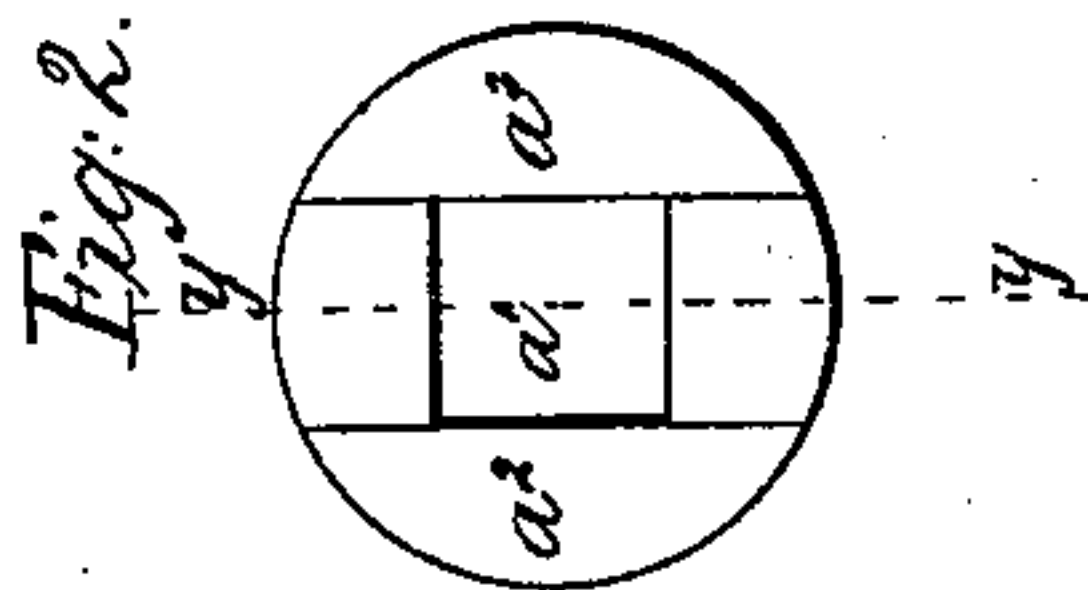
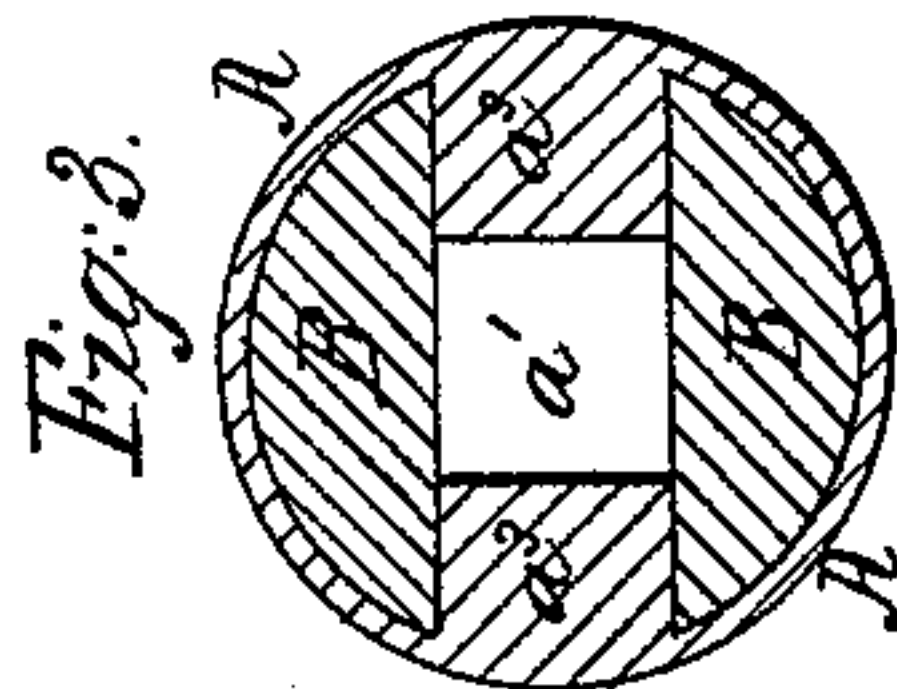
