

1,291,360.

Patented Jan. 14, 1919.

Fig. 1.

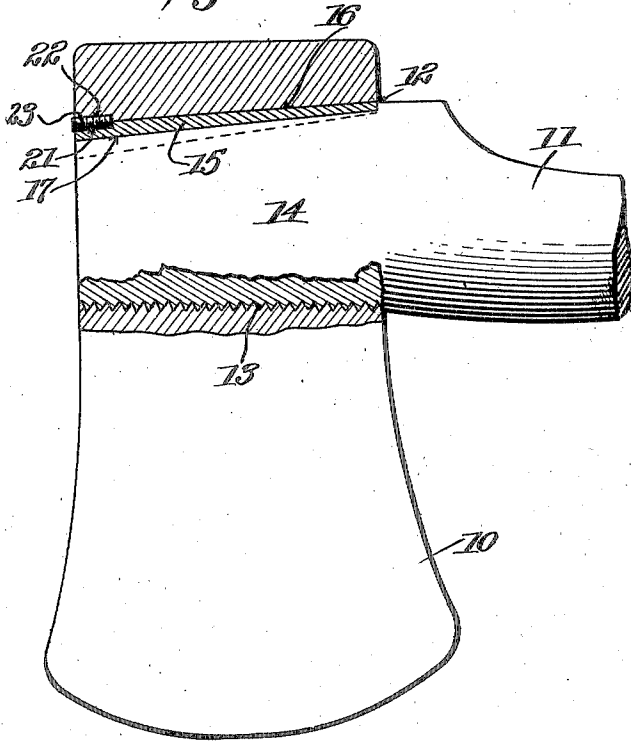


Fig. 2.

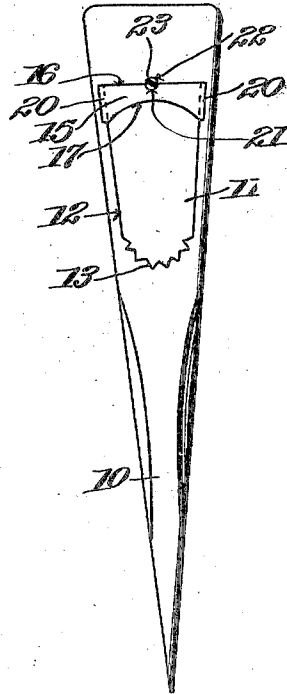


Fig. 5.

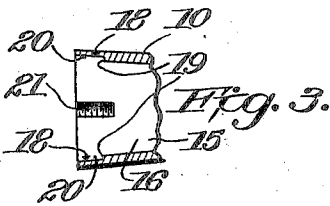
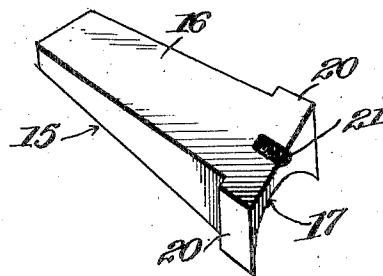
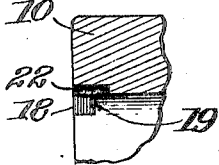


Fig. 4.



WITNESSES
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UNITED STATES PATENT OFFICE.

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AX.

1,291,360.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PURL BABCOCK, a citizen of the United States of America, residing at Redwood, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Axes, of which the following is a specification.

This invention relates to improvements in axes, hatchets and the like, and more particularly to an improved means for securing the helve or handle to the head of the ax.

A particular object of the invention is to provide a fastening means whereby the helve may be easily secured in position in the eye of the ax-head and firmly held, but easily removed for any purpose whatsoever, and particularly in removing the stub of the handle should the latter be broken, thus obviating the usual difficulty experienced in removing a broken helve from an ax-head and avoiding the ruining of the head by the common method of burning out the helve.

A still further object of the invention is to provide an ax with a fastening device for the helve, which will permit of the use of any other form of patented wedge of wood or other material in connection with the wedge constituting a part of the fastening, and which will also be simple of construction, convenient of manipulation and economical to produce.

With the above objects and others in view, as will be apparent as the specification proceeds, the invention consists in the novel combination and arrangements of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

Reference is had to the accompanying drawings forming a part of this specification, in which similar reference characters designate corresponding parts throughout the several views and in which:

Figure 1 is a sectional elevational view of an ax equipped with a fastening means of my invention, a fragmentary portion of a helve being shown in elevation apparently broken away and the ax-head and fastening means being shown in section.

