

A. A. McMahon,

Well Auger.

No. 88,891.

Patented Apr. 13. 1869.

Fig. 1.

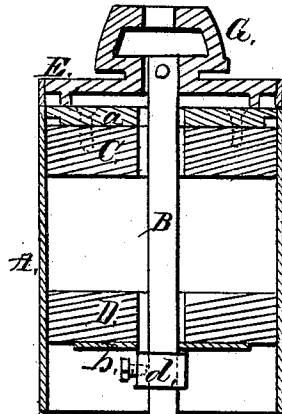


Fig. 2.

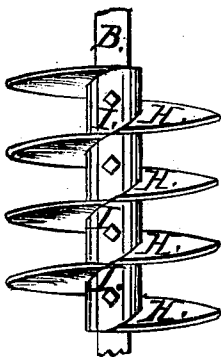
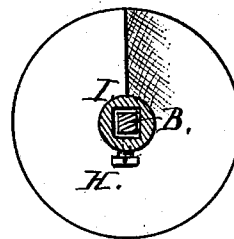


Fig. 3.



Witnesses;

*Wm Morgan
P. C. Diederich*

Inventor;

A. A. McMahon

per *Mumford*
attys



A. A. McMAHEN, OF OXFORD, MISSISSIPPI.

Letters Patent No. 88,891, dated April 13, 1869.

IMPROVED WELL-AUGER.

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, A. A. McMAHEN, of Oxford, in the county of Lafayette, and State of Mississippi, have invented a new and improved Well-Auger; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional elevation of my improved well-auger.

Figure 2 is a detail side view of a portion of the helical sections when brought together to form a continuous helix.

Figure 3 is a detail plan view of one of the helical sections.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a simple and effective apparatus for boring wells and deep holes for other purposes for which it may be found applicable.

It consists in a number of different features of improvement, which, separately or combined, conduce to the more effective operation of well-augers, as is hereinafter fully set forth.

The first feature of improvement consists in the employment, in a well-auger, of a square sheet-metal box, A, working loosely on a shaft, B, bearing any suitable boring-helix, or auger-bit. This combination enables the circular hole made by the auger to be squared in the process of boring, so that it will readily receive a box-curb or square tubing.

The second feature of improvement consists in constructing the helix of the auger in separate sections, so that each section may be placed at an interval of space from the adjacent ones, or be brought close together to form one continuous helix, according to the nature or density of earth being penetrated. For example, in a light, sandy soil, the auger would operate most effectually when the helix was continuous, but in stiff clay soils, the sections being separated, each presents a cutting radial edge, which is more favorable to the operation of the auger.

The box A is stiffened with two heads, C D, each having a central hole, in which the shaft B works freely.

The upper head, C, bears a plate, *a*, which affords a bearing-surface for the flange, or collar E, affixed on the shaft B

The collar E forms part of a head, G, having a lower socket, for the reception of the end of the shaft B, and an upper socket, for the reception of the rod, pole, or staff, passing down the well and actuating the auger.

The lower plate bears a plate, *b*, which affords a bearing-surface for the collar *d*, in the shaft B. This collar is held in place by means of a set-screw, or other suitable means.

The box A projects down a short distance below the lower head, so as to present a sufficient margin for cutting away the earth in squaring the hole.

The helical sections are composed of sheet-metal helical disks, H, each helix having the required pitch.

These disks are affixed on short sleeves I, the length of each of which is equal to the pitch of its disk. The sleeves are movable longitudinally on the square shaft B, but are held in place by set-screws.

The lower disk, J, is a plane disk, having a radial opening, or recess, to one edge of which is affixed a cutter, or bit *c*, for cutting into the soil in the usual manner.

The shaft B is prolonged below this disk, and terminates in a helical formation, K, serving as an entering-point.

The auger is started by means of a two-handed wrench, L, which is removable, the recess fitting on the shaft B, above the helix.

This recess is closed by a button-plate, *f*.

As the auger descends, this wrench is removed, and the auger is turned by means of a pole or rod fixed in the upper socket of the head G.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The employment, in connection with a well-auger, of the squaring-box A, operating substantially as and for the purpose herein shown and described.

2. Forming the helical part of a well-auger in separate sections, H I, substantially as and for the purpose herein shown and described.

3. The combination, in a well-auger, of the squaring-box, A, with the helix, made in separable sections, H I, substantially as and for the purpose herein shown and described

A. A. McMAHEN.

Witnesses:

J. M. COOK,
J. H. TEAS.