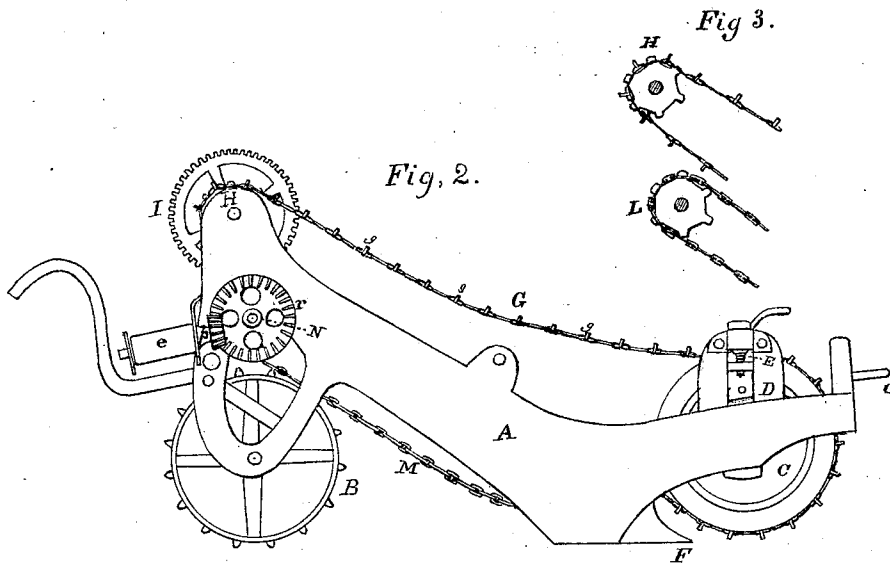
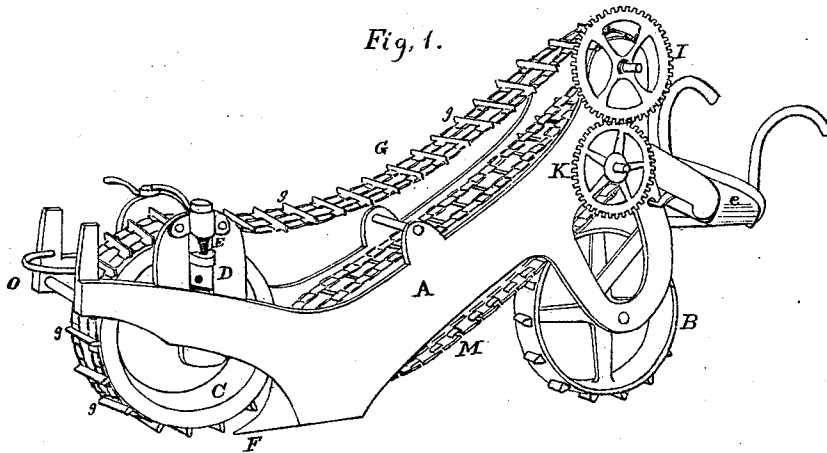


S. MILLER & E. CLARINGTON. 2 Sheets--Sheet 1.

Improvement in Excavators.

No. 115,084.

Patented May 23, 1871.



Witnesses,

H. A. Daniels
C. Harner

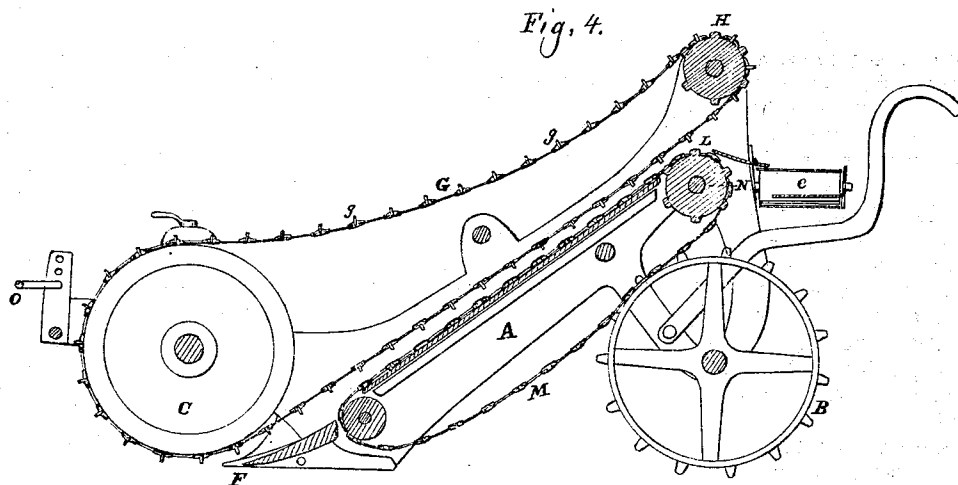
Solomon Miller } Inventors
Edward Clarington }
by C. S. Whitman, Attorney

