

(No Model.)

J. W. ADAMS.
EXCAVATING APPARATUS.

No. 599,760.

Patented Mar. 1, 1898.

Fig. 1.

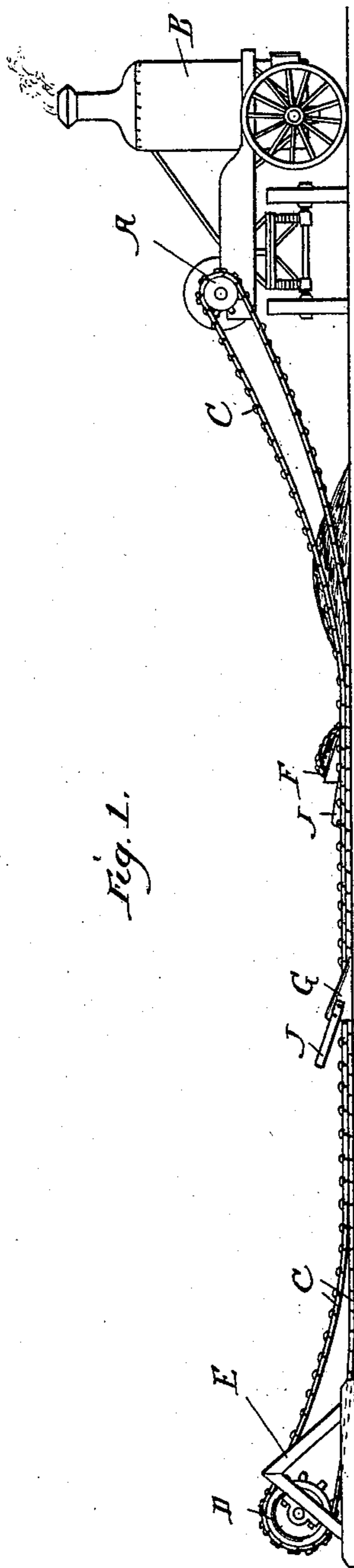
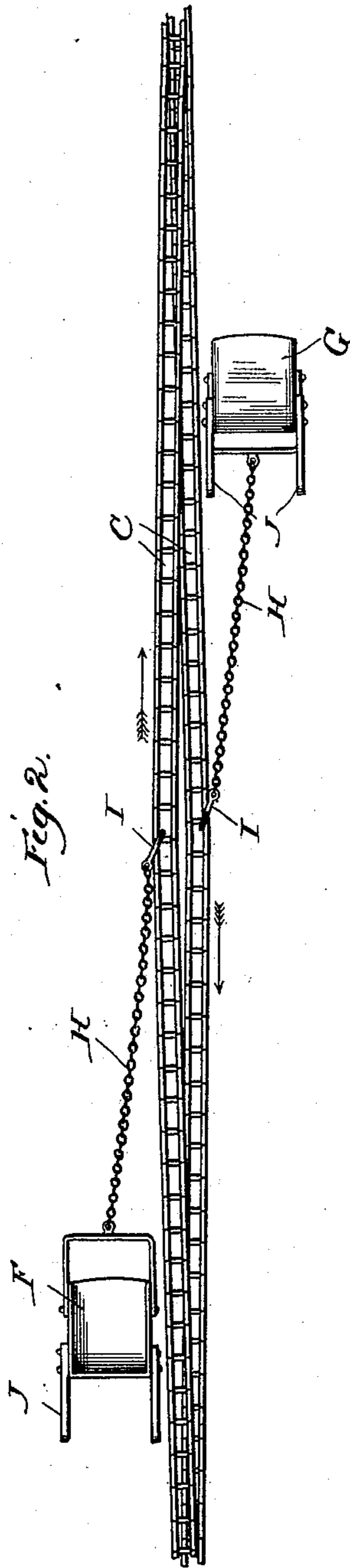


Fig. 2.



Witnesses:

H. B. Hallock.
A. Williamson

Inventor:

John W. Adams:
by Geo. H. Holgate
Attorney.

UNITED STATES PATENT OFFICE.

JOHN W. ADAMS, OF AUGUSTA, GEORGIA.

EXCAVATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 599,760, dated March 1, 1898.

