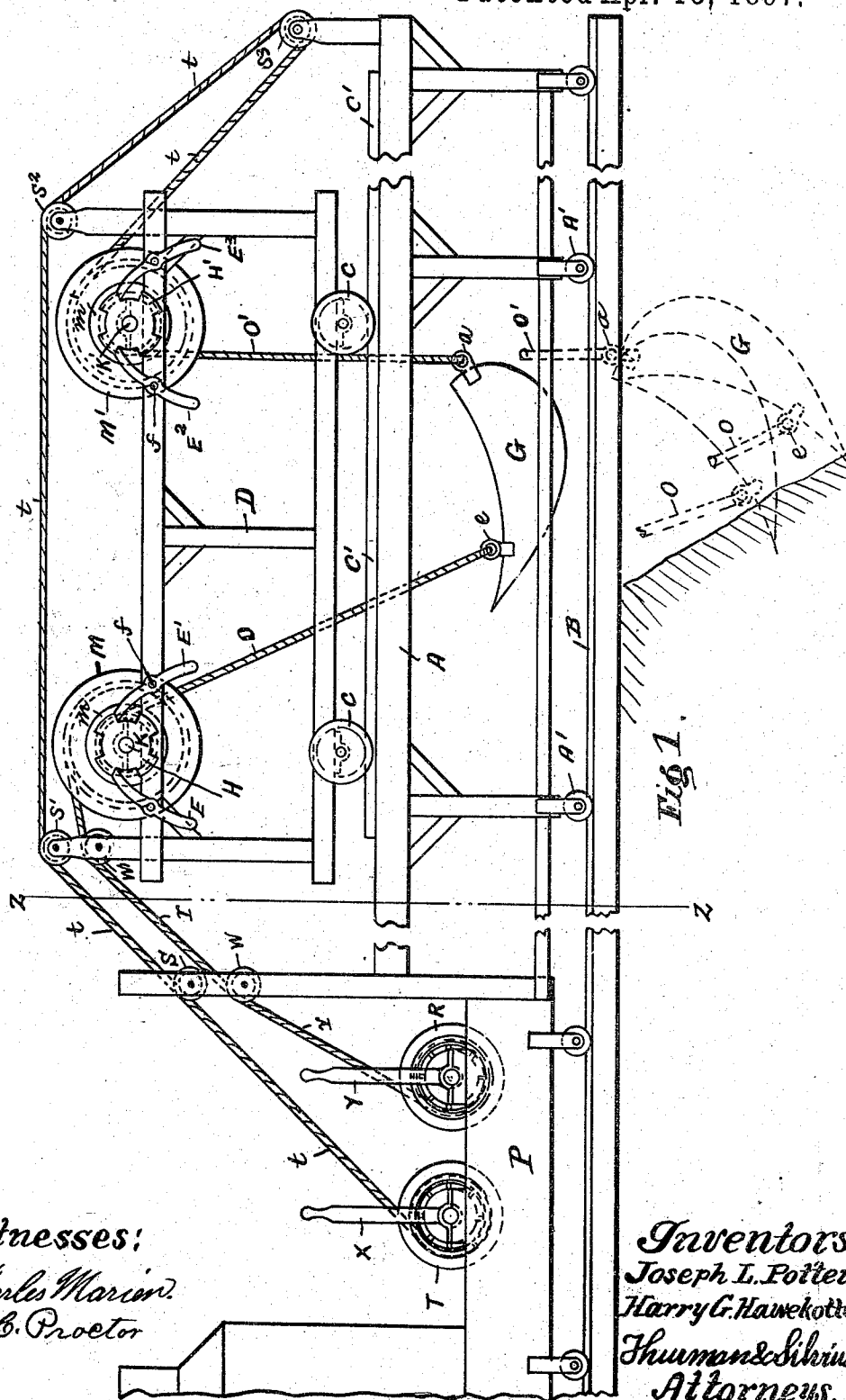


3 Sheets—Sheet 1.

No. 580,505.

Patented Apr. 13, 1897.



