

(No Model.)

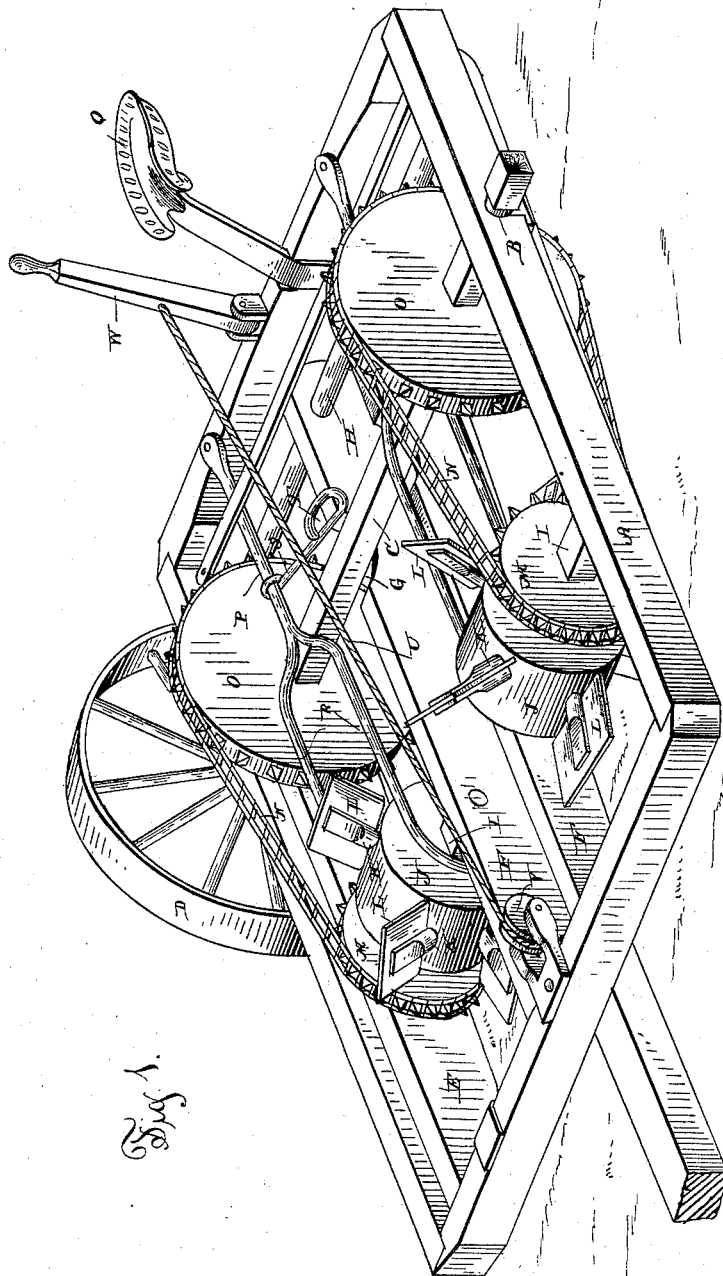
2 Sheets—Sheet 1.

E. ROYCE.

ROTARY PLOW OR CULTIVATOR.

No. 344,791.

Patented June 29, 1886.



WITNESSES

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Fig. 2.

