

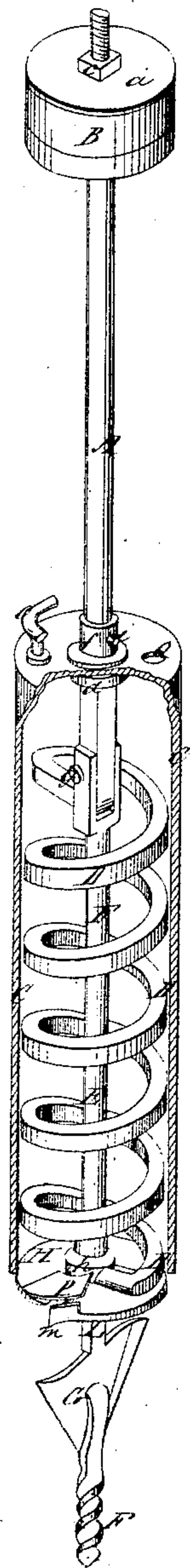
*A. A. McMahon.*

*Earth Auger.*

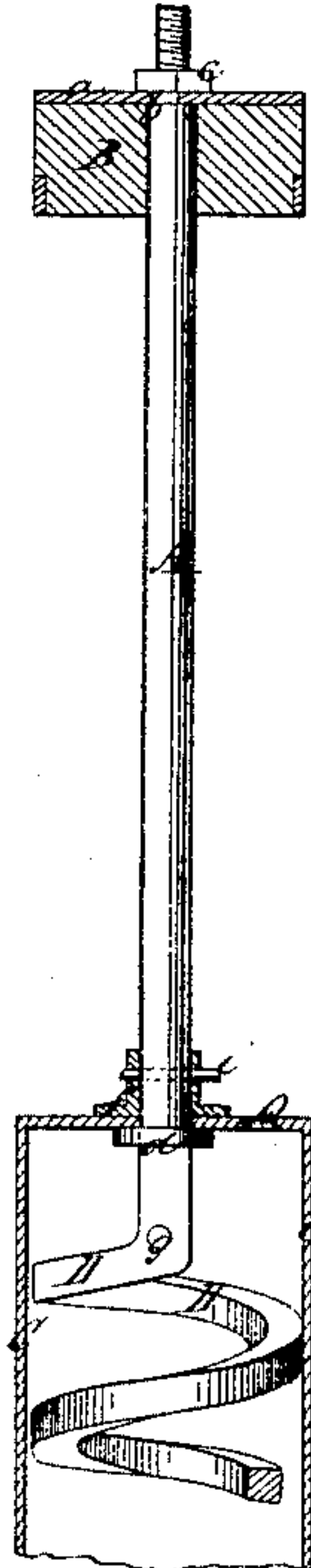
*N<sup>o</sup> 24,749.*

*Patented Jul. 12, 1859.*

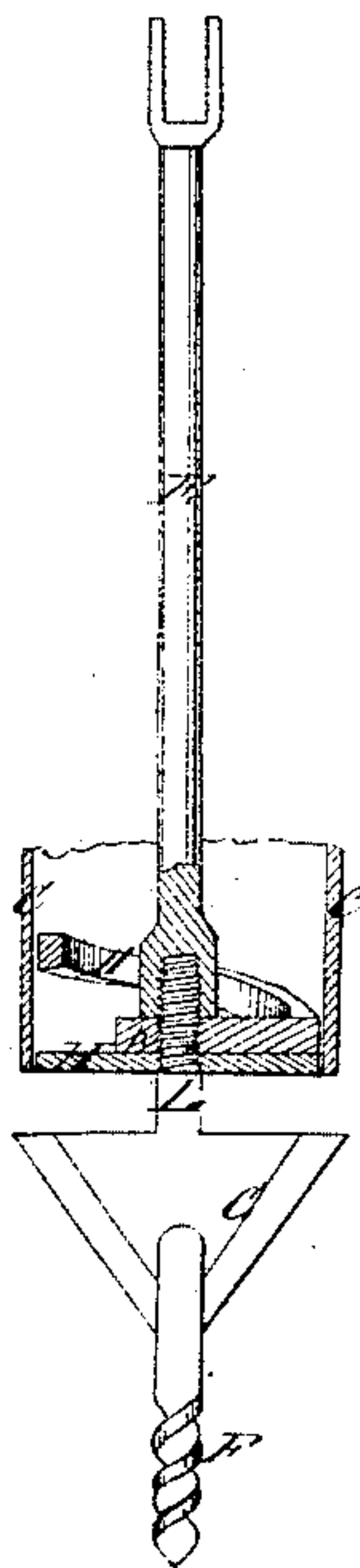
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses*  
*James Riggs*  
*Thos H Robinson*

