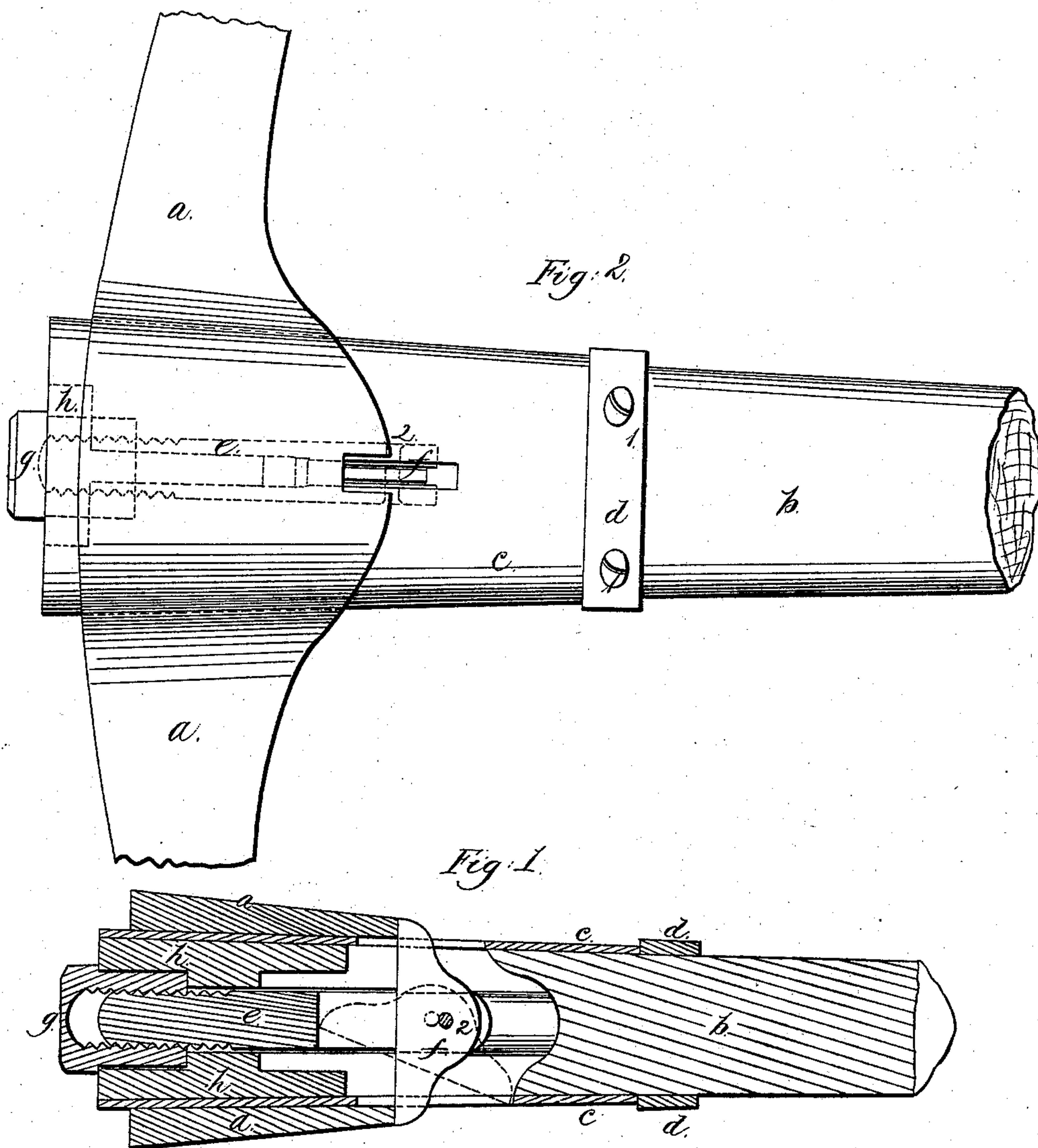


W. H. Livingston,
Tool Handle.

No 33,394.

Patented Oct. 1, 1861.



Witnesses:
Samuel H. Merrill
James H. Harlow

Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM H. LIVINGSTON, OF NEW YORK, N. Y.

IMPROVED METHOD OF ATTACHING HANDLES TO PICKS, &c.

Specification forming part of Letters Patent No. 33,394, dated October 1, 1861.

To all whom it may concern:

Be it known that I, WILLIAM H. LIVINGSTON, of the city and State of New York, have invented, made, and applied to use a certain new and useful Means for Attaching Handles to Picks, Mattocks, &c.; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a section of the handle and eye transversely; and Fig. 2 is an elevation of the handle near the end and of the eye of the pick, mattock, or similar implement.

