(No Model.)

C. DARROW.

DRIVE WHEEL.

No. 289,992. Patented Dec. 11, 1883.

Fig. 1.

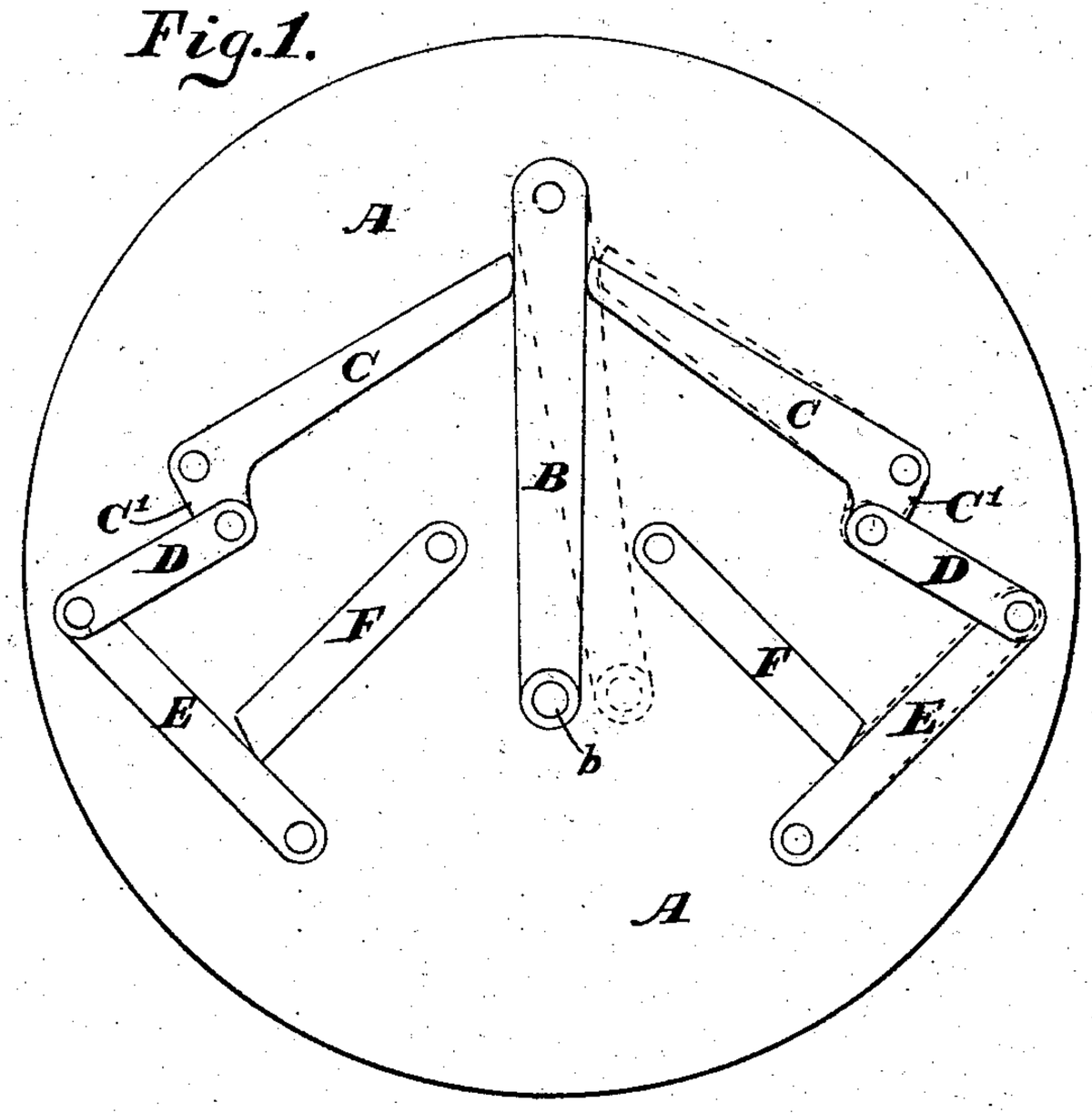
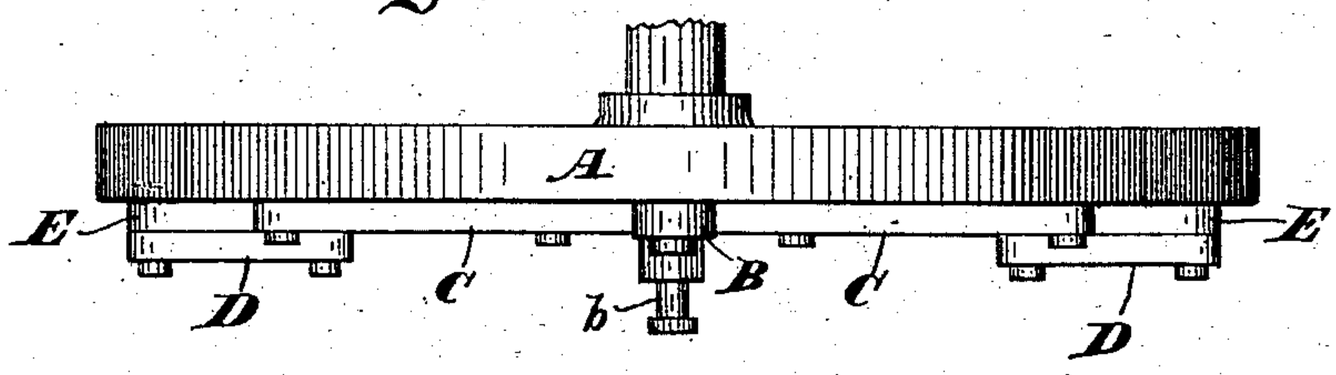


