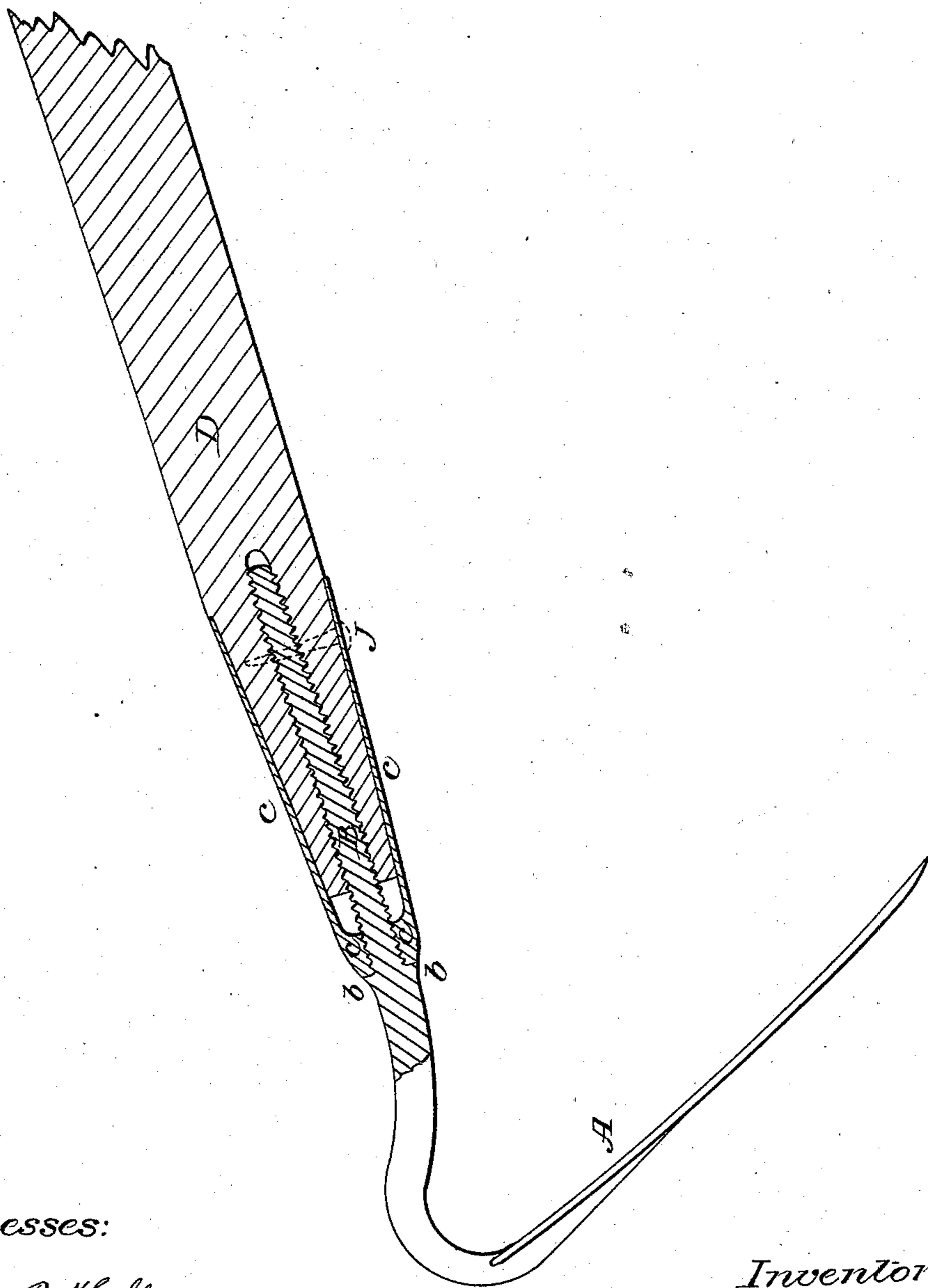


W. T. Clement,

Tool Handle,

No. 32,275,

Patented May 14, 1861.



Witnesses:

William R. Holliday,

Edwin Chapman

Inventor:

W. T. Clement

UNITED STATES PATENT OFFICE

WILLIAM T. CLEMENT, OF NORTHAMPTON, MASSACHUSETTS.

SECURING HANDLES TO HOES.

Specification of Letters Patent No. 32,275, dated May 14, 1861.

To all whom it may concern:

Be it known that I, WILLIAM T. CLEMENT, of Northampton, in the county of Hampshire and State of Massachusetts, have invented a certain new and Improved Means of Fixing Handles to Hoes and other Tools; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, which is a longitudinal section of a hoe with my improvement.

