

A. P. LOMAX.  
Excavators.

No. 137,011.

Patented March 18, 1873.

Fig. 1.

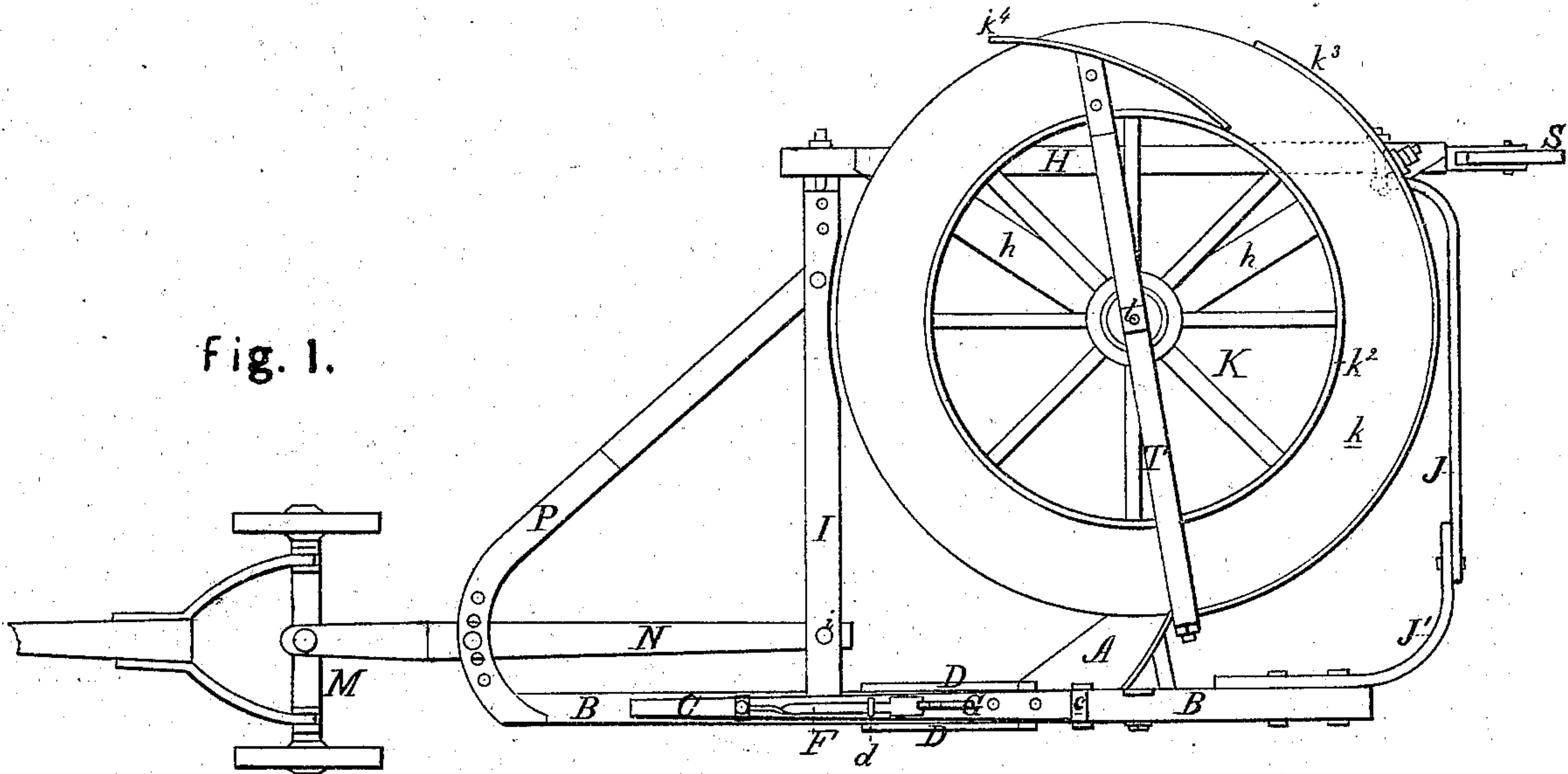


Fig. 2.

