F. A. BARLOW.

Earth-Augers.

No. 146,635. Patented Jan. 20, 1874.

Fig. 1.

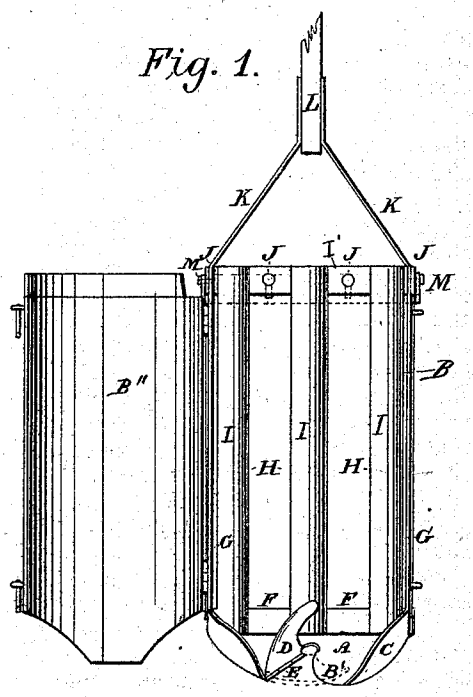


Fig. 3.

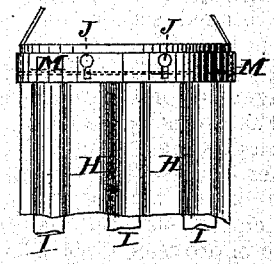
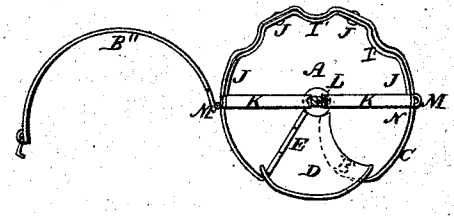


Fig. 2.



Witnesses.

Leonard Devore

Henry A. Burnes

Inventor.

F. A. Barlow.

UNITED STATES PATENT OFFICE.

FREDERICK A. BARLOW, OF VICTOR, IOWA.

IMPROVEMENT IN EARTH-AUGERS.

Specification forming part of Letters Patent No. **146,635**, dated January 20, 1874; application filed July 5, 1873.

To all whom it may concern:

Be it known that I, F. A. BARLOW, of Victor, in the county of Iowa and State of Iowa, have invented a new and Improved Earth-Auger; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is an elevation of the auger with the hinged section of the cylinder or case open, and Fig. 2 is a top view of the same. Fig. 3 is a fragmentary view, showing the arrangement of the slotted ring.

The invention relates, generally, to the class of earth-borers formed of a hollow flanged cylinder or case, into which the loosened earth is received as the boring proceeds, and by which it is elevated and discharged. The specific improvement consists in constructing the cylinder with vertical grooves exteriorly to allow the downward passage of air during the boring operation, and in making the body of cylinder separate from the bottom and frame thereof, and connecting them by means hereinafter described.

The bottom A of the auger is formed, like its body B, of sheet metal or boiler-plate iron, and has a vertical upward-projecting flange, C, extending around it. A sector-shaped piece is cut out of said bottom to form a valve, D, which is hinged at E, and opens inward. When closed, as shown in dotted lines, Fig. 1, and full lines, Fig. 2, the free end of the valve rests on the edge B′ opposite the hinge E. Said edge is inclined downward to form a lip or cutting-edge, which, as the auger revolves, takes into the earth, operating thus after the manner of the lips of ordinary wood-augers. A series of vertical bars, I, are attached to the flange C, on one half or side thereof, at suitable distances apart. These bars are joined at the top to a half-ring, I′, with which the shaft L is also connected by bars K. The parts I I′ constitute the frame of the auger. The shell or cylinder proper is formed of two parts, B B″, the latter hinged to the former, and provided with hooks to secure it when shut. The part B is corrugated longitudinally or vertically. The ring I′, and that part of the flange C between the bars I, are corrugated correspondingly. Each bar I is also grooved, or curved in cross-section, so that the inwardly-bent parts of B will fit snugly against them, and thus prevent the shell or cylinder from moving circularly. The part B fits between the flange C and the bars I at the bottom, and under a movable ring, M, at the top. Said ring conforms to the ring I′ in shape, and has elongated slots, which allow it vertical movement on bolts J, that pass through, and project exteriorly from, the ring I′. The ring M is forced down over the top edge of the part B when the latter is in place. Thus secured, the cylinder can move neither vertically nor circularly, and yet may be readily removed, as required.

The main function of the grooves in the cylinder is to allow free passage of air, which is a necessity in operating the auger, particularly in moist or clayey earth. The cylinder is likewise strengthened by the corrugations, and friction reduced.

What I claim as new is—

1. The earth-auger having vertical grooves in its shell or cylinder for conducting air during the operation of boring, substantially as shown and described.

2. The combination of the shell B with the bars I, the same being corrugated or grooved and fitted together, as specified.

3. The combination of the grooved shell B with the bars I, bottom A C, and slotted movable ring M, as shown and described.

FREDERICK A. BARLOW.

Witnesses:

GEO. W. RUTHERFORD,
ISA. S. RICHARDS,
LEONARD DEVORE,
HENRY S. BARNES.