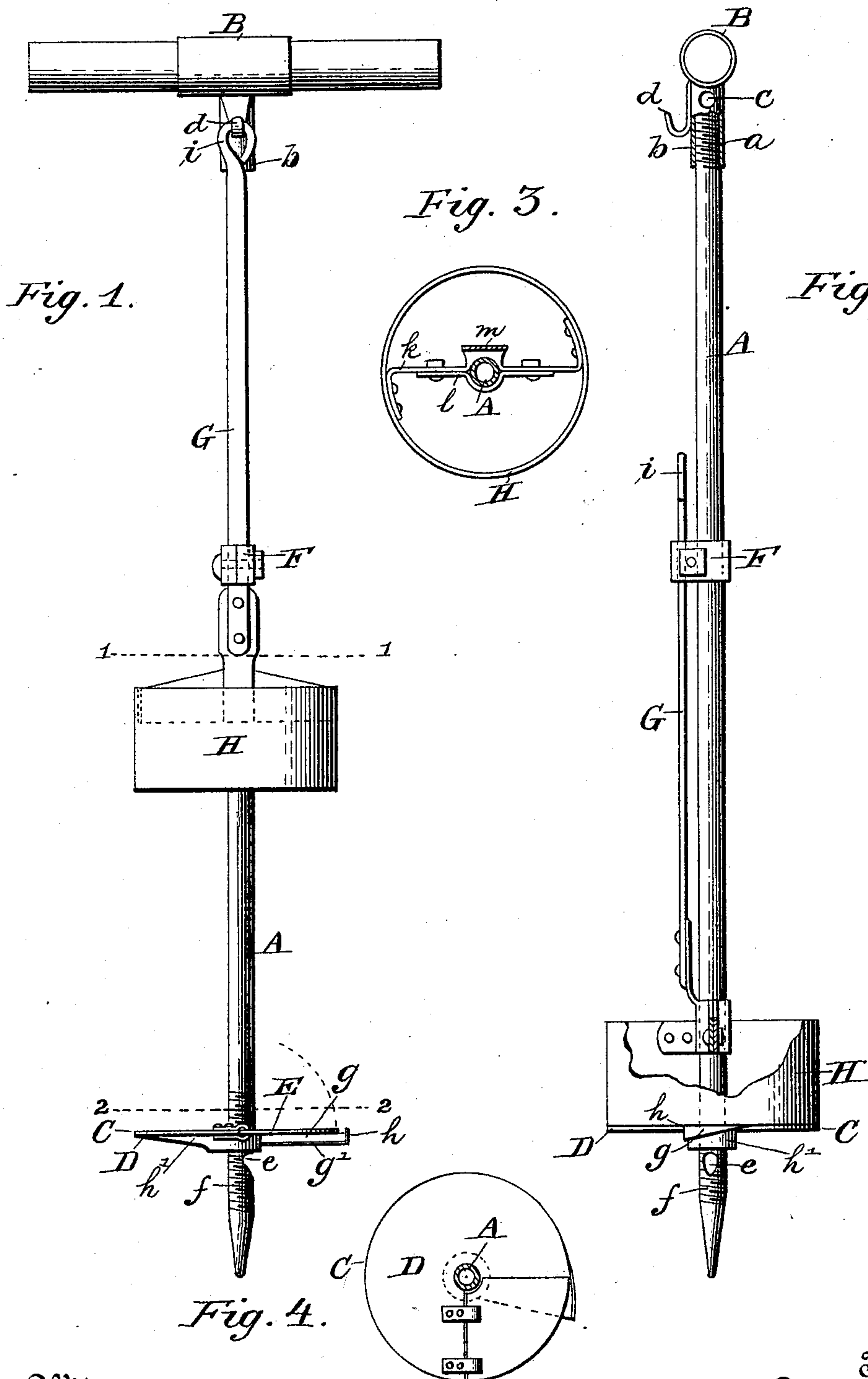


(No Model.)

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EARTH AUGER.

No. 519,642.

Patented May 8, 1894.



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UNITED STATES PATENT OFFICE.

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EARTH-AUGER.

SPECIFICATION forming part of Letters Patent No. 519,642, dated May 8, 1894.

