

W. G. STOWERS.
 POST HOLE DIGGER.
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1,116,154.

Patented Nov. 3, 1914.

Fig. 1.

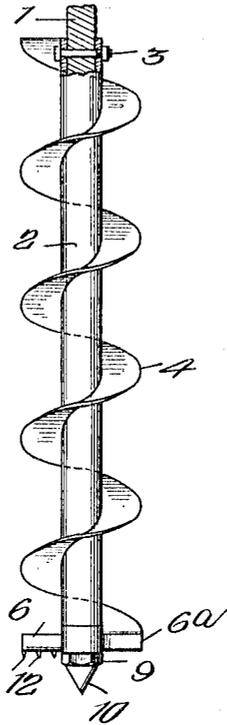


Fig. 2.

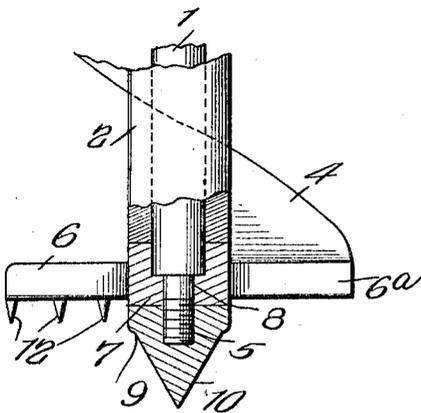
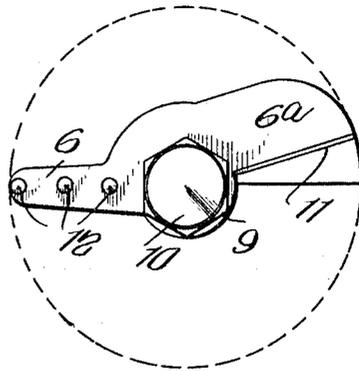


Fig. 3.



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POST-HOLE DIGGER.

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To all whom it may concern:

Be it known that I, WILLIAM G. STOWERS, a citizen of the United States, residing at Blacksburg, in the county of Montgomery and State of Virginia, have invented a new and useful Improvement in Post-Hole Diggers, of which the following is a specification.

My invention is an improvement in augers of the type adapted for boring in earth, and for use with post hole diggers or like machines, and has for its object to provide a simple, inexpensive and easily operated device of the character specified, wherein separable cutting mechanism is provided, capable of detachment for repairs or replacement, and wherein mechanism is provided for connection with the cutting mechanism or bit for loosening the earth as it is cut, or before it is engaged by the bit.

In the drawings:—Figure 1 is a side view of the improved auger, Fig. 2 is an enlarged detail of a portion of Fig. 1, with parts in section, and Fig. 3 is a bottom plan view of the auger or drill.

The present embodiment of the invention comprises a shaft 1, on which is mounted a sleeve 2, the sleeve extending from near the lower end of the shaft to a point intermediate the ends thereof. The sleeve is held in place by means of a bolt and nut 3, the bolt being passed transversely of the sleeve and the shaft and engaged by the nut to hold the parts in place.

A spiral blade or vane 4 is secured to the outer surface of the sleeve, the vane extending from one end of the sleeve to the other, and the spirals of the vane are well separated, as will be noticed from an inspection of Fig. 1, to prevent rocks and like hard bodies from becoming jammed between adjacent portions thereof.

The lower end of the shaft 1 is reduced and screw threaded as indicated at 5, and a cutting bit or blade is arranged on the shaft at the lower end thereof. The cutting bit or blade consists of integral portions 6 and 6^a, arranged at an angle with respect to each other, and a central hub 7, which fits over the lower end of the shaft as shown in Fig. 2.

The bore of the hub 7 is reduced at the lower end thereof, as indicated at 8 for fitting the threaded portion of the shaft, and the upper end of the hub fits against the lower end of the sleeve 2. The spiral blade

or vane 4 extends below the lower end of the sleeve 2, fitting against the peripheral surface of that portion of the hub 7, which extends above the portion 6—6^a of the bit or blade.

The bit or blade is held in place by a nut 9, the nut being threaded on to the reduced portion 5 of the shaft, and the nut is provided with a conical tip or point 10, which extends below the portion 6—6^a of the blade, as shown more particularly in Fig. 2. The portion 6—6^a of the blades are not in alignment but are arranged at an angle with respect to each other, and one side edge of the portion 6^a is sharpened to form a cutting edge 11, and the said edge is at the lower end of the blade or vane 3. The portion 6 of the blade is provided with a series of depending cutting pins 12, the series extending radially with respect to the shaft, and depending to near the lower part of the nut.

Any suitable mechanism may be provided for supporting, guiding and operating the improved auger or drill, and the device is especially adapted for boring post holes or other holes where an easy, quick, operating tool is required.

In operation, the drill is supported in vertical position and is rotated to cause the bit to cut into the earth. The sharpened edge 11 of the bit will cut a layer of earth at each rotation of the drill and the depending pins 12 will loosen the earth so that it may be easily separated by the cutting edge. The blade or vane will lift the earth out of the hole and it will be understood that the sleeve 50 is of such length that it will lift all of the dirt from the hole to the depth required. The pins 12 relieve the cutting edge from considerable strain by loosening the soil before the cutting edge engages the same. The pins are of especial advantage where small rocks or pebbles are found in the soil.

I claim:

1. In a device of the character specified, a drill shaft, a sleeve on the shaft, means for detachably connecting the sleeve to the shaft, a spiral vane on the sleeve, and a cutting bit on the shaft below the sleeve, the drill shaft having its lower end reduced and having a threaded stem, the bit having a central hub fitting on the reduced portion, and a point for the drill threaded onto the stem and holding the bit in place, said bit

having its side edge on one side of hub sharpened to form a cutting edge, and being provided with a series of radially spaced depending cutting pins on the other side of the hub.

2. In a device of the character specified, a drill shaft, a sleeve on the shaft, means for detachably connecting the sleeve to the shaft, a spiral vane on the sleeve, and a cutting bit on the shaft below the sleeve, the drill shaft having its lower end reduced and having a threaded stem, the bit having a central hub fitting on the reduced portion, and a point for the drill threaded onto the stem and holding the bit in place.

3. In a device of the character specified, a drill shaft, a sleeve on the shaft, means for detachably connecting the sleeve to the shaft, a spiral vane on the sleeve, and a cutting bit on the shaft below the sleeve, said bit having its side edge on one side of the hub sharpened to form a cutting edge,

and being provided with a series of radially spaced depending cutting pins on the other side of the hub.

4. In a device of the character specified, a drill shaft, a sleeve on the shaft, means for detachably connecting the sleeve to the shaft, a spiral vane on the sleeve, and a cutting bit on the shaft below the sleeve, said bit having a cutting edge at one side of the hub and a plurality of depending cutting pins at the other side.

5. In combination with the drill shaft and the spiral vane, a bit arranged transversely of the lower end of the drill shaft, said bit having a cutting edge at one side of the shaft and having depending spaced cutting pins at the other side of the shaft.

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Witnesses:

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