

A. O. HARDTKE,
POST HOLE AUGER.
APPLICATION FILED MAY 3, 1918.

1,294,098.

Patented Feb. 11, 1919.

Fig. 1.

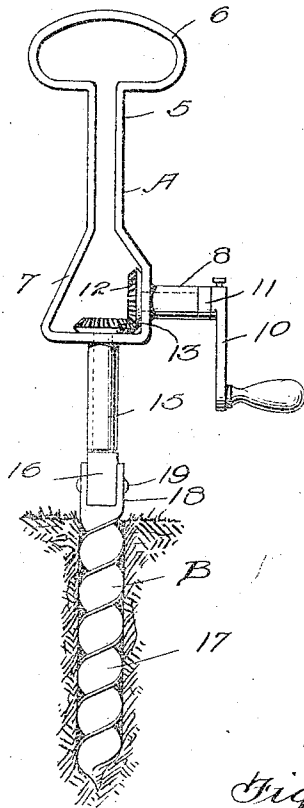


Fig. 2.

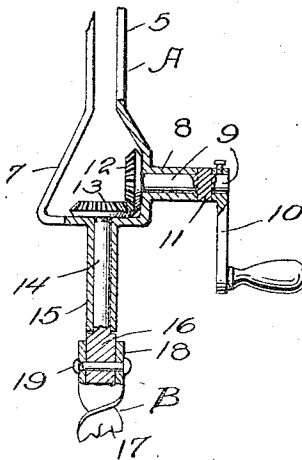


Fig. 4.

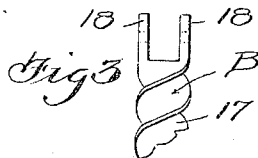
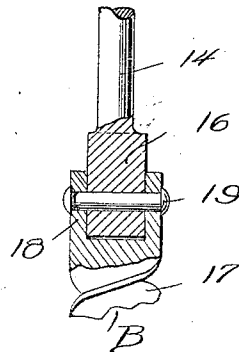
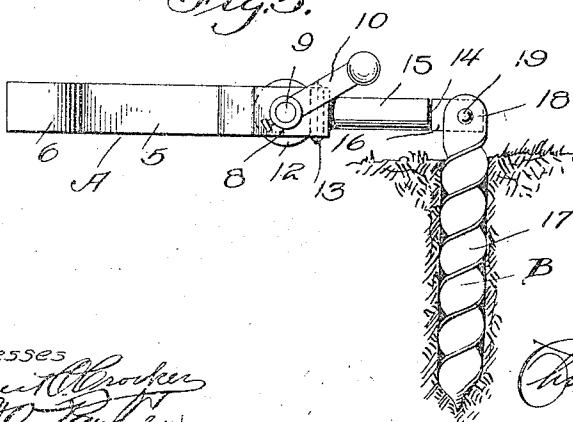


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED O. HARDTKE, OF UTICA, MINNESOTA.

POST-HOLE AUGER.

1,294,098.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALFRED O. HARDTKE, a citizen of the United States, residing at Utica, in the county of Winona, State of Minnesota, have invented certain new and useful Improvements in Post-Hole Augers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to an earth auger, and more particularly to the class of post hole augers.

The primary object of the invention is the provision of an auger of this character, wherein the bit is connected with the bit brace spindle in a novel manner, so that the brace can be swung at right angles to the longitudinal axis of the bit after the same has entered the ground to enable the removal of the bit with despatch and without excessive labor on the part of the operator.

Another object of the invention is the provision of an auger of this character, wherein the construction thereof is novel in form to assure the easy working of the bit and its removal from the ground when the occasion requires.

A further object of the invention is the provision of an auger of this character which is extremely simple in construction, thoroughly reliable and efficient in its operation, strong, durable and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts, as will be hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claim hereunto appended.

In the accompanying drawing:—

Figure 1 is an elevation of an auger constructed in accordance with the invention;

Fig. 2 is a fragmentary vertical, longitudinal, sectional view thereof;

Fig. 3 is a detail elevation of the bit detached from the brace spindle;

Fig. 4 is an enlarged vertical sectional view through the brace spindle and the upper connected end of the bit;

Fig. 5 is a view in elevation of the auger showing the brace or bit stock adjusted at

right angles to the bit when the same is to be extracted from the hole in the ground and the hands of the operator gripping the brace or stock when in this position.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, A designates generally the bit stock or brace and B the bit for forming post holes in the ground and the detailed constructions of which will be hereinafter fully described.

The brace or stock comprises a frame 5 formed with a handle 6 at one end and a substantially triangularly shaped portion 7 at its opposite end, the frame 5 between the handle and said portion constituting a hand grip for the operator of the auger. Integrally formed with the frame 5 on one side of the triangular shaped portion 7 is a tubular bearing 8 in which is journaled a stud driving shaft 9 which has detachably fitted on the outer end thereof, a crank handle 10, the latter being in abutting engagement with a shoulder 11 formed on the shaft 9, which shoulder works against the bearing 8 to prevent inward movement of the shaft 9 therein.

On the inner end of the shaft 9 is a bevel gear 12 which is detachably secured thereto in any suitable manner and meshes with a companion pinion 13 fixed in any suitable manner to the inner end of the bit operating spindle 14 which is at right angles to the shaft 9 and is journaled in a tubular extension 15 integrally formed with the frame 5 at the triangularly shaped end portion 7 thereof. The outer end of the spindle 14 is formed with a squared head 16 to which is detachably and swingingly connected a bit hereinafter fully described.

The bit comprises the screw cutting end portion 17, the edges of the spiral being sharpened for positive cutting action on the rotation of the bit, which is of the required length to form the post hole in the ground of any desired depth. The bit B and its other end is furcated to form spaced parallel pivot ears 18 having suitable registering holes for detachably receiving a pivot pin 19 which is passed transversely through the ears and also transversely through the head 16, the latter having a suitable hole therein for the pivoted pin so that the bit B is swingingly and detachably connected

to the head 16 of the spindle 14 in the brace or stock.

In the use of the auger the bit B is brought into alinement with the spindle 14 in the brace or stock A and on the turning of the crank handle 10 rotary movement is imparted to the bit so it will cut a hole in the ground for the formation of a post hole. Now when the post hole is cut the desired depth, the operator of the auger swings the brace or stock A so that the frame 5 thereof will be at substantially right angles to the longitudinal axis of the bit B and said operator by gripping the handle 6 of the frame 5 and the intermediate portion of said frame near the triangular end 7 thereof with an upward pull the bit B can be removed or extracted from the hole with despatch and without excessive labor on the part of the operator.

From the foregoing it is thought that the construction and manner of operation of the auger will be clearly understood and therefore a more extended explanation has been omitted.

What is claimed is:—

A post hole auger comprising a brace formed from a frame having a handle at one end and a substantially triangularly shaped portion at its opposite end, the frame between the handle and said end portion constituting a hand grip, a tubular bearing formed in the triangularly shaped portion, a stud driving shaft detachably journaled in said bearing and having an abutment near its outer end to engage the bearing, a beveled gear on the inner end of the shaft, an operating spindle journaled in the triangularly shaped portion at right angles to said shaft and having a beveled pinion meshing with the beveled gear, and means on the outer end of the operating shaft for detachably and swingingly connecting a bit thereto.

In testimony whereof, I affix my signature, in the presence of two witnesses.

ALFRED O. HARDTKE.

Witnesses:

R. L. THOMPSON,
H. J. BUSCHADIE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."