

(No Model.)

W. W. CURTIS.

EARTH AUGER.

No. 331,228.

Patented Nov. 24, 1885.

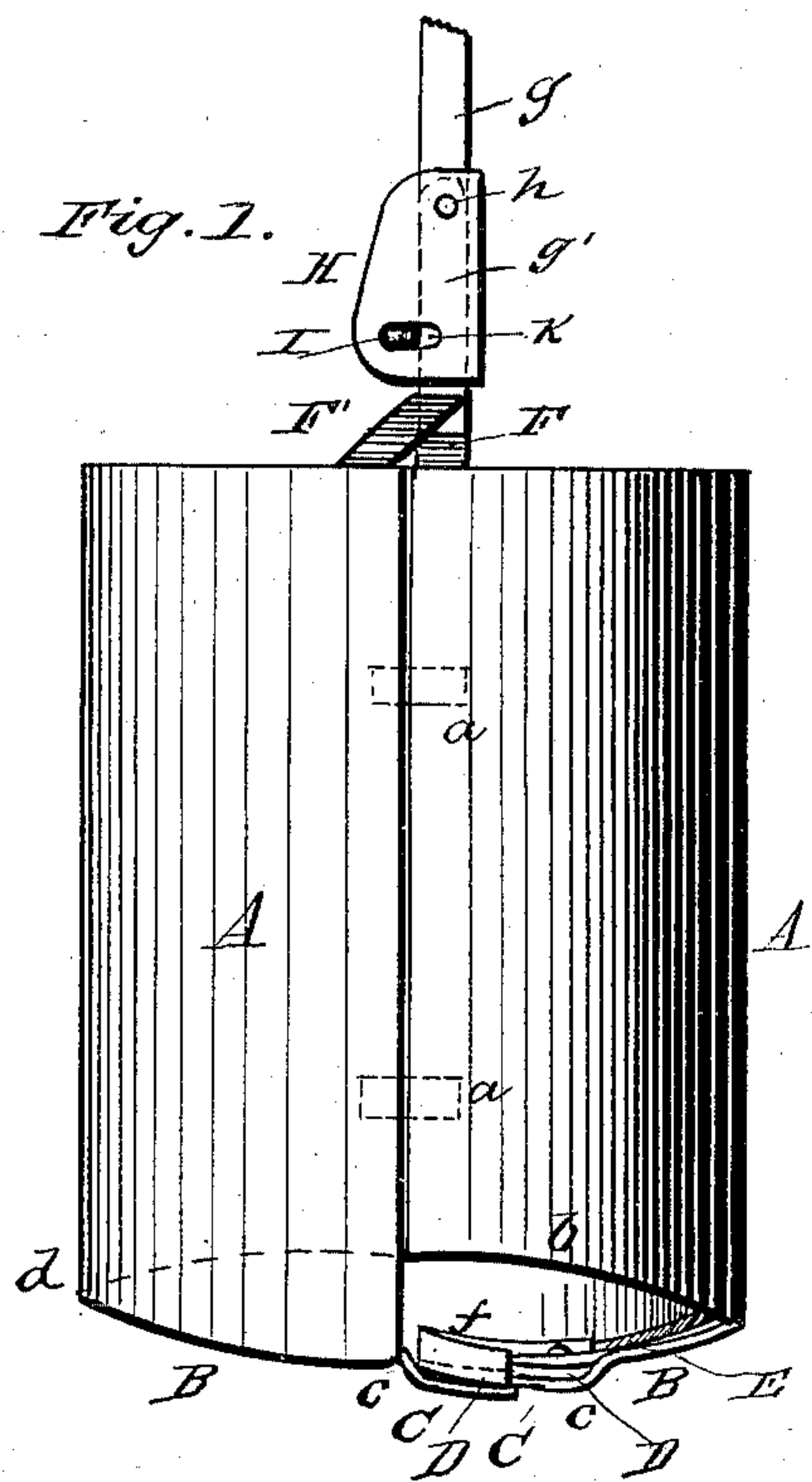


Fig. 1.

