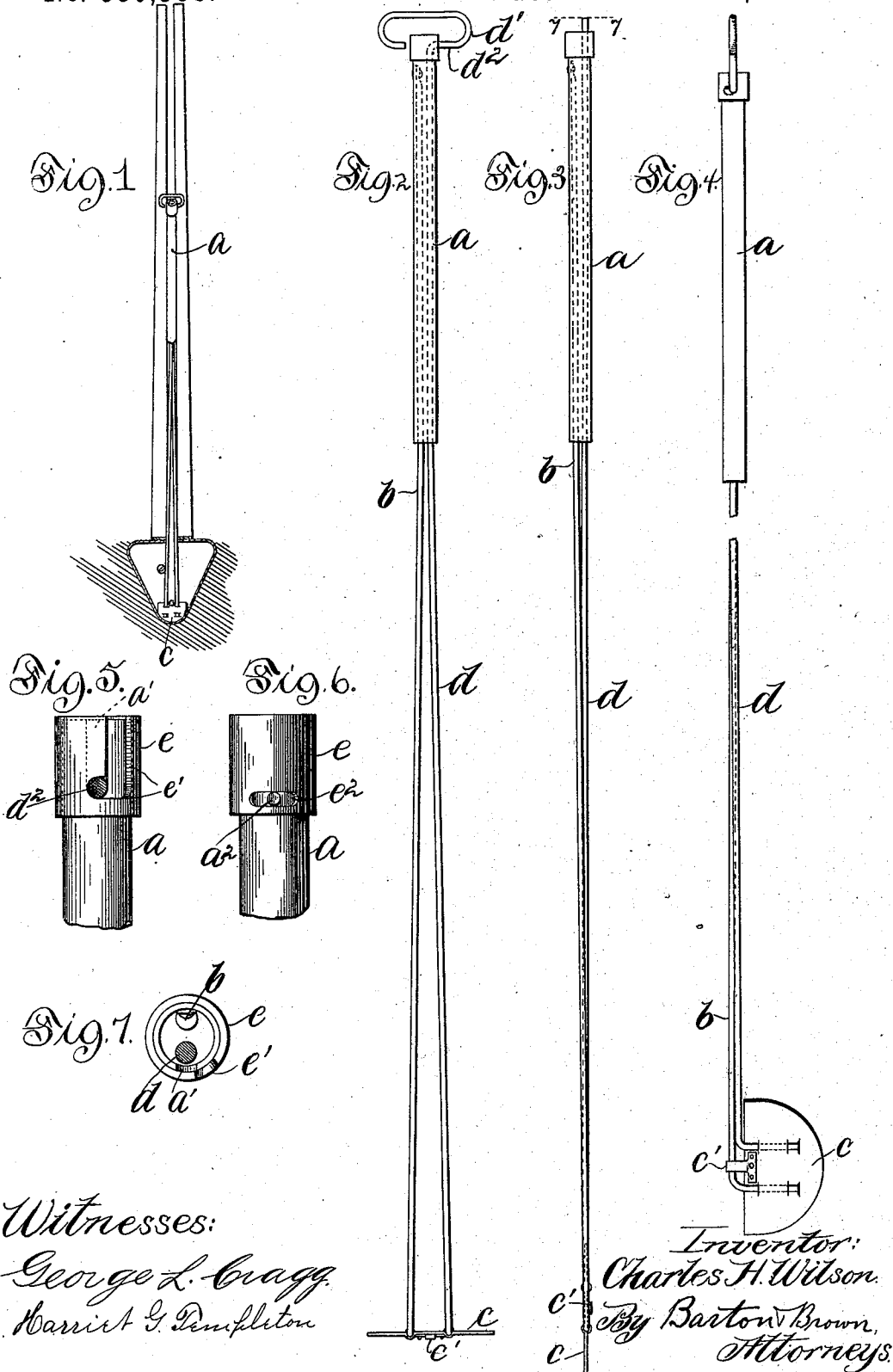


(No Model.)

C. H. WILSON.
HOE.

No. 550,308.

Patented Nov. 26, 1895.



Witnesses:

George L. Cragg

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Inventor:

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UNITED STATES PATENT OFFICE.

CHARLES H. WILSON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
GEORGE W. JACKSON, OF SAME PLACE.

HOE.

SPECIFICATION forming part of Letters Patent No. 550,308, dated November 26, 1895.

Application filed July 28, 1894. Serial No. 518,803. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. WILSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Hoes, (Case No. 8,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to hoes; and its object is to adapt such implements for insertion through slots—as, for example, the slots of electric or cable road conduits—in order that the handle may be outside the slot and the blade be in position in the conduit for efficient work.

Heretofore, so far as I am informed, no hoe has been adapted for such use. A shovel with a thin handle twisted a quarter of the way around has been employed, the blade being inserted as far as the twisted portion of the handle, when by turning the handle the twisted or spiral portion thereof is “screwed,” so to speak, through the slot. The plane of the blade of the shovel, however, has been about parallel with the axis of the handle, and the workman has been obliged to work holding the shovel nearly perpendicular and, using the toe of his boot as a fulcrum, he has with much labor dug up the hard mud and refuse and worked the same along to a manhole. The work of digging up the refuse and working it along to the manhole in this old way has been very great. By the use of my improved hoe, as hereinafter described, the work of digging up the refuse and hauling it along to the manholes is greatly facilitated.

