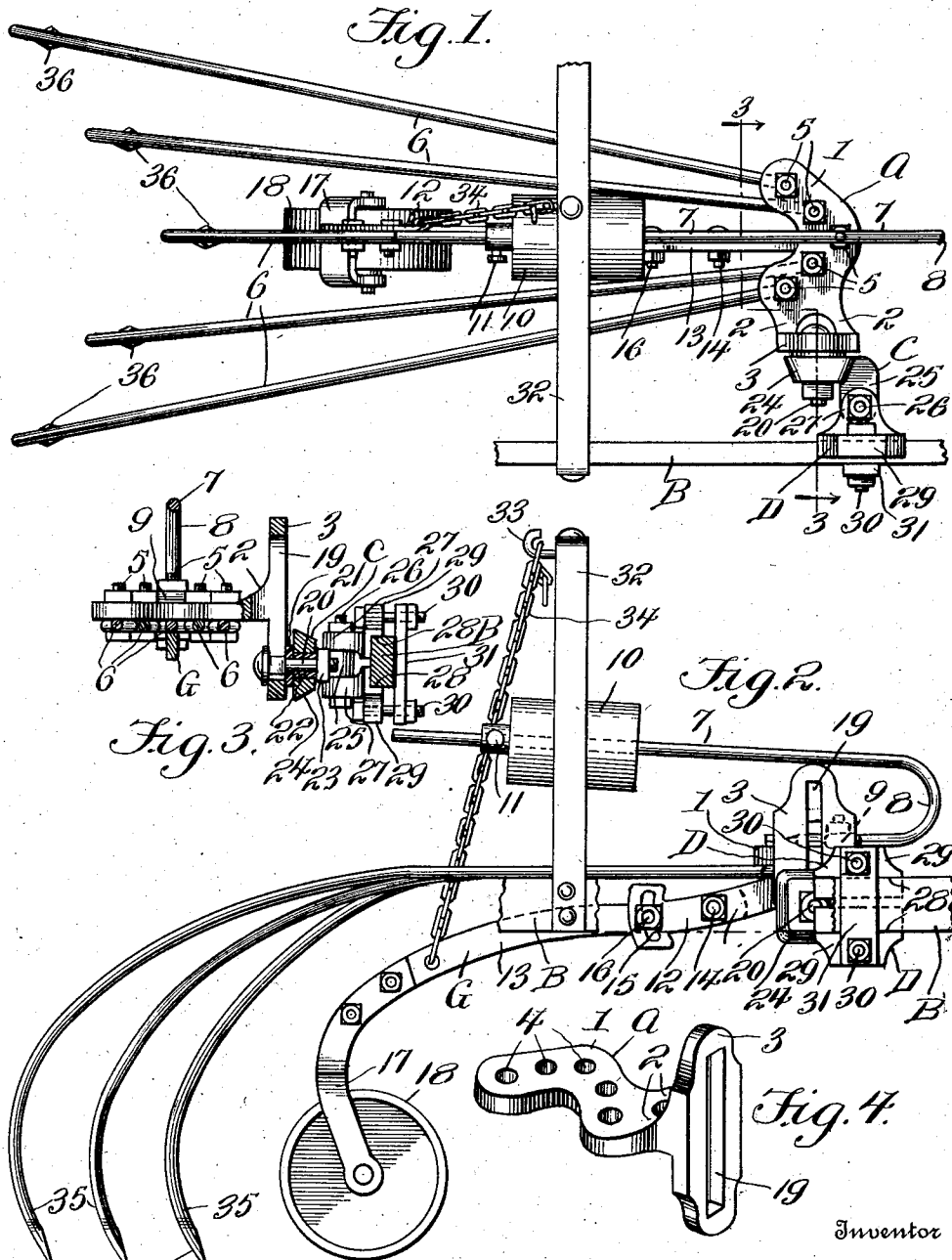


J. F. DVORAK.
WEEDER.
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1,011,417.

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WEEDER.

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To all whom it may concern:

Be it known that I, JOHN F. DVORAK, a citizen of the United States, residing at Prince George, in the county of Prince George and State of Virginia, have invented new and useful Improvements in Weeders, of which the following is a specification.