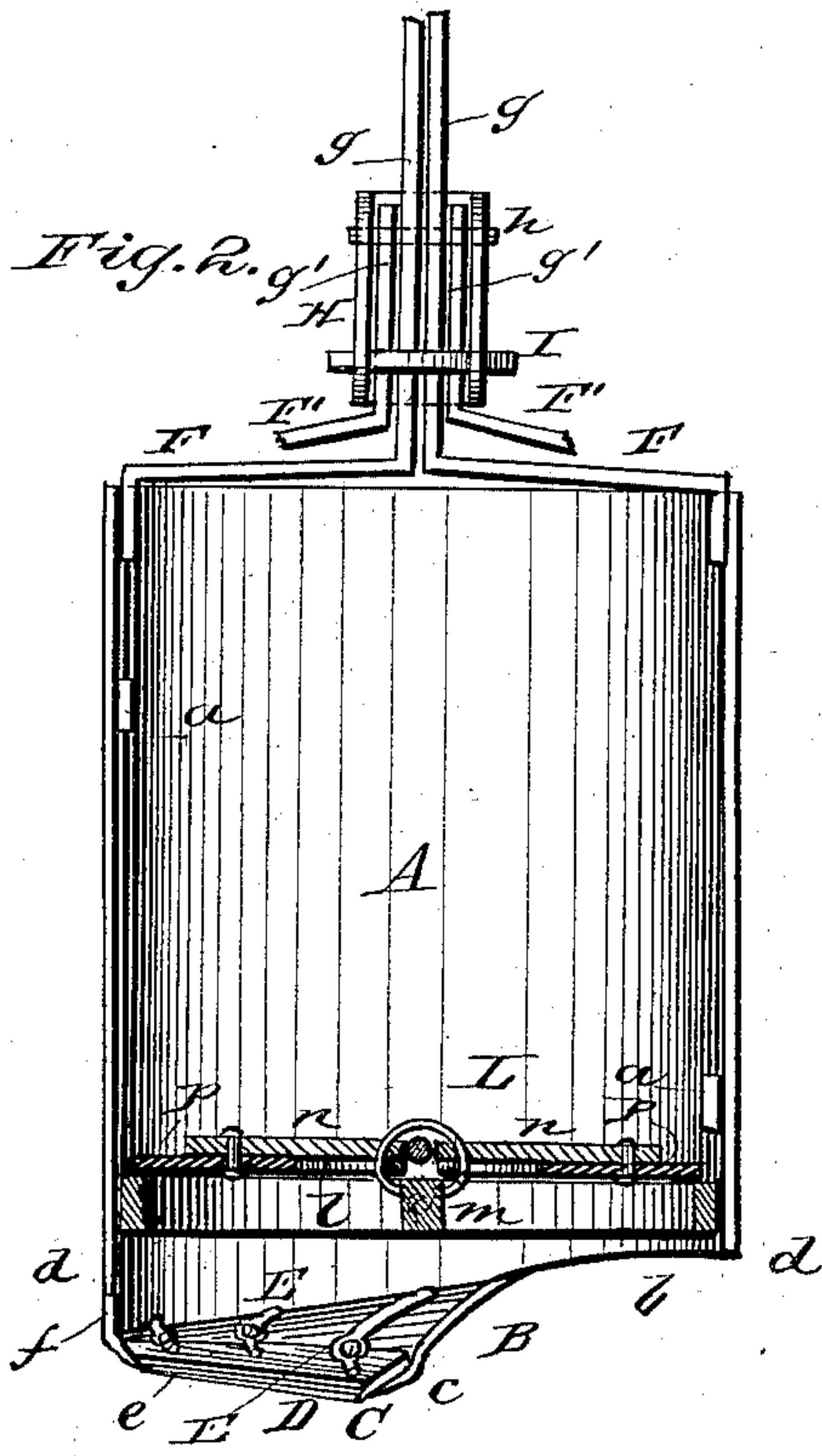


Fig. 2.