Similar marks of reference denote the same parts.

In attaching handles to various tools it is often necessary to make a permanent connection by driving wedges into the wooden handle, such as with hammers and axes, thereby entirely precluding the disconnection of the handle from the eye without injury to the parts. On the other hand, with some tools—such as picks and mattocks—the handle is required to be so fitted that the same can easily be driven out of the eye, in order that less space may be occupied for storage or transportation. This requirement precludes the possibility of a rigid connection between the handle and the eye, and the parts often work loose while in use, the wood becomes compressed and abraded by the working in the eye, and with picks they sometimes slip down the handle upon the hand or head of the workman when raised in use.

The nature of my said invention consists of a metallic tube the shape of the eye of the pick, mattock, or other tool in which the end of the handle is permanently secured, and which tube relieves and protects the wood from wear or compression from the eye while in use, and not only causes the handle to wear much longer, but also prevents accidents consequent upon the handle becoming loose in the eye, and at the same time allows of the ready connection and disconnection of the handle. I also apply a cross-key or lips acted upon by a bolt axially of the handle for the purpose of retaining the eye at the point to which it may have been driven upon the handle.

In the drawings, *a* is the eye of the pick,

mattock, or other implement, formed of the usual size and shape.

b is the handle, of wood.

c is a metallic tube formed of the size and shape required for the interior of the eye *a*, and the handle *b*, being securely retained within this metallic tube, is protected thereby, and, in fact, said tube becomes an armor to the handle. In consequence of the shrinkage of the wood it may become necessary to wedge the handle within this tube *c* from time to time; but the taper of the wood will cause the handle to drive tight and firm as the pick may be driven on. If I place the screws 1 1 in holes in this tube *c*, they might be bent or loosened by the motion of the tube on the wood in driving the pick on or off. I therefore place said screws 1 1 in a separate ring or band *d*, and when from contraction of the wood the said tube *c* may have too much end motion on the handle the said handle is to be tightened up in the tube by driving wedges into the end, or else the said band is to be loosened and moved along farther and the screws entered into new holes.

In order to prevent the pick-eye from sliding back while in use in consequence of the jar to which the parts are exposed, I make use of a bolt *e*, running in the end of the handle parallel thereto, and, having a cross-key or lips *f*, sitting within a mortise cross-wise of the handle and taking the edges of eye *a*, retains the same upon the tapering end of the handle in consequence of the nut *g* drawing upon said bolt and holding the cross-key or lips up to the eye.

I find it most convenient to bore a hole in from the end of the handle for the bolt *e* and with a thick saw cut the same longitudinally a sufficient depth to form the mortise for the cross-key or lips *f*, (the pipe *c* being mortised or perforated before being put on the handle,) and I make use of a metallic socket *h*, formed with wings running down in this mortise as far as the same is not required for the cross-key, and these wings simultaneously prevent the wood of the handle springing together at the saw cut and hold the socket *h* in place, and this socket *h* receives the nut *g*, which is formed as a pipe, taking the screw-thread of the bolt *e*, the object being to prevent dirt getting into the screw and also to avoid any

"upsetting" or end compression on the bolt when the pick-handle is struck on the end to drive the pick to its place on the tapering handle.

In consequence of the cross-key or lips *f* being attached by the pin 2, that passes through the end of the bolt *e*, I am enabled to slacken up the said bolt and then turn the said key, so that it is entirely within the handle for sliding the eye *a* on or off, as seen by the red lines in Fig. 1, and by still further pressing the bolt *e* endwise the cross-key will be forced out in consequence of its curved back coming in contact with the lower edge of the mortise.

In consequence of the metallic tube *c* not being compressed in use I am enabled to make use of a much less taper than that generally formed. Thereby the eye will drive on much more firmly.

What I claim, and desire to secure by Letters Patent, is—

1. The metallic tube *c*, forming a protection or armor for the end of the handle *b* and receiving the eye of the pick or mattock or other implement in the manner and for the purposes specified.

2. The band *d*, attached to the handle *b*, in combination with the metallic tube *c*, for the purposes and as specified.

3. The bolt *e*, parallel with the handle *b* and provided with the cross-key or lips *f* to act against the rear side of the eye *a* and retain the said eye on the tapering handle, as set forth.

In witness whereof I have hereunto set my signature this 6th day of September, 1861.

WM. H. LIVINGSTON.

Witnesses:

LEMUEL W. SERRELL,
JAMES H. HAROLD.