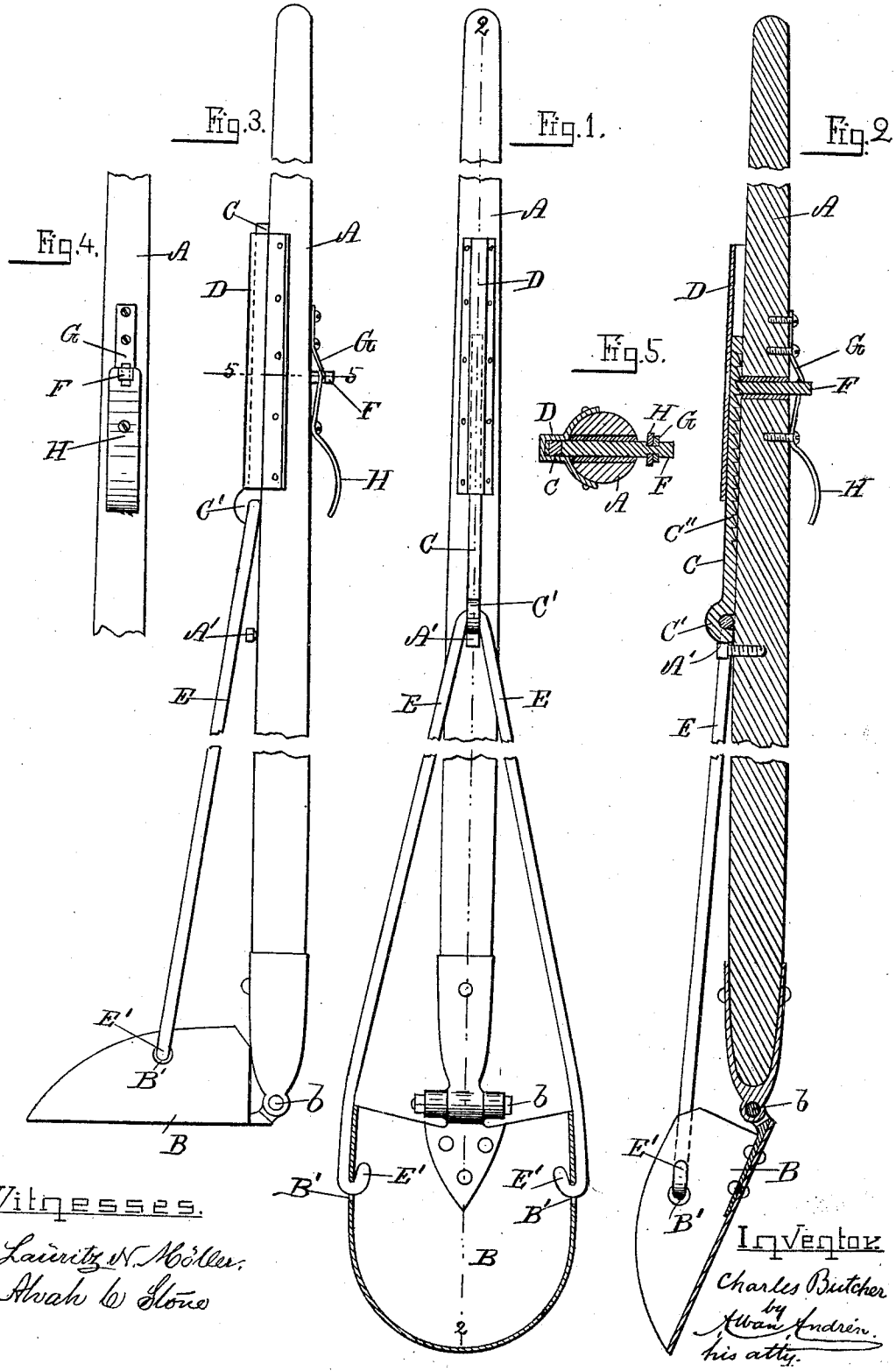
No. 799,445. PATENTED SEPT. 12, 1905.

C. BUTCHER.

POST HOLE DIGGER.

APPLICATION FILED MAR. 27, 1905.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES BUTCHER, OF CAMBRIDGE, MASSACHUSETTS.

