

THOMAS ORCHARD.

Improvement in Earth-Augers.

No. 114,185.

Patented April 25, 1871.

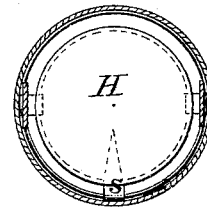
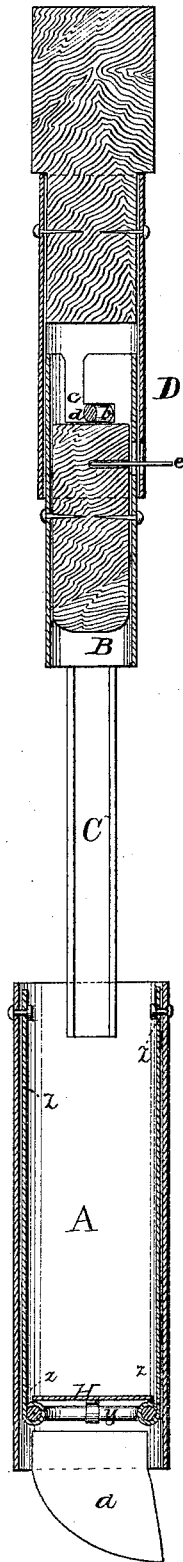
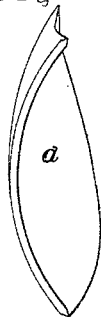
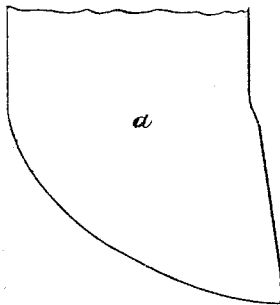
Fig. 1.

Fig. 3.

Fig. 4.

Fig. 2.

Fig. 5.



Witnesses.

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THOMAS ORCHARD, OF SACRAMENTO, CALIFORNIA.

Letters Patent No. 114,185, dated April 25, 1871.

IMPROVEMENT IN EARTH-AUGERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, THOMAS ORCHARD, of Sacramento, in the county of Sacramento and State of California, have invented a new and valuable Improvement in Earth Boring Augers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a central vertical longitudinal section.

Figure 2 is a bottom view.

Figures 3, 4, and 5 are details.

My invention has relation to earth-augers, and consists in the devices hereinafter claimed as an improvement upon my earth-auger for which Letters Patent of the United States were granted on the 6th day of December, 1870.

The letter A of the drawing is a short cylinder of metal, open at top and bottom.

The letters *a a* represent cutters, constructed of steel and firmly riveted or otherwise attached to the bottom of said cylinder—one on each side thereof—and so arranged and applied that their cutting-edges shall describe a circle somewhat larger than the diameter of the cylinder. This gives the latter room to turn without friction against the sides of the hole. These cutters are illustrated by figs. 1, 4, and 5 of the drawing.

Near the lower end of the cylinder A, and on the inside thereof, I affix a ring, *y*, and secure it in position by means of rods *z z*, in the manner shown on fig. 1.

The letter H represents a valve hinged to the ring *y* at *s*, and so arranged that it shall rise upward on its hinge when the cylinder is being filled with earth by the rotation of the auger; and when said auger is drawn from the bore it is borne downward until it rests on the ring *y*, thereby converting the cylinder into a carrier for such earth.

The cylinder A is connected with the first joint B of the smaller operating-tube by straps O O.

My patent of December 6, 1870, contains a full description of the means by which tubular sections may be added to my auger at will, and to which said patent I refer for greater certainty.

The operation is as follows:

The tube A is turned around in the hole, the cutters *a a* taking up the earth until the tube is sufficiently full, when the whole is withdrawn and emptied, the valve H in the mean time serving to hold the earth in the cylinder until the same is withdrawn and emptied.

I claim, as the improvement upon my patent of December 6, 1870—

The valve H, in combination with the rods *z z* and ring *y*, all arranged in the cylinder A, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS ORCHARD.

Witnesses:

MATT. F. JOHNSON,
W. C. DU BOIS.