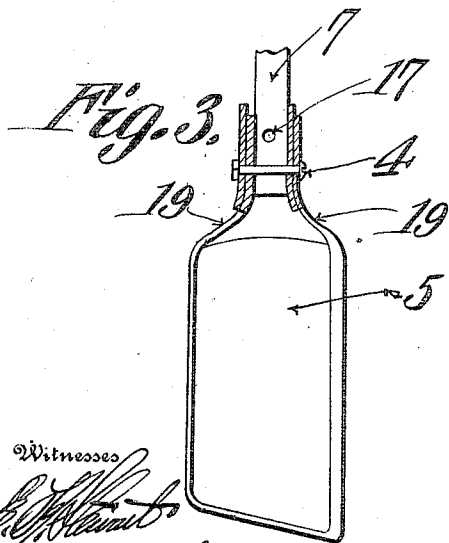
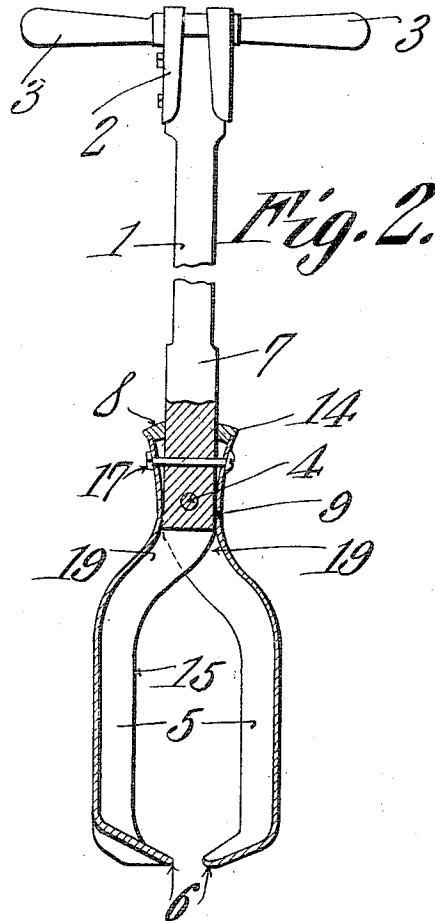
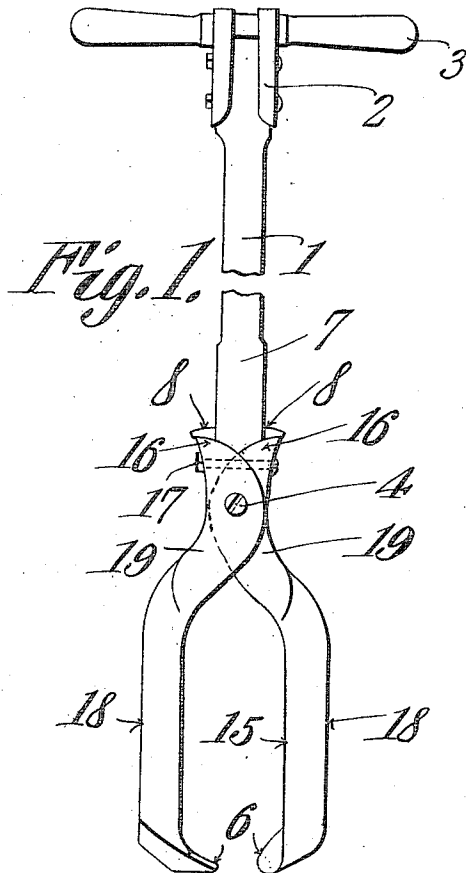


G. M. FENN.
 POST HOLE AUGER.
 APPLICATION FILED NOV. 23, 1909.

971,880.

Patented Oct. 4, 1910.



Witnesses
B. M. Lawton
 Mason B. Lawton.

Inventor
 George M. Fenn.
 By *C. A. Snow & Co.*
 Attorneys

UNITED STATES PATENT OFFICE.

