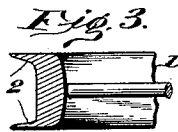
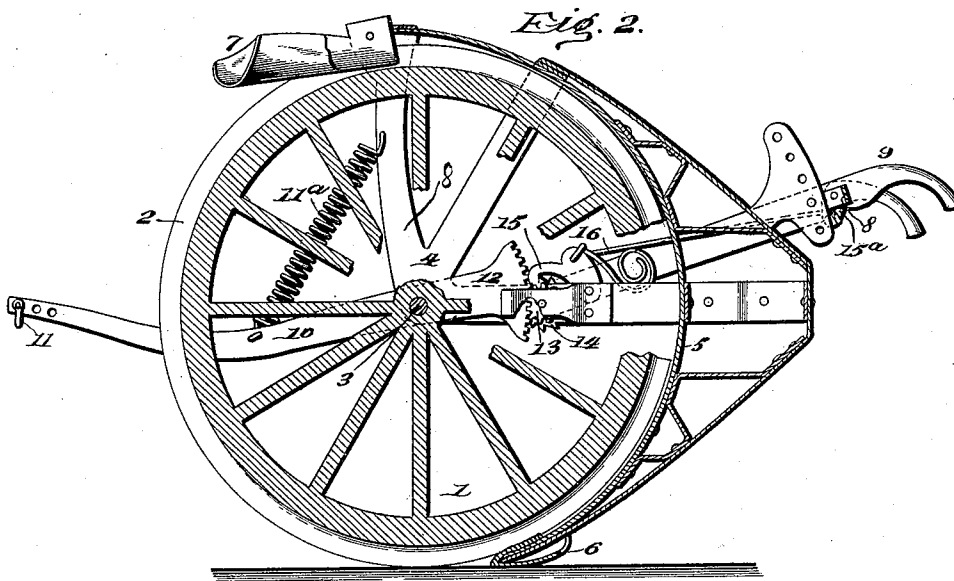
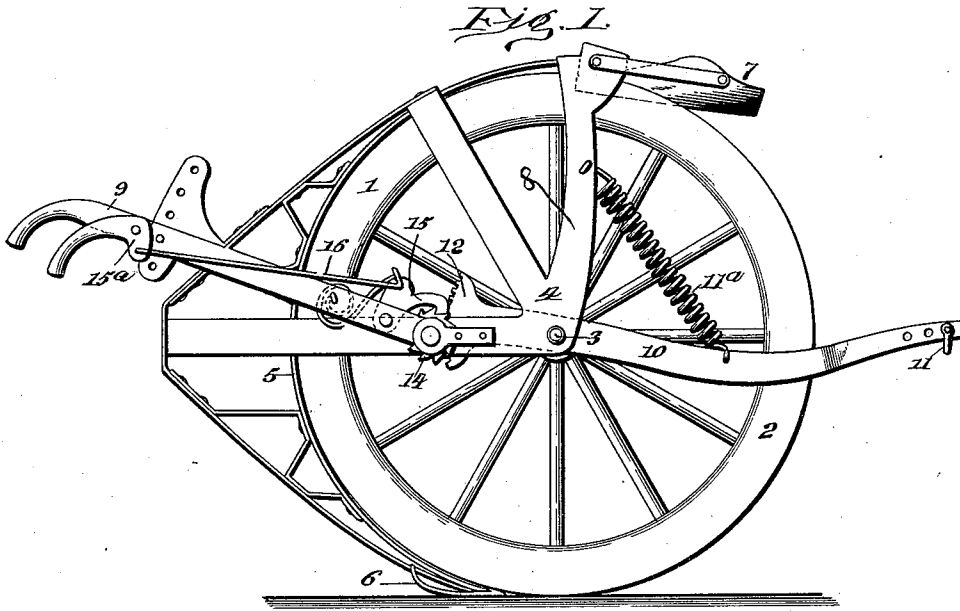


(No Model.)

C. L. FLORA.
DITCHING PLOW.

No. 577,947.

Patented Mar. 2, 1897.



Witnesses
Thos. C. Gatch.
H. A. Hare

Inventor
Charles S. Flora
By *John Hedderburn*
his Attorney

UNITED STATES PATENT OFFICE.

CHARLES L. FLORA, OF BURGOON, OHIO.

DITCHING-PLOW.

