

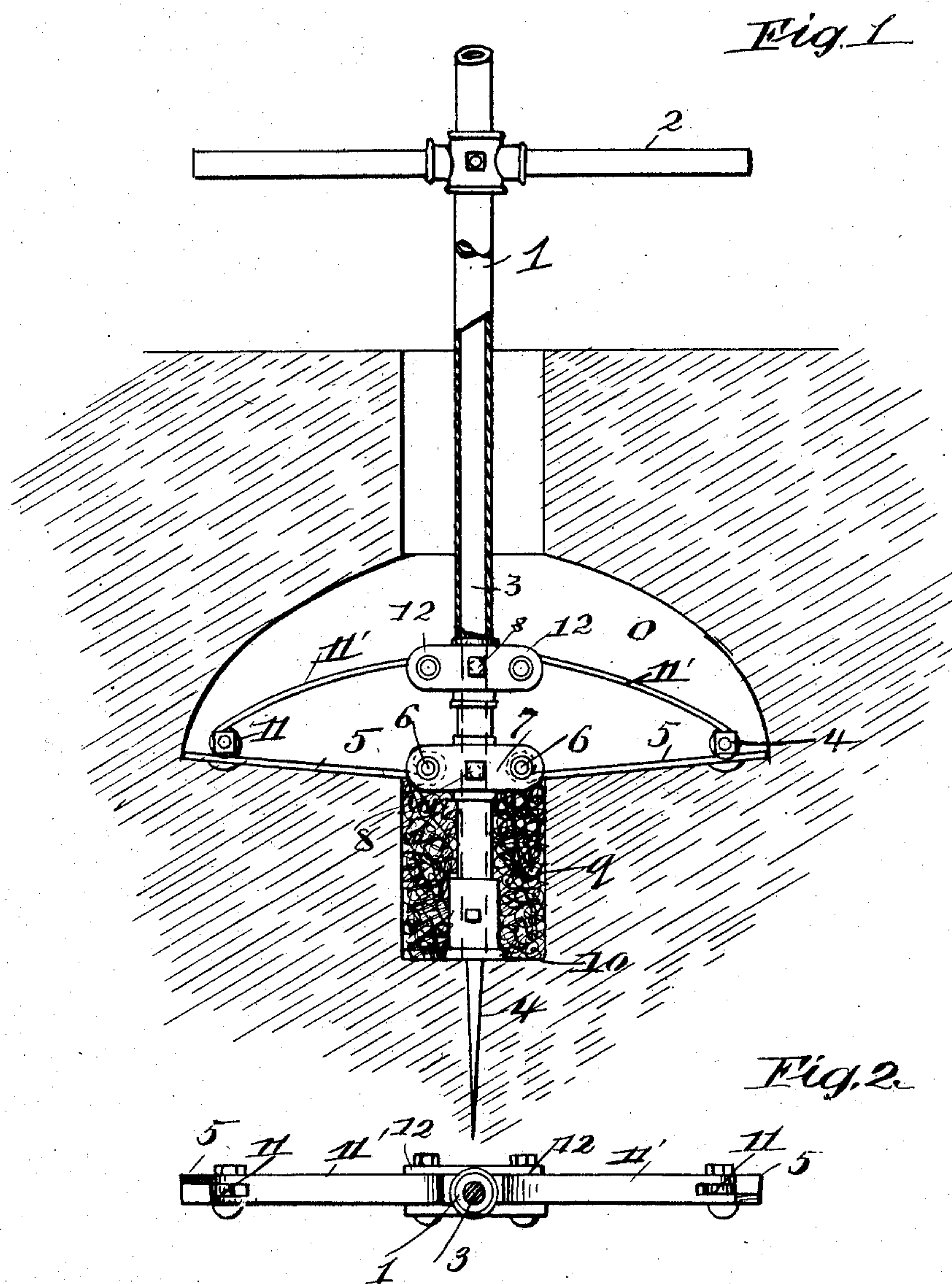
No. 865,051.

PATENTED SEPT. 3, 1907.

G. H. MILLER.

AUGER FOR ENLARGING THE LOWER ENDS OF HOLES.

APPLICATION FILED JAN. 29, 1906.



Witnesses
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GEORGE H. MILLER, OF NORWALK, OHIO.

AUGER FOR ENLARGING THE LOWER ENDS OF HOLES.

No. 865,051.

Specification of Letters Patent.

Patented Sept. 3, 1907.