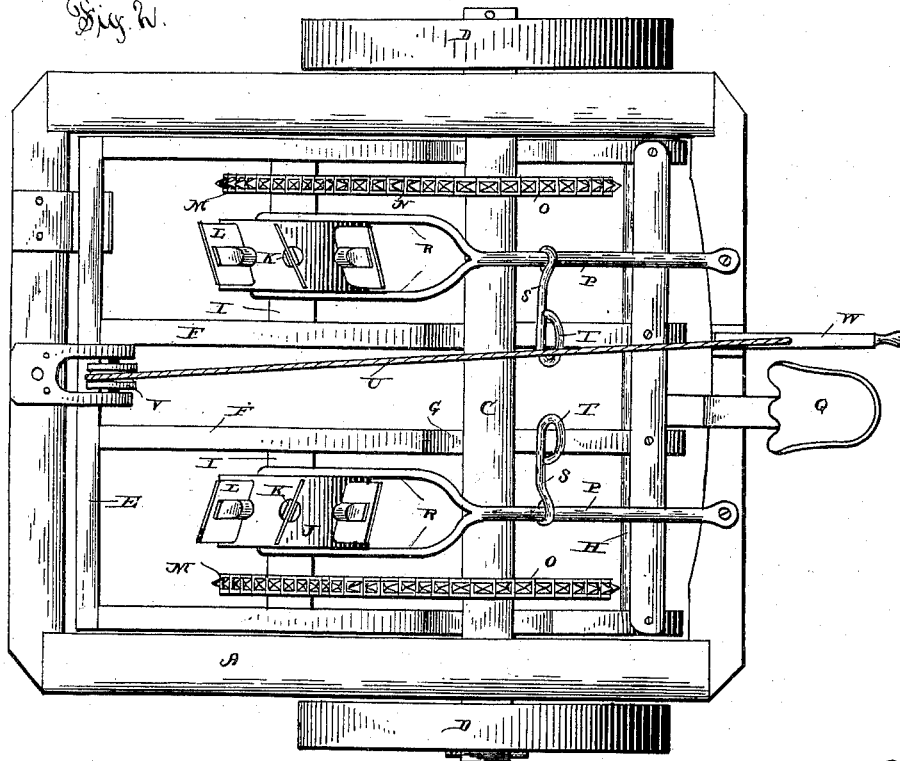
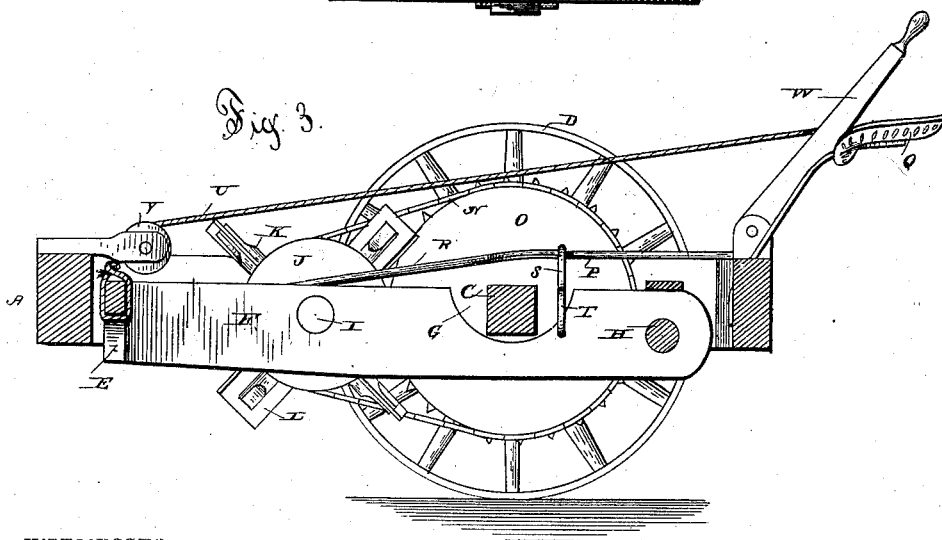


Fig. 3.



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# UNITED STATES PATENT OFFICE.

EMERY ROYCE, OF PALISADE, DAKOTA TERRITORY.

## ROTARY PLOW OR CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 344,791, dated June 29, 1886.

Application filed April 20, 1886. Serial No. 199,477. (No model.)