Broadly speaking, my invention consists in a hoe having its blade pivoted to the shank and adapted to be rotated to bring the plane of the blade substantially in line with the axis of the handle for insertion and removal through the slot, means being provided for bringing and holding the blade at a proper angle to the handle after being inserted through the slot into the conduit.

In the form of hoe which I have adopted for practical use the handle consists, essentially, of a tube and two rods inserted therein, one of the rods being rigidly attached to the tube

and the other extending through the upper end of the tube and preferably bent so that it may be readily grasped by the hand. The lower ends of the rods are bent, preferably, at nearly right angles to form the shank of the hoe, these ends serving as pivotal or journaled bearings for the blade, which is suitably mounted thereon. At the center of the blade and projecting upwardly between the two rods where they are bent I provide a stop which arrests the further movement of the blade when it is brought into line with the handle. By drawing the rod, which is loose within the tube, out through the tube longitudinally the blade is brought into line with the handle, and in this position may be readily inserted through the slot. After it has been inserted the loose rod is shoved back and the blade is brought into working position, and by means of a sleeve upon the end of the tube which is provided with a bayonet-lock the said rod is locked rigidly in position, and so serves as a part of the handle while the hoe is in use.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a hoe embodying my invention in working position, the blade being in the conduit and the handle projecting through the slot. Fig. 2 is a top view of the hoe with the blade in its working position. Fig. 3 is a similar view showing the blade closed, the upper and bent portion of the loose rod being removed. Fig. 4 is a side view showing the blade in the same position. Fig. 5 is a view of one side of the locking-sleeve. Fig. 6 is a view of the opposite side thereof. Fig. 7 is an end view of the handle as seen from line 7 7 of Fig. 3.

Like parts are indicated by similar letters of reference throughout the different figures.

The tube *a* serves as the handle, and to its interior is secured the upper portion of rod *b*, the opposite end of said rod being bent at right angles and journaled in the blade *c*. The end of rod *d* is likewise bent at right angles and journaled in the blade *c*, the upper end of said loose rod *d* extending through the tube *a* and being provided, preferably, with a handle *d'*, by means of which it may

be moved longitudinally within the tube *a*. A lock is provided for normally maintaining the rod *d* in position. In the end of tube *a* is provided a slot *a'*, in which the bent portion *d*² of the rod *d* is adapted to move. A sleeve *e* is adapted to rotate upon the end of the tube *a*, the sleeve being provided with a bayonet-slot, the longitudinal portion *e'* of which registers with the slot *a'* in one position of the sleeve, while in the other position of the sleeve the transverse portion of the slot engages the rod *d* to prevent movement of the same. A slot *e*² is provided in the sleeve *e*, in which a pin *a*², provided on the tube *a*, travels to limit the movement of the sleeve *e*, which constitutes the locking device.

When it is desired to insert the hoe into the conduit, the sleeve *e* is turned to unlock the rod *d*, and said rod is moved longitudinally by means of the handle *d'*, thus rotating the blade into the position shown in Fig. 3, in which condition the hoe may readily be passed through the conduit-slot. The blade being within the conduit, the rod *d* is then moved back to its former position, thus rotating the blade into its perpendicular position, after which the rod *d* may be locked.

Upon the blade *c* is provided a lug or stop *c'*, against which rod *b* rests when the blade is closed to prevent the movement of said rod past the center. The bent ends of the rods *b* and *d* are so proportioned that when the blade is closed one of the rods will lie immediately above the other. In the drawings the ends of the rods *b* and *d* are shown passed through slots provided in the blade to constitute the journals; but other forms of journals may be employed.

The means for bringing the blade into line with the handle, so that it may pass through the slot, and for bringing the blade back

again to its working position and holding it there which I have described consist, essentially, in the loose rod and the sleeve provided with the bayonet-slot. This rod *d* I have constructed and combined with the other parts of the hoe, so that it may serve as a portion of the main handle, and I prefer this construction. It is evident, however, that the broad feature of my invention consists in the blade and means for bringing the plane thereof into line with the handle, so that it may pass through the slot, and then after the blade is within the conduit bringing the blade back to its normal working position and securing it in place. I therefore do not limit myself to the rod *d* when used as an integral part of the hoe, nor to the special form of locking device, since there are various means by which the blade may be adjusted, controlled, and secured within the general scope of my invention.

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

In a conduit cleaner, the combination with a tube constituting the handle, of a rod secured by one end to the interior of said tube, a blade journaled to the opposite end of said rod, a second rod journaled at the end to said blade and passing at the opposite end through the interior of said tube and carrying a handle upon the end extending from the tube, and a locking device for securing said second rod to the tube to maintain the blade in working position; substantially as described.

In witness whereof I hereunto subscribe my name this 25th day of July, A. D. 1894.

CHARLES H. WILSON.

Witnesses:

GEORGE L. CRAGG,

HARRIET G. TEMPLETON.