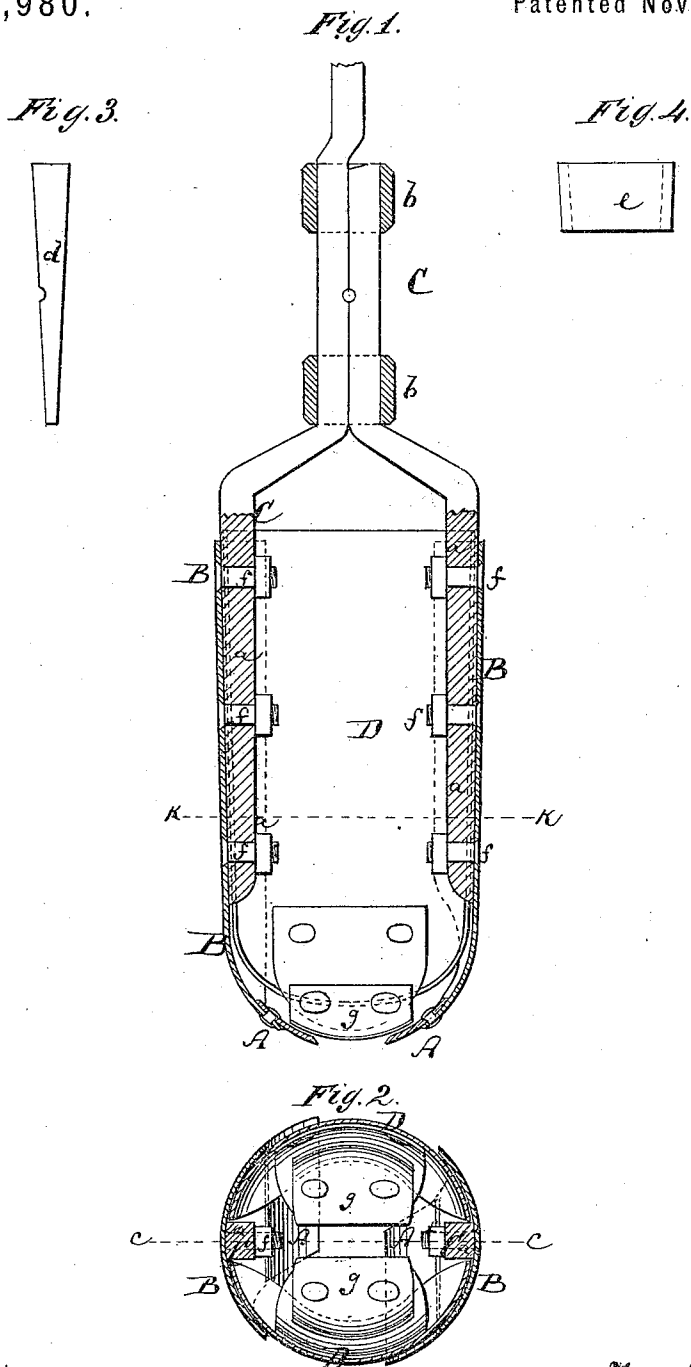


I. N. PYLE.

Improvement in Earth-Augers.

No. 132,980.

Patented Nov. 12, 1872.



Witnesses:

*E. Wolff.*  
*H. A. Graham*

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# UNITED STATES PATENT OFFICE.

ISAAC N. PYLE, OF CAMERON, MISSOURI.

## IMPROVEMENT IN EARTH-AUGERS.

Specification forming part of Letters Patent No. 132,980, dated November 12, 1872.

*To all whom it may concern:*

Be it known that I, ISAAC N. PYLE, of Cameron, in the county of Clinton and State of Missouri, have invented a new and Improved Auger for Stone and Sand, of which the following is a specification:

Figure 1 represents a longitudinal section of my improved auger on the line *c c*, Fig. 2; Fig. 2 is a transverse section of the same on the line *k k*, Fig. 1; Fig. 3 is a detail side view of a wedge; and Fig. 4, a side view of a strap to be applied to the auger-shank.

Similar letters of reference indicate corresponding parts.

The invention consists of an earth-borer, formed of the parts hereinafter fully described.

*A A* in the drawing are the two jaws of the auger, affixed to the lower ends of upright arched plates *B B*, which are, respectively, attached to the pendent arms *a a* of the shank *C*. This shank is double, its upper or stem parts being held together by means of straps *b b* placed around them. A wedge, *d*, Fig. 3, can, from below, be forced in between the parts of the shank to spread the jaws and plates *B* to a suitable extent. In that case a

strap, *e*, Fig. 4, must be used, larger than the strap *b*, for the purpose of allowing the expansion of the parts. The plates *B B* are slotted, and are, by bolts *f* passing through their slots, secured to the pendent parts *a* of the shank. They can be readily adjusted on the shank. *D D* are two curved plates, placed between the plates *B* in the manner indicated in Fig. 2. They have jaws *g g* flexibly attached to their lower ends, and are only used in sand. The jaws *g* serve as valves to let the sand in and prevent its escape, thus constituting a trap in which the sand bored out will be collected convenient for removal.

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

An article of manufacture consisting of arched plates *B B*, shank *C a a*, and curved plates *D D* having valves *g g*, all put together for the purpose of forming an earth-borer, as described.

ISAAC N. PYLE.

Witnesses:

ROBERT CALDWELL,  
THOS. C. HAMBAUGH.