*Inventor*  
*A. A. McMahon.*

# UNITED STATES PATENT OFFICE.

A. A. McMAHEN, OF OXFORD, MISSISSIPPI.

## EARTH-BORING AUGER.

Specification of Letters Patent No. 24,749, dated July 12, 1859.

*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 certain  
5 new and useful Improvements in Augers for Boring in Earth; 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  
10 accompanying drawings, in which—

Figure 1, represents a perspective view and Figs. 2, and 3, represent vertical sections through said auger.

The nature of my invention consists in  
15 the method of bracing together the two ends of the spiral portion of the auger by means of a rod which constitutes the elongation of the auger shaft, for the purpose of stiffening said spiral portion, and to prevent it from  
20 being twisted or compressed during the operation.

It also relates to the manner of securing the boring tool, to the spiral portion of the auger, by means of which said boring tool  
25 may be removed and replaced without changing or removing any part of said spiral portion.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.  
30

A, represents the main shaft of the auger, to the upper end of which the levers or their equivalents are secured for the purpose of turning the auger.

35 B is a cylindrical guide block, which fits the bore of the well, and which serves to retain the shaft A, in its central and true position during the operation of boring. The block B, is hung upon the shaft A, by means  
40 of the plate *a*, resting upon the shoulder B, and it is screwed down on said shoulder by the screw nut *c*.

C, represents the barrel, which fits over the auger, and which is to receive the borings of the same; it is secured to the shaft  
45 A, by being hung upon the shoulder *d*, and it is held down on said shoulder by means of the sleeve *f*, which is keyed to the shaft A, by the key *i*.

50 D, represents the spiral part of the auger,

which serves to raise the borings in the barrel C; it is welded at its upper end to the shaft A, and both constitute one piece.

E, represents a straight shaft, the upper and forked end of which is secured to the  
55 square end of the shaft A, by means of the screw bolt *g*, while its hollow lower end is secured to the spiral D, and to the auger in the following manner: F, represents the drill, and G, the reamer which latter bores  
60 the well to the required diameter. H, represents the bit which cuts the material after it has been loosened by the drill and reamer, and which forces it into the barrel C. The  
65 stem L, of the reamer screws or fastens through the bit H, through the hub *h*, of the spiral D, and into the hollow end of the shaft E, and thus the shaft E, spiral D, the  
70 bit H, and the reamer G, are firmly secured together by the screw shank L, while at the same time, the upper and lower ends of the  
75 spiral D, are firmly braced together making said spiral stiff, and preventing it from vibrating or twisting. The lower cutting edge  
80 *m* of the bit H, causes the borings to rise on to the upper side of said bit, whereby the action of the spiral D, and by the pressure of the succeeding borings, they rise in the barrel C. The passage through the bit  
85 H, is closed at its upper side by a spring plate or valve P, which prevents the water or borings from escaping downward, while as it opens inward it readily admits the borings from below. Q, represents a hole for  
90 the escape of the water upward and O, represents a handle or hand bolt for adjusting the barrel C, over the auger.

By the arrangement as above described it will be seen that the drill F, as well as the bit H, may be removed by simply unscrewing the drill F, and as these are the working tools, and consequently require a frequent sharpening, it is very essential that the operator may be enabled to remove and  
95 replace them with facility, such as the arrangement herein described affords.

Having thus fully described the nature of my invention, what I claim therein as new and desire to secure by Letters Patent is,

1. Bracing the two ends of the spiral por- 10



tion of the auger by means of the central rod E, substantially in the manner, and for the purposes herein described.

2. I also claim the manner of securing the  
5 boring tools F, G, and H, to the spiral D, by which they may be removed and replaced without making any changes on the spiral

D, substantially in the manner, and for the purposes described.

A. A. McMAHEN.

Witnesses:

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