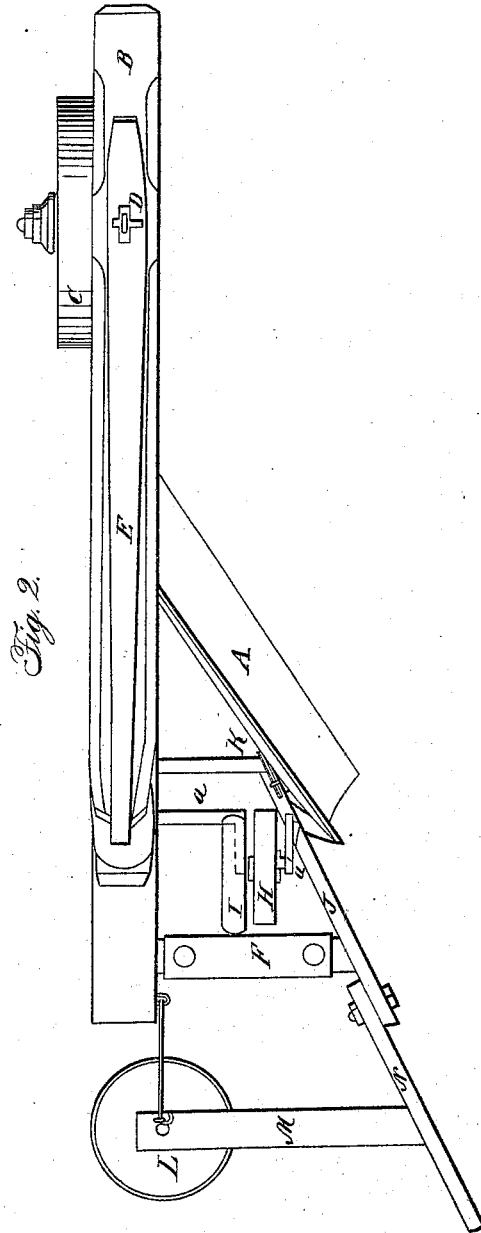
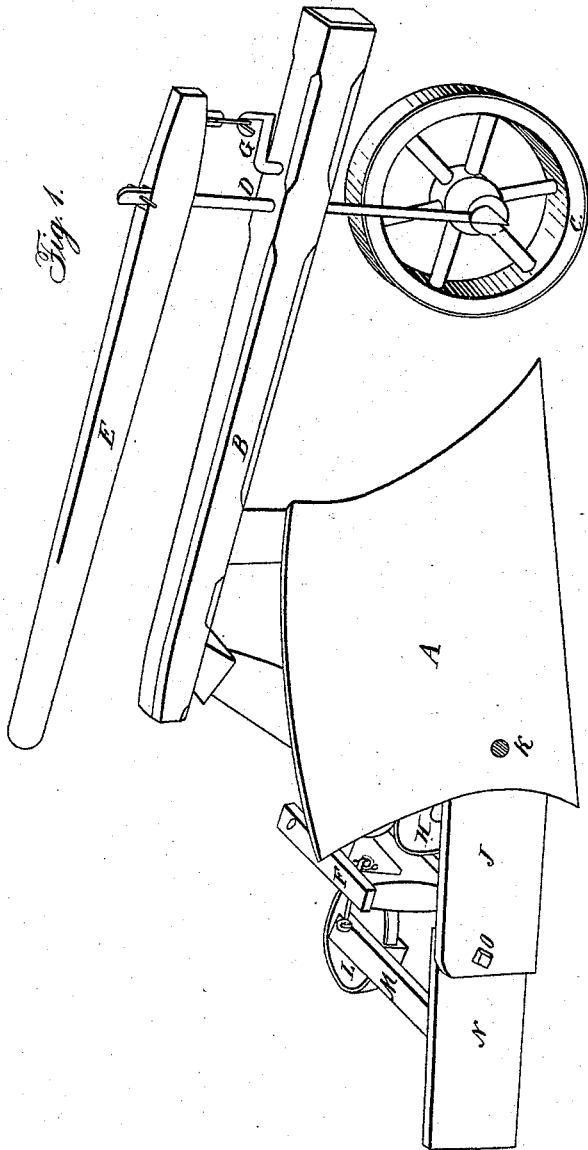


D. S. STAFFORD.

Ditching-Plow.

No. 4,107.

Patented July 10, 1845.



