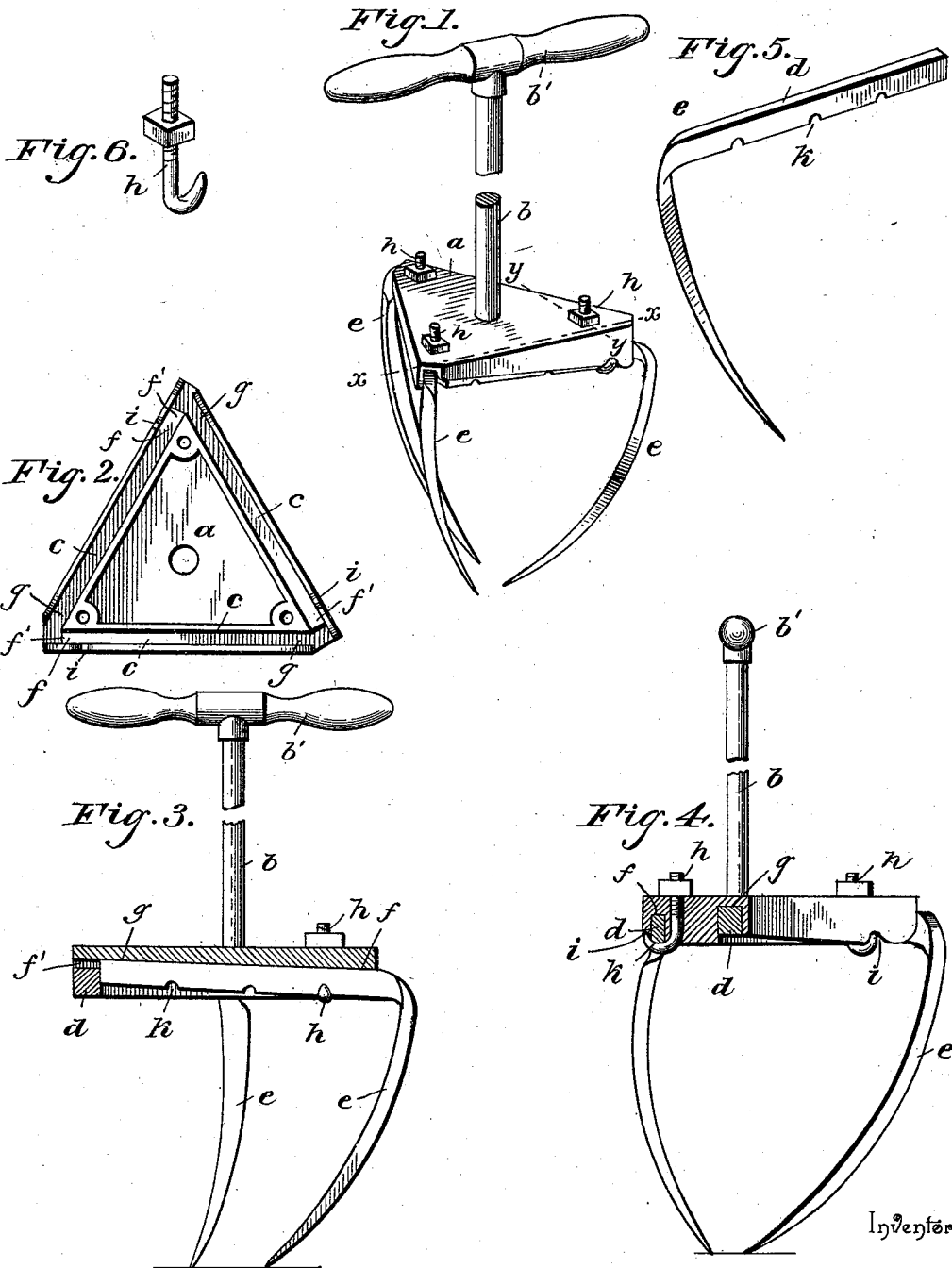


(No Model.)

J. W. ESTES.
POST HOLE DIGGER.

No. 534,554.

Patented Feb. 19, 1895.



