

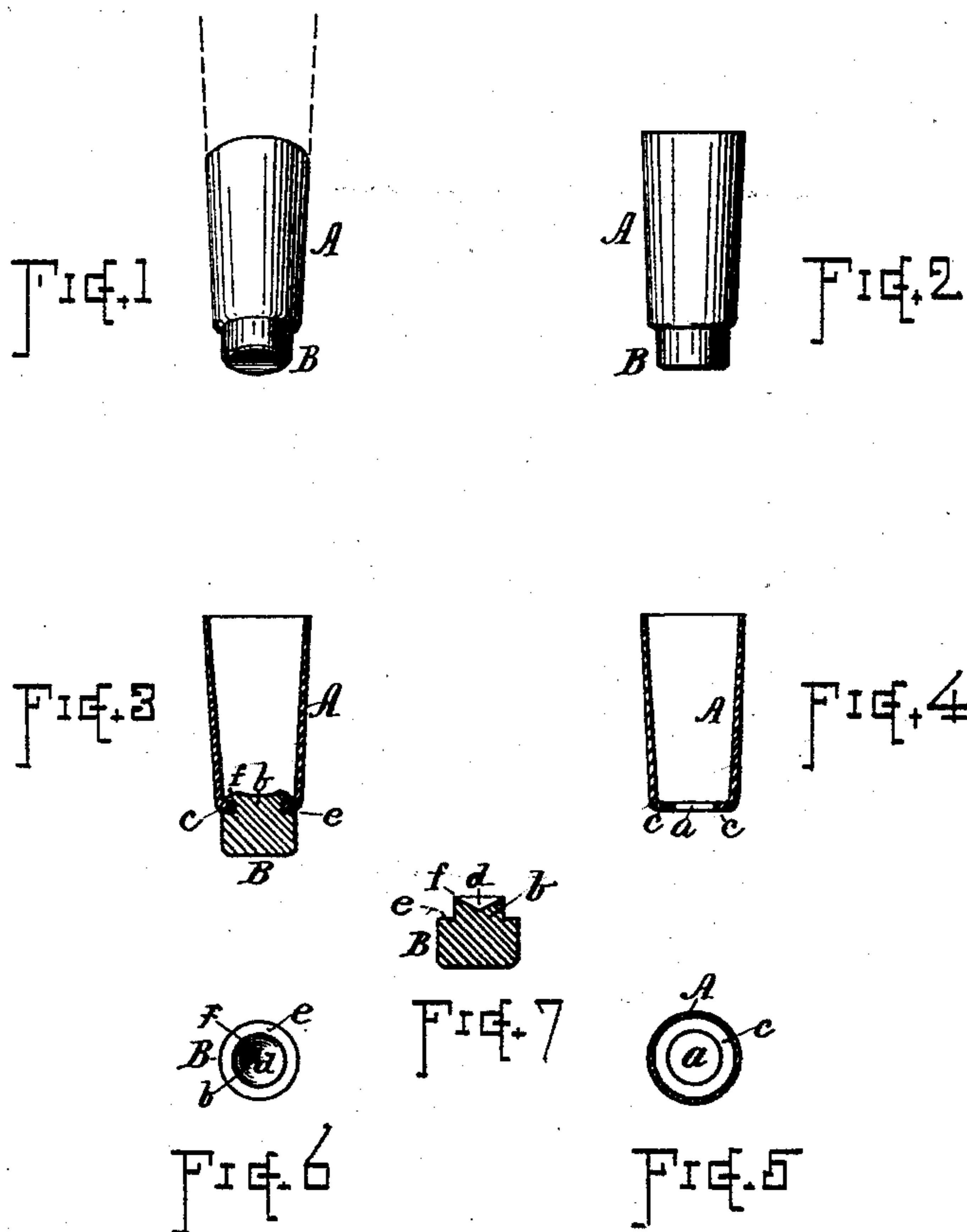
(No Model.)

J. L. PARKER.

## METHOD OF MANUFACTURING FERRULES.

No. 315,058.

Patented Apr. 7, 1885.



WITNESSES \_\_\_\_\_

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# UNITED STATES PATENT OFFICE.

JOHN L. PARKER, OF WORCESTER, MASSACHUSETTS.

## METHOD OF MANUFACTURING FERRULES.

SPECIFICATION forming part of Letters Patent No. 315,058, dated April 7, 1885.

Application filed April 21, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. PARKER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Solid-End Ferrules for Canes, Umbrellas, &c.; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The ordinary method of constructing this class of ferrules is to insert a cylindrical end piece of uniform diameter into a straight or slightly-conical ferrule, and to solder or braze the parts together. When thus made, the ends are liable to become loosened by use; also, the heating for soldering destroys the blue finishing of the surface, or the heat for bluing melts the soldering, the processes thus interfering one with the other, and rendering it difficult to produce perfect and desirably-finished ferrules.

The object of my present invention is to provide a solid-end ferrule that shall be strong and durable, practical to manufacture, and which can be given a neat and desirable finish; and my invention consists in the method of constructing cane-tip ferrules, as hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my improved solid-end ferrule. Fig. 2 is a side view. Fig. 3 is a central section. Fig. 4 is a central section of the shell. Fig. 5 is a transverse section of the shell. Fig. 6 is a top view of the stud. Fig. 7 is a central section of the same.

In my improved method of constructing the tip or ferrule the shell A, of proper size and form, is drawn from sheet metal by suitable punches and dies, with a full end or cap. The cap is then punched out, making an opening, *a*, of less diameter than the interior of the shell, so as to leave an inwardly-extending flange or annular rim, *c*, at the lower end of the shell, as indicated in Figs. 4 and 5. These shells are preferably finished with

are inserted; or such other finish may be employed as desired.

The end piece or plug, B, is turned out or formed with an upper end extension, *b*, of smaller diameter than the lower portion, and of proper diameter to enter the opening *a* of the shell A, thus leaving a shoulder, *e*, around the end piece, as illustrated in Figs. 6 and 7. The top of the end piece may be formed with a depression, *d*, so that there will be a rim or angular edge, *f*, around the top end of the part *b*. This end piece, B, is inserted into the opening *a* of the shell so that its shoulder *e* rests against the flange *c*. The top end of the plug B is then upset by means of a suitable tool, so as to expand the metal thereof within the shell, and to force or rivet the edges *f* down upon the inner surface of the flange *c*, in the manner substantially as shown in Fig. 3, thus causing the metal of the two parts to engage each other for securing the end piece or plug, B, firmly within the lower end of the shell A, thereby making a very strong and durable tip, which is not liable to become battered, loosened, or injured by striking the pavements when used upon a cane or umbrella. The end pieces, B, can be finished bright, and this, in contrast with the blued surface of the shell, gives a fine and desirable appearance. By making the part B with a shoulder, as *e*, the liability of driving the end into the shell and splitting the latter is obviated.

What I claim as of my invention, and desire to secure by Letters Patent, is—

The method of constructing solid-end ferrules, as hereinbefore described, viz: perforating the end of the die-drawn sheet-metal shell A with an opening of less diameter than the interior diameter of the shell, inserting therein a solid plug, B, having a shoulder and an upper extension of greater length than the thickness of the shell, and upsetting or riveting said extension down upon the flange at the interior of the shell, as set forth.

Witness my hand this 18th day of April A. D. 1884.

JOHN L. PARKER.

Witnesses:

CHAS. H. BURLEIGH,  
S. R. BARTON.