SPECIFICATION forming part of Letters Patent No. 577,947, dated March 2, 1897.

Application filed May 22, 1896. Serial No. 592,627. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. FLORA, a citizen of the United States, residing at Burgoon, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Ditching-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to ditching-plows.

The ditching machinery now upon the market is so expensive that there are very few people who can afford to own the same. It is the purpose of my invention to produce such a machine which shall be within the reach of all and at the same time shall be simple in construction and effective in operation.

The invention consists of a kerf-cutting wheel of large diameter and a frame mounted upon the shaft of said wheel, one part of which surrounds the grooved periphery of said wheel through an arc of about one hundred and eighty degrees and carries at its lower end a plow-point or cutter and forms with said wheel a passage-way through which the earth plowed up by the point is led and discharged to the side of the ditch.

It also consists of other combinations and arrangements of instrumentalities, as will be hereinafter more fully described and claimed.

In the drawings forming a part of this specification, Figure 1 is a side elevation of my device complete. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a detail cross-sectional view through the kerf-cutting wheel. Fig. 4 is a top plan view, partly broken away, showing the discharging-chute.

Like reference-numerals indicate like parts in the several views.

1 represents the main wheel, which is grooved along its periphery and provided with flanges 2 2, which serve the function of cutting a kerf in the earth as the machine passes along. This wheel is of large diameter, preferably about five feet, and is constructed of light strong material, such as steel. Mounted on the axis 3 of said wheel is a frame 4, made up of a curved strip of sheet metal 5, which extends around the outside of the wheel 1, in close contact therewith, and carries

at its lower end a plow-point 6. To the upper end of said strip of sheet metal is connected an angularly-arranged discharge-chute 7. The said frame 4 is also made up of bars 8 8 and handle-rods 9 9, as clearly shown. Also pivotally connected to the axis 3 of the wheel 1 is a bifurcated draw-bar 10, which extends around each side of the wheel 1 and thence to the front of the machine. At its forward end this draw-bar may be provided with a clevis 11, to which doubletrees are connected in order that the draft-horses may pass one on each side of the ditch as it is being formed. This draw-bar 10 is also connected through strong coil-springs 11 with one of the rods 8 of which the frame 4 is made up. The rear end of one of the bifurcated arms of the draw-bar 10 has a segmental rack 12 formed thereon which meshes with a pinion 13, mounted in the frame 4 and carrying a ratchet-wheel 14 upon its outer end. This ratchet-wheel 14 is itself engaged by a spring-actuated pawl 15, operated from a point adjacent to the handles 9 through a bell-crank lever 15 and a pitman 16.

The operation of my device is as follows: The forward movement of the machine causes, by reason of the sharp peripheral flanges 2 on the wheel 1, a kerf to be cut in the earth of a depth approximating the depth of said flanges. The plow-point 6 cuts through to the under side of this earth and the loose dirt is carried up by the revolution of the wheel 1 through the passage between the strip 5 and the groove of said wheel and afterward discharged to the side of the ditch from the chute 7. The machine is guided by the operator from the handles 9, and the frame 4, carrying the plow 6, adjusted thereby to cut to any depth desired. When it is desired to raise the frame and remove the point 6 from contact with the earth, the pawl 15 is released through the mechanism described, and the springs 11 draw down the forward part of the frame 4 and consequently raise the rear part, upon which the plow-point 6 is mounted. It may be well to note that the point 6 is closer to the periphery of the wheel 1 than any other part of the strip 5, so that anything that can pass by said point will be able to pass entirely through the discharge-chute 7.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a ditching-plow the combination of a
5 kerf-cutting wheel having a grooved periphery and flanges on each side thereof, a frame mounted upon the axis of said wheel, a metallic strip constituting a part of said frame and partially surrounding the periphery of
10 said wheel, a plow-point at the lower end of said strip, a bifurcated draw-bar pivotally connected to the axis of said wheel and extending forwardly to the front of the machine, springs connecting said draw-bar and
15 said frame, a segmental rack on the rear end

of one of the arms of said draw-bar, a pinion engaged by said rack, a ratchet-wheel rigidly connected to said pinion and a pawl controlling said ratchet-wheel and adapted to be operated from a point adjacent to the handle-bars of the machine, substantially as and for the purpose described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES L. FLORA.

Witnesses:
G. H. BARNT,
GEORGE HIETT.