

DANIEL BROWN.
Improvement in Excavating-Machines.
No. 126,178. Patented April 30, 1872.

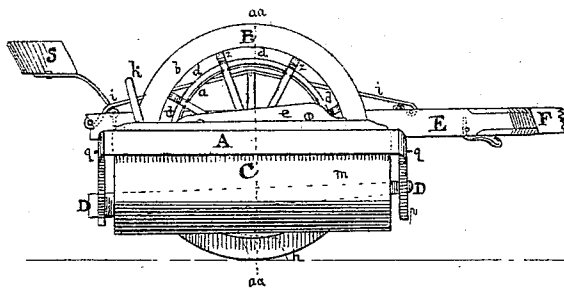


Fig. 1.

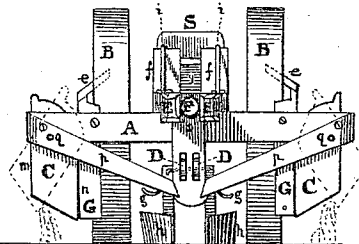


Fig. 2.

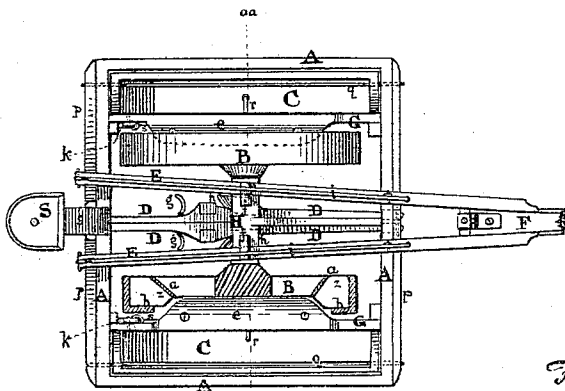


Fig. 3.
Showing Sec. of one wheel.

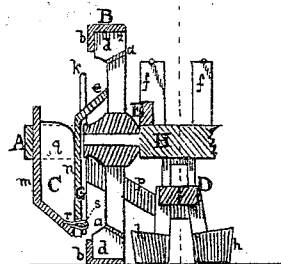


Fig. 4. Vert. sec. thro' a-a-fig. 1.

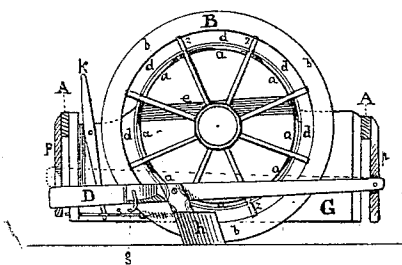


Fig. 5.
Longitudinal sec. &c.

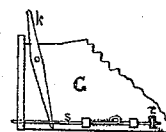


Fig. 6.

Witnesses.
John Glarens.
James Monroe.

Daniel Brown
by Edmund Shurlow
his attorney

UNITED STATES PATENT OFFICE.

DANIEL BROWN, OF SOUTHAMPTON, ASSIGNOR OF ONE-HALF HIS RIGHT
TO EDWIN C. SILLIMAN, OF PEORIA, ILLINOIS.

IMPROVEMENT IN EXCAVATING-MACHINES.

Specification forming part of Letters Patent No. 126,178, dated April 30, 1872.

To all whom it may concern:

Be it known that I, DANIEL BROWN, of Southampton, in the county of Peoria and in the State of Illinois, have invented an Improved Excavator and Dumper; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making a part of this specification in which like letters of reference refer to like parts, and in which—

Figure 1 represents a longitudinal elevation; Fig. 2, a front view; Fig. 3, plan of same with section of one wheel; Fig. 4, vertical section through *a a*, Figs. 1 and 2; Fig. 5, a longitudinal section; Fig. 6, a diagram of releasing and dumping lever and spring. Scale of drawing, one and one-third inch to one foot.

