

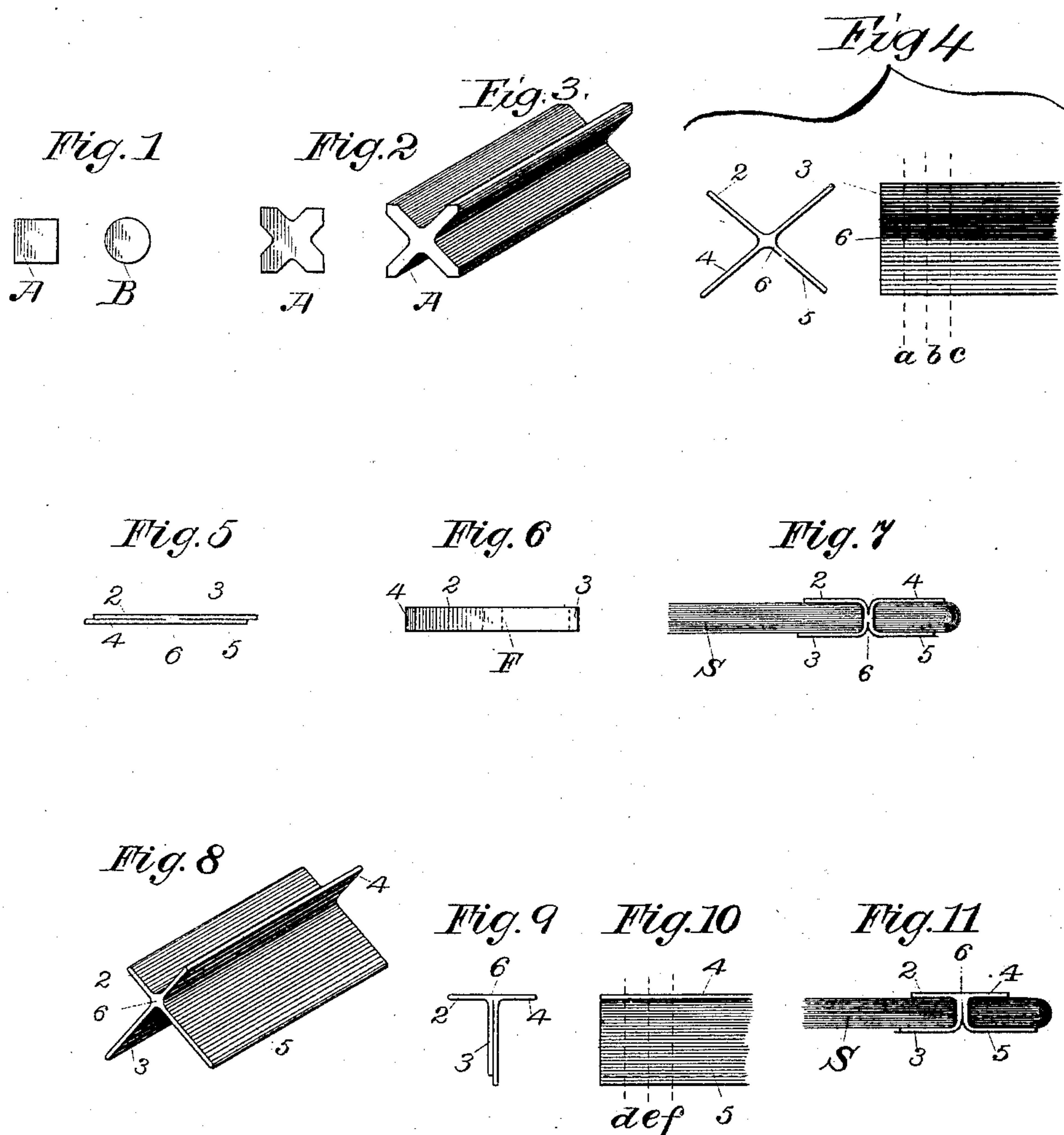
(No Model.)

F. H. RICHARDS.

METHOD OF MAKING PAPER FASTENERS.

No. 341,431.

Patented May 4, 1886.



Witnesses:

Frank H. Pinkert
Walter M. Stone

Inventor:

Francis H. Richards.

UNITED STATES PATENT OFFICE.

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METHOD OF MAKING PAPER-FASTENERS.

SPECIFICATION forming part of Letters Patent No. 341,431, dated May 4, 1886.

Application filed November 4, 1885. Serial No. 181,834. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS H. RICHARDS, a citizen of the United States, residing at Springfield, in the county of Hampden, State of Massachusetts, have invented certain new and useful Improvements in Methods of Making Paper-Fasteners, of which the following is a specification.

This invention relates to methods of making of metal that class of paper-fasteners described and claimed in my application, Serial No. 178,073, filed September 24, 1885, which fasteners consist of two thicknesses united at about the middle and have four free ends.

The invention has for its object the making of such fasteners of a single piece of metal by the steps hereinafter set forth.

In the drawings accompanying and forming a part of this specification, Figure 1 is an end view of two forms of metal bars. Fig. 2 is a similar view showing one of the bars partially reduced. Fig. 3 is a perspective view showing the same bar further reduced. Fig. 4 shows two views of the bar fully reduced. Fig. 5 is an end view of the bar after the wings are closed together. Fig. 6 is a side view of a fastener cut off from the closed bar. Fig. 7 shows this fastener applied to the holding together of the sheets of a document. Fig. 8 is a perspective view of a reduced bar having two narrow and two wider wings. Fig. 9 is an end view of this form of the bar after two of its wings have been closed and the two others opened to form a head. Fig. 10 is a side view of this closed bar. Fig. 11 shows a fastener made therefrom applied to holding together the sheets of a document.

Similar characters designate like parts in all the figures.

In carrying my improved method into effect,

I take a bar, as A or B, Fig. 1, and by means of rolling or other suitable well-known machinery, gradually by successive reductions, as shown in Figs. 2 and 3, bring it into the form shown in Fig. 4. Thus reduced the bar consists of four wings, 2, 3, 4, and 5, all united together at one central point, 6. Next the wings are closed down into two pairs, making a flat bar, as in Fig. 5, which is converted into fasteners F, Fig. 6, by being cut into short lengths at lines *a b c*, Fig. 4.

In applying the fastener the sheets S to be held together are perforated, and the fastener put through in the usual manner and the free ends bent down, as in Fig. 7, leaving the connected part 6 within the perforation.

Another way of making the fastener is to make the bar with the two wings 2 and 3 narrow to form a head. These are opened, as in Fig. 9, while the others are closed together. The closed bar is now cut at lines *d e f*, Fig. 10, converting it into completed fasteners, of which wings 2 and 4 form the head and wings 3 and 5 the prong. These fasteners are applied, as indicated in Fig. 11, by inserting prongs 3 and 5 through a suitable perforation in sheets S and closing them down in the ordinary manner.

Having thus described my invention, I claim—

The improved method herein described of making the specified class of paper-fasteners, which method consists in reducing the metal into a four-winged bar, next closing the wings together and cutting the closed bar into short lengths, substantially as set forth.

FRANCIS H. RICHARDS.

Witnesses:

FRANK H. PIERPONT,
WILBUR M. STONE.