Witnesses
Julius Ulke, Jr.
J. B. Owens

John W. Estes,
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UNITED STATES PATENT OFFICE.

JOHN W. ESTES, OF WESTVILLE, MISSOURI.

POST-HOLE DIGGER.

SPECIFICATION forming part of Letters Patent No. 534,554, dated February 19, 1895.

Application filed April 6, 1894. Serial No. 506,616. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. ESTES, a citizen of the United States, residing at Westville, in the county of Chariton and State of Missouri, have invented a new and useful Post-Hole Digger, of which the following is a specification.

My invention relates to that class of post hole diggers, wherein a series of downwardly and inwardly extending blades are employed and adapted to first form the hole and then so grasp the dirt as to be able to lift it out, thus completing the operation; and the invention lies in certain improvements in the head or main portion of the auger, whereby the blades are more conveniently and effectually secured in place and a more desirable tool produced.

In the accompanying drawings, my invention is fully illustrated, and therein—

Figure 1 represents a perspective view thereof; Fig. 2, a bottom plan of the head; Fig. 3, a section on line $x-x$ of Fig. 1; Fig. 4, a section on line $y-y$ of Fig. 1; Fig. 5, a detail perspective view of one of the blades; Fig. 6, a similar view of one of the securing devices.

The reference letter a indicates the head of the device, which is formed of any suitable metal and triangular in shape. Secured by any preferred means to the top of the head a and in the center thereof is the handle b , which may be formed of any material or in any way, preferably of small piping, and provided with a cross piece b' by which it may be operated. Formed on the under side of the head a and parallel with each edge, are the blade seats c , which are three in number and adapted for the reception of the shanks d of the blades e . These seats are shaped as rectangular grooves and are each formed with their ends open and communicating with the ends of the contiguous seat. Each seat is inclined from the end f to the end g . This inclination is such in relation to the upper surface of the head a , and the end f is formed with a shoulder f' , whereby the end g of the adjacent seat is allowed to pass by it and to keep its proper inclination without interruption.

The blades consist of the downwardly and inwardly extending blades proper, e , and the

shanks d , which are formed integral with the blades proper, and extend approximately at right angles thereto. Thus by arranging the shanks d in the seats c so that their ends will project through the opening at the lower end, g , of the seat, and with the bend at the remaining end of the seat, the blades proper will be thrown with their points inwardly as seen in Fig. 1. By this construction the blades are given their proper inclination, and at the same time firmly and rigidly seated. In addition to this the ends of the shanks are allowed to pass by the shanks of their companions and not interfere therewith, whereby the blades may be moved as close together as their points will permit without a conflict of their shanks which would be the result were they not arranged out of horizontal alignment.

h indicates the devices for securing the blades in their respective seats, and these consist of the hooked bolts passing through the head a and around the shank d , notches i being formed in the edges of the heads for the reception of the hooked end. Each shank has the series of notches k formed therein, which are adapted for the reception of the device h , whereby it is given a firm hold, and whereby the shank is prevented from slipping. By loosening these devices, h , the blades e may be moved toward or from each other as desired, and the size of the hole formed by the implement regulated.

The mode of using my device does not differ from the use of other implements of its class, and therefore it will suffice for me to say that the instrument is pushed into the ground and simultaneously revolved so that its blades will operate to cut the earth and thus force their way into it and form the hole. When this has been done, the device is withdrawn and the dirt lying within the blades is lifted out with it, thus forming a complete hole. It will be understood that the blades are sharpened at one edge and twisted torsionally so that they will lie out of circular alignment, and consequently in position to form the hole.

Owing to the triangular shape of the head a the dirt may be easily withdrawn without any suction beneath, since the air is freely admitted during the operation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

5 A post hole digger consisting of a handle, a head secured to the lower end thereof and having formed in its lower face a series of grooves, said grooves being disposed diagonally in relation to the plane of the upper face of the head, and each having its high
10 end located directly adjacent to the lower end of its companion, digging blades provided

with shanks arranged in such grooves, and means for adjustably holding the shanks in place, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN W. ESTES.

Witnesses:

JAMES D. PHILLIPS,
T. J. RANDOLPH.