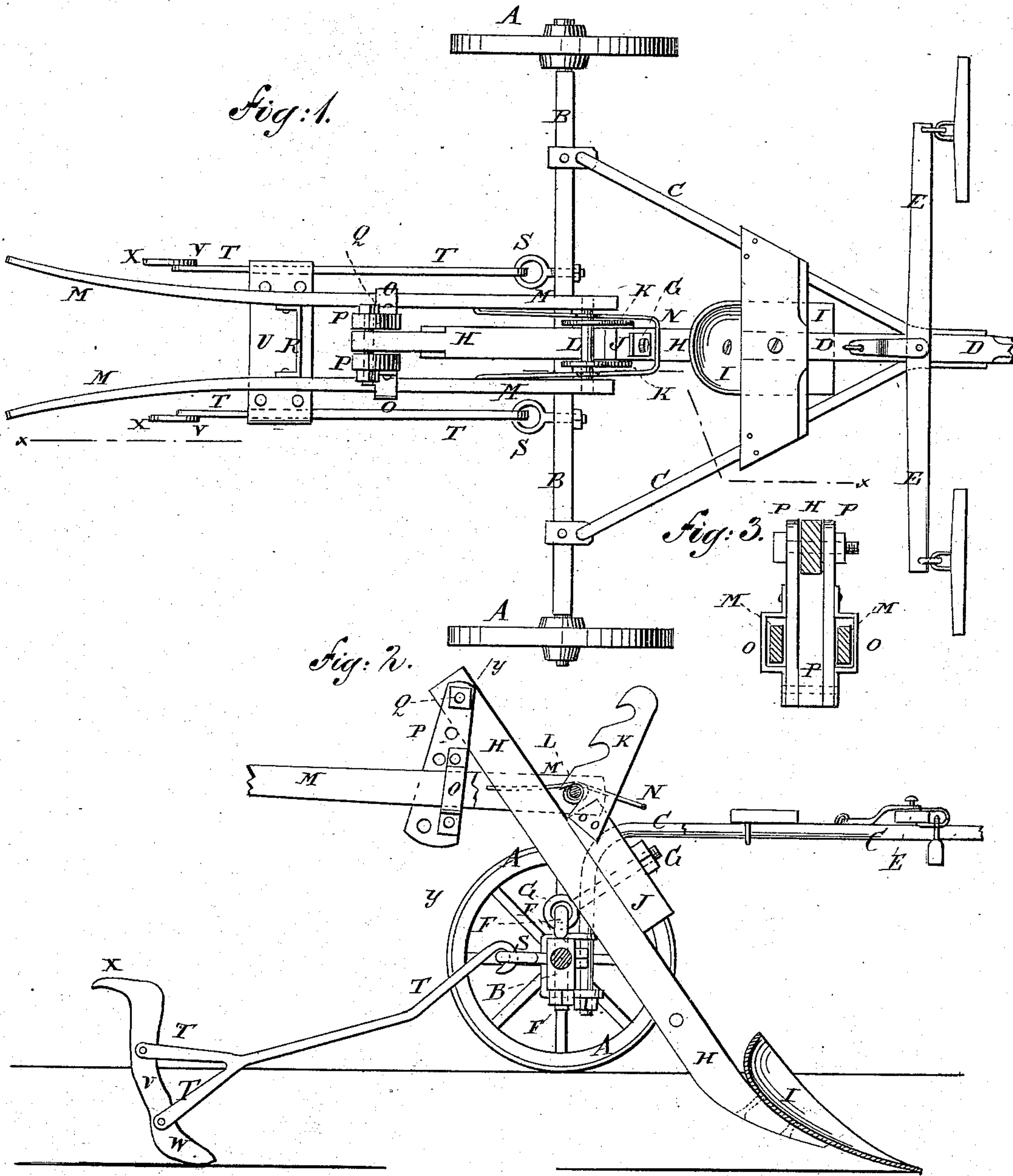


(Model.)

W. H. HICKOK.  
Ditching Machine.

No. 235,768.

Patented Dec. 21, 1880.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. HICKOK, OF EAST TROY, PENNSYLVANIA.

## DITCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 235,768, dated December 21, 1880.

Application filed May 10, 1880. (Model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HENRY HICKOK, of East Troy, in the county of Bradford and State of Pennsylvania, have invented a new and useful Improvement in Ditching-Machines, of which the following is a specification.

