

A. J. Bartlett

Excavator.

N^o 30,610.

Patented Nov 13, 1860.

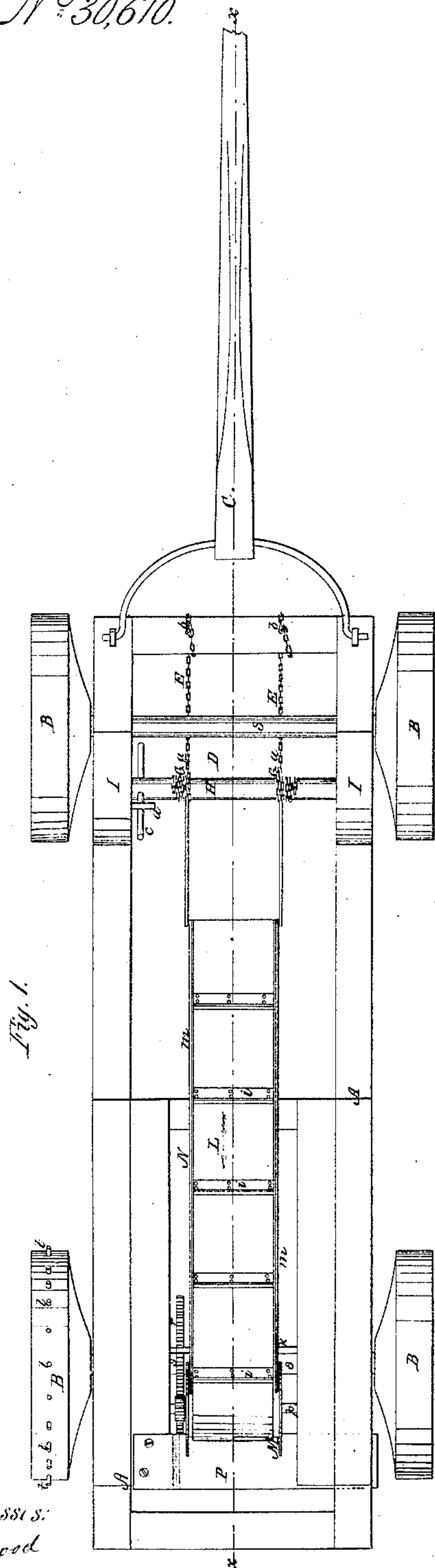


Fig. 1.

Witnesses:
R. F. Hesgood
E. C. Smith

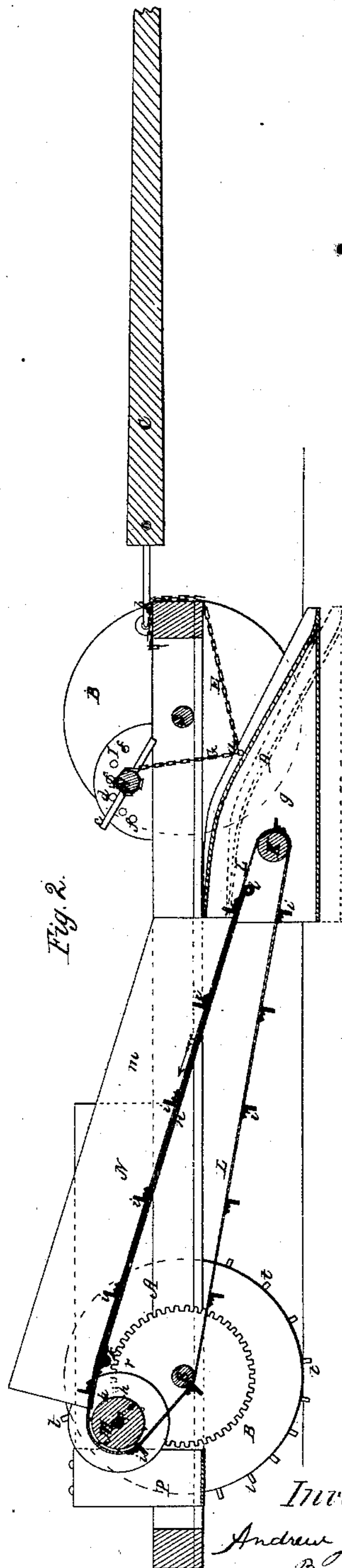


Fig. 2.

Inventor:
Andrew J. Bartlett
By his atty.
L. S. Brown

UNITED STATES PATENT OFFICE.

ANDREW J. BARTLETT, OF ROMULUS, NEW YORK.

EXCAVATOR.

Specification of Letters Patent No. 30,610, dated November 13, 1860.