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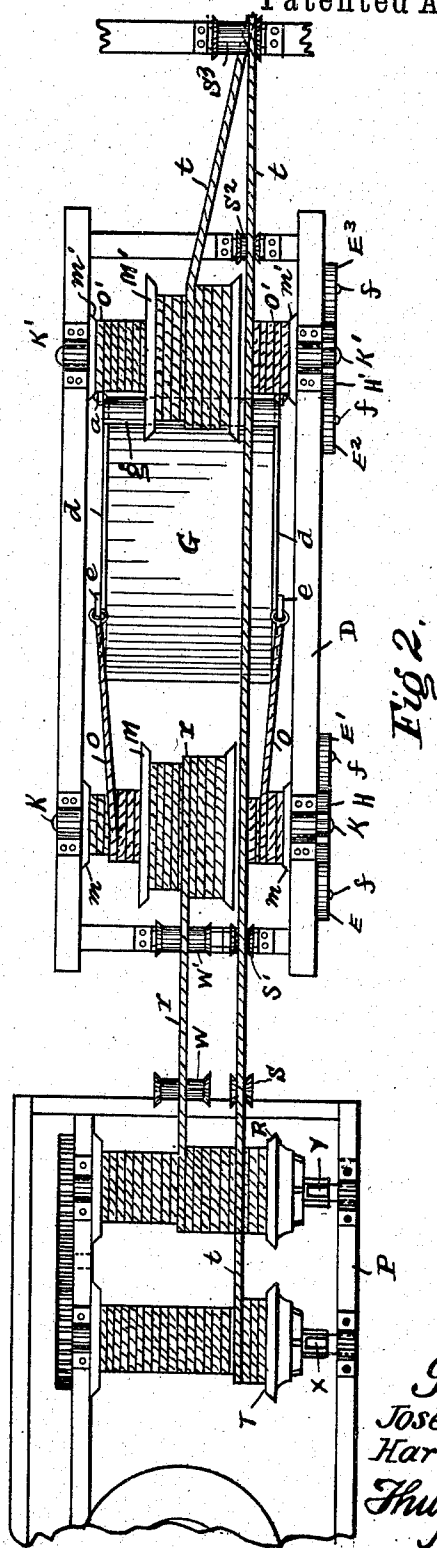
(No Model.)

3 Sheets—Sheet 2.

J. L. POTTER & H. G. HAWEKOTTE.
EXCAVATING MACHINE.

No. 580,505.

Patented Apr. 13, 1897.



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(No Model.)

3 Sheets—Sheet 3.

J. L. POTTER & H. G. HAWEKOTTE.
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Patented Apr. 13, 1897.

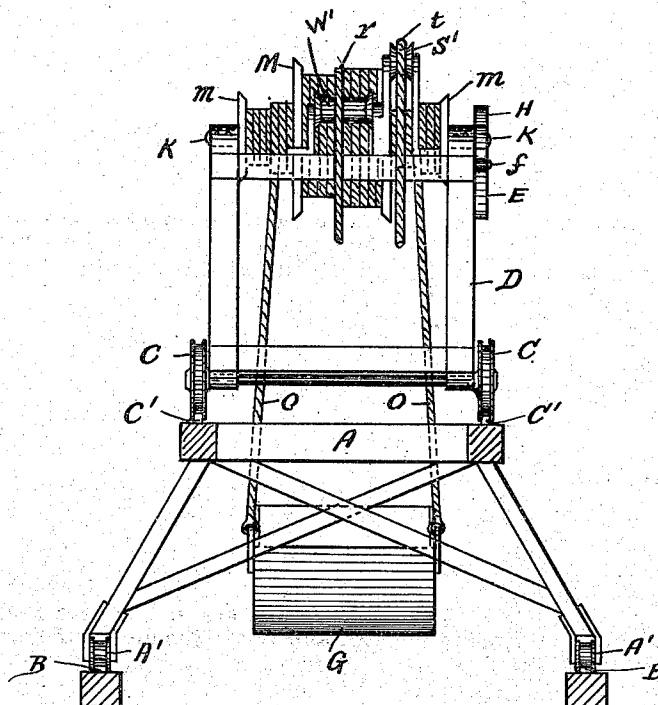


Fig 3.

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UNITED STATES PATENT OFFICE.

JOSEPH L. POTTER AND HARRY G. HAWEKOTTE, OF INDIANAPOLIS,
INDIANA.

EXCAVATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 580,505, dated April 13, 1897.

Application filed June 27, 1896. Serial No. 527,131. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH L. POTTER and HARRY G. HAWEKOTTE, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Excavating-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to an improvement in a machine for raising shovels or scoops filled with dirt from the bottom of a trench to the surface and to supply the power to cause said scoops to be filled with dirt, and to further provide means to transport the scoops from one end of the trench to the other. The scoop is raised by means of ropes or cables, one end of which is connected to the hoisting-engine drums, and the other ends are connected to the drums on the shafts. The scoop will descend by gravity to the bottom of the trench.

Our invention has for its object to provide a simple and inexpensive means for the excavation and elevation of materials and to transport same back and forth on the line of the track.

