

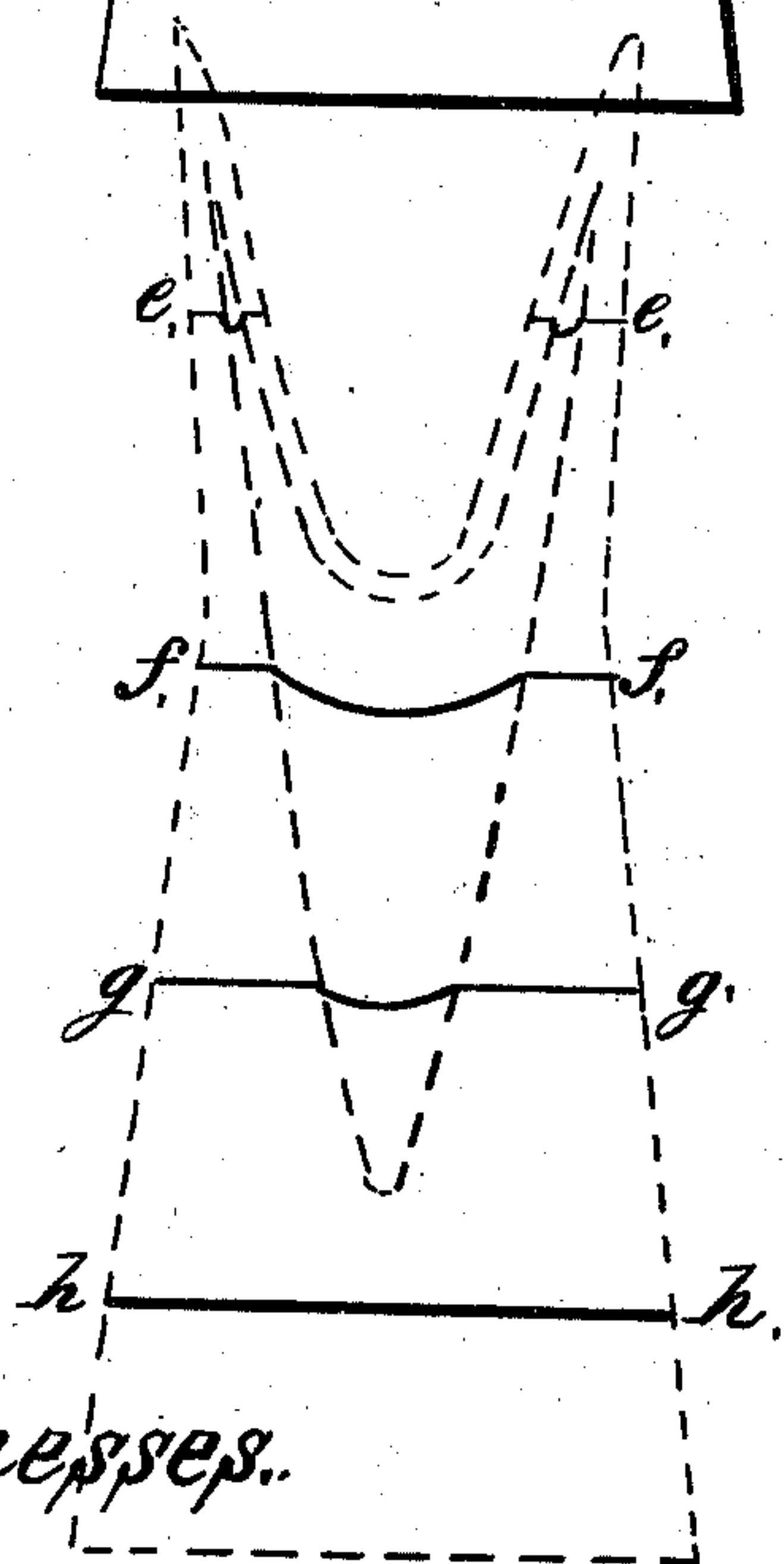
