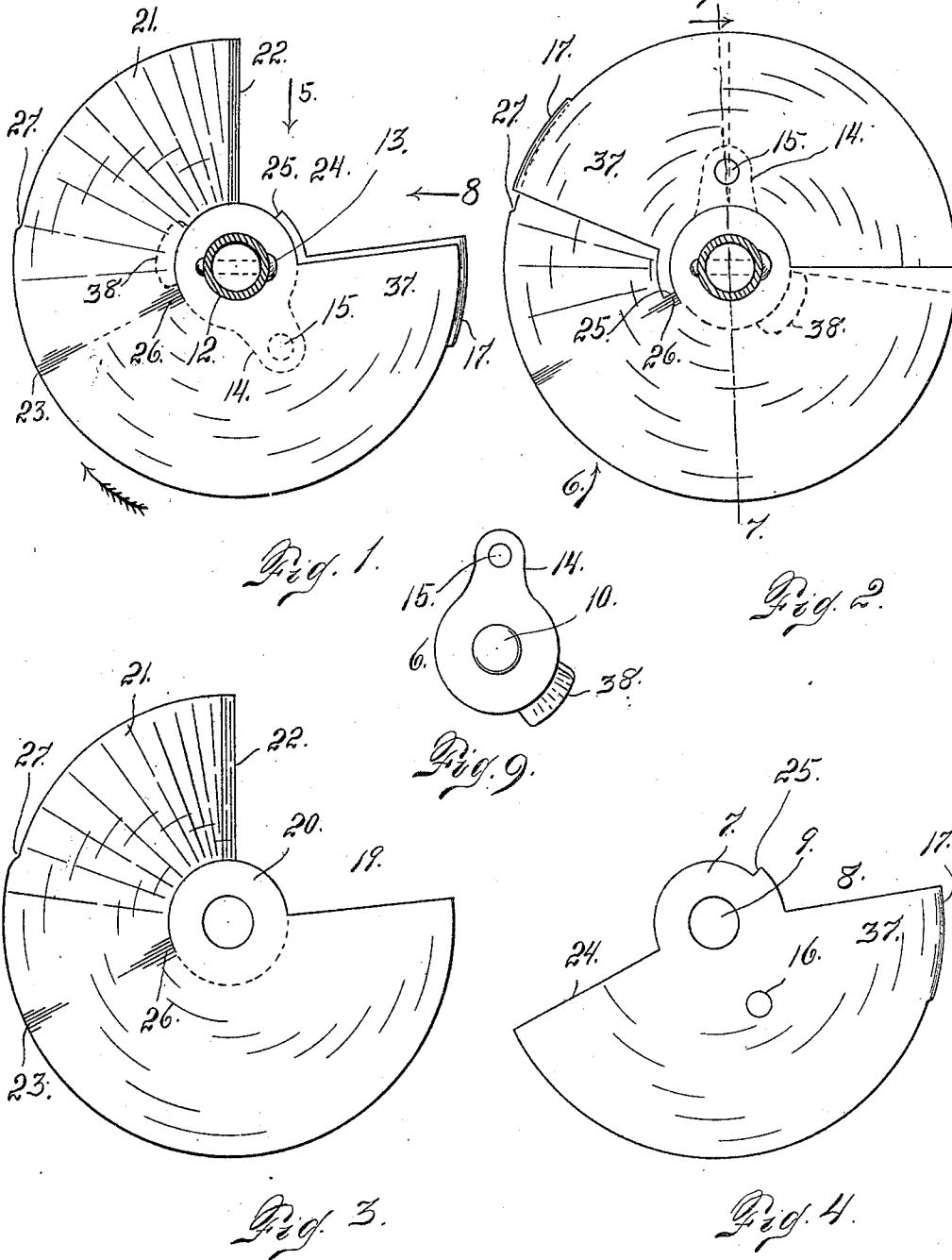


R. H. VESEY.
POST HOLE DIGGER.
APPLICATION FILED JAN. 16, 1909.

957,127.

Patented May 3, 1910.

2 SHEETS—SHEET 1.



Witnesses
Otto E. Hoddick.
Alice J. Lakin.