This invention is a combined excavator and dumper, peculiarly adapted for railroad work; and consists in providing outside boxes—*i. e.*, exterior to the wheels—which, on releasing a fastening, empty themselves of the gravel or soil excavated by the interior plows and thrown up by the pocketed wheels which support the machine. The whole machine is inclosed within a square horizontal frame, *A A A A*, measuring about six feet on a side, supported by two wheels *B B*, which divide the inclosed space into three equal parts. The center is occupied by two plows, *h h*, mounted on beams, which throw the soil into the pockets of the wheels on either side. The space between the wheels and the frame, right and left of the former, are occupied by boxes, one receiving the dirt from each wheel, which, when full, can be dumped at any required place by swinging each box on its suspension point in the frame.

A represents the horizontal frame, made of stout timbers and inclosing the machine on four sides. It is suspended beneath the hounds *E E*, to which the tongue *F* is attached; the hounds rest on the axle *H*, which unite the wheels *B B*. The latter are equidistant from one another and from the sides of the frame *A*, and have broad tires connected with a rim, *b*, perpendicular to the axle of each wheel, so as to form an angular recess at their junction, which is divided into pockets *d d* by a widening of each spoke at this place, which pockets *d d* are further inclosed by an inner wheel or rim, *a a a*, which is a frustum of a cone, (if

considered as an entirety,) but is composed of arcs inserted into recesses between the spokes, concentric with the outer wheel *B*. The spokes *z* of the latter retire from the plane of the rim *b* so as to admit within the plane of the wheel the inclined chute *e*. *C C* are deep boxes, occupying (each) one of the spaces between the frame *A* and one of the wheels *B*, and suspended upon rods *g g*, having a sloping bottom which inclines toward the stationary side *G* next to the respective wheels. This stationary side is vertical and forms the side of the box when the latter is united with or lies against it, and terminates above within the plane of the wheel in the above-described inclined board or chute *e*. The boxes *C C* swing upon their respective pivots or rods *g g* in the frame *A A*, and each box is retained against its respective side *G* by a hook, *r*, on the edge of the bottom piece and a pin or rod, *s*, actuated by the lever *k* on the inside of the side *G*. *D D* are two plow-beams, running side by side, centrally, and from front to rear of the machine, pivoted in front of the latter in a brace depending from the frame and carrying each a shovel, *h h*, which throws the soil toward the wheels. The beams move in slots up and down in a similar brace in the rear of the machine, and have each a foot-bar or governor, *g g*, for regulating the depth of the shovels in the soil. *E E* the hounds or braces, which support the frame *A A*, and are described above. *S*, the seat.

The operation of this invention is as follows: Horses or other motors are attached, and the shovels *h h* pressed into the soil by feet of operator, who sits on the seat *S*, overlooking the whole machine, by placing his feet on the bars or governors *g g*, on either side of a beam, *D*. The machine being in motion, the soil is thrown from the plows on either side into the pockets *d d* of the wheels *B B*, whence it is raised by the progress of the latter until the inclined interior wheels or rims *a a* release it and lets it fall onto the inclined chutes *e e* of the boxes *C G C G*, whence it is projected into the latter. When they are full the machine is taken to the place of deposit where the soil is dumped by pressing the handle of either lever *k k* inward, so as to retract the rods *s s* from their respective hooks, *r r*, of the swinging boxes, which

releases them from their respective side-boards G G, and, being pivoted eccentrically on the rods *q q*, the boxes shed their contents completely, without any further manipulation.

What I claim as my invention is—

1. The exterior swinging boxes C C with stationary sides G G, next to the wheels, and their chutes *e e*, pivots *q q*, hooks *r r*, levers *k k*, and rods *s s*, or equivalent catches, in combination with the wheels B B, substantially as set forth.

2. The blow-beams D D, having a pivotal

connection with the front end of the machine, and provided with foot-bars *g g*, in combination with the wheels B B and exterior swinging boxes C C, all constructed and arranged in the manner and for the purpose set forth.

In testimony that I claim the foregoing excavator and dumper I have hereunto set my hand this 9th day of December, 1871.

DANIEL BROWN.

Witnesses:

JOHN CLARENS,
WM. JACK.