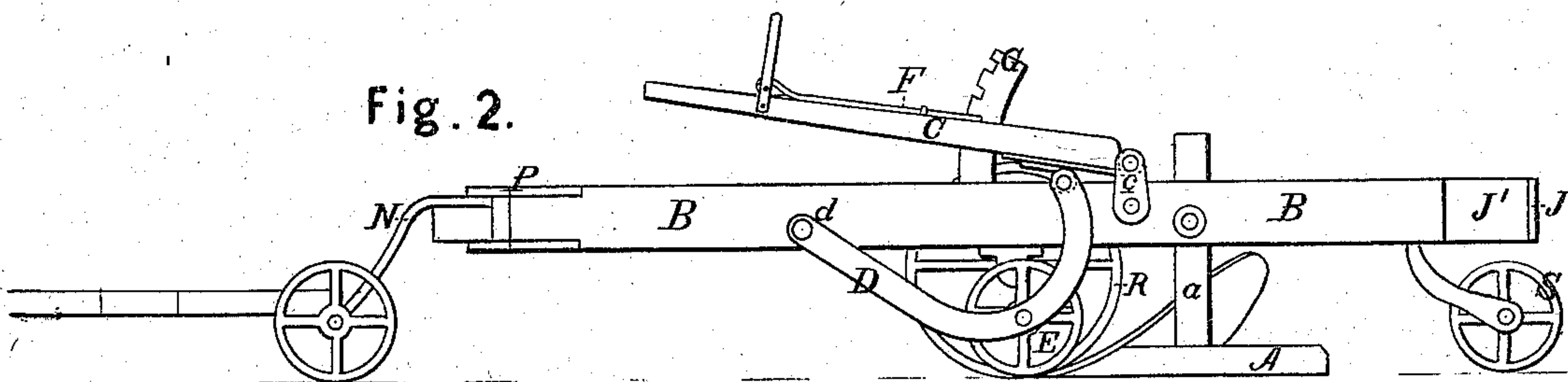


Fig. 3.

