

June 9, 1964

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3,136,372

CRUSHER FOR WILD ONIONS AND THE LIKE

Filed July 5, 1963

FIG. 1.

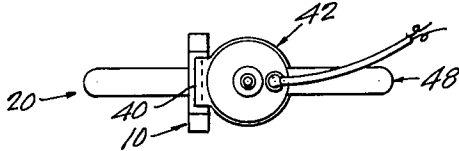


FIG. 2.

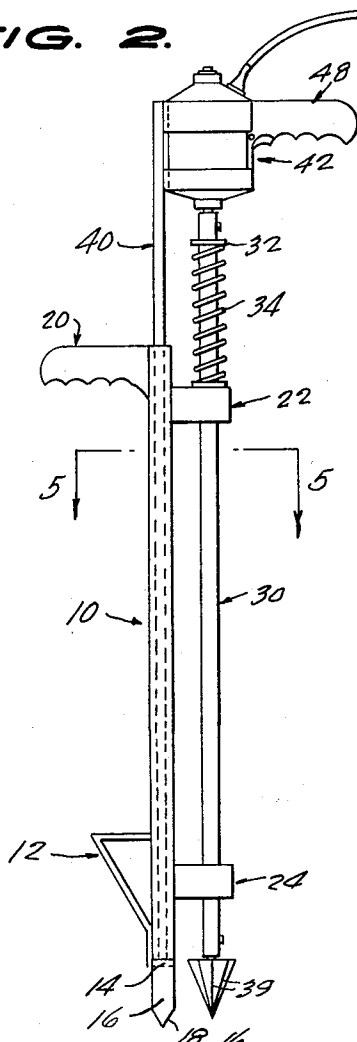


FIG. 3.

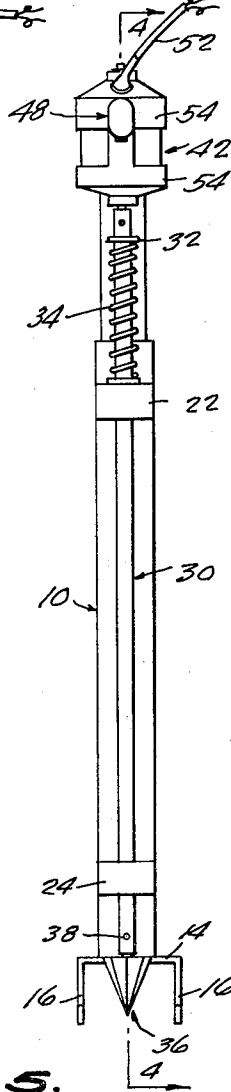


FIG. 4.

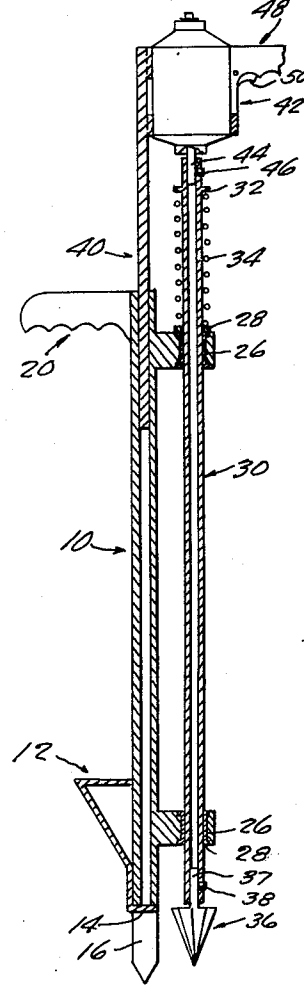
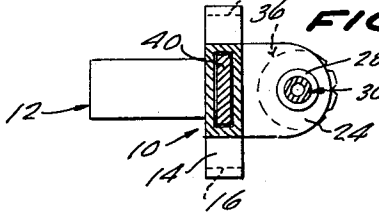


FIG. 5.



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3,136,372

CRUSHER FOR WILD ONIONS AND THE LIKE

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Filed July 5, 1963, Ser. No. 293,014

2 Claims. (Cl. 172-41)

This invention relates to a novel portable motor-driven crusher for wild onions, and the like.

The primary object of the invention is the provision of an efficient, quick-acting, easily used, time- and labor-saving device of the kind indicated, which has a crusher head which is adapted to be engaged with the top of wild onions and the like, and rotated, while exerting downward pressure, so as to crush the onions and grind them in the soil in which they grow and thereby destroy and kill them.

