G. G. COLLINS.

EARTH-AUGER.

No. 187,705, Patented Feb. 27, 1877.

Fig. 1.

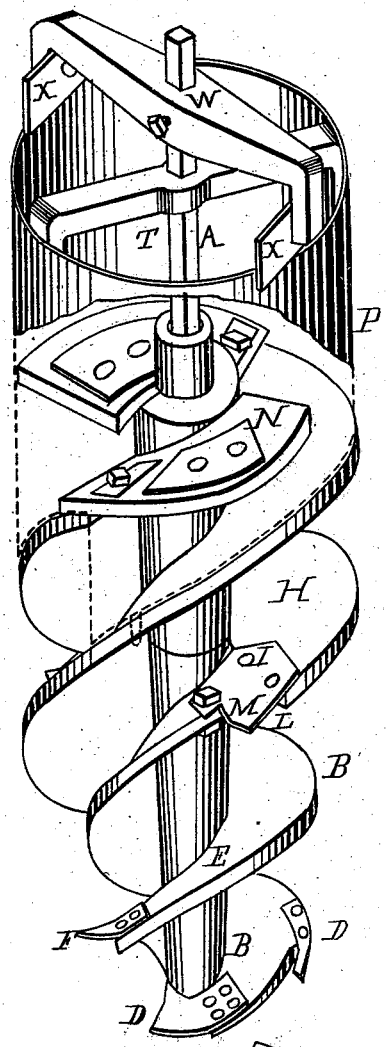


Fig. 2.

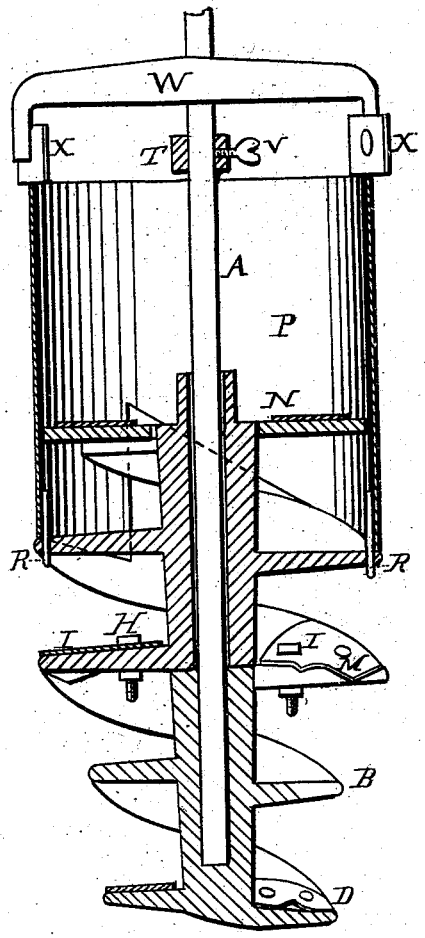


Fig. 3.

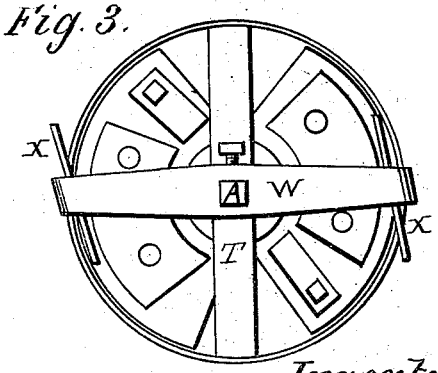
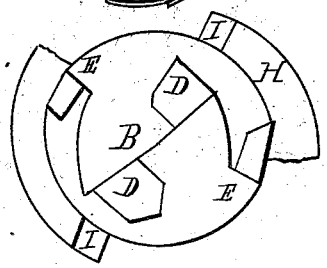


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE

GEORGE G. COLLINS, OF PHILO, ILLINOIS.

IMPROVEMENT IN EARTH-AUGERS.

Specification forming part of Letters Patent No. **187,705**, dated February 27, 1877; application filed August 4, 1876.

To all whom it may concern:

Be it known that I, GEORGE G. COLLINS, of Philo, Champaign county, Illinois, have invented a new and useful Improvement in Earth-Augers, of which the following is a specification, reference being had to the annexed drawings.

The invention relates to an improved earth-auger, as hereinafter more fully described, its object being to provide a device for boring holes of any desired size.

Figure 1 is a perspective view of a device embodying the elements of the invention. Fig. 2 is a central vertical longitudinal section of same. Fig. 3 is a top view, and Fig. 4 bottom view, of same.

A in the accompanying drawings represents a shaft, to the lower end of which is firmly secured the auger-point B, having upon its opposite lowest flanges the bits D firmly secured. At a proper distance above the bits D there is an enlargement or shoulder, E, formed upon the edge of the flange of the point B, to which is rigidly secured the bit F. Thus the auger-point B is provided upon four sides with bits, which operate on increasing circles. Above the point B is placed, movably upon the rod A, a section, H, connected by the plates I on opposite sides to the upper parts of the point B. The flange of the section H exceeds in diameter that of the bit B, so that a shoulder, L, is formed at the junction of the bit and section, whereon is provided another bit, M, which operates on a larger circle than the bit F below.

It is obvious that any number of shoulders with bits on them may be constructed, and that, by the addition of sections, the length of the auger may be indefinitely extended.

To the upper ends of the flanges of the section H is secured one end of a valve, N, having an upward action, its edges impinging against the interior of the slush-box P, which fits upon the upper end of the section H, being secured thereon by the pins R, which enter the edge of the flange. Thus, as the device descends, the water, loose earth, sand, slush, and other matter passes up under the valve in the box P, and may then be drawn out, as the valves N closing downward prevent the escape of any matter within the box as the auger is being withdrawn. The upper edges of the box P are connected by the brace T, having at its center an angular aperture to receive the shaft A, and a set-screw, V, so that the brace T moves with the shaft. Above the brace T, and similarly provided with reference to the shaft A, is placed the bar W, having the transverse cutters X arranged to throw the dirt toward the shaft A, this part of the device being used to enlarge the aperture formed by the bits and mechanism below.

What I claim as my invention is—

1. The combination, on a shaft, of an earth-auger formed in sections, which increase in diameter, substantially as shown and described.

2. The auger-end A, having the bits D and shoulders E and bits F, substantially as specified.

3. The section H, connected with the auger end A, and provided with the shoulder L and bit M, substantially as set forth.

4. The bar W, having the transverse cutters X, operating to throw the earth, sand, and other loosened matter toward the shaft A, substantially as expressed and shown.

In testimony that I claim the foregoing improvement in earth-augers, as above described, I have hereunto set my hand and seal this 1st day of November, 1875.

GEORGE G. COLLINS. [L. S.]

Witnesses:

J. D. M. FEE,

S. FEE.