Application filed February 24, 1897. Serial No. 624,831. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. ADAMS, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented a certain new and useful Improvement in Excavating Apparatus, of which the following is a specification.

My invention relates to a new and useful improvement in apparatus for excavating by means of a series of scoops attached to a traveling sprocket-chain, and has for its object to greatly facilitate the work of excavating railway-cuts and filling in depressions, while at the same time packing the dirt and loose stone as delivered, much after the manner of a "traveler" for barreling flour, and also to excavate dirt from cellars and the like.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of my apparatus when in use; and Fig. 2, a plan view of the same, the engine being omitted.

In carrying out my invention as here shown I provide a sprocket-wheel A upon the drive-shaft of an engine B, which latter is preferably a portable engine in order that it may be transferred to the point of operation and moved from time to time from one place to another, and over this sprocket-wheel runs a sprocket-chain C, having open links, as clearly shown in Fig. 2, and this chain also runs over a similar sprocket-wheel D, which is journaled in the tail-block E, the latter being adapted for securement to the ground against the strain exerted thereon by the operations of the chain.

F and G represent two scoops which are adapted to perform the work required, and these scoops are attached to the sprocket-chain by means of the trailing chain H, through the medium of automatic snap-hooks I, and it is to be noted that any number of these scoops may be used, the only limitation

of the number thereof being the length of the sprocket-chain, as they may travel one behind the other in close succession.

From this description it will be obvious that when the tail-block and engine are properly located relative to the ground to be excavated and the scoops properly set relative to the surface over which they are traveling, as shown at F, they will scoop up the dirt and loose stone and convey it during their travel to the point where it is desired to dump the same, which is accomplished by turning the scoop over by means of the handles J thereof, and after this has been accomplished each scoop is released from the drive-chain by unsnapping the hook I and resnapping it in a link upon the opposite side of the chain, so that the scoop will be caused to travel rearward upside down, as shown at G, thus again arriving at the point from which it originally started, where it is again set when caused to take hold upon the surface over which it passes, or instead of unsnapping the hooks when reaching the sprocket-wheels these wheels may be set to one side of their bearings, as shown at A, so that the hooks may pass around said wheels, by which process the scoops will be automatically upset and carried rearward and brought into position for further use.

When this apparatus is utilized for the excavation of railway-cuts and the formation of embankments upon the opposite ends of said cuts, a great advantage is had in that the earth as it is delivered to the embankment is packed by the return movements of the scoops, as well as by the action of each successive scoop as it passes over the earth dumped by the preceding scoop, so that when the excavation has been completed the embankment formed from the dirt removed therefrom will be as packed and solid as though independent labor had been expended thereon for that purpose, and this process will be readily understood from the fact that it is similar in many respects to the action of a traveler in barreling flour.

It has been found in practice that at least one-half of the labor which is now necessary to excavate a given quantity of earth and transfer it to the desired point will be saved, since but four men are necessary for the successful

operation of my apparatus, whereas heretofore it has taken many men and teams to perform the same work.

It is obvious that by lengthening the chain
5 and setting the tail-block at a greater distance
from the engine a longer line of excavation
will be had, and this is limited only by the
length of such chains and the power of the
engine, and when the chain is of considerable
10 length a larger number of scoops may be in
continuous operation thereon.

Having thus fully described this invention,
what is claimed as new and useful is—

In a device of the character described, a
15 motor, a shaft operated thereby, a sprocket-
wheel on the shaft, a tail-block secured to
the ground at a distance from the motor, a
sprocket-wheel mounted within the tail-block,

said sprocket-wheels being arranged to oper-
ate in vertical planes, a chain run over the 20
sprocket-wheels to drag on the ground there-
between, scoops, trailer-chains secured to said
scoops, hooks on the chains securing them to
the sprocket-chain, said sprocket-wheels be-
ing set to one side of their bearings whereby 25
the hooks will pass therearound automatically
upsetting the scoops and enabling them to be
carried rearward, as and for the purpose de-
scribed.

In testimony whereof I have hereunto af- 25
fixed my signature in the presence of two sub-
scribing witnesses.

JOHN W. ADAMS.

Witnesses:

S. S. WILLIAMSON,

S. J. COBB.