C. K. BARTLETT.

Ditching-Plow.

No. 2,512. Patented Mar. 23, 1842.

Fig. 4.

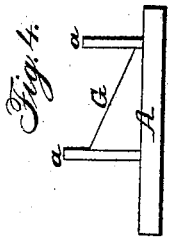


Fig. 1.

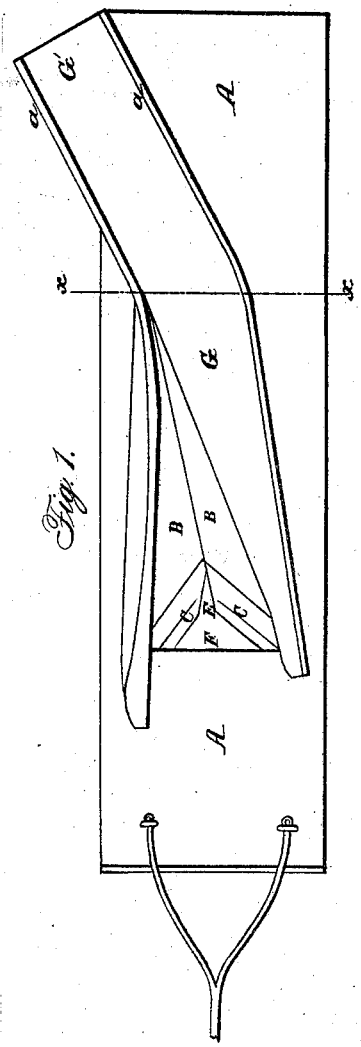


Fig. 2.

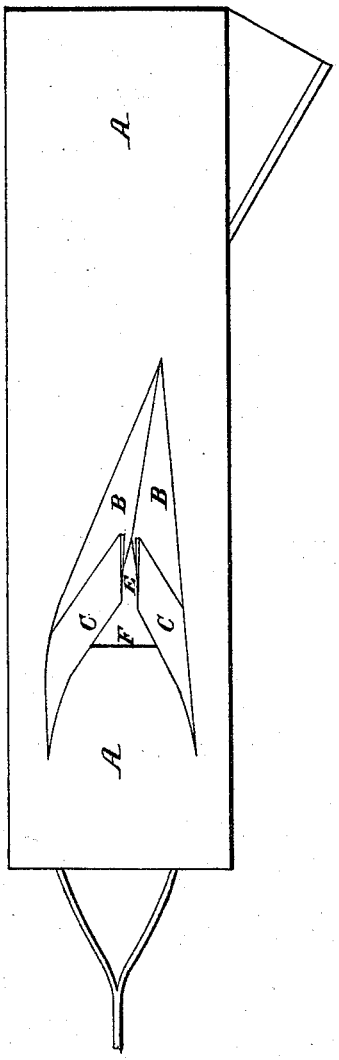
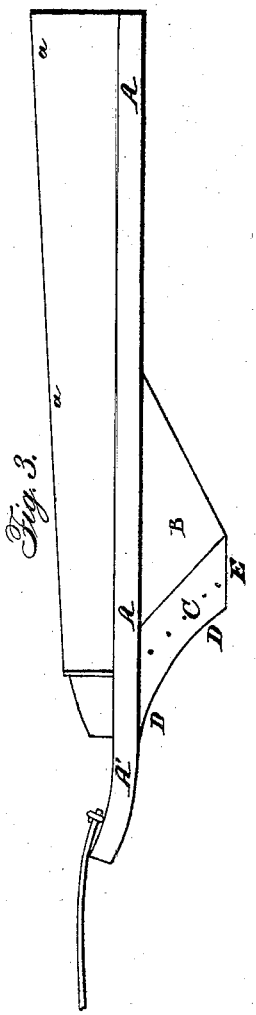


Fig. 3.



UNITED STATES PATENT OFFICE.

C. K. BARTLETT, OF GENESEO, ILLINOIS.

IMPROVEMENT IN THE MANNER OF CONSTRUCTING AN EXCAVATOR OR MACHINE FOR DITCHING, EMBANKING, AND DRAINING PRAIRIE-LANDS, &c.

Specification forming part of Letters Patent No. **2,512**, dated March 23, 1842.

To all whom it may concern:

Be it known that I, CROMWELL K. BARTLETT, of Geneseo, in the county of Henry and State of Illinois, have invented a new and Improved Excavator or Machine for the Purpose of Ditching, Draining, and Embanking in Prairie Grounds, and in other lands so situated as to admit of its use; and I do hereby declare that the following is a full and exact description thereof.