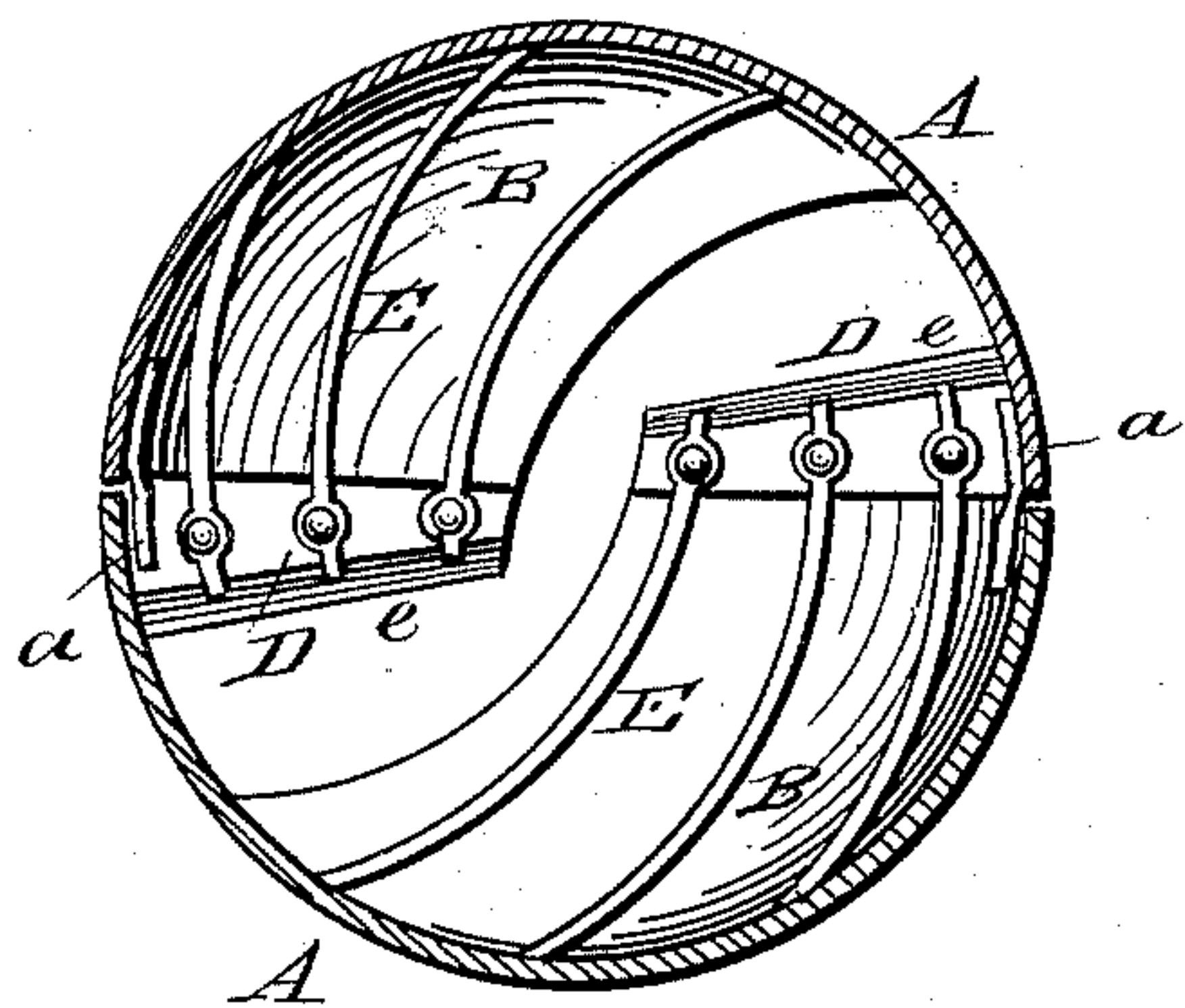


Fig. 3.

