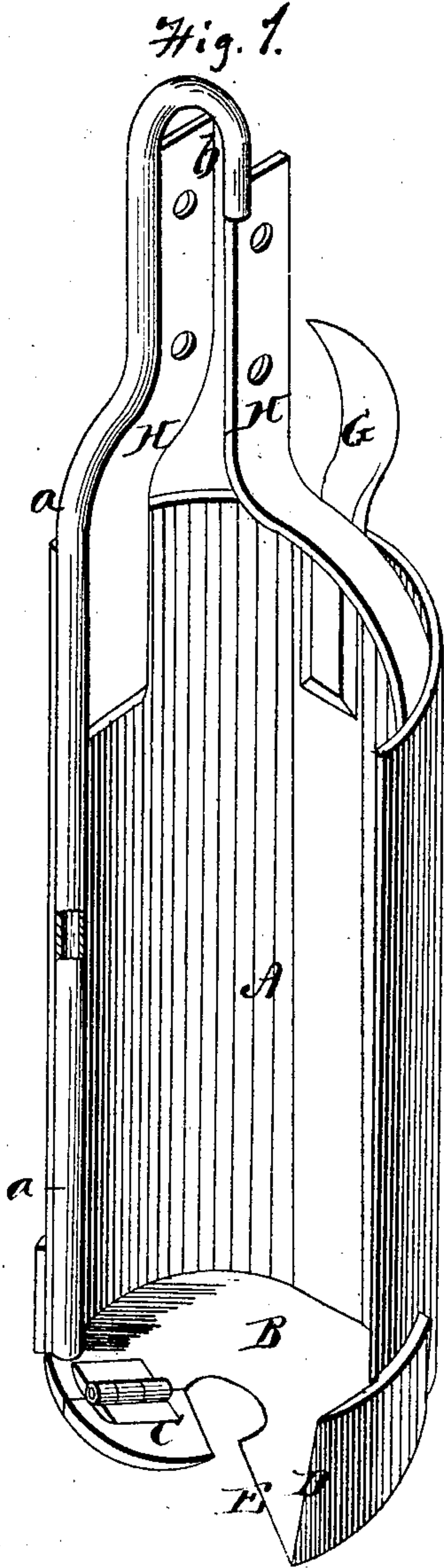


W. W. JILZ.  
Earth-Augers.

No.150,052.

Patented April 21, 1874.



WITNESSES.  
Francis L. Durant  
C. L. Everts.

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*C. L. Everts.*

By

INVENTOR

W. W. Filz  
Alexander Haason  
Attorneys.

# UNITED STATES PATENT OFFICE.

WILLIAM W. JILZ, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN EARTH-AUGERS.

Specification forming part of Letters Patent No. 150,052, dated April 21, 1874; application filed February 4, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM W. JILZ, of St. Louis, in the county of St. Louis and in the State of Missouri, have invented certain new and useful Improvements in Earth-Augers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

My present invention is intended as an improvement upon the earth-boring auger for which Letters Patent No. 129,283 were granted to me July 16, 1872; and the nature of my invention consists in combining with said auger an air-tube, extending up from the bottom of the auger to a suitable height above the cylinder, and its upper end bent or curved over and downward, all as hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

The figure is a perspective view of my improved earth-auger.

A represents the longitudinal half of the cylinder, with bottom plate B, having the hinged valve or door C. D is the vertical cutting-edge, and E the horizontal cutting-edge. H H represent the arms by which the auger is operated. These parts are all constructed substantially in the same manner as described in my former patent, above referred to. At the upper end of the cylinder A is bolted a curved knife, G, which projects upward a suitable distance above the cylinder for the purpose of reaming out the hole and making it larger. At the lower end of the auger is bolted a knife, which extends downward a suitable distance below the cylinder. This knife is used to cut all roots, &c., that come within the circumference of the hole. The upper end of the upper knife G is bent inward,

so that it will not catch into the side of the well as it is coming up. *a* represents an air-tube, extending through the bottom of the auger upward along the inside, and a suitable distance above the same. This tube is to admit air under the auger when the auger is raised. The flattened part of the cylinder acts as an air-chamber when boring in clay or any tenacious earth; but when boring in soft, mucky earth, or quicksand, the air-pipe *a* is indispensable. The upper end of the air-tube *a* is bent over the extreme end *b*, pointing downward. By this construction, if any pieces of clay or other substances fall on the pipe it will not get into the same and clog it up. Even if the auger is under muddy water, and the pipe also, it will not clog up in raising, as the heavy lumps of earth and gravel will sink, and the water only will pass through the tube, until the auger gets above the water, and then the air will pass through. The bend *b* of the pipe also, by its position between the arms H H, assists as a standard and support to hold the column of earth from falling out of the pod or auger.

I am aware that an earth-auger cylinder having a knife at the bottom, also an earth-auger cylinder having a knife at its top, have been known; hence I disclaim such, when taken separately, as being my invention.

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

The air-tube *a*, having its upper end *b* bent over downward, and arranged in the earth-auger cylinder A, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of January, 1874.

WILLIAM WHEETEN JILZ.

Witnesses:

AMOS M. THAYER,  
A. N. MARR.