With this end in view our invention consists in certain features of construction and combination of parts, which will be hereinafter fully described, and pointed out in the claims.

In excavating for trenches, sewers, and the like, where the material is to be raised to the surface and to be transferred longitudinally to a convenient place for dumping, this device, which is the subject of the present invention, is of great convenience, as it affords a safe, cheap, practical, and readily constructed transit for such material. It has been the custom to first loosen the dirt by means of picks and shovels and filling the receptacle on the various trench-machines and then elevate it to the surface, but our invention fills the scoop automatically by

means of the cables, carriages, and engines by simply manipulating the drum-levers which are attached to the engine.

Referring to the drawings, Figure 1 is a side elevation of our device. Fig. 2 is a part plan view; and Fig. 3 is a sectional end view on the line Z Z, Fig. 1.

In the drawings, A is a superstructure which is mounted on the wheels A' and travels on the track B. On top of this superstructure the carriage D is mounted and has the wheel C traveling on the track C'. On the top of the carriage D are mounted the main drums M and M' having supplemental drums on each side, *m* and *m'*, respectively. These drums are mounted on the shafts K and K'. H and H' are the ratchet-wheels, and E, E', E², and E³ are the dogs or finger-pawls.

P represents one end of the hoisting-engine frame, provided with the drums T and R, which have the operating-handles X and Y, respectively, and are connected to suitable friction-clutches to revolve the drums in either direction. Said drums are loose on the shaft and only revolve when said friction-levers are engaged therewith. The two drum-shafts of the engine are geared together and are engaged by a third or a series of intermediate gears to the gear on the main shaft of the engine.

t is the long rope or cable and is attached to the drum T of the engine and passes up and over the pulley S, then over the pulley S' lengthwise across the carriage and over the pulley S², then downward and around the pulley S³, which is attached to the superstructure, then upward and attached to the main drum M'.

The rope or cable *r* is secured to the drum R of the engine, then passes upward and over the wide pulley W and over the wide pulley W', and is then attached to the main pulley M. The ropes or cables *r* and *T* are swung around the large pulleys M and M', respectively, in opposite directions.

Q and O' are ropes or cables which are secured to the brackets *e* and *a*, respectively. Said brackets are attached to the scoop G. The opposite end of these ropes is attached to the supplemental drums *m* and *m'*, respec-

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tively. The scoop G is preferably made to about the contour shown and has the sides *d* and the back and bottom *g*.

The dotted lines representing the scoop in Fig. 1 show the scoop in the act of filling with dirt or other material from an embankment.

In operation to lower the scoop release the dogs or pawls E, E', E², and E³, disengage the frictional clutch-levers X and Y, and the scoop will fall by gravity to the bottom of the ditch. Then engage the lever Y, which will cause the front of the scoop to incline upward and at the same time will convey the carriage toward the left and cause the scoop to gouge into the embankment, thus filling the scoop. Then engage both levers X and Y and hoist the scoop to the surface. Now engage the pawls or dogs, and by simply manipulating the levers X and Y the carriage will transfer the material either to the right or left longitudinally. In dumping the dirt at the end of the ditch simply release the dogs E and E', which will cause the front of the scoop to fall downward, thus relieving the scoop of its contents.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. In an excavating and conveying machine, the combination with a movable trestle and the carriage movably mounted thereon; of two main pulleys or drums mounted on the shafts of said carriage, supplemental sheaves or drums on each side of said main drums, the scoop and the ropes connecting the same to the supplemental drums and the ropes se-

cured to the main drums for either advancing said frame or lifting said scoop, substantially as shown and described.

2. In combination, the movable trestle, the movable carriage mounted thereon, the shafts journaled on said frame, the main and supplemental drums carried by said shafts, the cable or ropes connected to said supplemental drums, the scoop connected by said ropes to said supplemental drums, and the ropes or cables leading from the engine-drums and passing over pulleys carried by said frame and around the pulleys carried by said trestle and connected to the main drums, the winding of said ropes on said engine-drums being adapted to either raise said scoops or advance said carriage, substantially as shown and described.

3. In an excavating and conveying machine, the combination with the movable trestle and carriage; of the main drums journaled to said carriage; the small or supplemental drums on each side of said main drums; the ropes or cables to operate said main drums; the ropes attached to said supplemental drums; the scoop swung upon said supplemental ropes between each pair of drums, and the ratchet wheels and pawls for locking said drums, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH L. POTTER.
HARRY G. HAWEKOTTE.

Witnesses:

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