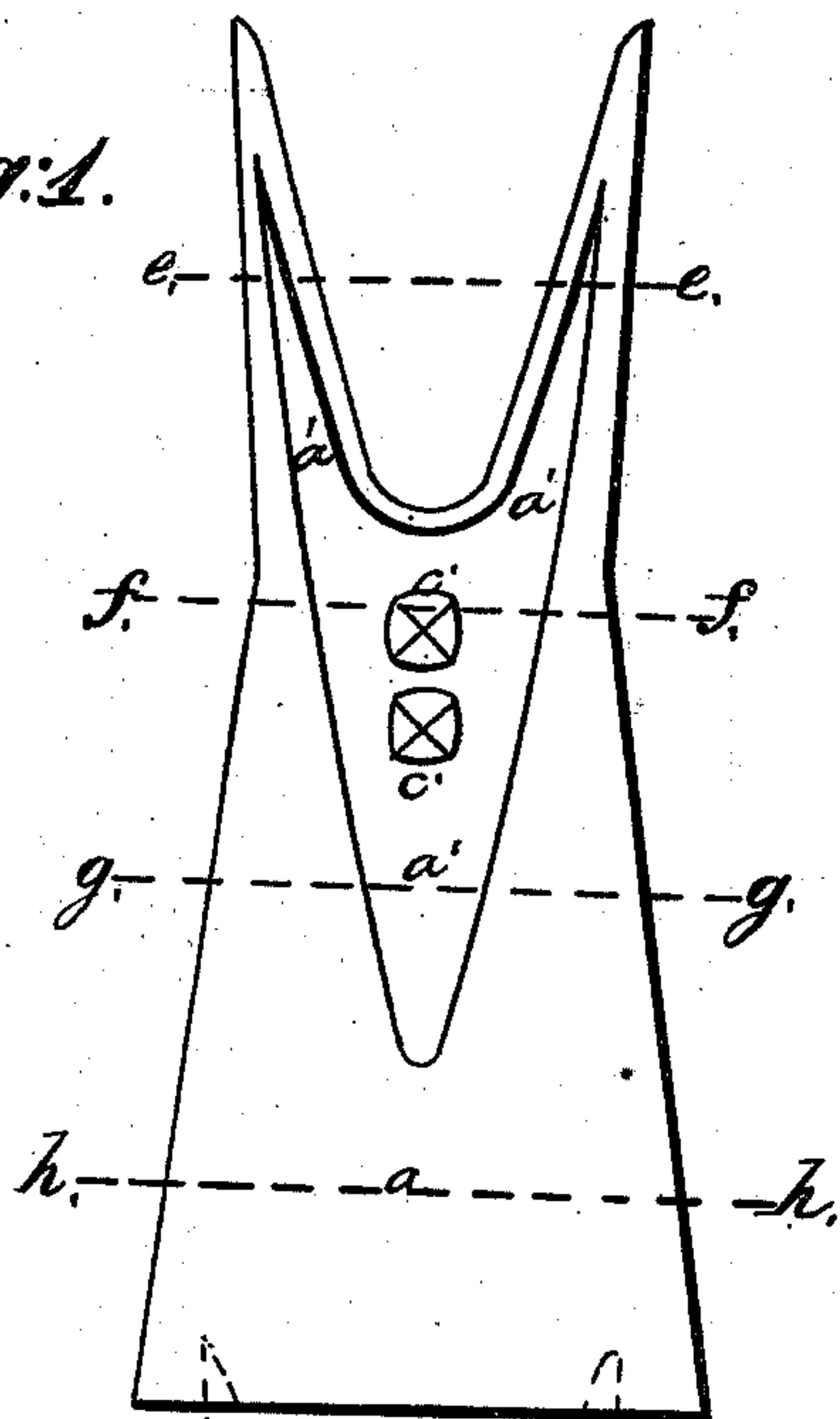
A. M. Ross.