Another object of the invention is the provision of a device of the character indicated above, which has a handle-equipped standard having ground-entering tines, on its lower end, which serve to steady and anchor the device during its operation, the motor and the crusher head being mounted on the standard for vertical movements relative thereto, and being upwardly spring-pressed, the motor having a handle by means of which the crusher head is adapted to be depressed for engaging wild onions, against the resistance of the spring means, which serves to elevate the crusher head so that the operator of the device is relieved of the work of elevating the crusher head, the shaft and the motor after a crushing operation has been performed.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is a top plan view of a device of the present invention;

FIGURE 2 is a side elevation thereof;

FIGURE 3 is an elevation taken at right angles to FIGURE 2;

FIGURE 4 is a transverse vertical section taken on the line 4-4 of FIGURE 3;

FIGURE 5 is a horizontal section taken on the line 5-5 of FIGURE 2.

Referring in detail to the drawings, the illustrated device comprises a vertically elongated, flat tubular, open-ended standard 10, which is elongated in cross section crosswise of the device, as shown in FIGURE 5, and which has fixed, on its laterally outward side an inverted triangular step 12, located near its lower end. A horizontal cross member 14 is fixed across the lower end of the standard and extends equally beyond the sides thereof. Flat pendant perpendicular tines 16 are fixed to the cross member 14, at its ends, and have pointed lower ends 18.

A horizontal handle 20 is fixed to and extends from the outward side of the standard 10, at its upper end, and upper and lower horizontal bearing brackets 22 and 24 are fixed to and extend from the inward side of the standard, adjacent to the upper and lower ends thereof, respectively. The brackets are formed with vertical bores 26, in which flanged cylindrical tubular bushings or bearings 28 are fixed.

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A vertically elongated tubular shaft 30, longer than the standard 10, slides and rotates through the bearings 28, and has a fixed external annular collar 32 adjacent to its upper end. A coil spring 34 is circumposed on the shaft 30 and is compressed between the collar 32 and the upper bearing bracket 22, whereby the shaft 30 is yieldably biased upwardly to an elevated, retracted position, shown in the drawings.

An inverted conical crusher head 36 has a reduced diameter axial shank 37, on its upper end, which is engaged in the lower end of the shaft 30, and is secured in place therein, and against rotation relative to the shaft, as by means of a set screw 38. The crusher head is formed with equally circumferentially spaced shallow, downwardly tapering flutes 39, which serve to crush and grind the onion and grind it into its own soil.

A flat slide bar 40 is conformably and slidably, and hence non-rotatably engaged in the upper end of the standard 10 and extends thereabove. A vertical electric motor 42 is fixed to the inward side of and at the upper end of the slide bar 40, as indicated at 54, and extends laterally therefrom. The motor has a downwardly extending shaft 44, which is engaged in the upper end of the crusher shaft 30, and is locked therein, against rotation relative thereto, as by means of a set screw 46. The motor has fixed to its outer side a horizontal handle 48, which has an on-and-off switch 50, on its underside. A service cord 52 leads out of the motor 42 for connection to any convenient electric current outlet.

In use and operation, the operator of the device, having selected a wild onion to be destroyed, holds the device by the standard handle 20, and permissibly also by the motor handle 48, places the tines 16 alongside of the onion, and then steps on the step 12, so as to drive the tines 16 into the ground, as far as the cross member 14. This anchors the device in the ground and places the crusher head immediately above the onion. The motor 12 is then started, by operating the switch 50, and downward pressure is exerted on the motor handle 48, so as to move the rotating crusher head down into contact with the onion, against the resistance of the spring 34, so as to crush and grind the onion into its own soil. Upon completion of this operation, pressure on the motor handle 48 is relaxed, so that the spring 54 serves to elevate or retract the crusher head out of the soil. Either or both of the handles are then used to lift the tines 16 out of the soil and to transport the device to another location.

Although there has been shown and described a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A device of the character described, comprising a standard, a lateral bracket on the standard having bearing means, a vertical rotary shaft journaled through the bearing means, a rotary crusher head fixed to the lower end of the shaft, a collar fixed on the shaft, a coil spring circumposed on the shaft and compressed between the collar and the bracket, an electric motor slidably mounted on the standard and operatively connected to the upper end

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of the shaft, said motor being vertically aligned with the shaft and having a pendant shaft fixed axially to the upper end of the crusher shaft, said standard having a polygonal bore opening to its upper end, a polygonal slide bar sliding in said bore, and extending above the standard, and means fixing the motor to the slide bar. 5

2. A device of the character described comprising a standard having a polygonal bore opening to its upper end, said standard having lateral bracket means thereon, said bracket means comprising tubular bearing means, a rotary shaft journaled through said bearing means and extending above and below said bearing means, an earth working member fixed on the lower end of the shaft, a polygonal slide bar engaged in the bore of the standard and extending above the standard, an electric motor 10 15 mounted on the slide bar at the side thereof adjacent to the shaft, said motor having a pendant motor shaft connected to the upper end of the rotary shaft, said rotary shaft having a fixed collar located between the motor

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shaft and said bracket means, and a coil spring circumposed on the rotary shaft and compressed between the bracket means and said collar.

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