said end portions may be inclined downwardly and rearwardly and thus means are provided for raising and lowering the rear portion of the frame 1 and when the said rear portion is at a desired elevation the pawl 24 is permitted to engage the teeth of the segment 23 whereby the parts are held in adjusted position. An operator's seat 25 is mounted on the rear side of the frame 1. Standards 26 are secured to the forward portions of the sides of the frame 1 by means of clamping devices 27 and ground wheels 28 are journaled at the lower ends of said standards 26. By loosening the clamping devices 27 the said standards may be adjusted longitudinally whereby the forward ends of the frame 1 are lowered. Standards 28' are secured at their rear ends to the sides of the frame 1 and inclined toward each other in a downward direction toward the forward end of the said frame 1. Shares or diggers 29 are secured to the lower forward ends of the standards 28' and have their rear ends projected into bars 30, the rear portions of which normally ride at the surface of the soil and serve as means for elevating the beets above the top of the soil. Standards 31 are secured by means of clamping devices 32 to the sides of the frame 1 and are located in advance of the standards 28' and behind the standards 26. The said standards 31 are provided with inwardly disposed approximately horizontal sections 33 which in turn are merged into vertically disposed pintles 34. Caster frames 35 are pivoted upon the pintles 34 and carrying caster wheels in the form of colters 36. The frames 35 are free to swing upon the pintles 34 but when the forward end of the frame 1 is lowered the colters 36 are constrained to cut into the soil. The said colters 36 are adapted to open incisions in the soil in advance of the points of the diggers 29 and in line beyond the outer side of said diggers but approximately in alinement with the forward points of the diggers.

As the machine is drawn along a row of

the beets the wheels 28 travel at the opposite sides of the row while the colters 36 cut incisions in the soil at the opposite sides of the row. The diggers or shares 29 following behind the colters 26 encounter the opposite side of the beet and lift the same and pass the beet up upon the rear portion 30. From the said portions 30 the beets are lifted and deposited upon the top of the soil. The advantage gained by cutting the incisions at the opposite sides of the row of beets previous to the time that the shares of diggers 29 encounter the beets is that when the beets are lifted they are not torn from a mass of solid soil but are merely separated from the slice which remains between the furrows cut by the colters 36 and consequently the labor or energy necessary to expend in order to elevate the beets above the surface of the soil is reduced to a minimum.

By loosening the clamping devices 32 the standards 31 may be adjusted vertically with relation to the frame 1, whereby the colters 36 may be caused to cut deep or shallow below the surface of the soil as desired. A coil spring 37 is connected at one end with one of the standards 28' and at its other end with one of the end portions of the arch axle 3 and when the end portion of the arch axle is swung away from the standards 28' the tension of the said spring 37 is increased so that when an attempt is made to bring the end portion of the axle into a vertical position, the tension of the spring 37 assists in such movement.

Having described the invention what I claim as new and desire to secure by Letters Patent is;—

1. A beet puller comprising an approximately rectangular frame, wheels supporting the frame, standards attached to the sides of the frame, digging shares connected to said standards, standards adjustably connected with the sides of the frame and having inwardly disposed portions which terminate in downwardly disposed pintles, caster frames journaled upon the pintles of the last mentioned standards and colters journaled in said caster frames and located in advance of the digging shares and adapted to cut incisions in the soil beyond the outer sides of the digging shares.

2. A beet puller comprising an approximately rectangular frame, wheels supporting the same, standards attached to the frame, digging shares carried by the standards, standards adjustably connected with the sides of the frame and located in advance of the first mentioned standards, the last mentioned standards having inwardly disposed portions which terminate in downwardly disposed pintles, caster frames journaled upon the pintles, colters journaled in the caster frames, and located in advance of

the digging shares and beyond the sides thereof, standards adjustably connected with the forward portion of the frame and located in advance of the standards which carry the colters and ground wheels journaled upon the last mentioned standards.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature in the presence of two witnesses.

SQUIRE' RALPH GIDDINGS.

Witnesses:

J. A. Cox,

C. B. BREWER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."