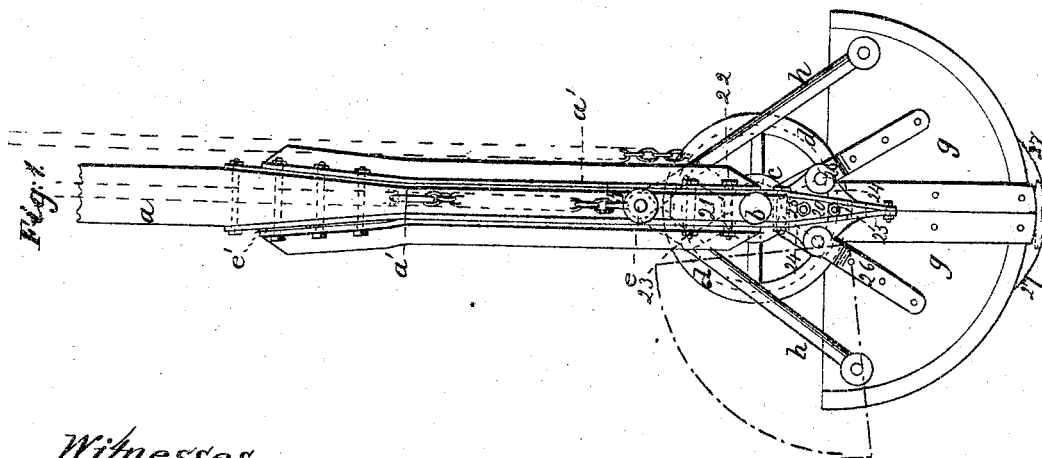
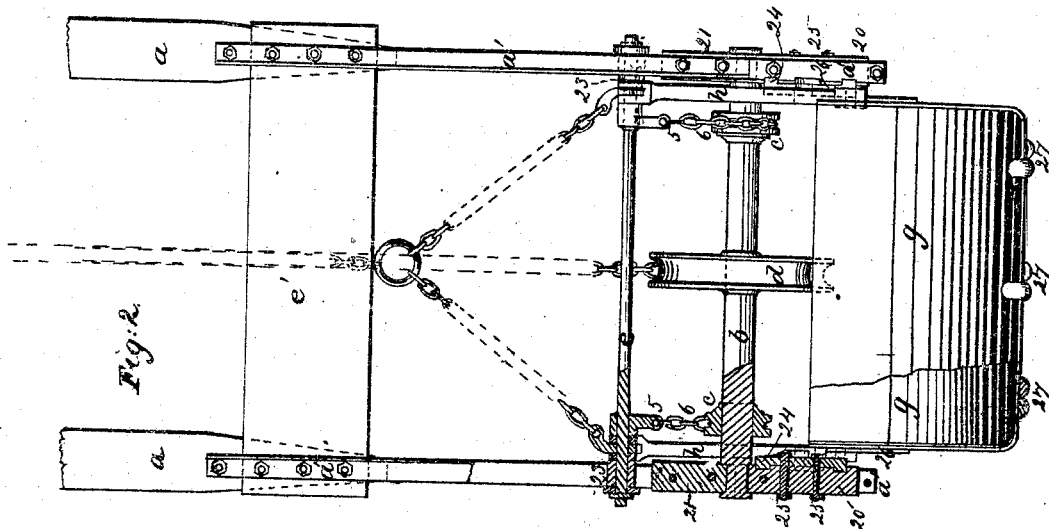


A. T. Morris.
Scoop for Excavating.
No 54,649.
Patented May 8. 1866.



Witnesses;
Chas. A. Smith
Geo. S. Maw

Inventor;
A. T. Morris

UNITED STATES PATENT OFFICE.

AUGUSTUS T. MORRIS, OF BLOOMFIELD, NEW JERSEY, ASSIGNOR TO
HIMSELF AND JAMES CUMMINGS, OF NEW YORK, N. Y.

IMPROVEMENT IN SCOOPS FOR EXCAVATING.

Specification forming part of Letters Patent No. 54,649, dated May 8, 1866.