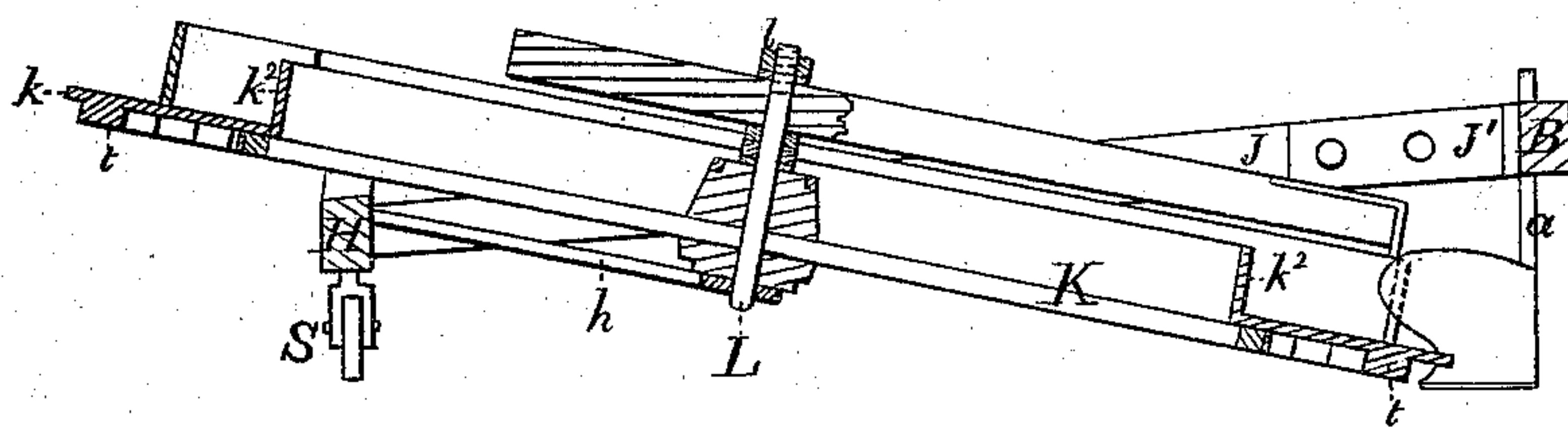
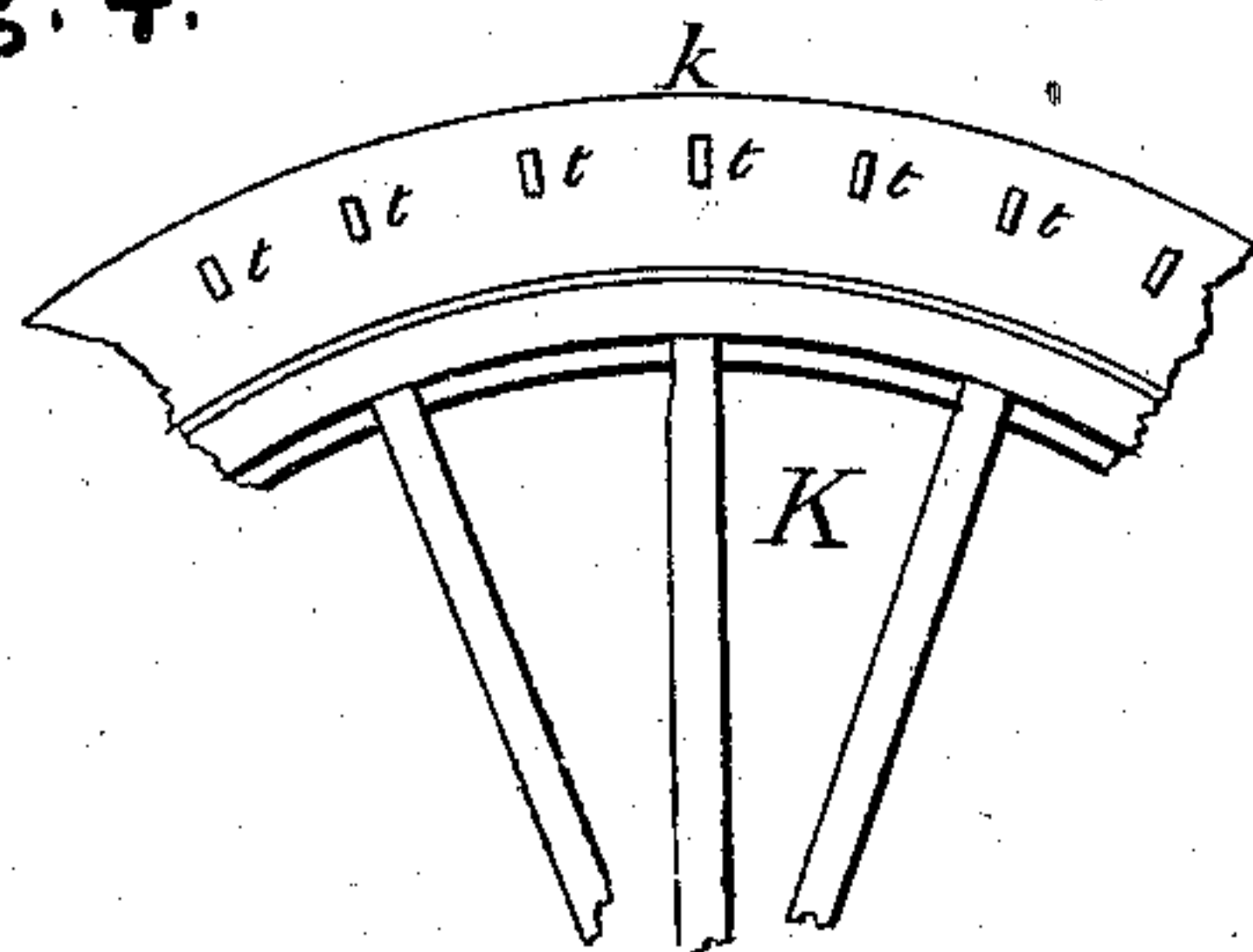


Fig. 4.



WITNESSES.

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# UNITED STATES PATENT OFFICE

ASAHEL P. LOMAX, OF WARSAW, ILLINOIS.

## IMPROVEMENT IN EXCAVATORS.

Specification forming part of Letters Patent No. 137,011, dated March 18, 1873.

*To all whom it may concern:*

Be it known that I, A. P. LOMAX, of Warsaw, in the county of Hancock and State of Illinois, have invented a new and valuable Improvement in Earth-Excavator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my improved excavating-machine. Fig. 2 is a side elevation. Fig. 3 is a transverse vertical section. Fig. 4 is a representation of a portion of the under side of the wheel.

My invention relates to a machine for excavating earth from ditches, &c., and depositing it upon the banks thereof or upon carts or wagons to be carried away; and it consists in the use of a plow in connection with an inclined wheel for removing the earth from the furrow, and in the general construction and arrangement of parts, as hereinafter particularly described.