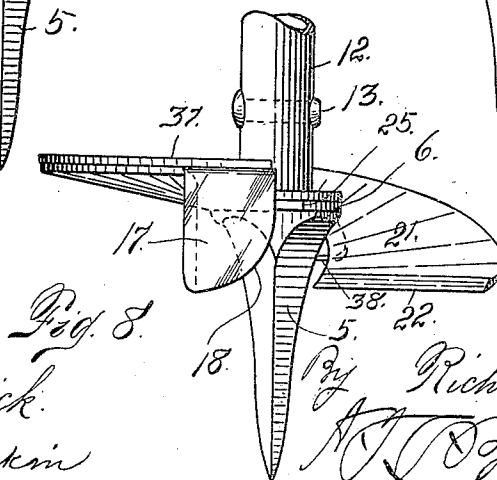
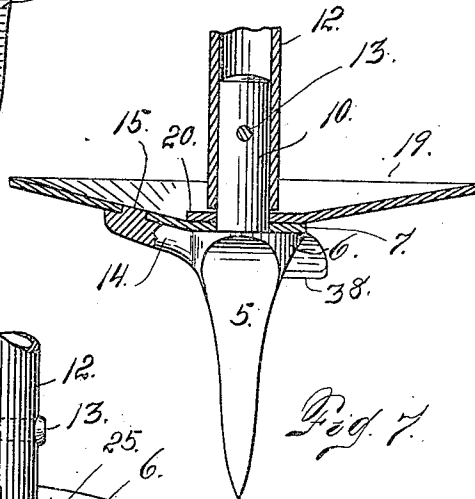
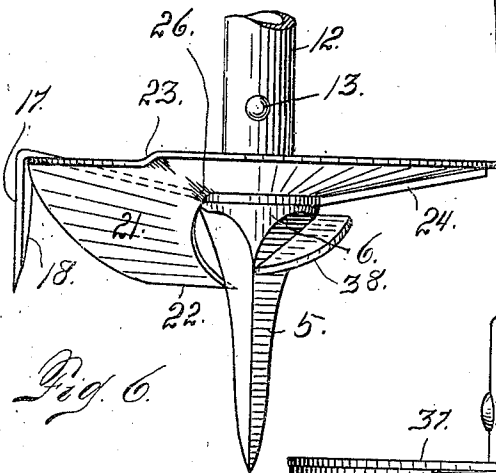
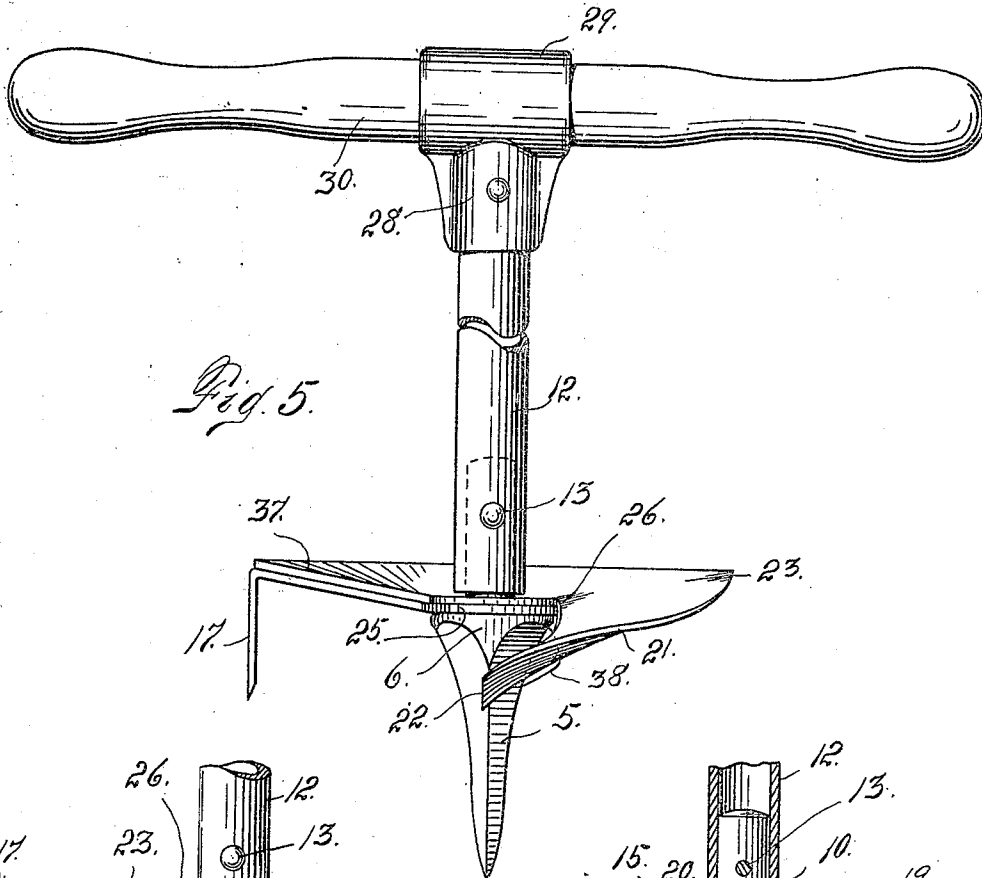
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2 SHEETS—SHEET 2.