To all whom it may concern:

Be it known that I, AUGUSTUS T. MORRIS, of Bloomfield, in the county of Essex and State of New Jersey, have invented, made, and applied to use a certain new and useful Improvement in Scoops and Elevators for Excavating; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is an elevation endwise of the scoop, and Fig. 2 is a side elevation, the supports for the scoop on one side being in section.

Similar marks of reference denote the same parts.

In Letters Patent granted to Ephraim Morris, December 5, 1848, and extended for seven years from December 5, 1862, a scoop is employed that is closed by drawing upon one chain, and then raised, and the scoop is opened for the discharge of its load by drawing upon a second chain, and a reference is hereby made to the said Letters Patent for a general description of the mode of operating said scoop and the objects attained.

The nature of my said invention consists in an improvement upon the said scoop and elevator, whereby the various parts can more easily be constructed and repaired, and the apparatus can be made sufficiently strong to perform excavations of mud, earth, loose stones and boulders, the pulling up of piles and pieces of timber, and the performance of such work generally as is connected with the construction of docks, wharves, piers, slips, or their repairs.

In the drawings, *a a* represent the lower ends of poles that extend up a sufficient height and slide in guides as the apparatus is raised or lowered. At the lower ends of these poles *a a* are metal frames *a'*, securely bolted to said poles *a*, and *e'* is a plate of metal extending across between the said frames *a'*, it being entered between the two thicknesses of wrought-iron bars composing said frame *a'*, as seen in Fig. 1. The lower ends of the frames *a'* are united against the sides of the tapering blocks 20 by bolts or rivets. The upper ends of these blocks

20 form the boxes for the shaft *b*, that has upon it the pulleys *c c* and wheel *d* for the hoisting-chain, and 21 are boxes above the shaft *b*, held in place between the parts of the frames *a'* by bolts 22. By this construction the shafts *b* can be taken out without disturbing the connection of the buckets *g* and frames *a'* in case it becomes necessary to make any repairs to the chains.

From the pulleys *c c* the chains 6 pass to the eyes 5 5, upon the cross-bar *e*, to which the arms *h h* are jointed, and extend to the buckets or scoops *g*, as in aforesaid patent. The ends of the cross-bar *e*, however, slide in the openings in the frames *a'*, where rollers may be provided, as at 23.

Instead of the scoops *g* being attached by one hinge or cross-shaft, as in said patent, I provide a plate, 24, at the lower end of each frame *a'*, connected by bolts 25, and having feathers or lugs entering the blocks 20, and upon these plates 24 the scoops *g g* are jointed by the hinge-straps 26, that are riveted to the ends of said scoops *g*.

If the scoops *g* require repairing, they can be removed by unbolting the plates 24, and the separate quadrant-scoops, swinging upon hinges some distance apart, open farther and scrape much more effectually than the scoops which were formerly only united by one hinge.

The edges of the scoop that come together are provided with fingers or prongs 27, attached alternately to the opposite edges, so that they penetrate the earth, mud, or other material and loosen the same, so that it may more easily be taken into the scoop, and these fingers or teeth aid in seizing stones, boulders, timbers, &c., and removing them.

In consequence of the scoops being attached by separate pairs of hinges, the bucket will open wider than its diameter or measure across, as seen by red lines in Fig. 1, thereby increasing its efficiency in scraping up any article to be excavated or removed.

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

1. The construction of the frames *a'*, in combination with the cross-plate *e'* and block 20 for the shaft *b*, substantially as and for the purposes specified.

2. The combination of the cross bar or shaft *e* with the frames *a'*, said shaft *e* being guided at its ends in said frames *a'*, as specified.

3. The plates 24, attached to the frames *a'*, as set forth, and receiving the joints or hinges by which the scoops *g g* are attached, substantially as set forth.

4. The combination of two separate pairs of hinges with the quadrant-buckets, as specified, so that the buckets shall open wider than

the diameter of the buckets when closed and increase the efficiency of the said buckets in excavating, as specified.

In witness whereof I have hereunto set my signature this 6th day of March, 1866.

A. T. MORRIS.

Witnesses:

GEO. D. WALKER,
CHAS. H. SMITH.