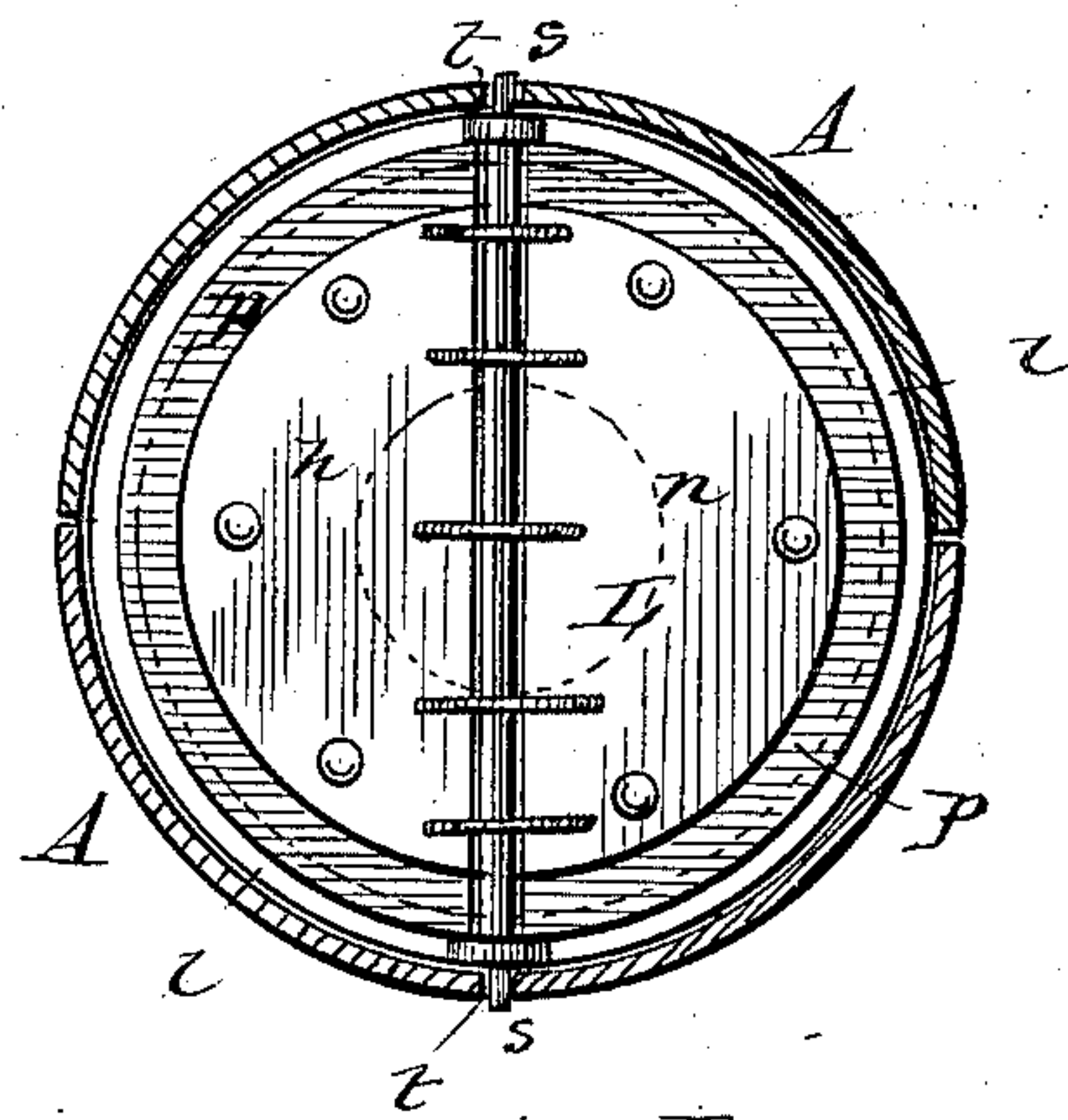


Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM W. CURTIS, OF STANBERRY, MISSOURI.

EARTH-AUGER.

SPECIFICATION forming part of Letters Patent No. 331,228, dated November 24, 1885.

