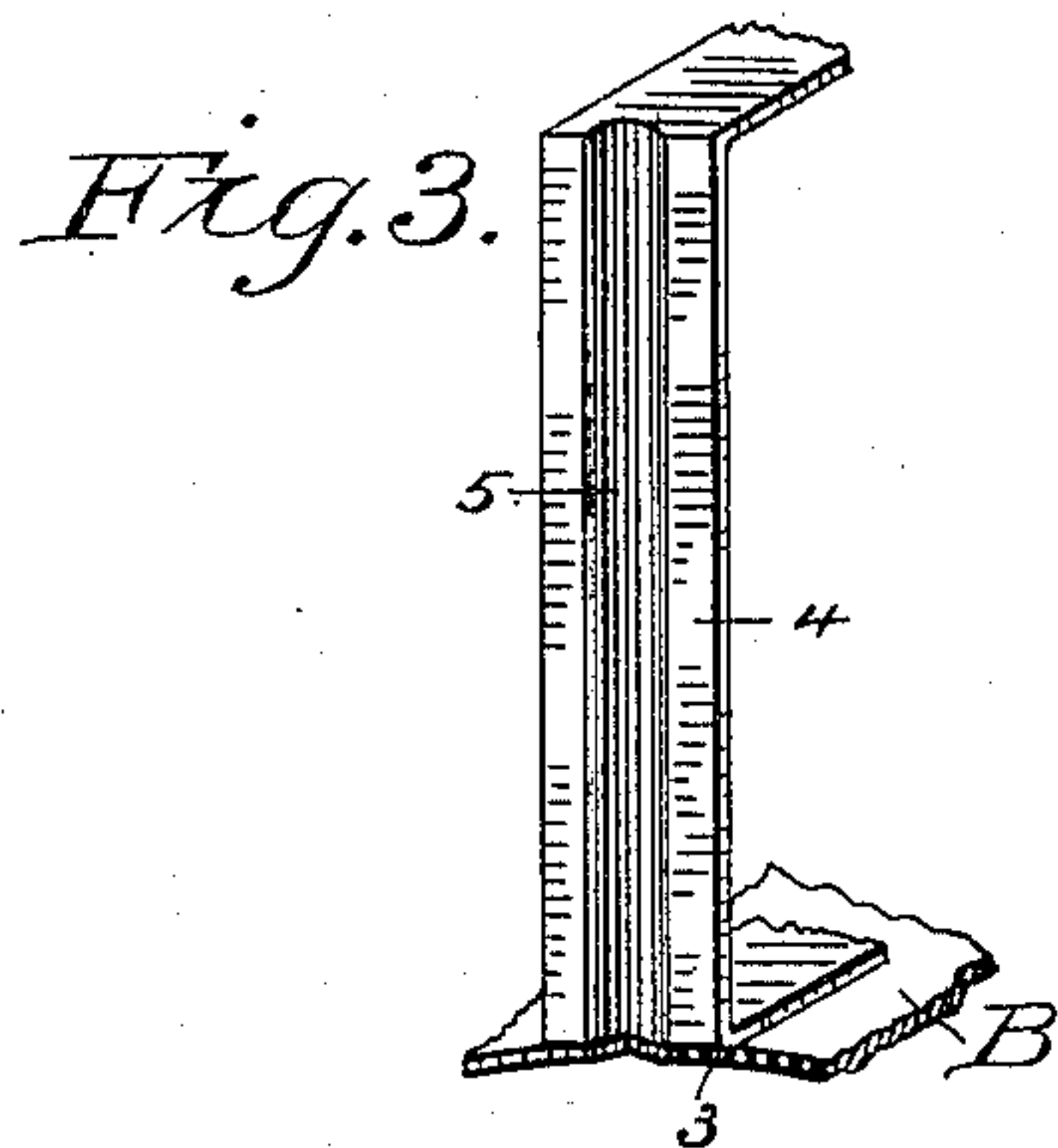