Garden Hoe.

N^o 87,368.

Patented Mar 2, 1869.

Fig: 1.



Witnesses.

J. B. Allen
W. H. Elliot.

Fig: 2.

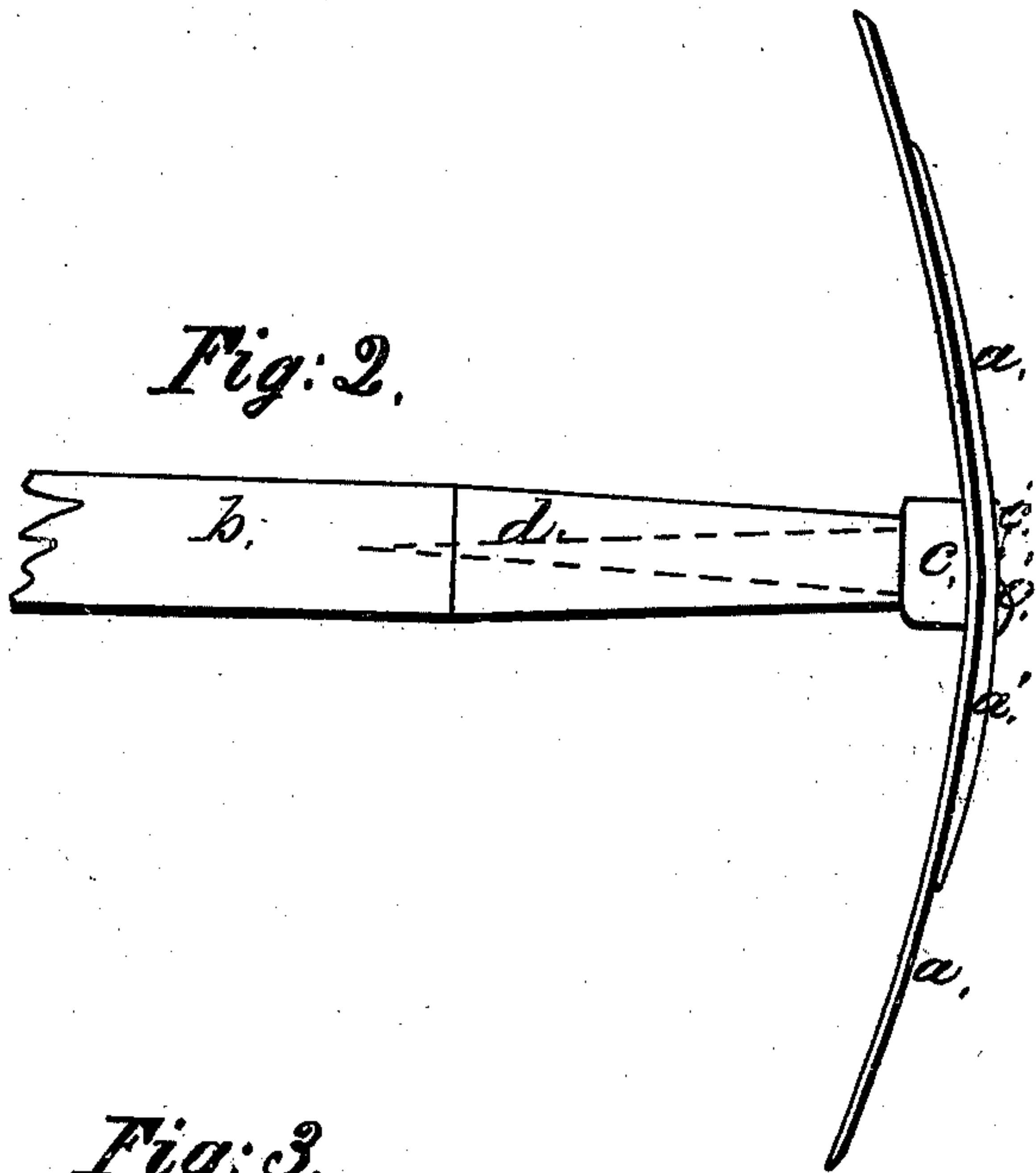
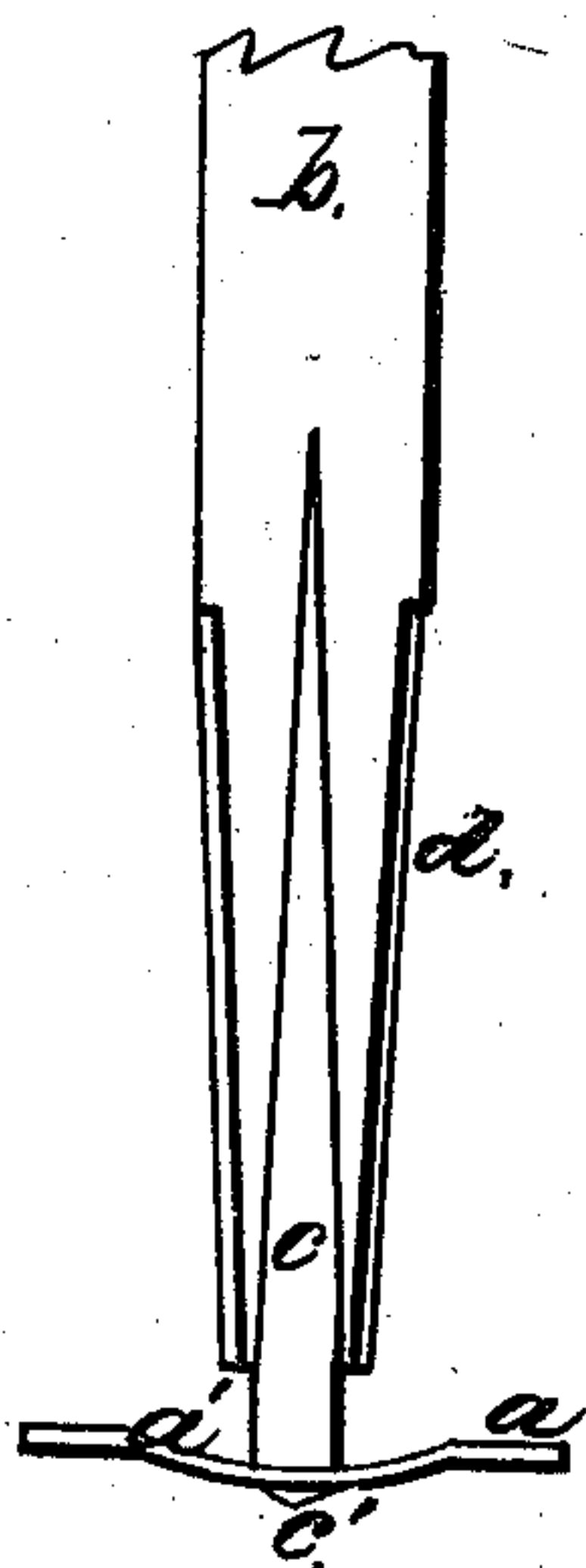