In constructing this machine I first prepare a strong platform of plank, of such width and length as the nature of the work to be performed may require. When the machine is in use this platform lies upon the ground, and is to be drawn forward by horses or other power. To facilitate its motion the fore end of it is curved upward. Upon the under side of this plank or platform I place two cutters, the edges of which, where they are in contact with the plank or platform, are at that distance apart which is equal to the width intended to be given to the ditch or trench at the surface of the ground. The cutters are inclined toward each other, so as to come nearly in contact at their lower ends; but a space of one, two, or three inches (more or less) is left between them for a purpose to be presently explained. These cutters may be made of steel, and attached by screws or rivets to the sides of an angular trough of wood or of iron, which constitutes a part of the throat or opening through which the sward and earth separated by the cutters are to pass. The edges of the cutters are to slope back, so as to cause them to cut with an easy drawing motion. The sward and earth pass up through an opening made in the platform, and into a trough or channel on its upper side, along which it is conducted, and by which it is deposited on one side of the ditch or trench, so as to form a bank or fence.

In the accompanying drawings, Figure 1 is a top view of my excavator. Fig. 2 is a view of its under side; Fig. 3, a lateral representation of it, and Fig. 4 a cross-section of it in the line *x x* of Fig. 1.

A A is the platform, which is made to curve or rise up at its fore end, as shown at A′, Fig. 3, for the purpose of passing readily over any grass, stubble, or other matter which might obstruct it, this form enabling it to bend down any such substances. When it is intended to cut a ditch of two feet in width at the top the platform may be about three feet six inches wide and nine or ten feet long, more or less, and it may be from two to six inches in thickness. In using this instrument the platform may, if necessary, be loaded with weights on its upper surface.

B B is the angular trough, which is attached to the under side of the platform. This trough is best made of cast-iron; but it may be made of strong sheet-iron, or of wood strengthened with iron.

C C are the cutters, attached to the forward end of the angular trough. The edges of these cutters may be made in the curved form shown at D D, by which the upper portion of their cutting-edges will have more obliquity than the lower, and they will consequently divide the fibers of sward the more readily. When the edges are made straight I sometimes place two knives, cutters, or colters in advance of the cutters C C, and in a line with them, but giving to said knives a degree of obliquity or slope backward similar to that of the upper part of the line D D of the curved cutters. When I first essayed a machine of this kind the cutters C C were made to meet each other at their lower edges, so as to form an angular point, the result of which was that such of the vegetable fibers as were not separated by the cutters accumulated at this angular point, lapped over it, and eventually caused the whole instrument to become clogged, to rise up, and cease to act; but by leaving a space, as shown at E, between the two cutters, any fibers which pass down the cutting-edges escape freely through said opening and are left at the bottom of the trench. As the sward and earth are cut they pass up through the triangular opening F in the plank, as the shavings pass up in the throat of a plane, and they are conducted by the angular trough B B into a trough or channel, G G′, situated on the upper side of the platform. This trough or channel is inclined toward and passes over one side of the platform, as shown at G′, where the sward and earth are deposited by it on one side of the trench. Where the trough or channel G joins the angular trough B B it has the same slope with it; but its obliquity is changed, like that of the mold-board of a plow, until at

its termination at G′ its bottom may be horizontal. Fig. 4 (which is a cross-section in the line *x x* of Fig. 1) shows the bottom G as standing obliquely in that part, which obliquity will vary throughout its length. *a a* are the sides of this trough or channel. This trough or channel may, as above stated, be varied in the curvature of its bottom, and it may thus be made to lay the sward or grass side of the excavated material toward the ditch, and by cutting two ditches at a proper distance from each other the earth may be deposited on the land between the two, thus forming an excellent fence. The form of the angular trough B B will allow the instrument to turn in a very short curve, and it may be readily guided by a handle in the manner of a plow.

Having thus fully described the manner in which I construct my excavating, ditching, and embanking or draining machine, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combining of the angular trough and cutters B B and C C, made substantially in the manner set forth, and these thus combined in combination with a platform, A A, and a trough or channel, G G′, on the upper surface of the platform, the respective parts being arranged and operating substantially as set forth.

2. The so arranging of the cutters C C as to leave the space E between them for the free escape of weeds, as described.

CROMWELL K. BARTLETT.

Witnesses:

THOS. P. JONES,

J. RUMBOL.