*To all whom it may concern:*

Be it known that I, EMERY ROYCE, a citizen of the United States, and a resident of Palisade, in the county of Minnehaha and Territory of Dakota, have invented certain new and useful Improvements in Rotary Plows or Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved rotary plow or cultivator. Fig. 2 is a top view of the same; and Fig. 3 is a longitudinal vertical sectional view of the same.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of rotary plows or cultivators in which one or more shafts are journaled transversely in the forward end of a frame, pivoted at its rear end within a wheeled frame, and receiving rotary motion from the drive shaft or axle having the drive-wheels, and in which this shaft or shafts are provided with radiating oblique blades, which will spade the soil; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates a rectangular frame having transverse bearings B B near the rear ends of its side pieces, in which bearings the drive-axle C is journaled, having the drive-wheels D D secured upon its ends.

A rectangular frame, E, having two longitudinal bars, F F, at its middle, and having these bars, as well as its side pieces, cut away for the drive-axle, as shown at G, is pivoted at its rear end upon a transverse rod, H, secured at its ends in the rear ends of the side pieces of the outer wheeled frame, and two short shafts, I I, are journaled in the forward end of the frame in bearings in the side pieces and in the longitudinal bars. These shafts are square, and have cylinders J J secured sliding upon them, and the cylinders are provided with a number of radiating arms, K, provided with oblique blades L. Chain-wheels

M are secured upon the shafts, and chains N pass over these wheels and over chain-wheels O upon the drive-axle, so that the cylinders, with their blades, may be revolved by the drive axle and wheels.

Levers P P are pivoted at their rear ends to the rear end piece of the wheeled frame, (one at each side of the seat Q for the driver,) and the forward ends, R, of these levers are bifurcated and straddle the cylinders, serving to slide them upon the shafts. The rear portions of the levers are provided with laterally-projecting arms S S, the inner ends of which are formed into stirrups T; and the driver may place his feet into these stirrups and move the cultivating-cylinders closer to or farther away from the row of plants, which is straddled by the machine.

A rope or chain, U, is secured at one end to the forward end of the hinged or pivoted frame, and passes over a pulley, V, upon the forward end piece of the wheeled frame, and the rear end of this chain is secured to a lever, W, which is pivoted upon the rear end piece of the wheeled frame and provided with means for adjusting it, so that the pivoted frame may be raised or lowered by means of this lever, raising or lowering the cultivating-cylinders.

The revolving cylinders, with their arms and blades, will spade and stir up the soil; and the blades are secured obliquely to the ends of the arms, so that they may either throw the soil toward the row of plants or from the row of plants, as it may be desired.

The driver may draw the cylinders closer to the row of plants or farther away from them, as desired, by moving the levers with his feet in the stirrups, and he may regulate the depth, to which the blades are to enter by means of the lever lifting the pivoted frame.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a rotary plow or cultivator, the combination of transverse shafts journaled in the frame and having means for revolving them, cylinders sliding upon the shafts and revolving with them and provided with radiating arms having digging-blades, and levers pivoted at their rear ends at the rear end of the frame at both sides of the seat for the driver

and having bifurcated ends straddling the cylinders, and having laterally-projecting arms formed with stirrups at their inner ends for the driver's feet, as and for the purpose shown  
5 and set forth.

2. In a rotary plow or cultivator, the combination of a rectangular frame having transverse bearings near the rear end, a drive-axle journaled in the bearings and having drive-wheels at its ends and chain-wheels inside of  
10 the bearings, a frame pivoted at its rear end in the rear end of the wheeled frame, a lever at the rear end of the frame having a chain passing over a pulley at the forward end of  
15 the frame and secured to the forward end of the pivoted frame, shafts journaled in the forward end of the pivoted frame and provided with chain-wheels having chains passing over the chain-wheels upon the drive-axle, cylin-

ders sliding upon and turning with the shafts  
20 and having a number of radiating arms provided with oblique blades, and levers pivoted at their rear ends upon the rear end piece of the wheeled frame at the sides of the seat for the driver and provided with inwardly-projecting arms near the inner ends, having stirrups for the reception of the feet of the driver,  
25 and provided with bifurcated forward ends straddling the cylinders, as and for the purpose shown and set forth.

30 In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

EMERY ROYCE.

Witnesses:

ALBERT H. CASE,  
C. W. PATTEN.