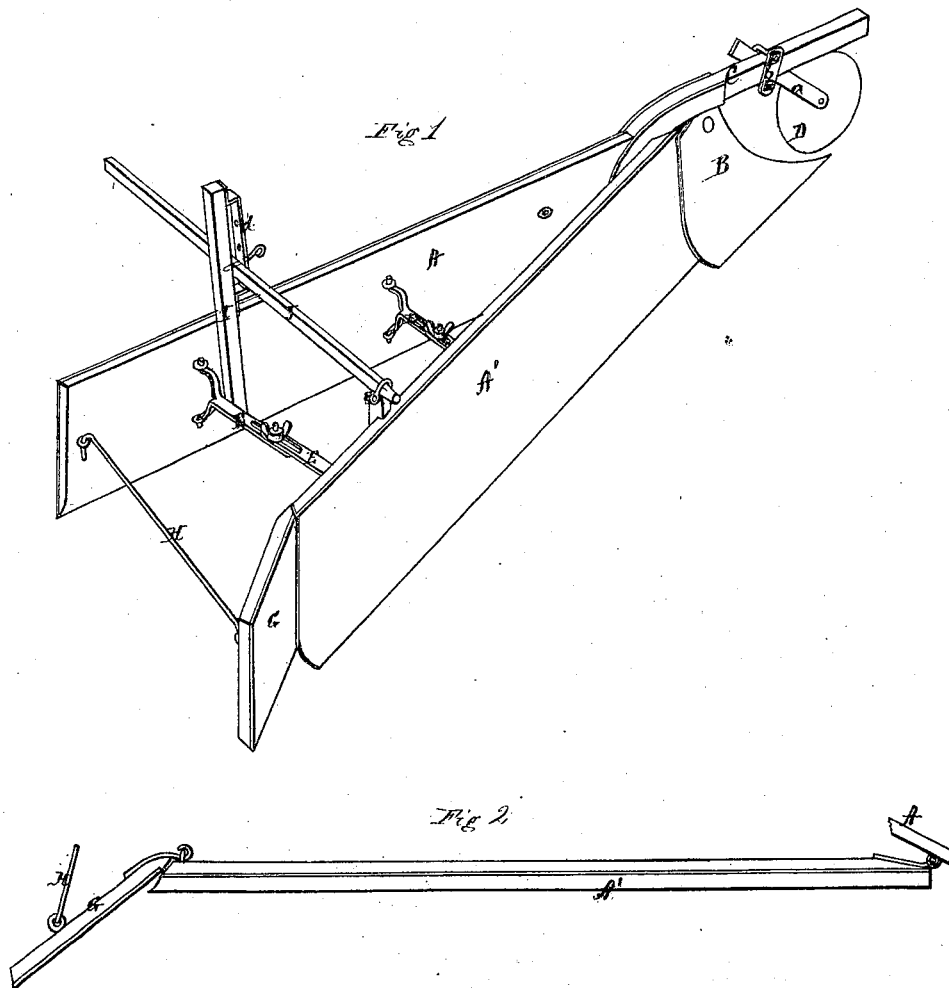


MARTIN & BRADSHAW.

Ditching Plow.

No. 107,393.

Patented Sept. 13, 1870.



Witnesses.

Harry King.  
Ed. C. C. C.

Inventors.

John H. Martin.  
Clinton D. Bradshaw  
per Alexander Thomson  
Attys.

# UNITED STATES PATENT OFFICE.

JOHN H. MARTIN AND CLINTON D. BRADSHAW, OF DANVILLE, ILLINOIS.

## IMPROVEMENT IN DITCHERS AND GRADERS.

Specification forming part of Letters Patent No. **107,393**, dated September 13, 1870.

*To all whom it may concern:*

Be it known that we, JOHN H. MARTIN and CLINTON D. BRADSHAW, of Danville, in the county of Vermilion, and in the State of Illinois, have invented certain new and useful Improvements in Ditchers and Graders; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a ditcher and grader, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a perspective view of our machine, and Fig. 2 is a plan view of one side thereof.

A and A' represent the two sides of our ditcher and grader, hinged together at their front ends, and the side A having at its front end the plow B attached to it, the mold-board of said plow overlapping the joint between the two sides, on the outer side of the side A'.

To the side A, near the front end, is secured a beam, C, which projects forward, and has a bar, *a*, secured to it, said bar carrying at its lower end the revolving cutter D. The bar *a*, with the cutter D, is secured to the beam C by means of a clamp, *b*, as shown in Fig. 1, in such a manner that it can readily be adjusted to work at any distance from the plow B, and at any depth desired. The sides A A' are connected together and adjusted at any angle desired by means of the braces E E. Each of said braces is forked at its inner end, and the ends of such prongs are inserted in loops or staples in the side of the ditcher, thus, in a manner, hinging the braces to the machine.

The outer ends of the braces E E are slotted longitudinally, and a set-screw connects them at any point desired. By this arrangement the braces can readily be shortened or extended, so as to adjust the machine to the work required to be done.

To the rear end of the side A' is hinged a wing, G, which is steadied by the rod-brace H, as shown. This wing G is adjustable upon the side A', and hinged to the same, being connected to the side A by the rod H. This latter rod may be removed and a shorter one employed, so as to vary the angle of the wing.

On the side A, at a suitable point, is secured a standard, I, to the side of which is attached a bent bar, *d*. Between this standard and bent bar is inserted a lever, J, and pivoted by means of a pin, the end of said lever being inserted in a loop or stirrup, *e*, on the side A' of the machine. The pivot-point of the lever J may be changed up or down, as occasion may require.

The lever J is used for the purpose of raising either side of the machine, when necessary to avoid obstructions, or to make it work even. The lever being adjustable, it is readily made to suit the height of the operator.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The arrangement, with the hinged sides A A', wing G, and plow B, of the adjustable rotary colter D, all constructed substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 25th day of April, 1870.

JOHN H. MARTIN.  
CLINTON D. BRADSHAW.

Witnesses:  
PETER WALSH,  
WM. R. TIMMONS.