UNITED STATES PATENT OFFICE.

DANIEL S. STAFFORD, OF ROCHESTER, ILLINOIS.

IMPROVEMENT IN DITCHING-PLOWS.

Specification forming part of Letters Patent No. 4,107, dated July 10, 1845.

To all whom it may concern:

Be it known that I, DANIEL S. STAFFORD, of Rochester, in the county of Sangamon and State of Illinois, have invented a new and useful Improvement in the Manner of Constructing a Prairie, Ditching, and Road Plow; and I do hereby declare that the following is a full and exact description thereof.

My improved plow is applicable equally to the formation of a ditch and to the throwing up of an embankment for fencing in prairie and other lands, and to excavating in the formation of roads, canals, or other analogous works. On the fore part of the beam it is furnished with a wheel, that is acted upon by a lever operating in the manner of a tiller, by means of which the person who attends the plow can govern its direction with the utmost facility. The attendant rides on the plow, which is furnished with a seat for that purpose, his weight being of great advantage in the action of the plow, and by placing his foot upon a treadle he can depress a lifting-wheel, that will raise the plow on the mold-board side at its rear end and cant it over toward the land side. I also place a wheel on the rear part of the plow, behind the land side, which wheel revolves horizontally, and is intended to bear against the upright bank that has been formed by the cutting of the furrow-slice. For some purposes this wheel and the piece of timber to which it is attached may be dispensed with.

In the accompanying drawings, Figure 1 is a perspective view of my plow, and Fig. 2 a top view thereof.

A is the mold-board, which does not differ materially from others that have been used. The front edge of this constitutes the colter, although a separate colter may be used, if preferred.

B is the beam; and C, the guide-wheel, by which the course of the plow may be directed either in a straight or a curved line at pleasure. This wheel revolves on the lower end of the iron rod D, that passes through the beam and slides freely within it.

E is the guide-lever or tiller, that extends back to the rear end of the beam, so as to be under the control of the attendant, who has his seat at F. By moving the guide-lever to the right or left the position of the wheel C

will be changed. By raising said lever the wheel will be raised and the point of the plow is made to take deeper hold. By depressing the lever the contrary effect will be produced. The crank and link G form a bearing for the end of the lever. The crank, working back and forth, and being aided by the link, allows it to play laterally in either direction.

H is a wheel attached to a cranked shaft *a*, Fig. 2, which shaft crosses the plow horizontally. To this is attached a treadle, I, by bearing upon which with his foot the attendant will make pressure on the wheel H and raise the rear end of the mold-board.

J is a plank or piece of timber which stands edgewise in the rear of the mold-board, and extends along behind it in the direction thereof. It has its lower edge resting on the ground, and is connected to the inner side of the mold-board by a bolt or rod which passes through it, the end of which is seen at K. This allows its rear end to bear on the ground when the mold-board is raised by the treadle.

The cross-timber which supports the seat F has vertical play in the mortise at its inner end, this being necessary in order to allow of the rising and falling of the piece J. The horizontal wheel L is placed on the end of an arm, M, that is mortised into a second piece of plank, N. It has its periphery in a line, or nearly so, with the land side. The wheel L bears against the vertical bank left by the cutting of the slice. This is of much use, particularly in the turning of curved lines, and it is necessary also to the sustaining of the timber or plank to which the wheel is attached. The plank or timber N plays on a bolt, O, by which it is connected to the piece of timber or plank J, allowing the lower edge thereof to turn on the ground. The pieces N and J serve to force out the earth which has been turned over by the mold-board, removing it to such distance as may be required. The additional piece N is to be used or not, according to the distance to which it is desired to remove the earth from the vertical bank.

Having thus fully described the nature of my improved ditching and road plow and shown the manner in which the respective parts thereof operate, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The manner in which I have combined the wheel C and the lever or tiller E with the beam of the plow for the double purpose of guiding and of raising or lowering the fore end of the mold-board, as set forth.

2. The manner of combining and arranging the wheel H with the plow by means of its cranked shaft and treadle, thereby enabling the attendant, who rides upon the seat F, to raise the rear end of the mold-board and to depress the point, as described.

3. The combining of the horizontal wheel L and the plank or piece N, which it sustains, with the plow, thereby enabling the instrument to form a trench of increased width when required.

DANIEL S. STAFFORD.

Witnesses:

THOS. P. JONES,

EDWIN L. BRUNDAGE.