

S. B. ALGER.
Excavators.

No. 134,187.

Patented Dec. 24, 1872.

Fig. 1

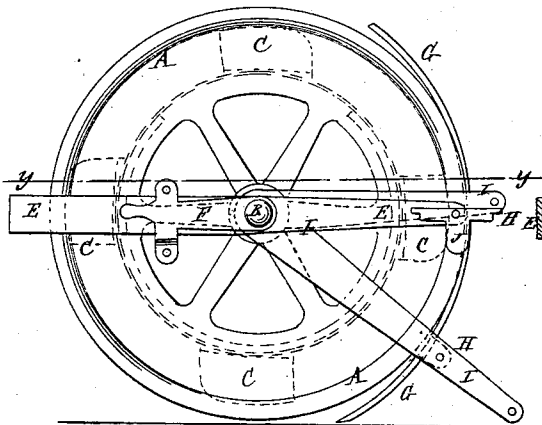


Fig. 2

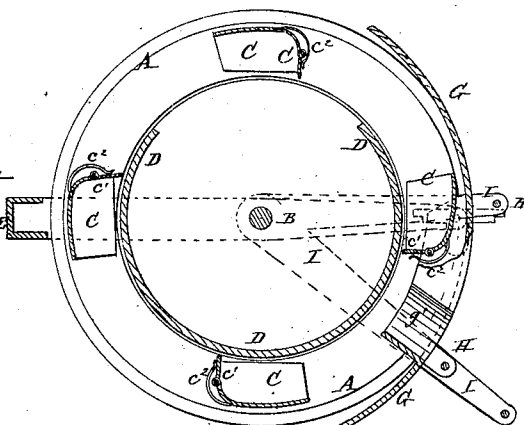


Fig. 3

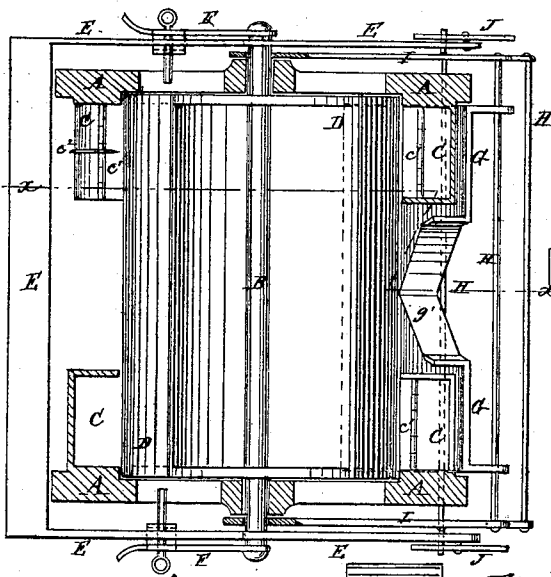


Fig. 4

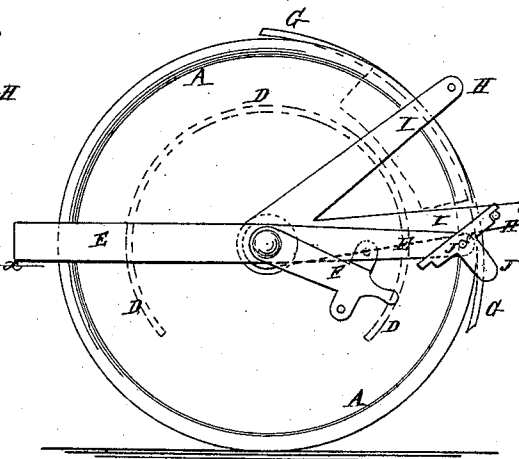
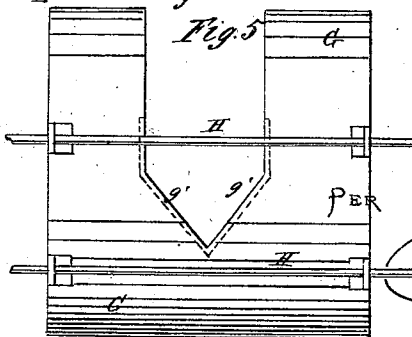


Fig. 5



Witnesses:

A. W. Almqvist,
C. Hagqvist

Inventor:

S. B. Alger
Minuto
Attorneys.

UNITED STATES PATENT OFFICE.

SAMUEL B. ALGER, OF OSWEGO, NEW YORK.

IMPROVEMENT IN EXCAVATORS.

Specification forming part of Letters Patent No. 134,187, dated December 24, 1872.