Fig. 2 is a front elevation of the ax.

Fig. 3 is an enlarged fragmentary sectional view of the head.

Fig. 4 is a central longitudinal sectional view of the part shown in Fig. 3 taken at right angles thereto.

Fig. 5 is a perspective view of a wedge forming a part of the fastening, and

Fig. 6 is an elevation of the opposite end of the wedge shown in Fig. 5.

In the illustrated embodiment of the invention, the numeral 10 designates an ax-head, but which in practice may be a hatchet-head or other implement to which a helve or handle 11 is to be secured. The ax-head is provided with an eye 12 which tapers from the rear face of the head of the forward or front face thereof, and is provided upon its bottom wall with a serrated surface or teeth 13 extending continuously of the bottom wall thereof and partly on to the side walls of the eye.

The helve 11 is provided with a tapered end 14 adapted to engage in the eye 12 so as to leave a space at the top in which is forced a wedge 15 constituting a coöperative part of the fastening means in conjunction with the teeth 13. This wedge has a flat, rectilinear top wall 16 and a concavely arcuate bottom wall 17 adapted to fit the contour of the portion 14 of the helve while the wall 16 fits the top wall of the eye in the ax-head when the wedge is driven into position between the helve and the top wall of the eye as is clearly shown in Figs. 1 and 2 of the drawings.

The eye 12 is enlarged at the front portion of the ax-head by opposed recesses 18, thus providing interior shoulders 19 adapted to be engaged by shoulders formed from opposite projections 20 at the enlarged end of the wedge 15 so as to limit the movement of the wedge in an engaged position, when the portion 14 of the helve will be forced against the teeth 13 and the helve thereby effectively secured in the eye of the ax-head, that is the ax-head securely fastened on the helve. It will be further obvious that the recesses 18 when engaged by the projections 20 of the wedge will not only prevent the wedge from being driven by its position, but will prevent up and down movement of the wedge so that it will accurately fit the top wall of the eye when driven into position and the wedge being forced home, will provide a very secure attachment.

The teeth 13 will prevent the helve from slipping back when the wedge is driven in position and in order to securely hold the wedge in position, especially when the ax-head is sold without a helve, the back of the wedge, that is the wall 16 and the back of

the eye or what has been termed the top wall thereof in the position shown in Figs. 1 and 2 of the drawings, are provided with coacting threaded apertures 21 and 22 respectively for receiving a screw 23. This screw connects the wedge to the head so as to secure it against the wall of the eye limited by the engagement of the shoulders 20 with the recesses 18 as above specified, and also serves to keep the wedge from falling out of position such as would permit the release of the wedge and loosening of the helve from within the eye of the head. The engagement of the shoulders 20 with the recesses 18 also provides means for keeping the wedge in contact with the adjacent wall of the eye in the ax-head, so that the threaded apertures are maintained in alinement to permit convenient application of the screw and also to permit its withdrawal when desired.

In the application and removal of the helve to the ax-head or vice versa, the helve is inserted in the eye of the ax-head and the wedge then inserted and forced into position, thereby causing the teeth 13 to bite into the wooden helve or handle in such a manner as to prevent movement or displacement of the helve. The tighter the wedge is forced in position, the tighter the helve is held thereby and the fastening screw 23 is then inserted so as to lock the parts against displacement. In removing the helve as, for instance, when the same has become broken, instead of the usual difficulty experienced in removing a broken helve from an ax-head or burning out the same, the screw 23 is removed and the wedge is then driven out of

its position, thus permitting the helve to fall back into the larger space, thereby permitting it to be loose all around and easily removed. The wedge is driven out from the small end to the large end at which it is limited in its clamping engagement.

It will thus be seen that I have provided a simple and efficient means for securing an ax helve or the like in an ax-head, but it is to be understood that improved fastening means may be employed with various forms of tools or implements in which the head of the tool is provided with an eye for receiving an end of a helve or handle, and that the application of the fastener in such manner is well within the scope of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

A tool head having an opening formed with one flat end wall and recesses in its side walls adjacent said end wall and adjacent one end of the opening, a wedge adapted to enter the opening and having one side flat to engage the end wall of the opening and the other side concave to conform to the end of a handle, oppositely extended lugs on one end of the wedge to enter the recesses whereby to limit inward movement of the wedge, and means operable to secure the wedge in place.

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

PURL BABCOCK.

Witnesses:

MRS. J. H. BABCOCK,
RAY BABCOCK.