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To all whom it may concern:

Be it known that I, GEORGE H. MILLER, a citizen of the United States, and a resident of Norwalk, county of Huron, State of Ohio, have invented certain new and useful Improvements in Augers for Enlarging the Lower Ends of Holes, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

- 10 The objects of the invention are to provide a device for enlarging a hole in the ground such as a hole for a pole, or post, in which cement or concrete can be placed to serve as an anchor to prevent the frost from heaving the post out of the ground. This device is
15 also adapted to all analogous uses. The immediate use to which the invention is particularly applicable however is as a means for enlarging the lower end of the hole in which the metal anchor described in Letters Patent of the United States #736,995, is inserted.
20 This anchor is somewhat lune shaped and after being inserted longitudinally in the opening is adapted to turn itself automatically across the hole as tension or strain is put upon its draw-bar. In many instances it is difficult for the anchor to turn readily on account
25 of the hardness of the soil or stones embedded therein, hence it accelerates the work to first enlarge the lower end of the opening laterally so that on pulling upon the anchor it will turn without opposition from the soil, and take its place at right angles to its draw bar.
30 It is also desirable that the hole thus made should approximate to the shape of the anchor and not be larger than necessary. To this end I employ the cutting device adapted to open up and shape the hole as the cutting blades descend, as hereinafter described, shown in the accompanying drawings and
35 specifically pointed out in the claims.

In the accompanying drawings Figure 1 is a vertical section showing the auger in place in the bottom of the post hole, after the enlarged opening has been
40 formed; Fig. 2 is a plan view of the device.

In these views this hole is shown vertical but with the anchor described the hole is generally inclined to accommodate the inclination of the guy rope. The auger stem is formed in upper and lower sections slid-
45 ingly movable upon each other.

In the figures, 1 is a hollow upper section which projects above the ground and is provided with a handle 2 similar to that used with all earth augers.

Inserted loosely in the lower end of this stem is the
50 shorter section 3 to the lower end of which is secured the centering and guiding point 4 which enters the ground at the bottom of the hole.

The cutting blades 5 extend laterally from pivotal points 6 upon the forked bearings 7 on the lower sec-
55 tion, and the forked bearings are vertically adjustable thereon by means of the set screw 8 so as to place the

cutting blades as high above the point as desired to provide a chamber 9 at the lower end of the hole to receive the dirt cut away by the blades. A shoulder
10 prevents the point from settling too far into the ground.

The blades are pivotally attached at their outer ends at 11 to the outer ends of the links 11' which have their inner ends pivoted in the forked bearings 12 upon the lower end of the upper section 1. These
65 links are the only connection between the upper and lower sections, and it will be seen that when the auger is held vertically by the upper section the links will raise the blades, so as to fold links and blades against the lower section, and in this position the auger
70 is set into the hole, but as soon as the point is embedded in the ground and the upper section is released the weight of the upper section will tend to force outward the links and blades and close them together the result being that when the auger is ro-
75 tated the blades will drop outwardly and downwardly as they cut away the soil and form the opening O. The dirt will fill the lower portion of the post hole 9 and the forks which carry the blades are adjustable vertically on the lower section so as to provide for as
80 large a chamber 9 as may be required to receive all the dirt cut out of the enlargement in the post hole.

It will be seen that the bearings 12 are also adjustable upon the upper section by means of the set screws, so that by elevating or lowering the bearings for the
85 inner ends of the links, the width of the opening can be regulated.

Having described the invention what I claim as new and desire to secure by Letters Patent is:

1. An auger for the purpose specified, comprising in
90 combination with a hollow stem section and handle affixed thereto, a lower and inner stem section inserted in said hollow section and moving freely therein, a shoulder upon said lower section and a terminal point therefor, laterally extending blades pivotally secured at their inner
95 ends to said lower section, and laterally extending links pivotally secured to said upper section at their inner ends, and to said blades at their outer ends, substantially as described.

2. In an auger for the purpose described, in combination,
100 an upper stem section having a handle, a lower stem section slidably movable therein, a terminal shoulder and centering point therefor, laterally extending cutting blades having their inner ends pivoted upon said lower stem section, a vertically adjustable sleeve in which the bearings
105 for said blades are attached, a vertically adjustable sleeve upon the upper stem section, links pivoted in bearings in said sleeve on the upper section at their inner ends and having their outer ends pivotally secured to said blades, substantially as and for the purpose set forth.
110

In testimony whereof I hereunto set my hand this 24th day of January, 1906.

GEORGE H. MILLER.

Witnesses:

C. SCHUMACHER,
JOS. QUICK.