The invention relates to weeders, and it has for its object to produce a simple and effective weeder appliance which may be conveniently attached to and used in connection with an ordinary cultivator.

A further object of the invention is to produce a simple and effective weeder appliance adapted to engage the ground at the proper depth and having a gage wheel to retain it in proper ground engaging position.

A further object of the invention is to produce a device of the character described which may be quickly and conveniently reversed to enable it to be applied to the right or to the left side of a cultivator, as may be desired.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawing,—Figure 1 is a top plan view showing the improved implement and a portion of a cultivator beam to which it is attached. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical sectional view, enlarged, taken through the head of the implement, on the line 3—3 in Fig. 2. Fig. 4 is a perspective view showing the head of the implement.

Corresponding parts in the several figures are denoted by like characters of reference.

The head A of the improved implement consists of a casting comprising a flat U-shaped plate 1 having laterally extending arms 2, 2 supporting an upright plate 3 which normally occupies a vertical position approximately at right angles to the U-

shaped plate 1 which normally lies in an approximately horizontal plane. The horizontal plate 1 has a plurality of apertures 4 for the reception of fastening members, such as bolts 5, serving to secure in position the teeth 6 which are provided adjacent to their front ends with eyes or apertures for the passage of the fastening members. The latter are arranged in U-shaped series, thereby placing the middle tooth in advance of the succeeding ones.

The fastening member whereby the middle tooth is attached to the head plate, also serves for the attachment of a weight carrying rod or bar 7 having at its front end a downturned and rearwardly extending hook member 8 provided with a terminal eye 9 for the passage of the fastening member. The rod 7 carries a slidable weight 10 which may be secured adjustably by means of a set screw 11. The weight carrying rod, it will be observed, is mounted or secured adjacent to the upper side of the plate 1. The bolt or fastening member 5, whereby the middle tooth is secured, also serves as securing means for a rearwardly extending arm G mounted on the lower end of said bolt and comprising two separate members 12, 13 which are pivotally connected by means of a pin or bolt 14. One of said members is provided with an arcuate slot 15 concentric with the axis of the bolt 14 for the passage of a bolt 16 whereby the members 12, 13 may be secured at various angles to one another. The rear member 13 is provided at its rear end with a downturned fork 17 between the members of which a gage wheel 18 is supported for rotation.

The vertical plate 3 which forms a portion of the head is provided with a slot 19 for the passage of a bolt 20 having a washer 21, a sleeve 22 and a nut 23, whereby it may be clamped in position at various adjustments. The sleeve 22 pivotally engages one wing 24 of an angle plate C, the other wing of which forms a lug 25. The latter is apertured for the passage of a bolt 26 extending through lugs 27 upon clamping members D, D, which latter are positioned adjacent to one side of a cultivator beam B, said clamp members being provided with shoulders or offsets 28 to engage the upper and under faces, respectively, of said beam B. The clamp members D are also provided with approximately vertical flanges 29 which are apertured for the passage of

clamping bolts 30 engaging a clip plate 31 whereby the clamp members are firmly connected with the beam at any desired longitudinal adjustment. The clamp members 5 D, D are sufficiently spaced apart to enable the lug 25 of the angle member 24 to be tightly clamped therebetween by tightening the bolt 26.

It will be observed that by the construction shown and described, the angle member 10 C may be adjusted to and firmly held at various angles with relation to the plow beam, and also that the head plate A, which is pivotally connected with the wing 24 of 15 the angle member, may be vertically adjusted by the slot 19 in the vertical plate 3 which constitutes a portion of said member.

The cultivator beam is provided with an angular upstanding arm 32 suitably connected therewith and equipped with a hook 33. Suitably connected with the bar G 20 carrying the gage wheel 18 is one end of a chain 34, said chain being adjustably connected with the supporting arm 32 by engaging one of its links with the hook 33. 25

The teeth 6 are to be constructed of resilient material, such as rods or wires of steel or other suitable material, the same being downturned at their rear ends and provided with earth-engaging blades or members 35 having sharp earth engaging points 36. Owing to the resilient nature of the material of which the teeth 6 are constructed, said teeth will, during the operation of 30 the device, be maintained in a constantly vibratory condition.

