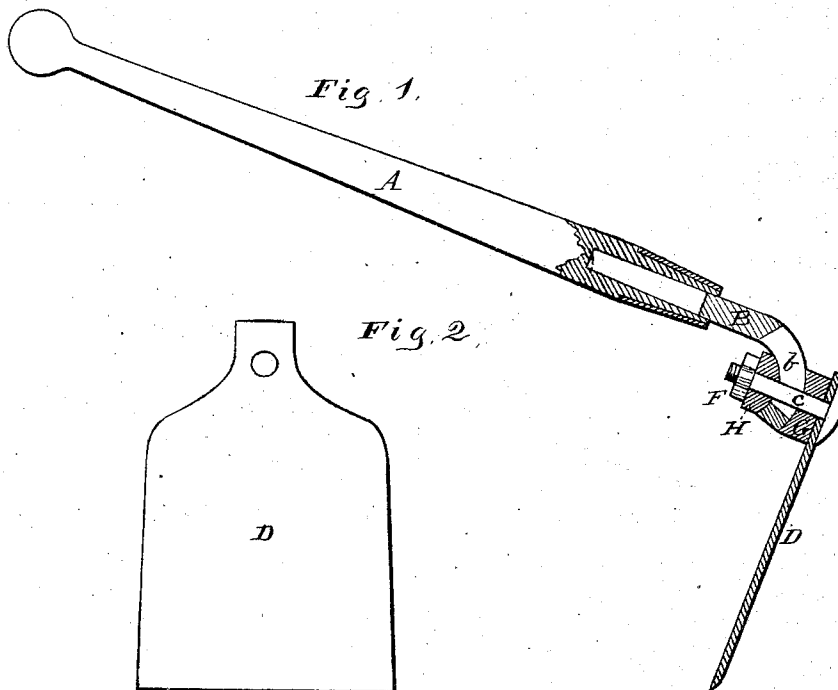


AUGUSTINE ELLIS.

Hoes.

No. 120,050.

Patented Oct. 17, 1871.



Witnesses

Villette Anderson

E. H. Bates

Inventor.

Augustine Ellis,
Chipman & Son & Co
Attys

UNITED STATES PATENT OFFICE.

AUGUSTIN ELLIS, OF CANTON, INDIANA.

IMPROVEMENT IN HOES.

Specification forming part of Letters Patent No. 120,050, dated October 17, 1871.

To all whom it may concern:

Be it known that I, AUGUSTIN ELLIS, of Canton, in the county of Washington and State of Indiana, have invented a new and valuable Improvement in Hoes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of vertical longitudinal section of my invention. Fig. 2 is a face view of the blade without the shank.

This invention relates to certain improvements in hoes; and consists in the mode, hereinafter described, of attaching the blade to the handle, so that the former may be adjusted to any desired angle. It is an improvement on the invention for which Letters Patent No. 108,455 were granted to A. Ellis and O. Albertson, October 18, 1870.

In the drawing, A represents the handle. B is a shank, secured thereto in any suitable manner by ferrule or other device. This shank is curved forward and downward, and slotted longitudinally and vertically at *b* to receive the tang of the blade, which is arranged at a right angle with the latter. The tang may be a headed bolt, *c*, inserted in a suitable hole, *c'*, formed in the upper part of the blade D, which fits on the upright shank *c'* of the blade D, said shank having a rectangular form to prevent lateral movement of the bolt E, and made with a shoulder, *c''*, to

support the head *c*. On the end of the tang a screw is formed to receive a nut, F. G represents a washer with an opening in the center, so that it may be placed on the blade-tang, between the blade (or shank *c'*) and the convex side of the curved shank B, to correspond with which and fit snugly against said washer is formed concave on its inner face. This washer has a recess cut in its plane face to receive the head *c*. H is another washer, placed on the blade-tang, with its convex face against the concave side of the shank B, where it is secured by the nut F, which holds the blade, washer G, and tang in place.

By unscrewing this nut the position of the blade may be changed, according to the length of the slot *b*, to any desired angle to suit the height of the person using, or to adapt it to other circumstances.

When the blade is brought to an obtuse angle with the handle, as shown in Fig. 1, the implement may be inverted and employed as a spade.

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

In a hoe or spade, the combination, with the curved slotted shank B, of the blade D, bolt *c*, plano-concave washer G, and plano-convex washer H, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

AUGUSTIN ELLIS.

Witnesses:

MARCUS GRAY,
B. F. TRUEBLOOD.

(141)