POST-HOLE DIGGER.

No. 799,445. Specification of Letters Patent. Patented Sept. 12, 1905.

Application filed March 27, 1905. Serial No. 252,119

To all whom it may concern:

Be it known that I, CHARLES BUTCHER, a citizen of the United States, and a resident of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Post-Hole Diggers, of which the following is a specification.

This invention relates to improvements on the patent granted to me March 15, 1904, No. 754,421, for post-hole diggers; and it consists in the construction and arrangements of parts whereby the device can be more readily operated, as well as reduced in the expense of its manufacture.

The invention is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 is a front elevation of the device, showing its blade or scoop substantially in alinement with the handle, parts of said figure being shown in section. Fig. 2 is a central longitudinal section on the line 2 2 shown in Fig. 1. Fig. 3 is a side elevation of the device, showing the blade or scoop held at about a right angle relative to the handle during the removal of the earth from the post-hole. Fig. 4 is a partial rear view of the upper part of the handle, and Fig. 5 is a cross-section on the line 5 5 shown in Fig. 3.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, A represents the handle, to the lower end of which is pivoted at *b* a blade, scoop, or shovel B of any desired form, shape, or size, as shown. On one side of the handle is slidably located a toothed or rack bar or rod C, which is movable in a guide D, which is ⌊-shaped in section and secured to said handle, as shown. The lower end of the ratchet or toothed rod C is provided with a hook or eye C′, to which is pivotally connected a pair of links or rods E, made of one single piece of metal, having their lower ends hooked as shown at E′, and hooked into perforations B′ B′ in the sides of the blade or scoop B and bent over, as shown in Figs. 1, 2, and 3, whereby such lower ends of the rods or links are pivotally connected to said blade or scoop, thus rendering the said connecting device E easy of manufacture and adapted to be readily connected to the ratchet-bar or rod C and sides of the blade or scoop. In my former patent I used a pair of connecting-links pivotally connected at their upper and lower ends by means of bolts and rivets, which renders the device expensive to manufacture and assemble, which I obviate by making such link or connecting device of a single piece of metal doubled upon itself at its upper end and connected to a hook or eye on the rack-bar C and having its lower ends hooked for connection to the sides of the scoop, as shown.

The single metal link device being connected at the outer side portions of the scoop and having its upper bent or doubled-over portion pivotally connected to the rack-bar C immediately below the guide D causes the lower portions of said link device to be held apart sufficiently to prevent their being clogged by earth, &c., during the digging or scooping operation.

To the handle A is secured at a proper distance below the guide D a projection A′, which serves as a stop against the lower end of the rack-bar C when the scoop is moved to a vertical, or nearly so, position during the digging operation, as shown in Figs. 1 and 2. The hook or eye C′, on the lower end of the rack-bar C, serves as a stop projection against the lower end of the guide D for the purpose of preventing the scoop B from being swung beyond the closed position (shown in Fig. 3) during the removal of the earth, &c., from the post-hole.

The rear of the rack-bar C is toothed, as shown at C″, and is normally held in engagement with a yielding spring-pressed pawl F, passing loosely through a perforation in the handle and having connected thereto a suitable spring G, the outer end of which is secured to the handle A and having its free end connected to the outer end of said pawl, as shown in Figs. 2 and 3. To the handle A is pivotally connected a lever H, which is normally held in position (shown in Figs. 2 and 3) by the influence of said spring G, and by such means the pawl F is normally held in yielding engagement with the toothed rack C C″. To release the said pawl from the rack C C″ while swinging the scoop from the position shown in Fig. 3 to that shown in Figs. 1 and 2, it is only necessary to grasp the handle A opposite the spring-pressed lever H and move the lat-

ter against the said handle until said lever comes to a stop against the rear of the handle, when the pawl is held out of engagement with the rack, thus enabling the scoop to be swung from the position shown in Fig. 3 to that shown in Figs. 1 and 2. After the scoop is in the position shown in Fig. 3 for removing the earth, &c., from the post-hole the operator releases his hold on the lever H, causing the pawl F to be forced into engagement with the toothed rack, thus holding the scoop locked into such position as long as desired by the operator. In my former patent it was neces sary to pull the pawl-spring outward for releasing the pawl from the rack, which was both objectionable and inconvenient as compared with my present arrangement, in which such release is accomplished simply by grasping and compressing a spring-pressed pivoted lever toward the handle A, as shown.