Fig. 2.



WITNESSES.

Chas. N. Leonard.

E. W. Bradford.

INVENTOR.

Charles Darrow,

PER

C. Bradford.

ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES DARROW, OF MARION, INDIANA, ASSIGNOR OF ONE-HALF TO WILLIAM RILEY BOOTS, OF SAME PLACE.

DRIVE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 289,992, dated December 11, 1883.

Application filed October 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DARROW, of the town of Marion, county of Grant, and State of Indiana, have invented certain new and useful Improvements in Drive-Wheels, of which the following is a specification.

My said invention consists in the arrangement of a series of levers and connecting-links upon a drive-wheel, whereby said wheel is rendered capable of more efficiently performing its work with the application of much less driving-power, or of performing more work with the application of the same amount of driving-power as is used in driving common drive-wheels, as will be hereinafter more fully set forth.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of a drive-wheel embodying my said invention, the normal position of the levers being shown in whole lines, and the position they occupy when in operation being shown by dotted lines; and Fig. 2 is a top or plan view of the same.

In said drawings, the portions marked A represent the wheel; B, the crank-arm; C, a lever against which the crank-arm operates; D, a link connecting said lever to the lever E; E, a lever which operates against the push-bar, and F said push-bar.

The wheel A is or may be any ordinary drive-wheel, and needs no special description.

The crank-arm B is pivoted at one end on one side of the wheel, near the circumference thereof. It extends across the center of the wheel to the point where the crank-pin is usually located, and is there provided with the crank-pin *b*, which is inserted through the arm only.

The lever C is pivoted at one end to the wheel on the same side of the center which the arm B is pivoted on, and about the same distance from the circumference. Its other end rests against the crank-arm B, just in front of its pivot, as shown. The end which is pivoted to the wheel is made wide, or provided with an arm-like extension, C′, and the pivot is inserted in one corner. Its opposite corner, or the end of the extension, is connected to one end of the lever E by means of the link D.

The lever E is pivoted at one end on the opposite side of the wheel from that on which the arm B is pivoted, and is connected at its other end to the lever C, as before described.

One end of the push-bar F is secured on that side of the wheel to which the crank-arm is pivoted, at nearly right angles with the lever E, against which its other end rests, and by which it is forced forward against the point on the wheel to which it is secured.

The operation of my said invention is as follows: When the power is applied, the crank-arm is moved so as to bear against that end of the lever C which rests against it and presses it outward, thus through the link D drawing the lever E against the push-bar F, and pushing it against the pin or other fastening by which its opposite end is secured to the wheel. Thus all the force is applied to this side of the wheel; and it all tends to drive the wheel in the desired direction. By this construction a drive-wheel is produced which is much easier to start, and more durable, by reason of the yielding nature of the mechanism to which the power is applied, and also one which will perform its work with the use of less power than the ordinary wheel, by reason of all the force being exerted on one side of the wheel and pushing that side in exactly the direction which it is desired for the wheel to turn.

The foregoing description, as will be readily understood, applies equally as well to the levers on one side of the wheel as to those on the other, one system being in use when the wheel is revolving in one direction and the other when the motion is reversed.

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

The combination, with a drive-wheel, of the crank-arm B, pivoted at one end to said drive-wheel, the lever C, pivoted at one end, the free end resting against the crank-arm, by the motion of which it is adapted to be operated, the

link D, connecting said lever to the lever E, said lever E, and the push-bar F, secured to the wheel on the side to which the power is applied, all arranged and operating substantially as described, and for the purposes specified.

In witness whereof I have hereunto set my hand and seal, at Marion, Indiana, this 5th day of October, A. D. 1883.

CHARLES DARROW. [L. S.]

In presence of—
W. R. BOOTS,
J. H. BERRY.