GEORGE MERRIHUE FENN, OF CHARLOTTE, MICHIGAN.

POST-HOLE AUGER.

971,880.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed November 23, 1909. Serial No. 529,612.

To all whom it may concern:

Be it known that I, GEORGE M. FENN, a citizen of the United States, residing at Charlotte, in the county of Eaton and State of Michigan, have invented a new and useful Post-Hole Auger, of which the following is a specification.

The post hole auger forming the subject matter of this application, is intended to be an improvement upon Patent No. 935,251, issued on September 28, 1909, to George M. Fenn.

It is the object of the present invention to provide a post hole auger the shank of which shall be adapted, at its lower end, to serve as an abutment for the earth, which, having been loosened by the cutting blades, is forced upward into abutment with the end of the shank.

Another object of the invention is to provide a means adapted to hold the cutting blades of the auger in a normal, or standard position, the said means being adjustable, so that the blades of the auger may, if desired, be spaced apart so that a larger hole than that represented by the standard size of the auger, may be bored.

With these and other objects in view, the invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and specifically claimed, it being understood, that, since the drawings show but one form of the invention, changes, properly falling within the scope of what is claimed, may be made, without departing from the spirit of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings,—Figure 1 is a side elevation, parts being broken away; Fig. 2 is a longitudinal section parts being shown in elevation, and broken away. Fig. 3 is a longitudinal sectional detail, parts being shown in elevation; and Fig. 4 is a perspective of one of the adjusting blocks.

In carrying out the invention, there is provided, primarily, a shank 1, terminating at its lower end, in a head 7, rectangular in cross section, and of the same cross sectional area throughout its length. A transverse handle 3 is secured to the upper end of the shank 1 by means of channeled strips 2.

The pivot bolt 4 is extended through the head 7 and upon this pivot bolt are mounted, intermediate their ends, a pair of cooperating blades 5, comprising the cutting head of the device, the blades being provided at their lower ends with inwardly extending, oppositely inclined cutting bits 6, the upright edges 15 of the blades 5 being disposed out of alinement with each other, to bite into the earth as the device is rotated, in the well known manner.

The upper ends 16 of the blades 5 are overlapped about the head 7 to inclose the same completely, transversely, and between the upper ends 16 of the blades, and the head 7, adjusting blocks 8 are adapted to be inserted. A retaining member 17, a bolt and nut or the like, is extended through the upper ends 16 of the blades, at right angles to the pivot bolt 4, and through the head 7 which is interposed between the ends 16, the retaining member 17 being adapted to extend through longitudinal openings 10 in the adjusting blocks 8, so that the member 17 constitutes, at once, a means for drawing the upper ends 16 of the blades toward the head 7, and a means for retaining the adjusting blocks 8 in place between the upper ends 16 and the head 7 of the shank.

The block-receiving faces of the upper ends 16 of the blades are concaved toward each other as denoted by the numeral 9, and one face 11 of the adjusting block 8 conforms to the curvature of the portion 9, the opposite face of the adjusting block being plane, as denoted by the numeral 12, to give to the block a substantial wedge shape. The blocks 8 are provided at their upper extremities, with outstanding lugs 14 adapted to be engaged by the upper edges of the portions 16 of the blades.

The construction is such, that, when the lugs 14 are in contact with the upper edges of the portions 16 of the blades, the walls 18 of the blades will be disposed in parallel relation. This position of the blades represents the normal or standard size of the auger, the lugs 14 therefore serving to limit the expansion of the blades to the normal size of the tool. However, by lifting the adjusting blocks 8, the blades may be spread apart, so that a larger hole than that bored by the standard size of the auger, may be made. This expansion of the tool is made possible by the concaved block-receiving faces 9 of the upper ends 16 of the blades,