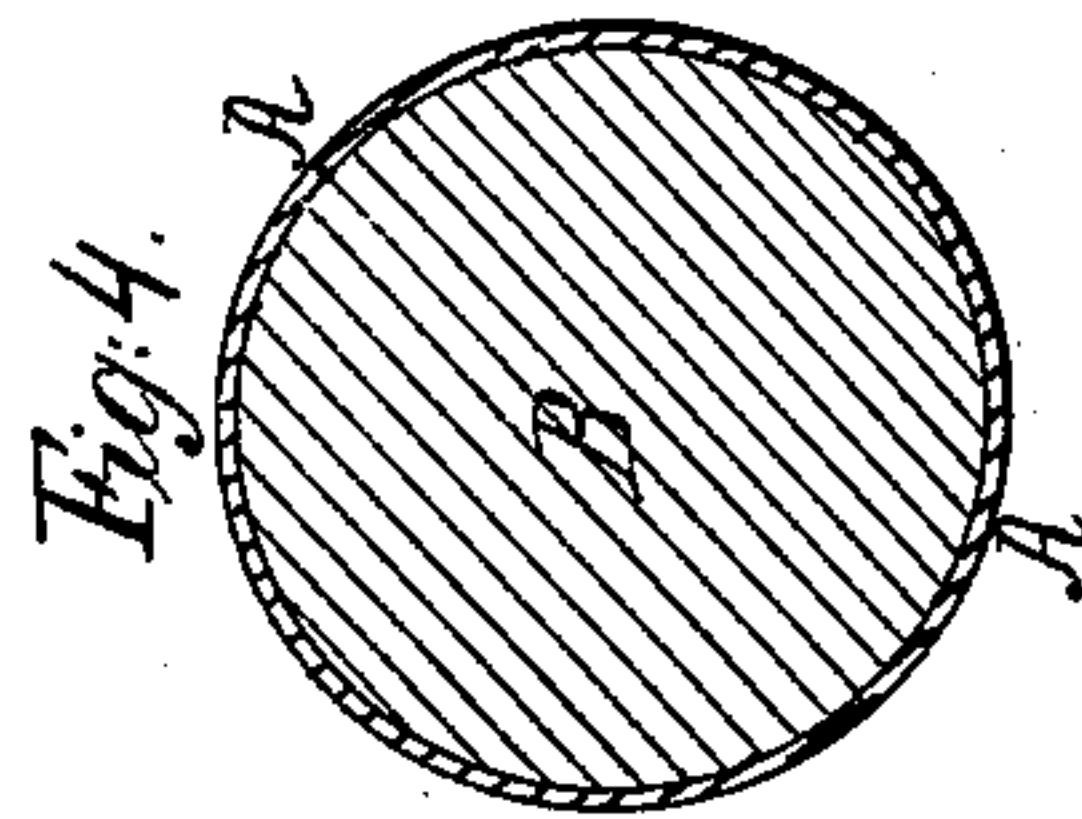
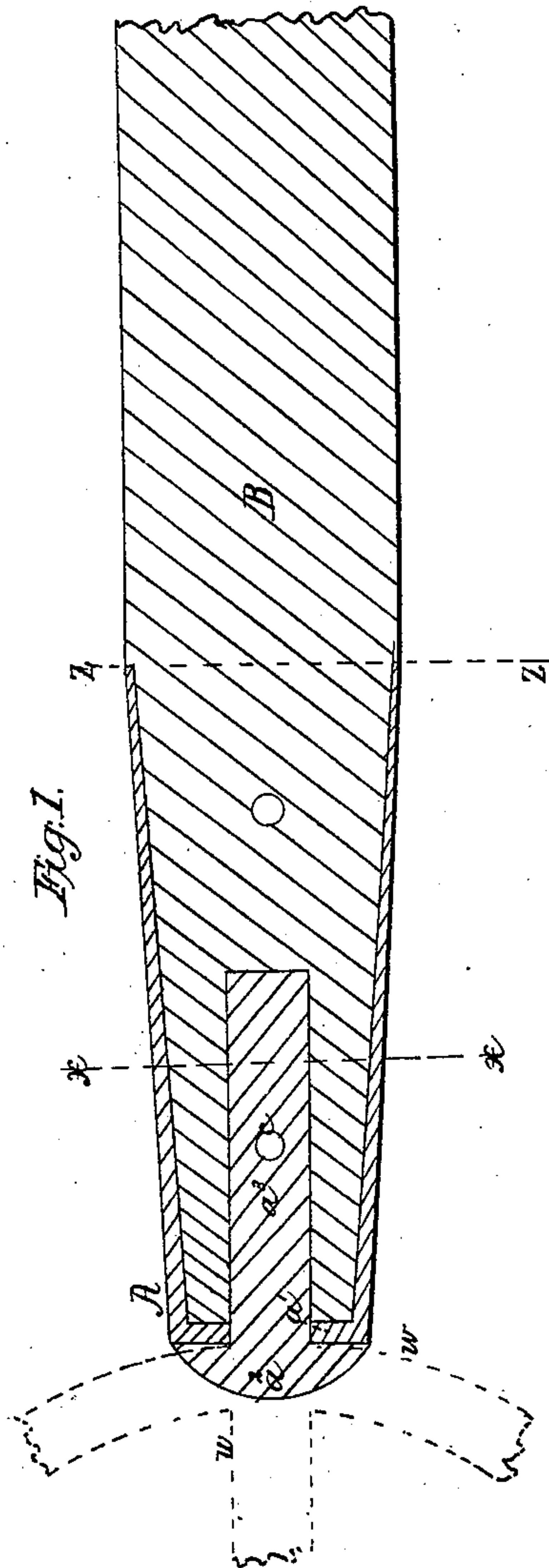