Witnesses
Otto E. Hoddick.
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UNITED STATES PATENT OFFICE.

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POST-HOLE DIGGER.

957,127.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed January 16, 1909. Serial No. 472,681.

To all whom it may concern:

Be it known that I, RICHARD H. VESEY, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Post-Hole Diggers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in post hole diggers.

My object is to provide a device of this class which shall be exceedingly simple in construction, and, at the same time, perfectly perform the required function.

My improved device is provided with two members, one of which is rigidly secured to the lower portion of the operating stem or rod, while the other is loosely mounted thereon and above the first named member. The lower member is provided with a depending vertically disposed cutting blade, while the upper member is provided with a downwardly extending inclined blade for lifting the dirt as the device is rotated. The vertical blade of the one member travels in advance of the inclined blade of the other member when the device is in operation. The vertical blade loosens the dirt at the outside so that the inclined blade has only to lift the dirt which is to be removed in forming the hole. The lower blade, or that secured to the operating stem, serves to actuate the upper blade, since one edge of the lower blade engages an offset formed upon the upper edge. During the performance of the digging function there is a space between the inclined blade of the one member and the vertical blade of the other member, through which the dirt passes upwardly during the performance of the digging function. When, however, it becomes necessary to lift the loosened dirt from the hole, the stem is given a partial turn in the reverse direction, whereby the said space is closed, thus making it practicable, by lifting the stem, to remove all of the loosened dirt from the hole. The upper blade is provided with a depending offset which is engaged by

a shoulder formed upon the lower blade, to limit the reverse movement of the latter when it has traveled the required distance.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a top plan view of my improved digger with the stem shown in cross section. In this view the two members are in position to perform the digging function. Fig. 2 is a similar view showing the lower member turned backwardly to close the space through which the dirt travels upwardly during the performance of the digging function. Fig. 3 is a top plan view of the upper blade, or that loosely mounted on the operating stem. Fig. 4 is a similar view of the other blade, or that made fast to the operating stem when the parts are assembled. Fig. 5 is an elevation of my improved device showing the handle broken between its extremities, for lack of room on the sheet. This is a view looking in the direction indicated by arrow 5 in Fig. 1. Fig. 6 is an elevation looking in the direction indicated by the arrow 6 in Fig. 2. Fig. 7 is a section taken on the line 7-7, Fig. 2, viewed in the direction of the arrow. Fig. 8 is an elevation looking in the direction of arrow 8, Fig. 1. Fig. 9 is a top plan view in detail of the digger point.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the point of the digger which tapers downwardly from its upper extremity 6, whose upper surface forms a shoulder upon which the central portion 7 of the member 8 rests. This member 8 is provided with an opening 9 through which passes a pin 10 formed integral with the point and projecting upwardly from the top thereof. The pin is secured to the hollow stem 12 by means of a fastening device 13 passed transversely through the registering openings formed in the connected parts. The upper extremity of the point 5 is provided with a laterally extending lug 14 having an upwardly projecting stud 15 which passes through an opening 16 formed in the member 8. By means of the lug 14 the member 8 is rigidly secured to the point and, therefore, to the operating stem and rotates

with the latter. This member 8 has an area somewhat less than half a circle. Its outer edge is highest and it tapers downwardly toward the stem. At one extremity it is provided with a depending vertically disposed blade 17, the forward edge 18 of this blade, or that on the side toward which the device is turned during the performance of the digging function, being curved and sharpened, whereby, as the stem is rotated, this blade travels in a circle defining the circumference of the hole, and loosens the dirt to a suitable depth, whereby it is ready to be lifted by the member 19, which is loosely mounted upon the pin 10 just below the lower extremity of the stem 12, the stem being made sufficiently short to clear the member 19 to prevent any binding tendency. This member 19 has an area approximately equal to three-quarters of a circle. Its central portion 20 bears upon the central part 7 of the member 8. One extremity of this member 19 is formed into a depending blade 21, whose lower extremity is sharpened, as shown at 22. This member 19 is also provided with a depending offset 23, which is engaged by the edge 24 of the member 8 during the performance of the digging function, or while the device is rotated in the forward direction. This offset forms a stop for the member 8, whereby the member 19 is carried along with the member 8 during the forward rotation of the stem. After a sufficient quantity of dirt has been loosened by the forward rotation of the device, the stem is given a partial rotation in the reverse direction, whereby the member 8 is moved to close the space 24 (see Fig. 2). As soon as this is done a shoulder 25, formed on the central part 7 of the member 8, engages an offset 26 with which the member 19 is provided. In this case, the forward portion 37 of the member 8, overlaps the inclined blade 21 of the member 19.

