

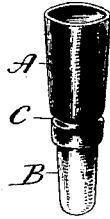
(No Model.)

R. J. ASHWORTH.  
IRON OR STEEL POINT FERRULE.

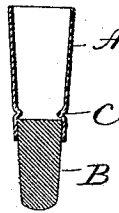
No. 452,987.

Patented May 26, 1891.

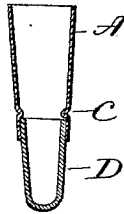
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses:*  
*J. H. Shumway*  
*Lillian S. Holby*

*Richard J. Ashworth*  
*Inventor*  
*By Atty.*  
*Earle Seymour*

# UNITED STATES PATENT OFFICE.

RICHARD J. ASHWORTH, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE  
WATERBURY MANUFACTURING COMPANY, OF SAME PLACE.

## IRON OR STEEL POINT FERRULE.

SPECIFICATION forming part of Letters Patent No. 452,987, dated May 26, 1891.

Application filed February 16, 1891. Serial No. 381,671. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD J. ASHWORTH, of Waterbury, in the county of New Haven and State of Connecticut, have invented new  
5 Improvements in Iron and Steel Point Ferrules; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description  
10 of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of a ferrule constructed in accordance with my invention;  
15 Fig. 2, a view thereof in longitudinal central section. Fig. 3 is a similar view showing a hollow point.

My invention relates to an improvement in iron or steel point ferrules, the object being  
20 to produce a stronger and cheaper article than has heretofore been made under the old process of soldering the point and the shell together.

With these ends in view my invention consists in crimping the shell to form an inwardly-projecting annular shoulder directly  
25 above and adjacent to the inclosed end of the point, whereby the same is prevented from longitudinal displacement with reference to the shell. The tapering sheet-metal shell A  
30 and the tapering solid point B (shown by Figs. 1 and 2) are of ordinary construction, except that after the point has been inserted

into the shell the same is crimped or knurled to form an inwardly-projecting annular bead  
35 C directly above and adjacent to the inclosed and larger end of the point, whereby the same is secured in place and prevented from longitudinal displacement with respect to the shell, which, as well as the point, may be of  
40 any desirable metal. If desired, a hollow point or plug D may be employed, as shown by Fig. 3 of the drawings.

The process described is much cheaper than soldering, heretofore employed for securing  
45 the shells and points of the ferrule together, and the finished ferrule is much stronger than one made with solder.

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

An iron or steel point ferrule having its shell crimped to form an inwardly-projecting annular shoulder directly above and adjacent  
55 to the inclosed and larger end of the point, whereby the same is prevented from longitudinal displacement relative to the shell, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscrib-  
60 ing witnesses.

RICHARD J. ASHWORTH.

Witnesses:

CHARLES H. KEACH,  
H. T. PARKER.