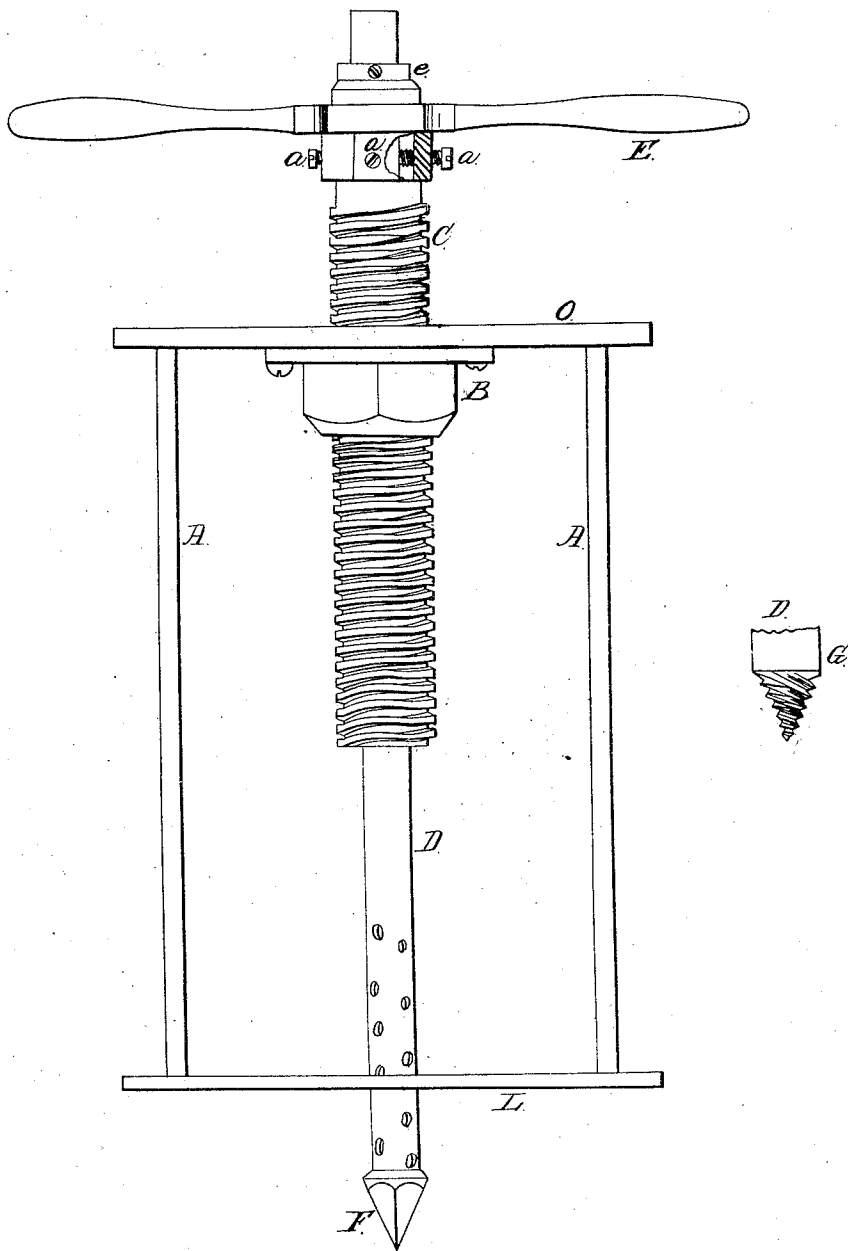


D. B. Tiffany.
Earth Auger.

N^o 56,502.

Patented Jul. 17, 1866.



Witnesses;
Geo Burgess
Thomas A. Gardner

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UNITED STATES PATENT OFFICE.

D. B. TIFFANY, OF XENIA, OHIO, ASSIGNOR TO HIMSELF AND ROBERT E. RICHARDSON, OF SAME PLACE.

IMPROVEMENT IN BORING WELLS AND LAYING PIPES.

Specification forming part of Letters Patent No. 56,502, dated July 17, 1866.

To all whom it may concern:

Be it known that I, D. B. TIFFANY, of Xenia, in the county of Greene and State of Ohio, have invented certain new and useful Improvements in Earth-Boring Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use the invention, I will proceed to describe it.

My invention has for its object the providing of a cheap and simple instrument for sinking wells, making holes or trenches for laying pipe in the earth, &c.

I construct a strong frame, consisting of a cap-piece, O, and a bottom piece, L, connected by the rods A, as shown in the drawing.

To the top piece, O, is secured a strong nut, B, and working in this is the tubular or hollow screw C. Through this screw C is inserted a pipe, D, which, in the case of boring for water, is perforated near its lower end with slots or holes. The lower end of the tube D is provided with a solid point, F, or with a screw-point, as shown at G, as may be preferred. At the upper end of the screw C a series of set-screws, *a*, are provided, by which the screw C can be securely fastened to the tube D, so that both shall move together when the screw C is turned. A collar, *e*, is also secured to the tube D by set-screws, as shown, and rests upon the upper end of tubular screw C. This collar will only be necessary when it is desired to draw the tube out of the ground.

The operation is as follows: I first fasten the frame securely to the ground by digging a trench and setting the bar L therein and then driving stakes over it in an inclined position. The tube D is then lowered until its point rests on the ground, when the set-screws *a* are tightened up and the screw C is turned by the handle or lever E, thereby screwing or forcing the tube D into the earth. When the screw C is run entirely down the screws *a* are loosened and the screw C is turned up again by turn-

ing the lever E in the opposite direction, after which the set-screws are tightened up and the operation is repeated. In this manner the tube D is forced into the ground to the depth of an ordinary well or until the water-bearing strata is reached, when it may be left and a pump be attached to it, and the water which enters through the perforations be raised in the usual manner. In most cases, however, it will be preferable to withdraw the boring-tube D and insert a lighter one to remain. In very hard or stony ground a solid rod will be used in lieu of the boring-tube, the rod, of course, being withdrawn and a tube inserted in its place. When it is desired to withdraw the tube D the set-screws *a* may be left loose, the collar *e* being used, which permits the screw to turn and raise the tube D without turning the latter with the screw.

It is obvious that the apparatus may be used also for boring horizontally for laying gas or water pipes. In such cases it will be necessary to sink the frame in the earth to the required depth, and, having it resting on its side, it may then be operated as already explained.

It will be necessary to use the tube in sections properly joined, and to have a trench or hole in rear of the machine for the tube to lie in. In this way a gas or water tube can be run under a pavement or street from a cellar to the main, &c., without tearing up the pavement or obstructing the street, the pipe being all ready for use when the connections are made at the end, to do which, of course, an opening must be made at that point.

Having thus described my invention, what I claim is—

1. The boring-tube D, in combination with the tubular screw C and nut B, arranged to operate in the manner and for the purpose set forth.

2. In combination with the tubular screw C and rod D, the adjustable ring *e*, as shown and described.

DAVID B. TIFFANY.

Witnesses:

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