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To all whom it may concern:

Be it known that we, FRANK L. REAM and CHARLES F. HERBOLSHEIMER, citizens of the United States of America, residing at Ladd, in the county of Bureau and State of Illinois, have invented a new and useful Improvement in Augers; and we 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.

Our invention relates to an improvement in augers, and more especially to that class adapted to bore holes in the earth.

Our invention has for its object to provide an auger of this nature, having means for raising the earth, which has been loosened during the process of boring.

Our invention consists in the features and details of construction hereinafter described, and specifically pointed out in the claims.

In the accompanying drawings, which illustrate our invention, Figure 1— is a front elevation. Fig. 2— is a side elevation partly in section; Fig. 3— a section on the line 1—1— of Fig. 1, and Fig. 4— a section on line 2—2— of Fig. 1.

Similar letters of reference indicate corresponding parts.

A designates the central tube or rod, the upper end of which, is provided with screw-threads *a*, B the handle provided with an interiorly screw-threaded sleeve *b* adapted to be screwed on the top of tube A, said sleeve having a hole *c* for the admission of air and a hook *d*. The lower end of the tube A is provided with a hole *e* for the escape of air, and screw threads *f*.

h' is a bracket or arm screwed on to the lower end of the tube A above the outlet hole *e*, C the auger secured to the upper face of said bracket and consisting of a circular plate D having an opening therein, one side of said opening extending beyond the circumference of the plate and being bent downward to form a blade *g*, provided with cutting edge *g'*, and then bent upward at a right angle thereto, to form cutting edge *h*. E a valve hinged to the outer edge of the opening in plate D and resting on said plate beyond the blades *g*, and adapted to be pushed upward. F the adjustable clamp which tightly embraces the tube

A and also loosely embraces a lever G, the upper end of which is provided with a ring *i* to slip over the hook *d*. To the lower end of the lever G is attached a cylinder or shield H, by means of an arm I consisting of two members *k* and *l* bolted together and loosely embracing tube A, the member *k* of which is attached to the cylinder H and provided with an upwardly extending projection *m* which is riveted or joined to the lever G.

It will be plainly obvious that through the adjustability of the clamp F it may be moved along and fixed at any point on the rod A, and that the lever G being adapted to slide therein, or be firmly fixed may be raised or lowered and fixed at any desired point. It will also be obvious, that the central stem being hollow and having a hole therein below the auger and also one at its top, when the auger is being raised, the air will pass through the stem into the space below the auger and prevent suction.

The operation is as follows: The cylinder or shield H being raised to its highest point on the tube A by placing the ring *i*, located on the upper end of the lever G, over the hook *d* located on the handle B, the point of the tube A is inserted into the ground until the blades of the auger touch the ground, then the handle being turned, the blades of the auger begin to cut the ground and as it is loosened, it forces open the valve E and falls upon the plate or auger C. When the hole has been cut to the desired depth or it is desired to withdraw the auger for the purpose of unloading the earth, the shield is lowered by removing the ring *i* from the hook *d* and pushing the lever G downward until the cylinder H rests on the plate or auger C, the clamp can then be screwed tightly around the lever G and the whole apparatus raised from the hole, after which the clamp can be loosened, the shield raised and the earth dumped.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a boring apparatus the combination of the central tube or rod provided with air inlet and outlet holes, the handle secured to the top of said central tube, provided with a sleeve having a hook formed thereon, the auger consisting of a circular cutting plate hav-

ing an opening, and a hinged valve, and the adjustable clamp on said central tube, with the adjustable cylinder having an arm, and a hand lever, the lower end of which is secured
5 to said arm and its upper end secured loosely in the adjustable clamp, substantially as described.

2. In a boring apparatus, the combination
10 of the central tube or rod provided with inlet and outlet holes, the handle secured to the top of said central tube provided with a sleeve having a hook formed thereon, the auger consisting of a circular plate having an opening therein, one side of said opening extending beyond the circumference of the said
15 plate and bent downward and upward to form

a horizontal and a vertical cutting edge, the hinged valve for closing the opening in the circular plate, with the adjustable cylinder having an arm, and a hand lever, the lower
20 end of which is secured to said arm and its upper end provided with a ring, and the adjustable clamp embracing the central tube and hand lever to afford means for holding said hand lever at any desired height, sub-
25 stantially as described.

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