

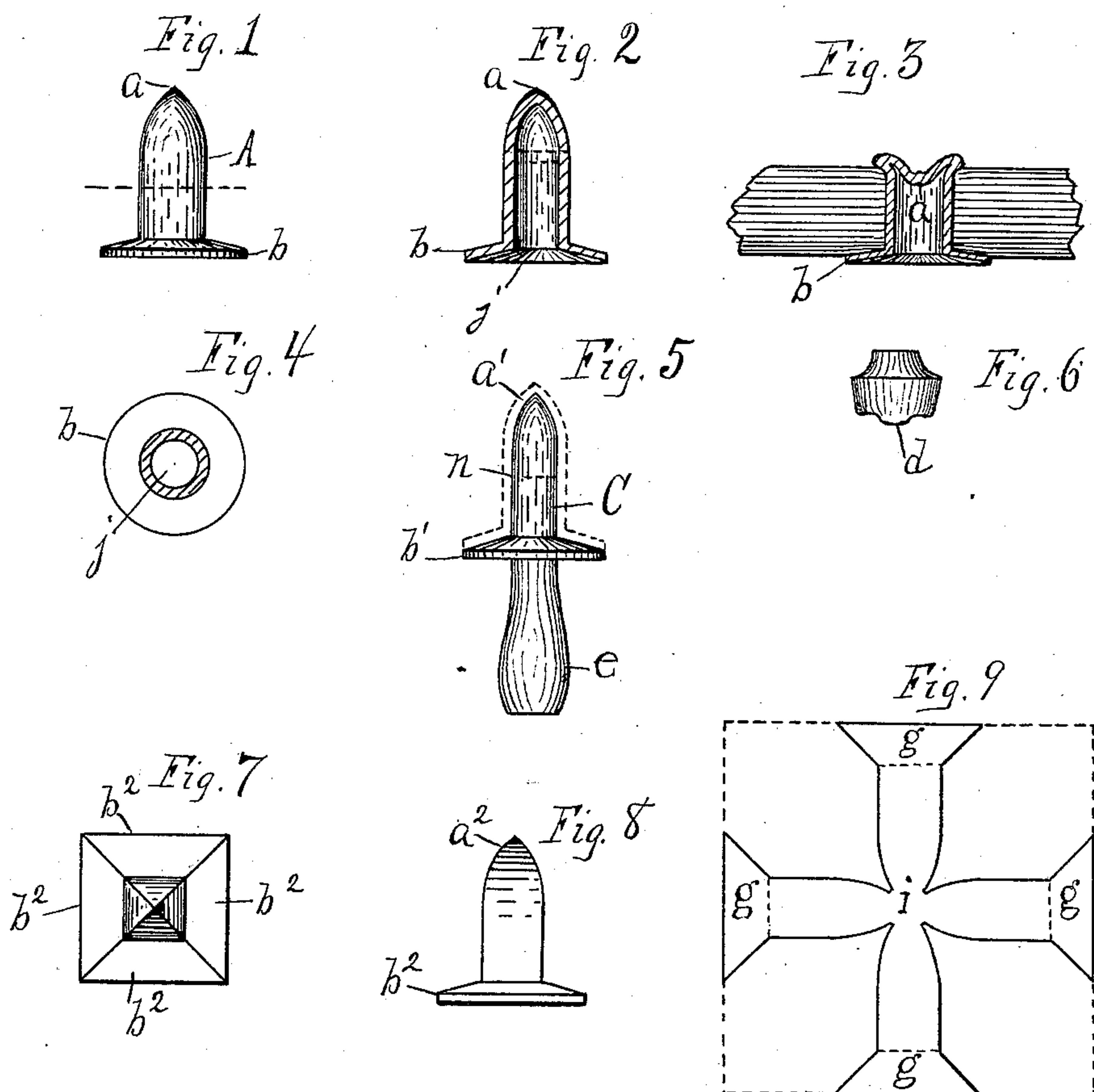
(No Model.)

E. L. SIBLEY.

RIVET.

No. 358,225.

Patented Feb. 22, 1887.



WITNESSES

Geo. A. Darby  
A. Daupont

INVENTOR

Edward L. Sibley  
by Geo. Amosher  
Atty.

# UNITED STATES PATENT OFFICE.

EDWARD L. SIBLEY, OF BENNINGTON, VERMONT.

## RIVET.

SPECIFICATION forming part of Letters Patent No. 358,225, dated February 22, 1887.