it being obvious that by thus concaving the portions 16, a wider range of adjustment for the blades may be secured than would be possible were the block-receiving faces of the portions 16 plane. From the foregoing it will be seen that although a positive means is provided for disposing the auger in its normal, and most effective position, namely, that in which the walls 18 of the blades are parallel, the blades may, at the same time, be so disposed that a larger hole than standard may be bored. It should be noted, moreover, that when the lugs 14 are in engagement with the upper edges of the portions 16, the lower portions of the faces 9 are brought in to contact with the head 7 adjacent the lower face of the head. Therefore, when the tool is at standard size, the lower end face of the shank 1 constitutes a complete closure for the upper end of a tapering chamber, defined in the upper end of the cutting head, by inclined portions 19 of the blades 5.

When the earth is cut away by the bits 6, the earth, as the tool moves downwardly, will be crowded upwardly, and compacted into the tapering chamber defined by the portions 19 of the blades, the lower end face of the shank 1 constituting a complete closure, for the upper end of this flaring chamber, so that the upward thrust of the earth, as it is crowded into the chamber, is received fairly by the lower end face of the shank 1.

It will be noted that the portion of the channel shaped upper end 16 of each blade 18, which forms an unbroken continuation of the cutting edge 15 of said blade is on the inside of the channel portion which forms a continuation of the non-cutting edge of the other blades. The result is that the tendency of the cutting edge 15 of each blade to spread outward in a tangential direction is counteracted by the channel portion of the other blade. In other words, the channel portion 16 of each blade, has one of its sides lying directly against the shank 1 and the other side lying on the outside of the channel portion 16 of the other blade, the inside portion having its edge extended downward on an unbroken line and sharpened to form a cutting edge.

From the foregoing it will be seen that I have provided a means for positively limiting the movement of the component parts of the auger, to the standard, and most efficient size, without, however, interfering with the expansion of the tool, when desired. Moreover, I have so constructed the device that, in operation, the thrust of the loose earth will be received fairly by the lower end of the shank. Owing to the fact that the lower extremity of the shank thus receives the thrust of the earth, the tool may

be used in a loose, dry soil, the tool being rotated until the loose earth is compacted firmly in the chamber defined by the portions 19 of the blades, the end of the shank 1 being effective to receive the thrust of the earth, safely, no matter how closely the earth may be compacted between the blades. By thus making it possible to wedge the loose earth between the blades as closely as may be desired, without endangering the safety of the tool, the bits 6 may be fashioned with a view to obtaining the maximum cutting efficiency, disregarding the effect of the bits 6 as a means for holding the loose earth within the auger. By the present construction, therefore, the efficiency of the tool is enhanced.

Having thus described the invention, what is claimed is:—

1. A device of the class described comprising a shank; coöperating blades pivoted intermediate their ends to the shank; and adjusting blocks arranged to be inserted between the upper ends of the blades and the shank, the blocks being provided at their upper ends with outstanding lugs arranged to engage the upper ends of the blades, so to position the blocks that the side walls of the blades are disposed in parallel relation.

2. A post hole auger comprising a shank, a pair of blades each having a vertically extending cutting edge, said blades having interfitting channel portions embracing opposite sides of the shank and secured thereto, one side of the channel portion of each blade forming a continuation of the cutting edge of said blade and being on the inside of the side of the channel portion of the other blade which forms a continuation of the non-cutting edge of said other blade and substantially overlaps and braces the continuation of said cutting edge.

3. A post hole auger comprising a shank, a pair of blades having channel shaped interfitting portions embracing opposite sides of said shank and secured thereto, one side of the channel portion of each blade lying directly against the shank, and the other side of the channel portion of each blade lying on the outside of the channel portion of the other blade and substantially overlapping and bracing the same, the side of each channel portion which lies directly against the shank having its edge extended downward and sharpened to form a cutting edge.

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

GEORGE MERRIHUE FENN.

Witnesses:

W. D. HART,
C. H. CARRICK.