T. R. Cook.

Excavator.

No. 53,969. Patented Apr. 17, 1866.

Fig: 1

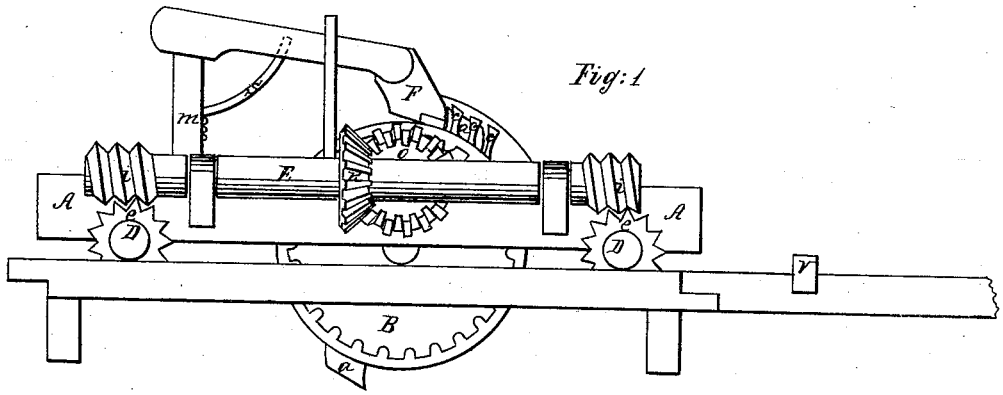
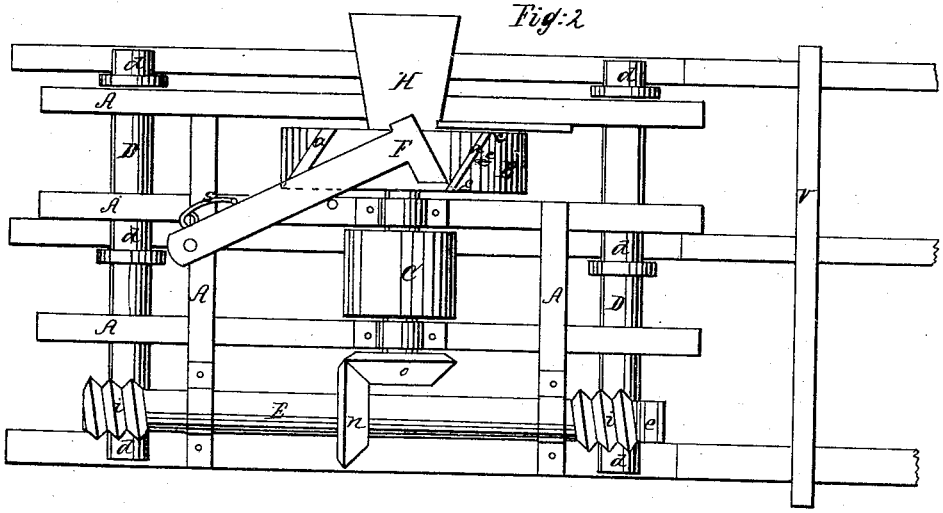


Fig: 2



Witnesses
Chas. L. Ware
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Inventor
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UNITED STATES PATENT OFFICE.

THOMAS R. COOK, OF WEST NEWTON, INDIANA.

IMPROVED DITCHING-MACHINE.

Specification forming part of Letters Patent No. **53,950**, dated April 17, 1866.

To all whom it may concern:

Be it known that I, THOMAS R. COOK, of West Newton, in the county of Marion and State of Indiana, have invented a new and useful Machine for Cutting Ditches for Drains and other Purposes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of the same, in which—

Figure 1 is a side elevation, and Fig. 2 a top or plan view, of the machine.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in providing a frame-work supported on trucks and having a wheel furnished with scoops on its periphery, which is rotated by means of gearing propelled by an endless-chain horse-power, also attached to the frame, the trucks resting on rails that form a track, along which the machine travels, being propelled by the horse-power. At the same time the wheel-scoops dig out the trench, the dirt being discharged from the scoops by means of a scraper, arranged for that purpose over the side of the machine, the whole forming an efficient machine for cutting trenches for drains on land.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the frame-work, to which all the other parts are attached. B is the cutter or scoop wheel, on the periphery of which the cutters or scoops *a* are fixed. Cutters like *c* may be placed just behind the scoops *a*, which will aid in loosening the ground, so that the next scoop will more easily take it up. The wheel B is hung to the under side of frame A, and is furnished with cogs on the inside of the rim, and is rotated by a pinion on the end of the same shaft with pulley C.

D D are the axles, upon which are the trucks *d d*, &c. Toothed wheels *e e* are also fixed upon the ends of axles.

E is a longitudinal shaft having at the ends screw-cogs *i i* and bevel-wheel *n* in the middle. *o* is a bevel-wheel fixed on the end of same shaft with pulley C.

F is the scraper for discharging the soil from the scoops on wheel B, and is hung on a journal on standard *m*, so as to move freely, and is kept in the position shown in Fig. 2 by the spring *s*.

The track is three rails, laid parallel to each other, and kept in position by means of the movable notched ties V. Nine pieces, or three sets, are required, so that as the machine moves forward from one set of rails to the next the set behind are brought to the front and laid and leveled for the machine to run upon, and so on alternately, the track being necessary to the easy movement of the machine as well as to keep the bottom of the trench level, or by means of which to give the trench such fall as to carry off water.

An ordinary endless-chain horse-power is attached to the frame A, and is connected, by belt or otherwise, to pulley C. The rotation of pulley C communicates motion to the scoop-wheel B, and at the same time the machine is carried forward by the obvious action of the beveled wheels *n o*, shaft E, screw-cogs *i i*, and toothed wheels *e e*, on the axles D D. The scoops dig up and carry up the dirt, which is discharged therefrom by the scraper F, which is caused to turn out by the inclination of the scoops, carrying the dirt with it, which falls onto the chute H and thence to the ground. As soon as the point of the scraper is passed by the scoop *a* the scraper is brought back to its original position by the action of spring *s*, and so on alternately.

I contemplate, also, arranging the scraper to be operated by gearing, so as to place the scoops more nearly parallel with the axis of wheel B.

What I claim as new, and desire to secure by Letters Patent, is—

The arrangement of the bevel-wheels *n* and *o*, shaft E, screw-cogs *i i*, and toothed wheels *e e*, for the purpose of propelling the machine along the track, and in combination with the track and wheel B and scraper F, substantially as set forth.

THOMAS R. COOK.

Witnesses:

CHAS. S. WARE,

O. F. MAYHEN.