Among the modes in common use for fastening hoes and similar instruments to their handles, is one known as the "socket" fastening and another known as the shank fastening.

My invention partakes of the character of both. In the socket fastening there is a cylindrical or tapering socket formed on the instrument in which socket the handle is tightly fitted and secured by a nail or pin inserted transversely. In the "shank" fastening a shank or spur formed on the hoe is driven or screwed into the handle, the latter being prevented from splitting by a ferrule.

My invention involves in a good degree the advantages of both, with the addition of certain useful qualities peculiar to itself. To enable others skilled in the art to make and use my invention I will proceed to describe it by the aid of the drawing and of the letters of reference marked thereon.

A is a goose-neck hoe having a screw shank B, adapted to be inserted within the handle as in shank hoes.

C is a conical cap or socket of malleable cast iron or other metal, with a female screw *c*, adapted to screw upon the shank B, and to be confined very firmly against a shoulder *b*.

D is the handle which is of wood and adapted to fit within C and to screw upon the shank B as represented. The tapering end of the handle D is of such size that when it fits the sides of the socket C it does not extend quite to the bottom, leaving an empty space within C as shown, into which the handle can be further forced if shrinkage or other cause should allow it to be so moved.

In fixing the handle to the hoe the socket C is first firmly fixed in its place on the shank B by screwing it tightly against the shoulder *b*, and the handle D, being previously made of the proper size and taper-

ing form and bored, is screwed upon the shank B, until it fits the sides of C tightly. It is now confined by both the socket C and the shank B. The socket C is rigidly united to the shank by the female screw so as to be in effect a portion of the same and by embracing the exterior of the handle D it produces the same effect and presents the same appearance as the socket fastening above alluded to, while the shank B entering the handle produces the effect of the shank fastening.

It is an essential feature of my invention that the shank B is a part or a continuation of the neck of the tool itself and not a distinct part weakly united thereto. Casting the metal of the tool upon or around a screw entering the wood at the end while a cylindrical collar fixed to the tool also surrounds the wood is shown in a former rejected application for patent but the union of the screw shank in such construction is weak and cannot produce the effect of my invention because of such inherent weakness.

It is also an important and essential feature of my invention that my socket C be of a tapering form so that it is tightened by being forced farther upon the handle instead of being cylindrical as in the fastening before referred to. But it is not necessary for the success of my invention that the socket C should be screwed to the shank B, for any other fastening, such as welding, brazing, riveting or soldering or closely fitting and driving, which will form a rigid union, will answer a similar purpose, but I prefer the screw method represented as simpler and more readily constructed.

If at any time the handle becomes loose by shrinkage or other cause, it can be quickly tightened by screwing it farther down upon the shank, the conical form of the socket causing it soon to fit closely.

In the manufacture of the parts I can if desired produce a hole in the side of C and a corresponding hole through B into which a nail or other suitable transverse pin may be driven. The position of the nail is indicated in red outline and marked with the letter J. I do not however esteem such extraneous fastening necessary.

My invention is cheaper than the socket fastening, because in mine the cap C may be of malleable cast iron while in the socket fastening the sockets being a part of the tool itself necessarily require to be of wrought

iron or steel welded together. For the same reason my sockets C are stronger and less liable to burst because they are homogeneous or uniform on all sides while the sockets
5 heretofore employed are necessarily weaker along the line where the welding is effected. The bursting of sockets is a great evil, a large proportion being burst in inserting the handles unless it is done with skill and
10 the operation therefore almost necessarily requires to be performed in the shop where the hoes are manufactured.

A peculiar advantage possessed by my invention is the ease with which the handle
15 and hoe may be firmly attached by any one without skill. The value of this quality may be estimated from the fact that the difference in freight between New York and San Francisco, where a large number are
20 annually sent, between hoes with handles or each packed in separate bundles is in consequence of the less space occupied by the parts when packed separately about a half dollar on each dozen hoes and enables my in-
25 proved hoe to be sold in California as

cheaply as the inferior styles. In freighting to Australia the difference is still more important.

I do not claim broadly combining a socket and a shank independently of the kind and
30 character of each; but

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

The fixing of handles to hoes and other
35 tools by the combination of the screw shank B which is a continuation of the tool itself with the tapering socket C and perforated and tapered handle D so that the tool is fixed to both C and D substantially in the manner
40 and so as to possess the advantages herein set forth.

In witness whereof I have hereunto set my name in presence of two subscribing witnesses.

WM. T. CLEMENT.

Witnesses:

WILLIAM R. HOLLIDAY,
EDWARD MAYNARD.