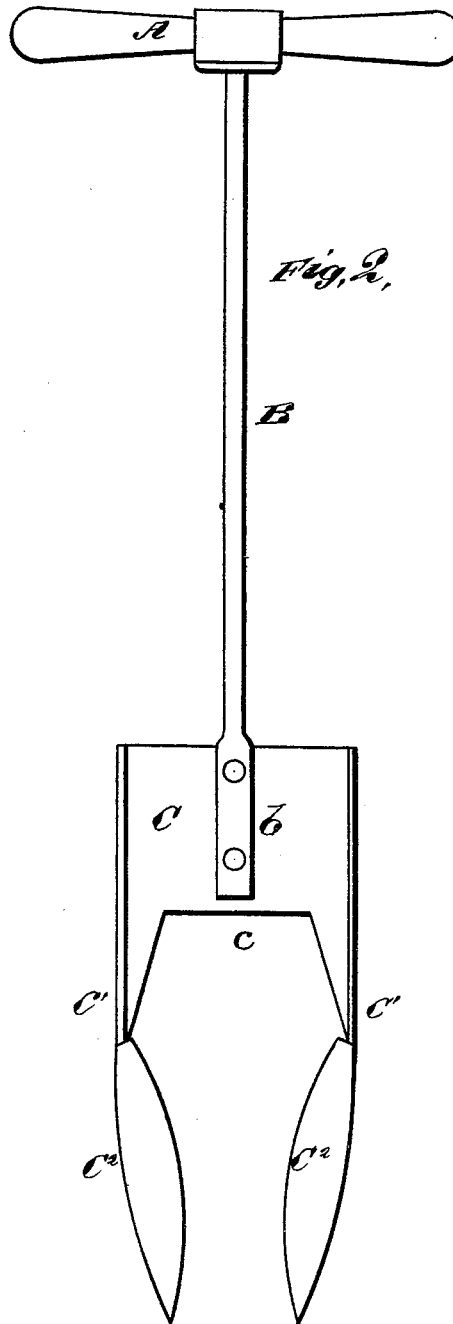
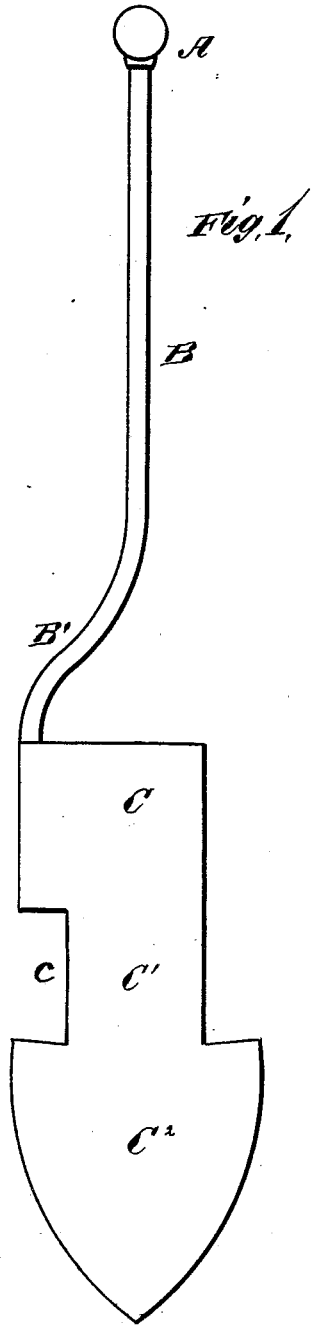


A. GRAHAM.  
POST-HOLE AUGER.

No. 188,891.

Patented March 27, 1877.



WITNESSES  
*E. H. Bates*  
*George E. Upham.*

INVENTOR.  
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ATTORNEYS

# UNITED STATES PATENT OFFICE

ALEXANDER GRAHAM, OF MUMFORD, NEW YORK.

## IMPROVEMENT IN POST-HOLE AUGERS.

Specification forming part of Letters Patent No. 188,891, dated March 27, 1877; application filed September 16, 1876.

*To all whom it may concern :*

Be it known that I, ALEXANDER GRAHAM, of Mumford, in the county of Monroe and State of New York, have invented a new and valuable Improvement in Post-Hole Auger; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my post-hole auger, and Fig. 2 is a front elevation of the same.

This invention relates to post-hole augers; and it consists in the peculiar form and construction of the same, substantially as hereinafter set forth.

In the annexed drawings, A designates the lever-handle of a post-hole auger, and B the shank of the same. Said shank is straight in its upper portion and in the axial line of the boring-blade C; but the lower part of said shank curves outward at B', and is secured to the inside of said blade at b. This construction enables the force of the operator to be applied centrally to said blade, and, at the same time, makes a solid connection between said shank and blade rigid and without intervening parts.

The upper part of blade C is semi-cylindrical in shape, bulging slightly toward the bottom on each side, and having the central bottom part removed at c, leaving on each side necks or shanks C<sup>1</sup> C<sup>1</sup>, which terminate in broad arrow-head-shaped points or blades C<sup>2</sup> C<sup>2</sup>. Said arrow-head-shaped blades or

points are inclined downward and inward toward each other, and are curved or rounded laterally like shields. They are capable of yielding slightly to allow the entrance of stones and other hard substances. They approach near enough to one another at the bottom to facilitate the entrance of said blade C by acting almost as a single downward point. The earth enters freely between and above said arrow-points C<sup>2</sup> C<sup>2</sup>, this entrance being facilitated by the large recess c. The curvature of said arrow-head-shaped blades or arrow-points C<sup>2</sup> C<sup>2</sup> is somewhat less than that of their revolution, so that the earth will not be packed tightly enough to exclude all air, and therefore may be removed without difficulty. The sides of said arrow-head shaped points or blades C<sup>2</sup> C<sup>2</sup> are sharpened, so as to cut readily into the earth.

The above-described device may be used for excavating any other sort of holes besides post-holes.

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

In an earth-excavating auger, blade C, provided with semi-cylindrical upper part, recess c, necks C<sup>1</sup> C<sup>1</sup>, and arrow-headed blades or points C<sup>2</sup> C<sup>2</sup>, constructed and operated substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALEXANDER GRAHAM.

Witnesses:

JOHN HARDING,  
FRANK HARDING.