Application filed October 29, 1885. Renewed November 2, 1886. Serial No. 217,799. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD L. SIBLEY, a resident of Bennington, in the county of Bennington and State of Vermont, have invented certain new and useful Improvements in Rivets; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in rivets.

The object of my invention is to provide a perforative tubular flanged rivet or fastener, one end of which may be easily forced through two or more sheets of paper or other yielding material and headed down upon the material to hold the sheets together.

My invention consists in providing, as a new article of manufacture, a tubular rivet closed at its perforative end and open at the other end, the open end being provided with a retaining-flange.

Figure 1 of the drawings is a side elevation of my improved rivet. Fig. 2 is a central vertical section of same. Fig. 3 is a vertical central section showing the rivet pressed through and headed down upon several sheets of paper in position to hold them together. Fig. 4 is a horizontal section taken at broken line in Fig. 1. Fig. 5 is a side elevation of pointed tool for forcing the rivet through the sheets of material to be fastened together. Fig. 6 is a side elevation of the die for heading down the point of the rivet. Fig. 7 is a top plan view of a modified form of rivet. Fig. 8 is a side elevation of rivet in Fig. 7. Fig. 9 is a plan view of sheet metal stamped out in proper shape to form the rivet shown in Figs. 7 and 8.

A is the rivet, which is hollow or tubular. The tube is closed at the upper end and provided with the perforative point *a*. The other is open, as shown at *j*, and provided with the projecting flange *b*.

When it is desired to force the point of the

rivet through a considerable number of sheets of paper or other material at one time, a steel rod, C, provided with point, *a'*; adapted to enter and fit the interior of the rivet, and with a suitable handle, as *e*, and sustaining-flange *b'*, may be employed, in which case the rivet is slipped upon the implement, as shown by dotted lines in Fig. 5, when the point of the rivet is easily forced through the paper by the hand, or by a blow from a mallet, until the flange *b* rests against the paper. The implement is then withdrawn and the point *a* forced down into the tube, the walls of the latter being forced outward to form a retaining-head, as shown in Fig. 3. Any smooth-faced hammer will serve for this purpose, though I prefer a die provided with a central projection, *d*, as shown in Fig. 6, which forces the point *a* of the rivet down farther into the tube, as shown in Fig. 3.

When the shell of the rivet-tube is very thin, another implement, like that shown in Fig. 5, except that the point *a'* is cut off at about the dotted line *n*, is inserted within the rivet to prevent its shell from bending when the point is headed down.

The cross-sectional form of the rivet shown in Fig. 4 is round; but it may be square, as shown in Figs. 7 and 8, or of any desired form.

The rivet may be swaged out from a solid piece of metal, or have its tube formed by drilling; or it may be formed from sheet metal. In the latter case a piece to form the rivet may be stamped out from a sheet of metal, as shown by dotted lines in Fig. 9, by suitable dies to give the form shown by the solid lines. The piece so stamped out is easily swaged into the rivet shown in Figs. 7 and 8, the sections *g* being brought together and bent up to form the flange *b*<sup>2</sup>, the central portion, *i*, being swaged up to form the point *a*<sup>2</sup>.

The perforative end of the rivet may have a plane surface right angular to the longitudinal axis of the rivet, as shown by the dotted lines in Fig. 2, thereby adapting the rivet to perforate the paper by cutting out a portion thereof.

I am aware that tubular open-end rivets have been provided on one end with a circular cutting-edge to perforate the paper by cutting out a portion; but such rivets are difficult



and expensive to manufacture, and not adapted to be inserted through the paper by hand.

I do not claim a tubular rivet open at both ends, nor a blank of sheet metal during its  
5 process of construction into such a rivet by drawing the blank into a tube and afterward opening its closed end by a pointed tool.

What I claim as new, and desire to secure by Letters Patent, is—

10 1. As a new article of manufacture, a tubular rivet closed at its perforative end and open at the other end, the open end being provided with a projecting retaining-flange, substantially as described, and for the purposes set  
15 forth.

2. As an improved article of manufacture, a hollow sheet-metal rivet closed at its perforative end and open at the other end, the open end being provided with a sectional retaining-flange, substantially as described, and for the 20 purposes set forth.

In testimony whereof I have hereunto set my hand this 27th day of October, 1885.

EDWARD L. SIBLEY.

Witnesses:

GEO. A. MOSHER,  
W. H. HOLLISTER, Jr.