When the parts are in the relative position just described, their combined area forms a complete circle with the extremities of the two members overlapping. Then, by lifting the stem, all of the dirt which has been loosened by the forward rotation of the digger, and which occupies a position above the two members thereof, may be raised from the hole.

Attention is called to the fact that the co-operating members 8 and 19 of my improved device, are dish-shaped, having their outer edges highest, from which edges they are downwardly inclined toward the stem. This is an important feature for several reasons. In the first place, it causes the loosened dirt to gravitate toward the stem or the center of the device, thus greatly aiding in the moving of the loosened dirt from the hole when the device is lifted for that purpose. Furthermore, by virtue of the dish-shaped

construction of the member 19, whereby its outer edge is highest, the transversely disposed depending blade 21 has its cutting edge 22 transversely inclined from its outer extremity, downwardly, so that the inner extremity of this cutting edge is lowermost and first enters the earth during the use of the tool, thus greatly facilitating the ease with which the tool is operated. It will be understood that by virtue of the fact that the inner extremity of the cutting edge is lowermost, this edge gradually enters the earth at the commencement of the work.

It will be understood that the inclined cutting edge 22 of the blade 19 causes the device to be operated with less power than would be the case, if this cutting edge occupied a horizontal position.

In order to allow the depending blade 17 of the member 8 to move freely to the position shown in Fig. 2, and prevent possible binding contact with the outer edge of the inclined blade 21 of the member 19, the outer edge of the last named blade is slightly cut away for a sufficient distance to accomplish the desired purpose, as indicated by the offset or shoulder 27.

The upper extremity of the stem 12 is provided with a T-fitting 28, whose upper portion consists of a sleeve 29 through which an operating handle 30 may be passed.

From the foregoing description, the use and operation of my improved device will be readily understood. Assuming that the digger members are in the relative position shown in Figs. 1, 5 and 8, the operator turns the digger in the direction indicated by the feathered arrow in Fig. 1. During this operation the depending blade 17 loosens the earth at the outer wall of the hole, while the blade 21 causes this loosened earth to travel upwardly above the blades. By virtue of the inclined blade 21, the digger moves downwardly auger fashion into the earth. When it has reached a suitable depth, the handle is given a partial turn in the reverse direction, whereby the member 8 is moved to the position shown in Fig. 2, closing the space 24 between the blades (see Figs. 1 and 2). The device is then lifted, whereby the loosened dirt above the blades is removed. The device is again put in place, after which the operation just described is repeated.

The upper portion of the point 5 is provided with a wing or projection 38 which is inclined to conform to the under surface of the downwardly inclined blade 21 which rests on the said wing when the device is rotated in the forward direction or properly engaged in the performance of the digging function. As this downwardly inclined blade 21 causes the digger to move downwardly into the earth automatically during the forward rotation of the device, the said

blade is subjected to considerable strain, and this wing 38 gives it the necessary support and reinforcement.

Having thus described my invention, what I claim is:

1. The combination with an operating stem, of two members, one of which is fast on the stem, while the other is loose thereon, both members having their outer free edges highest, and being downwardly inclined therefrom to the stem, the member fast on the stem being provided with a depending, vertically disposed blade, while the loose member is provided with a blade bent downwardly from the body of the member, and having its cutting edge downwardly inclined from its outer extremity, the loose member being provided with a stop which is engaged by the fast member during the forward rotation of the device, whereby the loose member is caused to rotate with the fast member, each member of the device having an area less than that of a circle, and the two members being arranged to overlap to leave a space between them to permit the dirt to pass above the blades during the digging operation, substantially as described.

2. A post-hole digger, comprising a stem whose lower extremity is hollow, a point having a shoulder at its upper extremity, a pin projecting upwardly from said shoulder and entering the hollow lower extremity of

the stem, means for securing the said pin to the stem, a digger member, supported by a shoulder with which the point is provided, the said member being downwardly inclined from its outer free edge, which is highest, and secured to the point, whereby it rotates therewith, and provided with a depending cutting blade, mounted to travel in a circle and defining the circumference of the hole, a second correspondingly shaped member, loosely mounted on the stem, and having a transversely disposed downwardly deflected cutting blade, whose cutting edge is transversely inclined from its outer extremity downwardly, one of the members having an off-set which the other member engages when the loose member is at either limit of movement, the fast member having a limited independent travel in either direction, the area of each member being less than that of a circle and the two members being arranged one above the other, whereby they are adapted to overlap when the device is rearwardly rotated, leaving a space between the members, while, when the stem is given a partial turn in the reverse direction, the said space is closed for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

RICHARD H. VESEY.

Witnesses:

H. V. SPEER,
M. CAMPBELL.