In using the device I first swing the blade or shovel B to the position shown in Figs. 1 and 2, digging it into the ground, and rock the handle A forward and back, causing the rack-bar to be gradually moved upward during the oscillating movement of the shovel from the position shown in Figs. 1 and 2 to that shown in Fig. 3, and during such operation the rack-bar is caused to be gradually interlocked with the spring-pressed pawl F until the shovel assumes the position shown in Fig. 3, when it is held interlocked in such position by the rack-bar and spring-pressed pawl, so as to allow the earth supported on said shovel to be raised upward and discharged from the post-hole.

The blade or shovel may be of any desired size and shape, according to the size of the hole to be made, and it may be flat or scoop-shaped, as may be desired, without departing from the essence of my invention.

What I wish to secure by Letters Patent and claim is—

1. In combination with a handle and a blade or shovel pivotally connected thereto, a rack-bar guided on said handle, a ⌊-shaped guide on the latter adapted to serve as a stop against the upward motion of said rack-bar, and a stationary projection on said handle adapted to serve as a stop to limit the downward motion of said rack-bar, and to serve as means for limiting the adjustment of the blade or scoop as set forth.

2. In a post-hole digger, the combination with a handle and an adjustable blade pivoted to one end thereof, of means for adjusting the blade, said means comprising a single member attached at its lower end to each side of the blade, an adjustable rack-bar having a hooked end detachably engaging said member and connecting it with the handle, and means for retaining the rack-bar in its adjusted position.

3. In a post-hole digger, the combination with a handle and an adjustable blade pivoted to one end thereof, of means for adjusting the blade, said means comprising a single member attached at its lower end to each side of the blade, an adjustable rack-bar having a hooked end detachably engaging said member and connecting it with the handle, means for retaining the rack-bar in its adjusted position, and a projection on said handle constituting a stop to limit the movement of the rack-bar in one direction.

4. In a post-hole digger, the combination with a handle and an adjustable blade pivoted to one end thereof, of means for adjusting the blade, said means comprising a single member attached at its lower end to each side of the blade, an adjustable rack-bar having a hooked end detachably engaging said member and connecting it with the handle, means for retaining the rack-bar in its adjusted position, a projection on said handle constituting a stop to limit the movement of the rack-bar in one direction, and means covered by the handle for limiting the movement of the rack-bar in the other direction and further adapted to retain the bar against the handle.

5. In a post-hole digger, the combination with a handle and an adjustable blade pivoted to one end thereof, of means for adjusting the blade, said means comprising a single member attached at its lower end to each side of the blade, an adjustable rack-bar having a hooked end detachably engaging said member, a pawl extending through the handle and engaging the bar for securing it in its adjusted position, a lever connected to the pawl for shifting it out of engagement with the bar, and a spring bearing against the handle for retaining the pawl against the bar.

6. In a post-hole digger, the combination with a handle and an adjustable blade pivoted to one end thereof, of means for adjusting the blade, said means comprising a single member attached at its lower end to each side of the blade, an adjustable rack-bar having a hooked end detachably engaging said member, a pawl extending through the handle and engaging the bar for securing it in its adjusted position, a lever connected to the pawl for shifting it out of engagement with the bar, and a projection on said handle, constituting a stop to limit the movement of the rack-bar in one direction.

7. In a post-hole digger, the combination with a handle and an adjustable blade pivoted to one end thereof, of means for adjusting the blade, said means comprising a single member attached at its lower end to each side of

the blade, an adjustable rack-bar having a hooked end detachably engaging said member, a pawl extending through the handle and engaging the bar for securing it in its adjusted position, a lever connected to the pawl for shifting it out of engagement with the bar, means carried by the handle for limiting the movement of the rack-bar in one direction and further adapted to retain the bar against the handle, and a projection on said handle constituting a stop to limit the movement of the rack-bar in the other direction.

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

CHARLES BUTCHER.

Witnesses:
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