S. MILLER & E. CLARINGTON. 2 Sheets--Sheet 2.

Improvement in Excavators.

No. 115,084.

Patented May 23, 1871.



Witnesses,
W. B. Raymond
H. A. Daniels

Solomon Miller } Inventors,
Edward Claringdon }
by C. S. Whitman, Attorney

UNITED STATES PATENT OFFICE.

SOLOMON MILLER AND EDWARD CLARINGDON, OF WATERLOO, NEW YORK;
SAID MILLER ASSIGNOR TO SAMUEL THOMAS, OF SAME PLACE.

IMPROVEMENT IN EXCAVATORS.

Specification forming part of Letters Patent No. 115,084, dated May 23, 1871.

To all whom it may concern:

Be it known that we, SOLOMON MILLER and EDWARD CLARINGDON, of Waterloo, in the county of Seneca and in the State of New York, have invented an Improved Ditching-Plow; and do hereby declare that the following description, taken in connection with the accompanying drawing hereinafter referred to, forms a full and exact specification of the same, wherein we have set forth the nature and principles of our said improvement, by which our invention may be distinguished from others of a similar class, together with such parts as we claim and desire to secure by Letters Patent.

Our invention relates to that class of machines for excavating ditches in which endless-chain elevators are made use of; and the nature thereof consists in certain modifications in the details of the same, hereinafter fully described and shown.

In the accompanying drawing, which illustrates our invention and forms a part of the specification thereof, in which corresponding parts are illustrated by similar letters, Figure 1 is a view of the machine in perspective. Fig. 2 is a side elevation. Fig. 3 is a section, showing positions of sprocket-wheels H and L. Fig. 4 is a longitudinal vertical section.

The construction and operation of our invention are as follows:

In the drawing referred to, letter A designates the frame of the machine, the rear end of which is supported by the wheel B, which has its bearings in the sides of the said frame. C represents a driving-wheel, journaled in the bearings D, which are vertically adjustable and operated by the screws E. By means of the said adjustable bearings and screws the wheel C may be made to gage the depth cut by the plow or shovel F. The said plow or shovel is of the form shown in the drawing, and may be readily detached from the frame when such detachment becomes necessary.

The said driving-wheel operates the endless-chain band G, which rotates about the same and transmits the motion imparted to the sprocket-wheel H, which is rigidly attached by means of a shaft journaled in the sides of the frame to the spur-gear I. The said spur-gear I engages with the spur-gear K, rigidly attached to the sprocket-wheel L.

The power transmitted by this arrangement of gearing is imparted by the sprocket-wheel L to the chain-elevator M, to which continuous rectilinear motion is given by the same and the wheel B, which is provided with sprockets gearing into the under side of the said chain-band.

When the machine is put in motion by the application of power to the clevis O the continuous rotary motion of the driving-wheel C imparts continuous rectilinear motion to the chain-band G, provided with the transverse bars or scrapers *g*, which carry the dirt to the chain-elevator M, by which it is transferred to the discharge-belt *e*.

Continuous rectilinear motion is imparted to the said discharge-belt by the rotation of the shaft attached to the bevel-gear *p*, which gears into the bevel-gear *r* attached to the shaft of the chain-pulley M.

Having thus described the construction and operation of our invention, we will designate what we claim and desire to secure by Letters Patent in the following clause:

The arrangement and combination of the rear wheel B, chain-elevator M, spur-gears K and I, chain-band G, driving-wheel C, when connected and operating together as described.

In testimony that we claim the foregoing we have hereunto set our hands this 11th day of October, 1870.

SOLOMON MILLER.

EDWARD CLARINGDON.

Witnesses:

EUGENE FACHITT,
FRANKLIN F. GAGE.