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

In the accompanying drawing, A represents a plow of any suitable construction, secured, by means of an adjustable standard, *a*, to a beam, B, which forms one side of a frame to which the several parts of the machine are attached. The depth of the furrow to be made by the plow is regulated by means of a lever, C, whose rear end is pivoted to the beam B by a pin and lugs, *c*. At a point a short distance in front of the lugs *c* the lever C is pivoted to the ends of two curved bars or bent levers, D, the opposite ends of which are connected to the beam B, one on each side, by a bolt passing through the beam at *d*. A wheel, E, is journaled in the bars D about midway between their ends so as to run under the beam B immediately in front of the plow. On the upper side of the lever C is a sliding bolt, F, the rear end of which engages with notches in a curved bar, G, so as to hold the lever in any position in which it may be placed. By raising or lowering the lever C the plow is raised or lowered

correspondingly, and thus the depth of furrow may be regulated or the plow raised entirely out of the ground. The forward end piece of the frame consists of a straight wooden bar, I, one end of which is mortised or otherwise securely fastened to the beam B. The rear end of the frame is formed by two flat iron bars, J J', secured together by removable bolts, each bar being provided with a number of bolt-holes, so that the width of the frame may be increased or diminished in order to increase or diminish the distance between the plow and the inclined wheel, which acts in connection therewith. The fourth side of the frame is formed by a straight bar, H, which is hinged to the outer ends of the bars I and J so as to admit of a rocking motion. Two bars, *h h*, are attached to the bar H, near its ends, extending diagonally inward, their ends meeting at a point near the center of the frame, at which point a bolt, L, passes through them, and also through a bar, T, running transversely of the frame, and is secured by a nut, *l*. This bolt forms the axle of the inclined wheel K, which revolves between said bars *h h* and T. The wheel K has attached to its periphery a circular flange, *k*, made of sheet metal, with a sharp cutting-edge. The inner edge of the flange *k* is turned upward, and forms a circular rim, *k*<sup>2</sup>, extending up nearly to the lower side of the bar T. At the outer or cutting-edge of the flange *k*, extending for about one-third of its circumference toward the rear end of the frame, is a curved plate, *k*<sup>3</sup>, fastened to the transverse bar T at one end and to the hinged bar H near the other end, and near the rear outer corner of the frame, forming a rim of about equal height with the rim *k*<sup>2</sup>. To the outer end of the transverse bar T is secured a short plate or rim, *k*<sup>4</sup>, about equal in height to the rim *k*<sup>3</sup>, and extending tangentially from the rim *k*<sup>2</sup> to the outer edge of the flange *k*. On the under side of the flange *k* lugs or projections *t* are formed, which lugs serve to facilitate the operation of the wheel K by assisting its revolution. The angle of inclination of the wheel K may vary from fifteen to twenty-five degrees, according to the depth of furrow, the hinged bar H allowing of any desired angle.

As the frame moves forward and the furrow is made by the plow, the inclined wheel K revolves with a speed corresponding with that



of the frame, the sharp edge of the flange entering the ground in close proximity to the plow and the lugs causing the wheel to revolve. As the inner end of the plate or rim  $k^3$  is situated immediately over the mold-board of the plow, the earth turned up by the plow is thrown upon the flange  $k$ , which carries it up between the rims  $k^2$   $k^3$   $k^4$  to a point diametrically opposite the plow and deposits it upon the ground or upon carts or wagons placed to receive it.

The draft-pole of the machine is attached to an axle, M, carrying two wheels. The axle M is connected with the frame by a draft-bar, N, the rear end of which is pivoted to the bar I at  $i$ . The draft-bar N passes through a clevis, P, consisting of a divided bar, one end of which is attached to the front end of the beam B and the other end to the bar I near the front outer corner of the frame. The clevis is graduated, so that the line of draft may be regulated at pleasure. On the hinged bar H, near the front end, is a wheel, R, journaled in lugs attached to the under side, and at the rear end is a caster-wheel, S. These wheels secure an even po-

sition of the frame, and enable it to turn readily when desired.

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

1. The inclined wheel K, having attached to its periphery the flange  $k$  with lugs  $l$  on the under side, in combination with the plow A and guide-plates  $k^3$   $k^4$ , substantially as shown and described.

2. The hinged bar H, supporting the inclined wheel K and provided with the wheels R and S, substantially as specified.

3. The combination and arrangement of the axle M, draft-bar N, clevis P, and the frame, constructed and operating substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ASAHEL PEMLOT LOMAX.

Witnesses:

JOHN K. SIMMONDS,  
ALFRED LOMAX.