To all whom it may concern:

Be it known that I, ANDREW J. BARTLETT, of Romulus, in the county of Seneca and State of New York, have invented a new and Improved Excavator; 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 this specification, Figure 1 being a plan of the machine, Fig. 2 a central longitudinal vertical section thereof.

Like letters designate corresponding parts in both figures.

My improved excavator is intended for clearing and raising the earth from ditches, generally after having been previously loosened; and is designed more particularly to follow a ditching plow, such as that patented by E. S. Bartlett, September 13th, 1859.

The working parts of the machine are mounted in a suitable rectangular frame A, which is supported by wheels B, B, substantially as represented in the drawings. The carriage thus formed, is drawn and guided by means of a pole, or shaft, C, connected therewith in any suitable manner, the horses walking on each side, out of the ditch. Centrally, under the front end of the carriage, is situated a hollow scoop, or shovel, D, inclosed on all sides except at the rear end, which is left open for the passage of an endless apron L, as will presently be described. This scoop, or shovel, is connected with the carriage by means of chains E, E, and G, G, secured to each side of the scoop, at suitable points, as at *a a*; the chains E, E, extending thence forward and upward, and passing around over the front end of the frame A, and secured to hooks *b, b*, or their equivalents, so as to be adjustable on the top thereof; and the chains G, G, extending from the points of attachment *a, a*, nearly vertically upward to a windlass H, on which they wind, substantially as represented. The windlass is turned and held in any desirable position, by any suitable means; that represented in the drawings being a handle lever *c*, secured to one end of said windlass, over which fits a pin *d*, into any one of a set of holes *f, f, f*, in the bearing I, of the windlass. Thus arranged, the hollow scoop is raised or lowered at pleasure, by simply turning the windlass, so as to adapt said scoop to the different depths it is required to run, and to raise it entirely from the ground when nec-

essary, as, for instance, when going into the field, or in turning at the end of a ditch. By letting out, or taking in, the chains E, E, on the hooks *b, b*, in connection with the adjusting of the chains G, G, the hollow scoop is enabled to keep its necessary position in relation to other parts presently to be described.

At a suitable position in the space *g*, inclosed by the hollow scoop D, is situated a transverse roller K, around which passes the lower end of the inclined endless apron L, which extends thence upward and backward, through the rear, open end of the scoop, around a drum, or roller, M, armed with points, or projections, *h, h*, or their equivalents, for keeping the endless apron from slipping. The endless apron is usually provided with elevating flanges *i, i, i*, arranged at suitable distances apart, for holding the earth as it is deposited thereon by the scoop D. In order to sustain the weight of this earth on the endless apron, as it is elevated, the said apron passes upward through an inclined, open trough, or guide, N; the bottom *n*, of said trough, being pivoted at its lower end in the hollow scoop, as shown at *l*, (Fig. 2,) and its upper end pivoted to the frame A, as represented at *k*. The sides *m, m*, of this trough, retain the earth on the endless apron, as it is ascending. This trough, by being pivoted to the hollow scoop, regulates the position of said scoop, as it is raised and lowered, thereby always keeping the endless apron at uniform tension.

The drum or roller M, around which the rear end of the inclined, endless apron passes, may be actuated by the rear driving wheels B, B, in any suitable manner; that represented in the drawings being by means of a cog-wheel *r*, on the axle *s*, of said driving wheels, gearing into a pinion *o*, on the drum shaft *p*. The rear driving wheels are rigidly secured to their axle; and in order to insure the proper action of all the parts, I usually provide the periphery of one or both of them with spurs, or projections, *t, t*. But this is not necessary, if the carriage is of sufficient weight to prevent the wheels slipping on the ground.

Under the rear end of the endless apron, is situated an inclined chute, or discharging spout, P, for receiving the earth from the endless apron, and discharging it on the side of the ditch. If it is to discharge the

earth on both sides of the ditch, this chute is made inclined from the center toward both sides.

5 The chains E, E, and G, G, allow the hollow scoop a free movement; so that if the carriage runs a little one side of the center, the said scoop will still follow the loosened earth in the ditch, which is a great advantage over ordinary rigid excavators. They
10 also enable the scoop to make a smoother and more even channel in passing over inequalities. The roller K, around which the lower end of the endless apron passes, being situated in the hollow scoop, is kept free
15 from dirt, and thereby prevented from being clogged.

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

The arrangement and combination of the hollow scoop, or shovel, D, endless apron, 20 or elevator, I, and trough N, when hinged or jointed together, so as to allow the required adjustments of the said scoop, and operating together substantially in the manner and for the purposes herein specified. 25

In witness that the above is a true specification of my improved excavator, I hereunto set my hand this 28th day of April, 1860.

ANDREW J. BARTLETT.

Witnesses:

BENJN. BARTLETT,

HENRY H. DENNISTON.