*T. H. Windle*

*Tool Handle.*

*N<sup>o</sup> 64,613.*

*Patented May 7, 1867.*



*Witnesses:*

*Wm. Monahan*  
*W. D. Woodruff.*

*Inventor:*

*Thos. H. Windle*

# United States Patent Office

THOMAS H. WINDLE, OF WEST CHESTER, PENNSYLVANIA.

*Letters Patent No. 64,613, dated May 7, 1867.*

## IMPROVEMENT IN METAL SOCKET FERRULES.

*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, THOMAS H. WINDLE, of West Chester, in the county of Chester, and State of Pennsylvania, have invented a new and useful Improvement in the Cast-Metal Socket Ferrule for the Wooden Handle of Dung-Forks, Drags, &c.; 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 accompanying drawings, making a part of this specification, in which—

Figure 1 is a horizontal longitudinal section of the same, applied to a handle on the dotted line *x* of fig. 2; the latter,

Figure 2, being a view of the outer or smaller end of the said improved ferrule.

Figure 3, a transverse section on the dotted line *y* of fig. 1; and

Figure 4, a transverse section of the same on the dotted line *z*.

Like letters of reference indicate the same parts when in the different figures.

The object of my improvement is to produce a ferrule for the wooden handle of dung-forks, drags, &c., that will combine lightness and strength with better facility for withdrawing the shanks of the different implements or tools which are intended to be used alternately in the same handle; and my invention consists in making a tapering socket ferrule of cast metal, having a comparatively thin shell or body, with a square hole in the centre of its smaller end, two outside lips across the said end, and two inside bearings, each of the width of the hole, and both of the lips and of the bearings on a line with the upper and lower sides respectively of the said hole, substantially as hereinafter set forth and described.

In the drawings, A is the shell or body,  $a^1$  the square hole in its smaller end,  $a^2$   $a^2$  the outside lips,  $a^3$   $a^3$  the inside bearings, and B the wooden handle. The body A, lips  $a^2$ , and bearings  $a^3$  are cast together as one piece, the hole  $a^1$  being of such a size as will fit the uniform shanks of the different tools intended to be attached. The lips  $a^2$   $a^2$  form solid bearings for the upper and lower sides respectively of the cross-bar or shoulders of the tool when the latter is inserted, while the inside bearings  $a^3$   $a^3$  form solid supports for the shank of the tool, which fits along in contact with the upper and lower sides of the former, (see the faint lines *w*, fig. 1.) A readily-removable pin or screw fits in the hole *c*, and keeps the shank of the same securely in its place in the socket. The wooden handle B is slotted at its inserted end so that it fits accurately down to the bottom of the ferrule on each side of the bearings  $a^3$   $a^3$ , as shown in figs. 1 and 3.

The socket ferrules heretofore produced either do not admit of changing the inserted tool with facility, or have the hole for the shanks of the tools cast in a solid end of the ferrule, and consequently when the parts become rusted, (a result which soon occurs,) it becomes also very difficult, if not impossible, to loosen and withdraw the shank from the hole without breaking either the tool or the ferrule. In this my improved ferrule it will be seen that as the shank of the tool bears only along its upper and lower sides, where the strain in using the implement is provided for by the lips  $a^2$   $a^2$  and the bearings  $a^3$   $a^3$ , any adhesion that may take place from rust will readily yield by slightly striking, with a hammer, the sides of the inserted tool, because the two lateral sides of its shank will not adhere to the wood of the handle B, nor will the wood resist the loosening effects of the hammering; that, consequently, the substitution of one tool for another can be effected with greater facility, as occasion may require; and that, as the wooden handle B extends down to the bottom of the ferrule on each lateral side of the bearings  $a^3$   $a^3$ , thus dispensing with a solid metallic end, which was heretofore required for the shank-hole, this socket ferrule is necessarily much lighter, and is also, nevertheless, quite as strong.

I am aware that cast-metal socket ferrules are in use which have, in the solid end which receives the single or compound shank of a fork, a square or oblong hole, against the four sides or surfaces of which the four sides of the said solid or compound shank of the fork fit closely, for the purpose of supporting the fork in using, and also allowing the latter to be withdrawn for the purpose of changing or repairing it, as occasion may require; but in these ferrules the shank soon becomes rusted fast, and cannot be loosened without difficulty and the risk of breaking either the shank or the tines of the fork. I therefore do not desire to claim broadly a socket ferrule adapted in its construction for the twofold purpose described; but, having fully described my improve-



ment, what I claim as new therein of my invention, and desire to secure by Letters Patent, is confined strictly to the following, viz :

I claim, in a cast-metal socket ferrule for removable forks, drags, &c., the two lips  $a^2 a^2$ , with the upper and the lower separate longitudinal bearings  $a^3 a^3$ , each of the latter being of the same width as the shank of the fork or drag, as set forth, for the purposes of supporting the fork and allowing its shank to be loosened with greater facility and safety in case of its becoming rusted fast, as described.

THOS. H. WINDLE.

Witnesses:

BENJ. MORISON,

W. W. WOODRUFF.