To all whom it may concern:

Be it known that I, SAMUEL B. ALGER, of Oswego, in the county of Oswego and State of New York, have invented a new and useful Improvement in Excavator or Self-Dumping Cart, of which the following is a specification:

Figure 1 is a side view of my improved machine. Fig. 2 is a detail vertical section of the same taken through the line *x x*, Fig. 3. Fig. 3 is a horizontal section of the same taken through the line *y y*, Fig. 1. Fig. 4 is the same view as Fig. 1, but showing the parts in a different position. Fig. 5 is a detail view of the plow or scraper.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved excavator or self-dumping cart, which shall be so constructed as to raise the dirt and discharge it into the cart, and which shall at the same time be simple in construction and convenient in use; and it consists in the divided mold-board scraper or plow, constructed and operating in connection with the buckets or elevators and box, as hereinafter described; in the buckets or elevators, provided with hinged backs and springs, in combination with the wheels, scraper, and box; in the cross-head levers, in combination with the axle, box, and draft-bail, as hereinafter more fully described.

A are the wheels, which revolve upon the journals of the axle B. The wheels A are made with deep rims, to the inner sides of which are attached the buckets or elevators C, which receive or take up the dirt and discharge it into the box. The elevators C are made with hinged bottoms or backs C¹, which are held in place by springs C², so that, should the elevators strike a stone, the hinged backs C¹ may yield and the elevator pass on without being broken, the spring C² bringing the hinged back again into place as soon as the obstruction has been passed. The box D is made in the form of a hollow cylinder with a portion cut away, as shown in Fig. 2 and in dotted lines in Fig. 4, and is suspended from and rigidly attached to the axle B. The buckets or excavators C are made with open inner sides and move close to the curved outer surface of the box D until they pass above the open part of the said box D, when the dirt falls into the

box. E is the bail, to which the draft is applied, and the arms of which are pivoted on the ends of the axle B. The rear ends of the arms of the bail E project to the rear part of the rims of the wheels A. F are two levers, the inner ends of which are keyed or otherwise rigidly attached to the ends of the axle B, outside of the arms of the draft-bail E. Upon the outer or forward ends of the levers F are formed cross-heads, which have holes formed in the ends of their arms to receive a pin. The levers F are so arranged upon the axle B that when the box D is in position to receive the dirt they may project forward along the outer side of the forward part of the arms of the draft-bail E, so that they may be secured in place, holding the box D in position to receive the dirt by a pin passed through a hole in the upper arms of their cross-head above, and resting upon the said bail.

When the box D is full, and the cart has been drawn to the place where the dirt is to be dumped, the locking-pins are removed from the hole in the upper ends of the cross-heads of the levers F and inserted in the hole in the lower ends of the said cross-heads. The lower arms of the said cross-heads are made with a shoulder or offset, so that their ends may be close to the wheels A to allow the pins to pass in between the spokes of said wheels. As the cart is again started forward the wheels A in their revolution carry the levers F and the box D with them, dumping the dirt. When the wheels A have made half a revolution, and the open side of the box D is directed downward, the shoulder of the arm of the cross-heads of the levers F strike the rear parts of the arms of the bail E, and the box D is held inverted until the dirt has all passed out. The pins are then removed, when the weight of the box D brings it and the levers F back into their former position, and the pins may be again inserted in the upper arms of the cross-heads of the levers F.

G is the plow or scraper, by the lower edge of which the dirt is scraped up. The upper middle part of the scraper G is cut away, the lower part of said cut being made V-shaped and having inwardly-projecting flanges *g'* formed upon its edge, which flanges *g'* serve as a double mold-board to throw the dirt raised by the scraper G toward and into the buckets

or elevators C. The plow or scraper G is held in place by rods H, which pass through lugs attached to or formed upon the rear side of said scraper. The ends of the rods H are secured to the ends or branches of the V-arms I, which are pivoted at their angles to the axle B. As the scraper is raised from the ground the projecting ends of the lower rod H strike against the rear arms of the three-armed plates J and raise them until the said rod drops into the notches or shoulders of said arms, which support the said scraper away from the ground for convenience in passing from place to place. The three-armed plates J are pivoted at their centers to the rear ends of the arms of the draft-bail E. The central arms of the plates J are made the heaviest, so that when left free the side arms may always take a horizontal position and be ready to receive the rod H. Upon the other side arms of the plates J is also formed a notch or shoulder, so that should the first arms be broken or worn the plates may be detached and reversed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The divided mold-board, scraper, or plow G g', constructed and operating in connection with the buckets or elevators C and box D, substantially as herein shown and described, and for the purpose set forth.

2. The buckets or elevators C, provided with hinged backs C¹ and springs C², in combination with the wheels A, scraper G g', and box D, substantially as herein shown and described, and for the purpose set forth.

3. The cross-head lever F, in combination with the axle B, box D, and draft-bail E, substantially as herein shown and described, and for the purpose set forth.

SAMUEL B. ALGER.

Witnesses:

JOHN R. MOFFETT,
EDWD. ROACH.