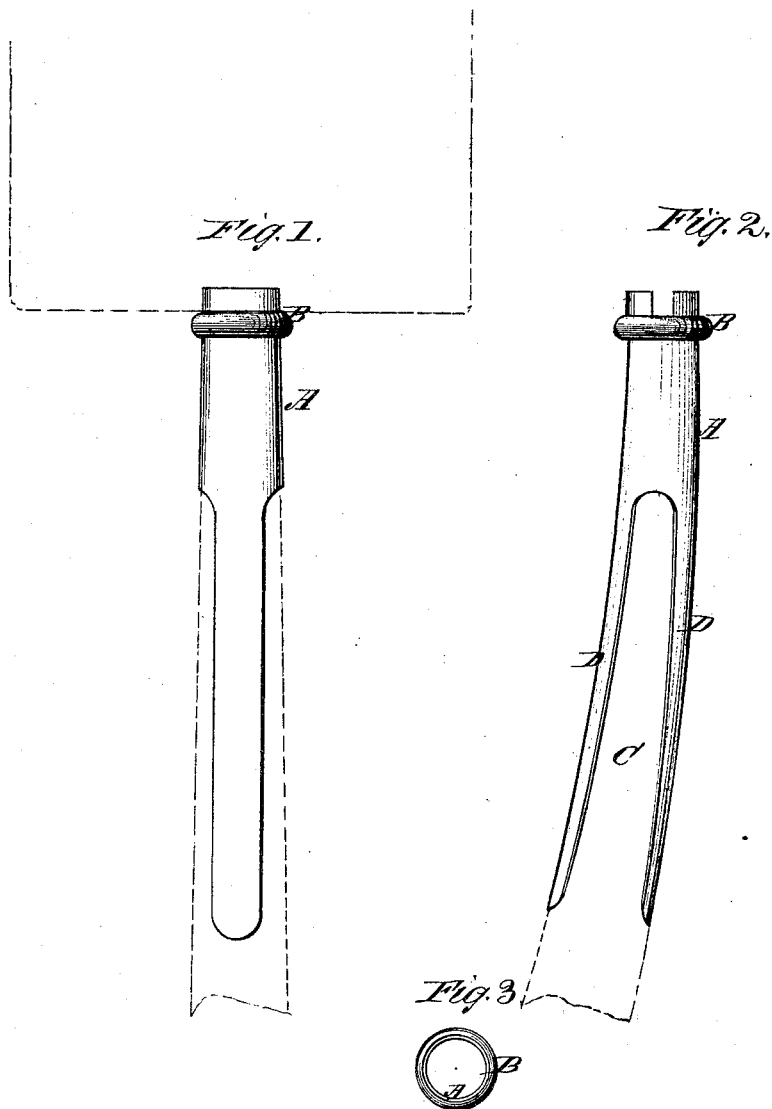


*J. G. Smith,*  
*Ferrule.*

*No. 113,805.*

*Patented Apr. 18, 1871.*



Witnesses:  
*John. Becker.*  
*Wm. C. C. Smith.*

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# UNITED STATES PATENT OFFICE.

DOLPHIN G. SMITH, OF COLUMBUS, OHIO.

## IMPROVEMENT IN FERRULES.

Specification forming part of Letters Patent No. **113,805**, dated April 18, 1871.

*To all whom it may concern:*

Be it known that I, DOLPHIN G. SMITH, of Columbus, in the county of Franklin and State of Ohio, have invented a new and Improved Ferrule; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in ferrules for spades, forks, and other implements; but more especially such ferrules as have notches in the ends for receiving the shoulders of a fork or spade or other article having shoulders.

The invention consists in the application to the said ferrules of a re-enforcing-ring of oval, flat, or other form, fitted onto the tapered end, driven on tight, and secured by soldering, brazing, or it may be retained by the friction and by the shoulders of the tool driven into the wood handle, and confined by the ring and ferrule, the said ring being driven on at the same time the shank of the tool is driven into the handle. The said re-enforcing-ring adds strength to the ferrule in the part subject to the greatest strain, and par-

ticularly liable to be split, while it enables me to make the ferrule thinner and lighter than it otherwise would have to be, so that I may employ less metal both for the ring and ferrule than is needed for the ferrule alone when the ring is not used.

Figures 1 and 2 are side views of a ferrule for a spade strengthened by a ring according to my improvement, and Fig. 3 is an end view of the same.

Similar letters of reference indicate corresponding parts.

A is the ferrule as commonly made, and B is a ring applied for strengthening it according to my improvement. C represents the wood handle inserted in the large end, which has straps D extending along the handle for riveting to it.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The ferrule A, combined with a ring, B, applied to the end thereof, as and for the purpose specified.

DOLPHIN G. SMITH.

Witnesses:

WM. A. HERSHISER,  
WM. S. PHARES.