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation, partly in section, through the line *xx*, Fig. 1. Fig. 3 is a sectional elevation taken through the line *yy*, Fig. 2.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish machines for opening blind and tile ditches, so constructed that the work can be done rapidly and conveniently.

A A are the wheels, the axle B of which is made of such length that the wheels A will run at the opposite sides of the ditch, and will leave space for the soil between their tracks and the ditch.

To the end parts of the axle B are attached the rear ends of the braces or hounds C, the forward ends of which are attached to the opposite sides of the rear end of the tongue D.

To the rear part of the tongue D is pivoted the double-tree E, which is made so long that the horses can walk upon the opposite sides of the ditch and outside of the soil thrown out of the ditch.

To the center of the axle B is attached an eyebolt, F, the eye of which interlocks with the eye of the eyebolt G attached to the beam H, to hinge the said beam H to the said axle B. Several holes are formed in the beam H to receive the eyebolt G, so that the said beam H can be lowered as the ditch increases in depth.

To the lower end of the beam H is attached a large shovel, I, which is made of such a size as to hold a bushel (more or less) of soil.

Upon the upper or forward side of the beam H is placed a block, J, which is secured by the eyebolt G.

To the upper part of the block J are attached the lower ends of two parallel upwardly-projecting plates, K, which have a series of inclined slots formed in their rear edges to receive the cross bolt or rod L attached to the

forward ends of the handles M, so that the position of the handles M may be regulated by moving the pin or rod L from one to another of the slots in the plates K. The handles M are kept from being drawn too far away from the slotted plates K by a loop, N, attached to the said handles, and which passes around the said plates. The handles M pass through and are fulcrumed in keepers O attached to opposite sides of the lower end of the bar P. The bar P is slotted from its upper end nearly to its lower end, to receive the upper end of the beam H, to which it is pivoted by a bolt, Q. Several holes are formed in the bar P and beam H to receive the pivoting-bolt Q, so that the fulcrum-point of the handles M may be adjusted as required. The outer parts of the handles M are connected and held in their proper relative position by a cross-bar, R.

With this construction, by operating the levers M the shovel I is lowered into the ditch to take up soil, and is raised, swung to one side, and turned to deposit the soil upon the ground at either side of the ditch. In raising the shovel I the cross-rod L of the handles M should be dropped to the lowest slot of the plates K, to secure an advantage of leverage.

To the axle B, at the opposite sides of the beam H, are attached eyebolts S, to receive hooks formed upon or attached to the forward ends of the bars or beams T, the rear parts of which are connected by a cross bar or plate, U, having eyes or bearings in its ends to receive the said bars or beams T. The rear ends of the beams T are forked, and to them are attached the standards V, which have plows W formed upon or attached to their lower ends and handles X formed upon or attached to their upper ends.

The plows V W X are designed to be used when ditching hard ground to loosen the soil, so that it can be taken out by the shovel I. When the soil is loose the plows are not needed.

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

1. A ditching-machine constructed substantially as herein shown and described, consisting of the wheels A, the long axle B, the tongue CD, carrying long double-tree E, the eyebolts

F G, the beam H, carrying shovel I, the block and slotted fulcrum-plates J K, the handles M, provided with a cross-bolt, L, and a loop, N, and the adjustable swinging bar P, having  
5 keepers O, and the plows S T V W X, as set forth.

2. In a ditching-machine, the combination, with the carriage A B C D, of the eyebolts F G, the beam H, carrying shovel I, the block  
10 and slotted fulcrum-plates J K, the handles M, having cross-bolt L and loop N, and the adjustable swinging bar P, having keepers O, substantially as herein shown and described, whereby the soil can be raised from the bot-  
15 tom of the ditch and deposited at the side of the said ditch, as set forth.

3. In a ditching-machine, the combination, with the carriage A B C D, of the eyebolts S, the beams T, having hooks upon their forward ends and forked at their rear ends, and the 20 standards V, having plows W at their lower ends and handles X at their upper ends, substantially as herein shown and described, whereby hard soil can be loosened for the shovel I, as set forth.

WILLIAM HENRY HICKOK.

Witnesses:

J. H. DEXTER,  
J. A. CALKINS.