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To all whom it may concern:

Be it known that I, WM. W. CURTIS, a citizen of the United States, residing at Stanberry, in the county of Gentry and State of Missouri, have invented certain new and useful Improvements in Earth-Augers; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side view of my auger. Fig. 2 is a vertical sectional view, and Figs. 3 and 4 are cross-sectional views of the same.

This invention has relation to augers for removing earth, sand, and stone; and the invention consists in the construction and novel arrangement of devices, as hereinafter set forth.

In the accompanying drawings, the letters A A designate the sections of the pod or cylinder, which are made in semi-cylindrical form of strong boiler-iron, the vertical edges of the sections being neatly fitted together, so that when the sections are closed the pod will be perfectly cylindrical and adapted to turn easily in the ground. The approximate edges of the sections may be provided with lugs *a*, which engage the edges of the opposite sections in a reciprocal manner and serve to hold the edges of the sections in relative position. The lower edge of each section is inclined, as indicated at *b*, and to the deeper portion thereof is joined the sector-shaped base-piece B, which slopes toward the center, and is formed with a rabbet, *c*, at the end C, which projects beyond the longer vertical edge *d* of each section. Each base-piece B is provided with a series of finger-bars, E, the ends of which project over the rabbet *c*.

D D represent the bits, each of which is made of steel, and extends radially from the outer circle of the base to the center, the direction of the cutting-edge *e* being somewhat rearward as well as inward from the outer upwardly-flanged end *f* of the bit. Each bit is seated on the rabbet *c* of the base-piece B of the cylinder-section, the finger-bars E extending over the body of the bit and being

secured thereto by small bolts, which extend through perforations in the finger-bars, the bit, and the rabbeted seat. The upper end of one section is provided with arms F, which extend radially toward the vertical axis of the auger and are formed with vertical branches *g*, which are riveted or welded together, forming a solid shank. The upper end of the other section is also provided with radially-extending arms F', having vertical branches *g'*, which are pivoted to the shank of the first section by means of a bolt, as at *h*, so that when the sections are closed together the shank will be between the arms *g'*. This connection is still further strengthened by a swinging clamp, H, the upper portion of which is pivoted on the bolt *h*. The parallel walls of the clamp near its lower end are provided with slots *k* to receive a transverse key, I, which serves to secure the branches *g* and *g'* of the arms F and F' within the clamp holding the sections of the pod together in position for work. When the auger is raised, the contents are discharged by separating the sections, the key I having been knocked out of its bearings in the clamp. In rocky soil it is designed to remove one section of the pod, the bolt *h* being withdrawn. The remaining section will operate effectively to remove rocks and boulders. In sandy soil a sand-valve, L, should be employed. This sand-valve consists of a circular band of iron having a transverse bar, *m*, extending diametrically, and semicircular valve-pieces *p* of leather or rubber, to the upper surfaces of which thin iron plates *n* are attached by means of rivets. The valve-pieces *p* are hinged by means of wire connections to the center bar of the band-iron *l*. This circular band is provided with studs *s*, designed to engage perforations *t* in the walls of the pod-sections near the lower ends thereof, so that when said sections are closed together the sand-valve will be held in position. When the auger is turned in the sand, the valve-pieces yield upwardly and the pod is filled with the sand, which, when the auger is raised and opened to discharge, drops out with the sand-valve.

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

1. The semi-cylindrical pod-sections having

the rabbeted base-pieces, and the finger-bars projecting over the same to hold the bits, substantially as specified.

2. The semi-cylindrical pod-sections having the arms F and F', provided with vertical branches *g* and *g'*, pivoted together, and provided with a pivoted clamp-bearing having its lateral walls slotted to receive a transverse key, substantially as specified.

3. The sand-valve consisting of an iron band-ring having studs at its sides to engage the pod-sections, a transverse rod diametrically arranged, and leather valve-pieces covered with thin metal and hinged by means of wire

to said transverse rod, substantially as specified. 15

4. The combination, with the semi-cylindrical pod-sections having perforations in their walls, of the sand-valve having a ring or band frame provided with studs projecting at opposite sides to engage the perforations of said pod-sections, substantially as specified. 20

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

WILLIAM W. CURTIS.

Witnesses:

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