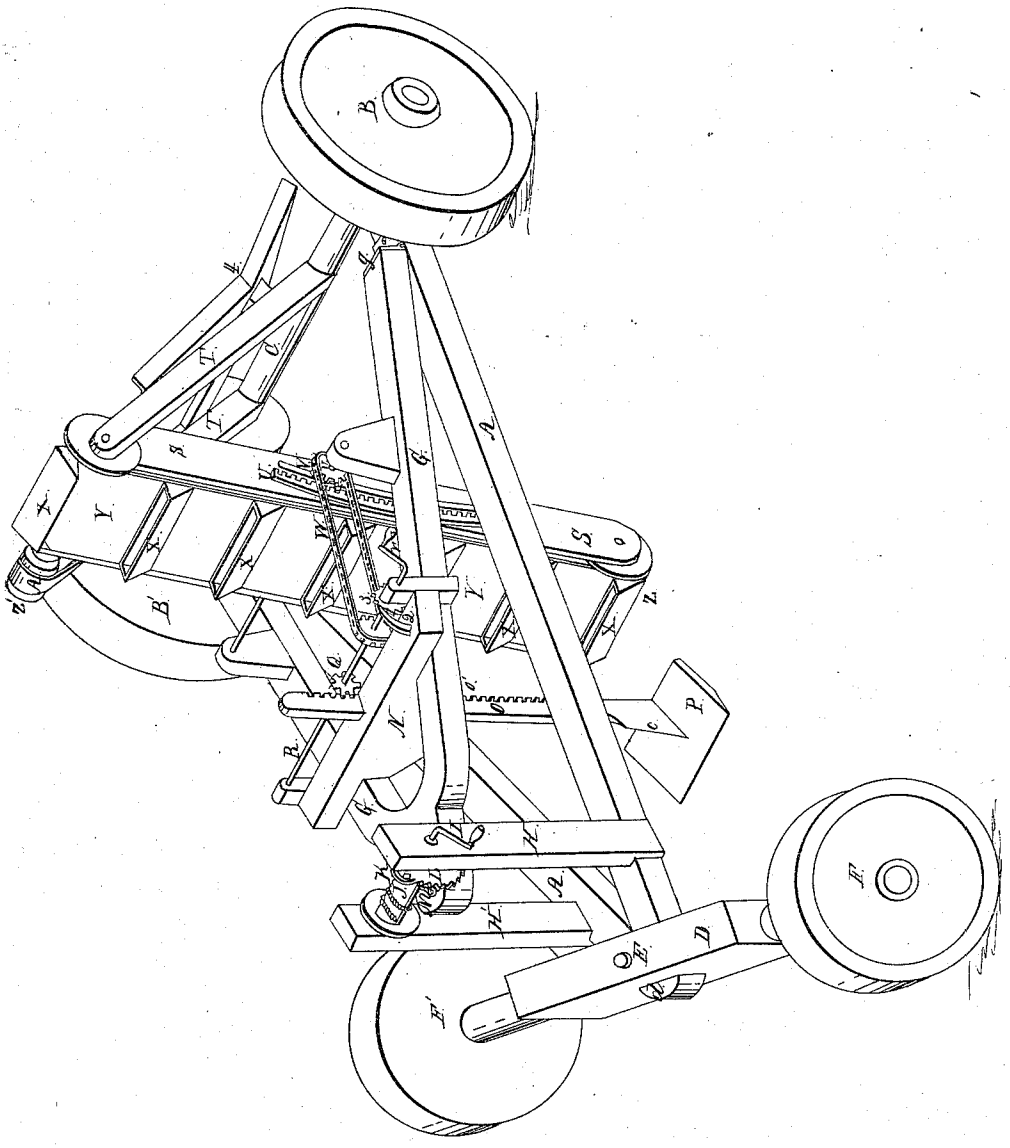
A. W. Cox.

Excavator.

