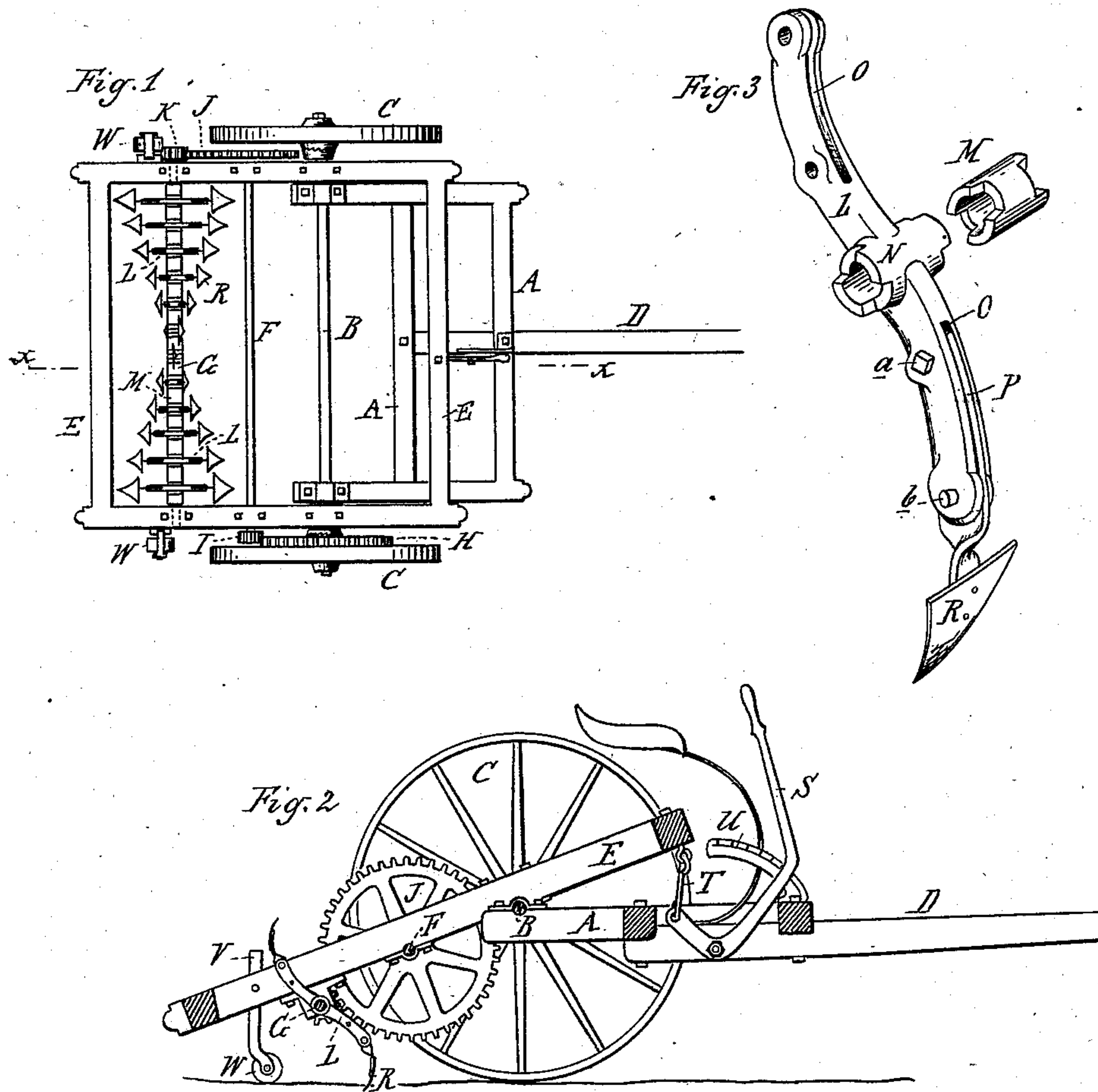


(No Model.)

E. E. BOSTWICK.  
CULTIVATOR.

No. 256,542.

Patented Apr. 18, 1882.



Attest:  
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Inventor:  
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Atty

# UNITED STATES PATENT OFFICE.

EDWARD E. BOSTWICK, OF UNION CITY, MICHIGAN.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 256,542, dated April 18, 1882.

Application filed October 26, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD E. BOSTWICK, of Union City, in the county of Branch and State of Michigan, have invented an Improvement in Cultivators, of which the following is a specification.

The nature of this invention relates to certain new and useful improvements in rotary cultivators; and the invention consists in the peculiar construction and combination of parts, as more fully hereinafter described and claimed.

Figure 1 is a plan. Fig. 2 is a longitudinal vertical section on the line *x x* in Fig. 1; and Fig. 3 is an enlarged perspective of the tooth-carrying arms.

In the accompanying drawings, which form a part of this specification, A represents a frame, the inner end of which is journaled upon the axle B, which also carries the traction-wheels C.

D is a tongue.

E is another frame, also journaled to the axle B by means of suitable boxes above the frame A. In this frame E there are journaled shafts F and G. Upon the axle B there is secured a spur-wheel, H, which engages with a pinion, I, upon the shaft F, by means of which motion is communicated to said shaft. This shaft F has secured to it, also, another spur-wheel, J, which engages with a pinion, K, secured upon the shaft G, and by these means the slow rotation of the axle B or of the traction-wheels C is rapidly multiplied and communicated to the shaft G. Upon this shaft G are spirally arranged a series of arms, L, which are secured in position on the shaft and with relation to each other by means of intermediate clutches, M, interposed between each pair of arms and engaging with the clutch-

hubs N thereof. These arms I prefer to make in reverse curves, as shown in Fig. 3, and each end of the arms is provided with a slot, O, to receive the shanks P, to the outer ends of which are secured the cultivator-teeth R, said shank being torsionally twisted to give the correct presentation of the teeth, as also shown in Fig. 3.

S is a lever pivoted to the frame A or to the pole or tongue, with its shorter end attached to the front end of the frame E by means of a link, T. By means of this lever and its connections and the ratchet-segment U the relative position of the rear end of the frame E to the ground is regulated.

W are gage-wheels secured pivotally to the lower ends of the standards V, which in turn are secured by any of the known devices to the frame E at or near its rear end, and adapted to be susceptible of a vertical motion as the pitch of said frame may require as the same is changed from time to time.

The shanks P are secured in the slots O by means of bolts *a* and wooden pins *b*, so that if the teeth strike stones or other impediments the pins *b* will break and prevent other derangement of the machine.

What I claim as my invention is—

In a rotary cultivator, the combination, with the transverse shaft and means, substantially as described, for operating said shaft, of the duplex arms L, having clutch-hubs N and slots O, and the shanks P, secured within said slots by bolts *a* and break-pins *b*, all constructed and adapted to operate as specified.

EDWARD E. BOSTWICK.

Witnesses:

H. S. SPRAGUE,  
E. SCULLY.