Fig: 3.



Inventor.

A. M. Ross.

United States Patent Office.

A. M. ROSS, OF ILION, NEW YORK.

Letters Patent No. 87,368, dated March 2, 1869.

IMPROVEMENT IN GARDEN-HOE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, A. M. Ross, of Ilion, Herkimer county, New York, have invented a new and improved Hoe; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Similar letters of reference indicate the same devices in all the figures.

To enable others skilled in the arts to comprehend, make, and use my invention, I will proceed to describe its nature, construction, and operation.

The nature of my invention consists in making a hoe by first cutting the blade out of sheet-metal, and then striking up, or raising the central portion, so as to obtain greater strength without additional weight.

Figure 1 is an end elevation of my improved hoe.

Figure 2 is a side elevation of the same.

Figure 3 is a section of the same through the shank and handle.

a, hoe-blade.

a', that portion of the blade which is raised.

b, handle of the hoe.

c, shank.

c', end of the tenons.

d, ferrule.

The lines *ef* and *gh* represent cross-sections of my improved hoe, at the points indicated by the same letters in fig. 1.

My invention relates especially to that kind of hoe used in cultivating onions, but it may be applied to all descriptions of hoes; and

The object of my invention is to enable the manufacturer to produce a much stronger and lighter hoe,

at considerable less expense than can be made by the old process.

My improved hoe is made by first cutting, from a plate of steel, a blank hoe-blade, in the form shown by the outlines of fig. 1.

The blank is then swaged between two dies, of such shape as to raise the central portion of the blade about twice the thickness of the steel, as shown at *a'*.

Two square holes are then punched through the raised portion of the blade, for the reception of the shank. The blade is then ground and polished.

The shank is forged with two tenons on one end of it, corresponding with the two holes in the hoe-blade. The other end of the shank is drawn out, of suitable shape to be driven into the handle.

The shank is then riveted into the blade, by forming heads on the two tenons, as shown at *c'*, fig. 1.

The handle is then provided with a ferrule, *d*, and the shank driven into it, which completes the hoe.

The raised portion of the blade extends up into the prongs, and down toward the cutting-edge of the hoe, thus strengthening, to any desired extent, all parts, without adding anything to the weight of the hoe.

By this process the hoe is produced without either hammering or rolling, which materially reduces the cost of manufacturing.

Having described my invention,

What I desire to have secured to me by Letters Patent of the United States, is—

The within-described hoe, when constructed substantially as set forth, as an article of manufacture.

Witnesses:

W. H. ELLIOT,
J. B. PELTON.

A. M. ROSS.