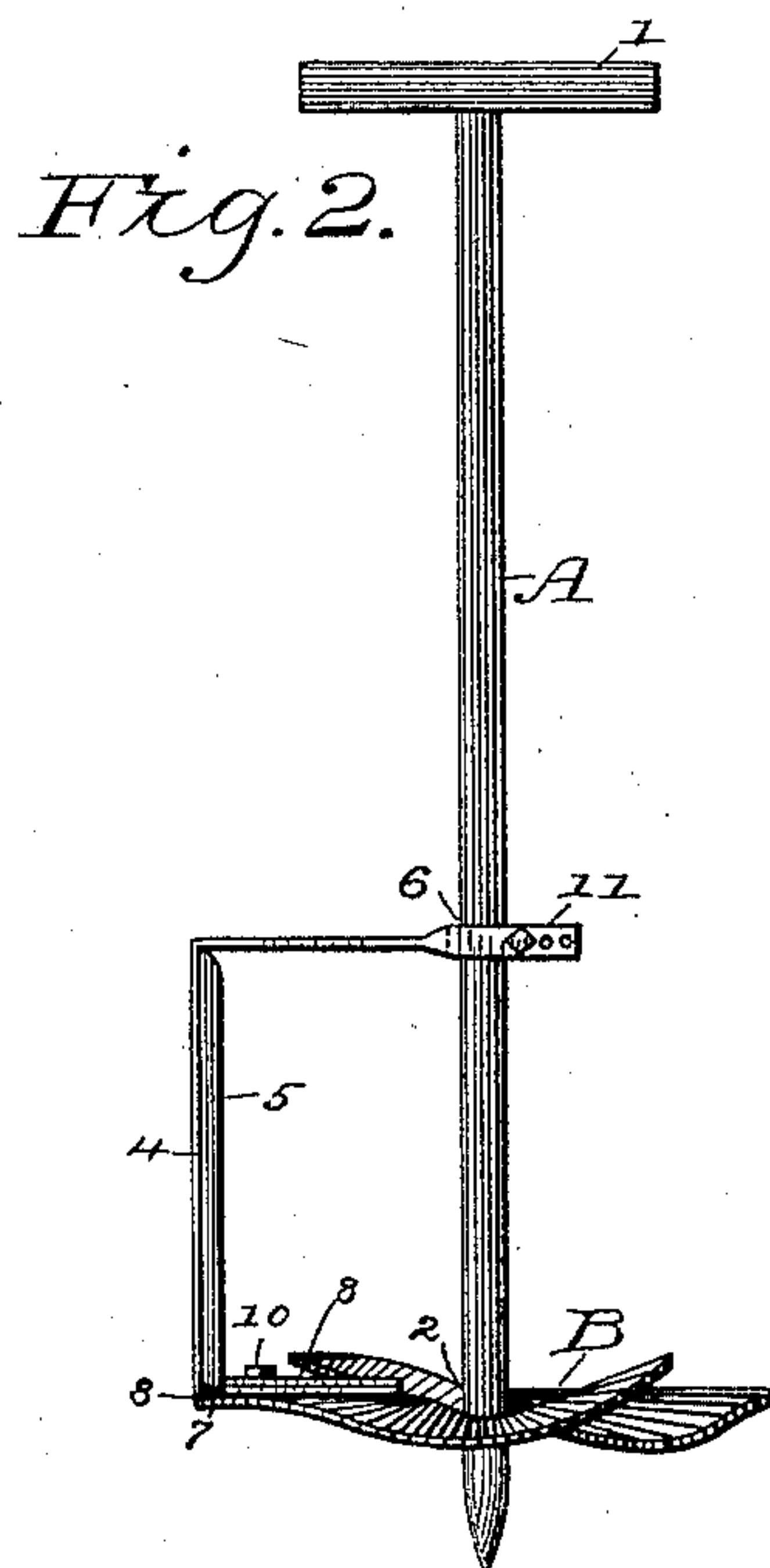
