

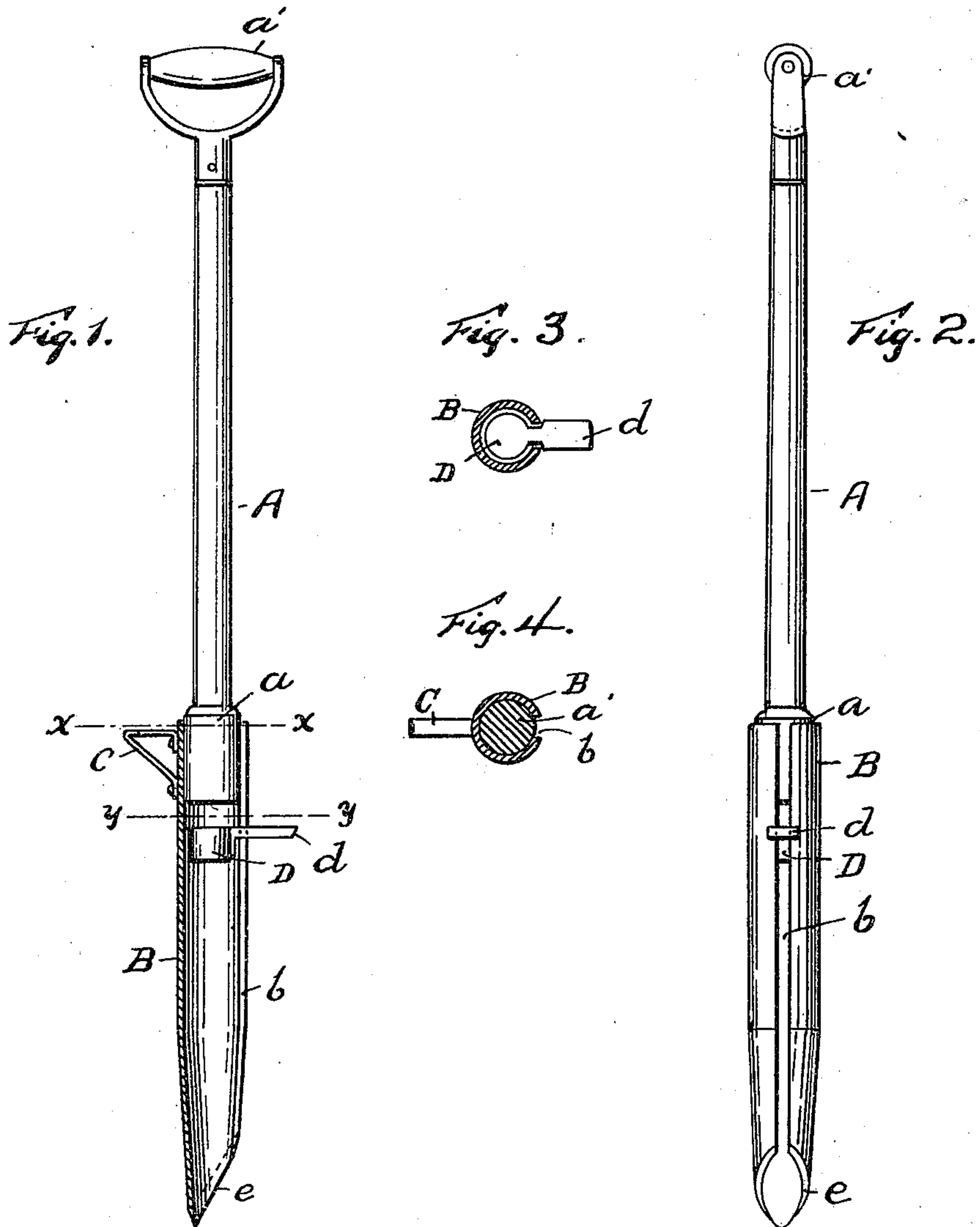
No. 684,010.

Patented Oct. 8, 1901.

A. THALHEIMER.  
SOIL TESTER AND MULSHER.

(Application filed Feb. 14, 1901.)

(No Model.)



Witnesses  
Katherine Kelly  
Florence Kelly.

Albert Thalheimer, Inventor

By Attorney *E. A. Kelly*

# UNITED STATES PATENT OFFICE.

ALBERT THALHEIMER, OF READING, PENNSYLVANIA.

## SOIL-TESTER AND MULSHER.

SPECIFICATION forming part of Letters Patent No. 684,010, dated October 8, 1901.

Application filed February 14, 1901. Serial No. 47,212. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT THALHEIMER, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Soil-Testers and Mulshers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a new article of manufacture, and is intended as a mulsher and feeder for use particularly in depositing fertilizer or other material at the roots of trees, plants, &c. It can also be used with great ease and facility as a soil-tester.

The invention consists of means for inserting a receiving-tube into the soil by foot-pressure, withdrawing it, and ejecting therefrom, also by foot-pressure, the contents thereof.

The invention is fully described in the following specification and clearly shown in the accompanying drawings, in which—

Figure 1 is a vertical side view of my invention, partly in section. Fig. 2 is a vertical front view. Fig. 3 is a cross-section on line Y Y. Fig. 4 is a cross-section on line X X.

The handle A is formed with an enlarged lower end *a* and a suitable grip *a'* at its upper end. A metal tube B is secured to the end *a* of the handle in any suitable manner. This tube B is tapered at its lower end for about one-third of its length and has its lower face *e* cut off at an angle of approximately forty-five degrees to the axis of the tube, and along the shorter side of the tube is formed a slot *b*, running its full length. The angled face *c* is sharpened or tapered from the outside diameter toward the axial line of the tube. A footpiece C is secured to the upper end of the tube at a point opposite the slot *b*. Inside the tube I provide a loosely-sliding cylinder or block D, having a projecting footpiece *d*, adapted to travel in the slot *b*.

The operation is as follows: When it is desired to test the soil, for instance, the point of the tube is pressed into the earth by foot-pressure on the footpiece C and as it enters will become filled with the soil. The tube is then withdrawn and the foot-pressure applied to the footpiece *d*, carrying the cylinder D, and the pressure thereon will readily eject the contents therefrom. In feeding fertilizer the operation will be to fill the tube with the fertilizer after ejecting the earth and returning the new material.

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

1. As a new article of manufacture, a mulsher and feeder, comprising a tapered slotted tube having a footpiece C secured thereto and fastened to a suitable operating-handle, substantially as and for the purpose set forth.

2. In a mulsher and feeder for fertilizer, a tapered slotted tube carrying an internal slide with projection adapted to travel in said slot and fastened to a suitable handle substantially as set forth.

3. In a mulsher and feeder for fertilizer, a tapered tube B having its lower end cut at an angle other than right angles to the axis of the tube, a slot in said tube along its short side, a loosely-fitting cylinder traveling in said tube and having a projection adapted to ride in said slot, and a footpiece C secured to the upper end of said tube, the whole secured to a suitable handle, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT THALHEIMER.

Witnesses:

ED. A. KELLY,  
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