While the improved weeder may be attached to and used in connection with cultivators for cultivating various crops, such as corn and cotton, it is especially intended 40 and adapted to the cultivation of peanuts.

In the operation of the device, the gage wheel 18 travels along the row of growing 45 plants which, even if crushed down by said wheel, will quickly rise and reassume their normal growing position. The blade carrying ends of the vibratory teeth 6 may be adjusted, by proper adjustment of the members composing the bar B carrying the gage wheel 18, to engage the ground at any desired depth, and said spring teeth will thoroughly stir and agitate the soil, loosening and overturning the same and exposing the 55 roots of such weeds and grasses as may be growing adjacent to the plants, thereby destroying such weeds and grasses. When the cultivator beam is raised, the connecting chain 34 will serve to lift or elevate the 60 weeder above the ground to throw it temporarily out of operation. Vertical and angular adjustment for the head plate of the weeder attachment is provided, as hereinbefore described.

65 It will be readily seen that by detaching

or disconnecting the teeth 6, the bar B and the weight-carrying arm 7 from the head A, reversing the latter and securing the parts adjacent to the opposed faces of said head, the device may be quickly converted from a 70 right hand into a left hand device, and vice versa, thus enabling a single set of castings and other parts to be utilized as a right hand or as a left hand attachment, as may be desired. 75

In the operation of this invention it will be understood that the gage wheel supports the spring teeth in the desired relation to the ground which is stirred and agitated by said spring teeth, thereby eradicating the 80 weeds. The entire device is pivotally supported by the bolt 20, thereby adapting itself to rough or uneven ground. When the cultivator beam is raised from the ground, the connecting chain 34 will simultaneously lift 85 the weeding device on the ground.

Having thus described the invention, what is claimed as new, is:—

1. In a weeder, an angular carrying member, a head member, resilient vibratory teeth 90 extending rearwardly from said head member and having earth engaging blades, and means for connecting said head member with one wing of the carrying member pivotally and for vertical and angular adjustment. 95

2. In a weeder attachment, a head plate including a vertically disposed slotted plate, resilient vibratory teeth connected with and extending rearwardly from the head plate 100 and having earth engaging blades, a carrying member consisting of an adjustably supported angular plate with one wing of which the vertical slotted member of the head plate is adjustably connected, and beam 105 engaging clamping members with which the carrying member is adjustably connected.

3. A weeding device comprising a head member having a vertically disposed slotted plate, means for pivotally and adjustably 110 supporting said head member, resilient teeth extending rearwardly from the head member and having earth engaging blades, and a weight carrying member associated with the head member and extending rearwardly 115 above the teeth.

4. In a weeding device, a head member including a U-shaped horizontal plate having laterally extending arms, and a vertically disposed slotted plate carried by said 120 arms, said U-shaped plate being provided with apertures arranged in U-shaped series, fastening members extending through the apertures, teeth carried by the fastening members and having earth engaging blades, 125 a weight carrying member mounted upon the fastening member associated with the middle tooth, and a gage wheel carrying member also mounted upon the fastening member associated with the middle tooth. 130

5 In a weeding device, a reversible head member having a vertically disposed slotted plate integrally associated therewith, said head member being provided with apertures
10 arranged in U-shaped series, and fastening members extending through said apertures, in combination with rearwardly extending teeth mounted upon the fastening members, a weight carrying member and a gage wheel
15 carrying member detachably associated with a fastening member of the middle tooth, a pivotal member adjustably connected with the vertically slotted member of the head member, and an adjustably supported carrying member for said pivotal member.

6. A weeder attachment for cultivators including a clamping device adjustably engaging a cultivator beam, an angle member

supported by said clamping device, a head member, a pivotal member associated with the head member for vertical adjustment and connecting said head member with one wing of the angle member, resilient vibratory teeth detachably connected with the head member, fastening members for said teeth, and a weight carrying member and a gage wheel carrying member detachably associated with the fastening member of the middle tooth.

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

JOHN F. DVORAK.

Witnesses:

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