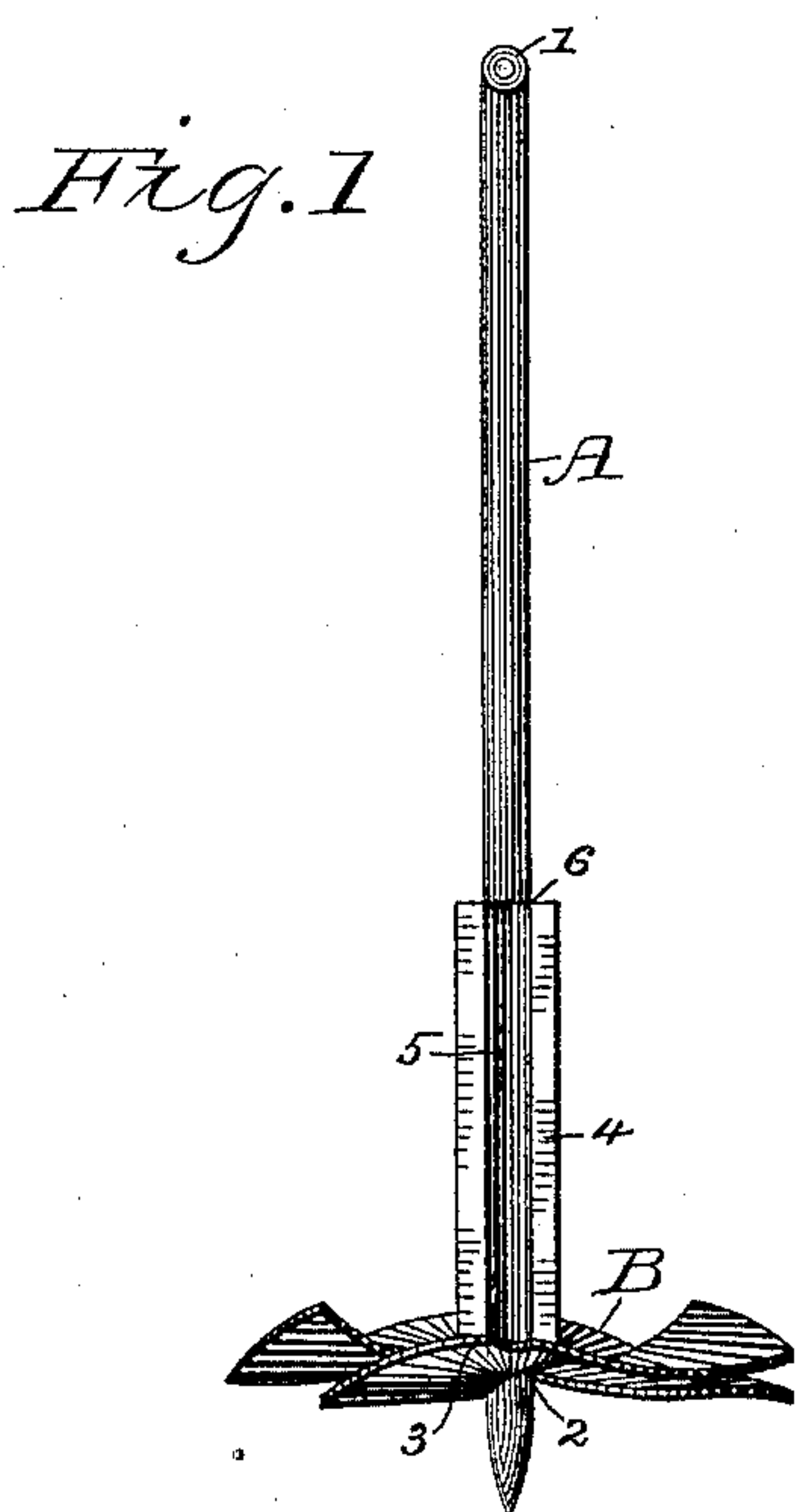


