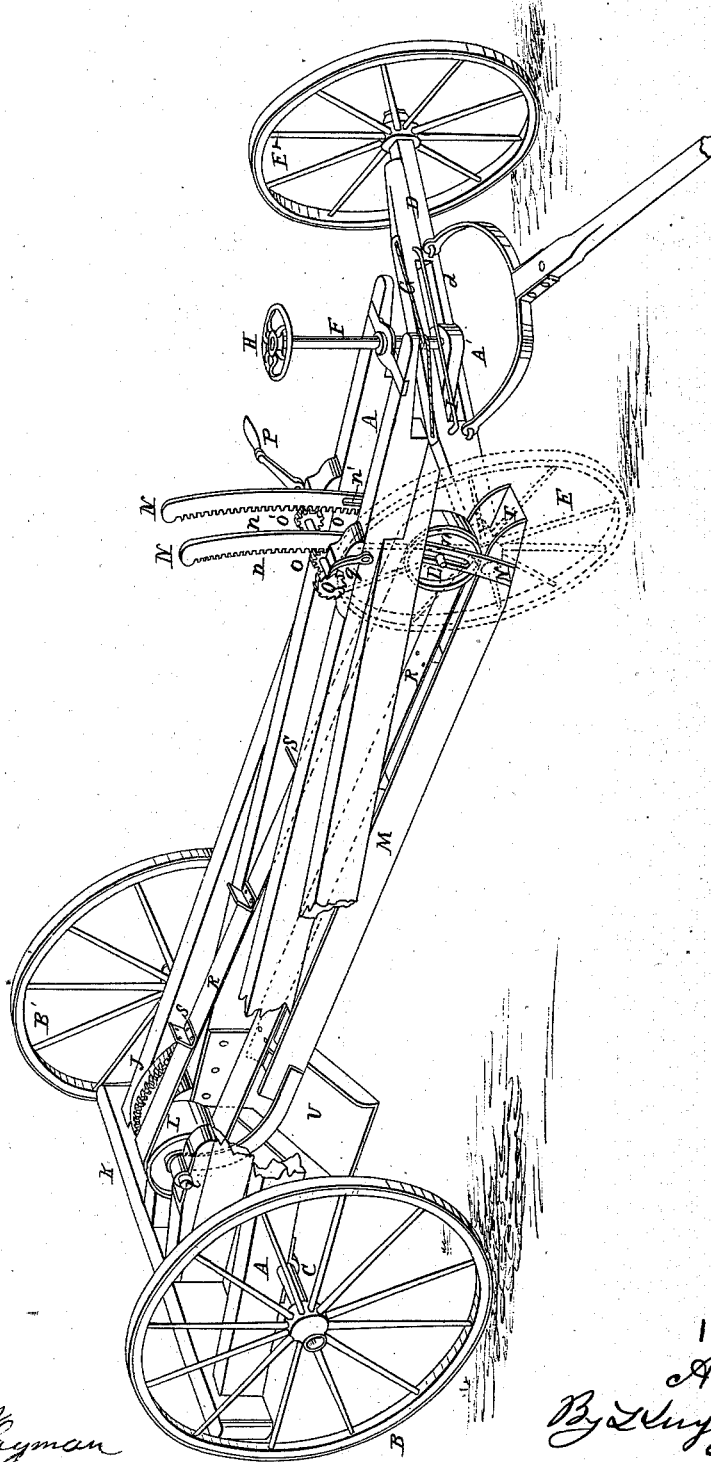


A. W. Cox,

Excavator,

No. 19,235,

Patented Aug. 8, 1865



Witnesses:

C. L. Fisher

James H. Layman

Inventor.

A. W. Cox

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UNITED STATES PATENT OFFICE.

ALBERT W. COX, OF DUBLIN, INDIANA.

IMPROVEMENT IN DITCHING-MACHINES.

Specification forming part of Letters Patent No. 49,235, dated August 8, 1865.

To all whom it may concern:

Be it known that I, ALBERT W. COX, of Dublin, Wayne county, Indiana, have invented new and useful Improvements in Ditching-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to the class of machines employed for digging or excavating ditches by animal or other power, and consists in devices whereby such machines are placed more fully under control of the attendant and less subject to interruption or injury from rocks, roots, or other interfering obstacles.

A is a frame, supported on its rear end on wheels B B', of which one wheel, B', is fast to the axle C. The front end of the frame A terminates in a tongue, A', which occupies a slot, d, in the axle D of a pair of fore wheels, E E'. The king-bolt F, instead of passing down through the fore axle in the common way, is in front of said axle, and has wound around it a cord, G, which, being attached at its opposite ends to the said axle, enables the position of the king-bolt to be changed with respect to the axle by the simple rotation of said bolt. This rotation is performed by the attendant through the medium of a hand-wheel, H.

A yoke or staple, I, attached to the axle and passing in front of the king-bolt, prevents the lateral displacement of the axle while permitting of the adjustment of the fore part of the frame to one side or the other, and also permitting of the horizontal vibration of the fore axle.

The axle C carries a spur-wheel, J, which meshes in a pinion, K, on the shaft l of a pulley, L, journaled horizontally in the frame.

M is a trough, suspended at its rear end to the shaft L and at its front end provided with a pair of colters, N N', having racks n at their rear edges, which are concentric with the shaft l and gear with pinions O O', whose shaft o is journaled horizontally in the frame, and has a

winch, P, at one end, and at its other end a ratchet-wheel, Q, and pawl q. The colters N N' also afford journal-bearing to a pulley, L', around which and the pulley L an endless belt or chain, R, is stretched. The belt R is armed with blades or hoes S.

The bearings n' in the colters to receive the pulleys L' are slotted as represented, in order to permit the trough M to jump or bound over rocks, roots, or other immovable obstacles. The trough M is armed at its lower end with a shovel, T.

U is a chute for conducting to one side of the ditch the earth and other matters separated by the shovel T and carried up the trough M by the hoes S.

Should it be necessary to suddenly change the course of the shovel while the machine is in operation, it can be effected, without changing the direction of the draft or operating on the fore gear, by simply turning the hand-wheel H so as to shift the fore end of the frame to the right or left, as the case may be.

I claim herein as new and of my invention—

1. The combination of trough M, shovel T, elevator R S, pulleys L L', constituting the apparatus for digging and carrying back the excavated matters.

2. The described digging and elevating apparatus hinged to the rear upper part of the frame and having its forward or digging end both suspended and vertically adjusted by the racked colters gearing to pinions O O' under control of the attendant.

3. The slotted bearings n n' in the racked colters, for the purpose specified.

4. The combination of the devices F G H I for suddenly changing the course of the shovel, in the manner set forth.

In testimony of which invention I hereunto set my hand.

A. W. COX.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.