No. 42,563. Patented May 3, 1864.



Witnesses:
James H. Layman.
Noble M. Morris.

Inventor:
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per Knight Bros
Attys

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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. **42,563**, dated May 3, 1864.

To all whom it may concern:

Be it known that I, ALBERT W. COX, of Dublin, Wayne county, Indiana, have invented a new and useful Machine for Excavating Ditches; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification.

My improvement relates to the class of excavating-machines which contain a plow for opening the ground and a series of elevators for removing the dirt from the ditch and depositing it to one side thereof, and my invention relates chiefly to devices for graduating the depth of excavation and expeditiously unearthing the excavating mechanism, and again depressing the same, without disarranging the adjustments or disturbing the belted or other connections.

The accompanying drawing is a perspective view of a machine embodying my improvement.

A represents a triangular truck-bed or frame, whose rear is supported by a pair of ground-wheels, B B′, which wheels are fast to the axle C, while its front end or apex enters a slot, *d*, in the front axle, D, to which it is secured by means of a king bolt, E. The front wheels, F, revolve freely on the front axle, D.

G is an adjustable platform of similar triangular form to the bed A, to whose rear portion it is hinged, *g*, in the manner shown.

H H are standards which extend upward from the frame or bed A, and afford journal-bearing to a small windlass, I J K L, a rope or chain, M, depending from said windlass, being secured to the front end of the platform G, and enabling the elevation or depression of the latter.

N is a rail attached transversely to the platform G near its front end, and slotted vertically to firmly hold and guide the sliding stem or sheth O of a plow, P. The front edge, *o*, of the sheth O, at its lower part, has a knife-edge so as to readily cleave the soil, while the rear edge of the sheth O has a rack, *o′*, which, meshing with a pinion, Q, on a crank-shaft R *r*, journaled in the platform G, enables the operator to elevate or depress the plow P, with respect to the platform, according as shallow or deep excavation is desired.

The elevator-frame S is at its upper end hinged to braces T, which are themselves hinged to the rear axle. The lower end of elevator-frame is provided with curved racks U U, which mesh into pinions V, whose shaft *v* is geared to the shaft *r* by means of a chain-belt, W, causing the elevation or depression of the plow P to be accompanied by a corresponding elevation or depression of the elevator. The elevator-buckets X are attached to an endless belt, Y, which is stretched around rollers Z Z′, journaled in theframe S.

A belt, 1, from the rear axle, C, to the upper elevator-roller, Z, causes the elevator to revolve at every advance of the machine along the ground.

A pawl-and-ratchet movement, K L, retains the platform G to any vertical adjustment to which it may be brought by the windlass, and a similar pawl and ratchet, 2 3, preserves the adjustment of the plowing and elevating mechanism with respect to the platform; so that the said mechanism may be elevated for any purpose—such as passing an obstruction—and again depressed without disturbing the permanent adjustment or varying the depth of excavation.

The dirt is conveyed off from the elevator and deposited to one side of the excavation by means of a chute, 4.

The shaft *v* traverse curved slots *u u* in the elevator-frame, which slots, together with the racks U U′, are curved irregularly, as represented, so as to preserve the exact relative positions of the plow and elevator, however much they may be elevated or depressed with respect to the platform.

I claim herein as new and of my invention—

1. The arrangement of the parts N O *o* P Q R *r* S T U U′ *u u′* V V′ W 1, or devices substantially equivalent, whereby the plow and elevator are capacitated for simultaneous elevation and depression while preserving their proper relative positions and the continuity of the driving mechanism, substantially as set forth.

2. The devices G H H′ I J K L M, or their equivalents, for enabling the sudden elevation of the excavating mechanism out of the ground and its restoration to the working position, without disturbing the adjustment, as herein explained.

In testimony of which invention I hereunto set my hand.

ALBERT W. COX.

Witnesses:
GEO. H. KNIGHT,
JAMES H. LAYMAN.