(No Model.)

A. V. HARTLE.  
EARTH AUGER.

No. 432,705.

Patented July 22, 1890.



WITNESSES  
*Spencer Messer.*  
*B. H. Sommer.*

INVENTOR  
*Americus V. Hartle.*  
by *A. G. Huffman*  
Attorney.

# UNITED STATES PATENT OFFICE.

AMERICUS V. HARTLE, OF MARSEILLES, OHIO.

## EARTH-AUGER.

SPECIFICATION forming part of Letters Patent No. 432,705, dated July 22, 1890.

Application filed May 3, 1890. Serial No. 350,458. (No model.)

*To all whom it may concern:*

Be it known that I, AMERICUS V. HARTLE, a citizen of the United States of America, residing at Marseilles, in the county of Wyandot and State of Ohio, have invented a new and useful Improvement in Earth-Augers, of which the following is a specification.

My invention has relation to improvements in earth-augers of that kind usually employed for forming post-holes and similar excavations, and the object is to provide an implement of the kind named, which will not only expeditiously bore a post-hole, but one which, when so desired, may be readily withdrawn from the excavation with the loosened earth.

Another object is to provide such an auger with an air-vent combining the functions of a reamer which may be adjusted and set at a position to travel at a greater distance from the axis of the auger than the perimeter of the auger.

I have fully and clearly illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a view of my improved earth-auger having the combined reamer and air-vent rigidly fixed thereto. Fig. 2 is a view of the same having the combined reamer and air-vent made adjustable thereon. Fig. 3 is a view in detail, in enlarged scale, of the combined reamer and air-vent.

A designates the handle of the auger, which is of the desired length and provided with a cross-piece 1 at the top, by which the implement is turned in the operation of excavating. B designates the auger, consisting of the usual flat blades, having their meeting or boring edges curved into a scroll in cross-section and turned slightly upward and downward at opposite edges or ends, substantially as shown. These blades are properly braced or stiffened at their connection to the stem by any suitable means, as seen at 2. To one of the blades, at the outer edge or perimeter, is attached one end of my combined reamer and air-vent 3, which consists of a vertically-arranged narrow plate 4, having sharpened edges and formed with a central channel 5, extending for its length and across the thick-

ness of the auger-blade. The upper end of the plate is bent down at substantially right angles and has the end secured to the stem, as seen at 6.

As it may be necessary or desirable at times to ream the hole out larger than the bore of the auger, I provide for the purpose by making the combined reamer and air-vent adjustable on the auger, as follows: The plate 4 is turned upward to a plane corresponding to the face of the auger-blade, forming a foot 7, in which are formed elongated slots 8, engaging on threaded studs 9 in the auger-plate and adjustably held thereon by nuts 10. The part 6 may be formed with a fork 11, to straddle the stem of the auger, and the adjustment made by a bolt projected through the holes and screwed up to clamp the stem. While the adjustable feature of my invention is useful, the rigid reamer and vent-piece is all that is essential to complete practicality.

The earth-auger thus constructed not only has its utility enhanced by the cutting of the reamer in the earth, but when the auger with its load of earth is to be withdrawn the vent-groove affords free access of air below the auger, and it is drawn out impeded only by the weight of the soil thereon. It will be observed that as the auger progresses in the operation of boring the reamer cuts the earth free at the edges of the hole, and at all times the air has access to the bottom of the hole through the vent in the reamer.

Having thus described my invention, what I claim is—

1. An earth-auger consisting of a stem and auger-blades and a combined reamer and air-vent consisting of a vertically-arranged narrow plate having sharpened edges and formed with a central channel extending the length thereof, said plate having its lower end secured to the outer edge of one of the auger-blades and its upper end braced to the auger-stem, substantially as described.

2. In an earth-auger, the combination of the auger provided with threaded studs and nuts, the auger-handle, and the combined reamer and air-vent consisting of a vertically-arranged narrow plate having a central groove

extending the length thereof, and formed with  
a foot-piece having slots to engage the studs  
on the auger, and an inwardly-turned arm at  
its upper end to engage the handle, whereby  
5 the reamer and vent-piece may be adjustably  
secured to the auger, substantially as and for  
the purpose specified.

In witness whereof I have hereunto set my  
hand in the presence of two attesting wit-  
nesses.

A. V. HARTLE.

Witnesses:

THOS. L. BARTON,  
S. S. SIMPSON.