

(No Model.)

F. H. RICHARDS.

MATERIAL FOR PAPER FASTENERS.

No. 341,433.

Patented May 4, 1886.

Fig. 1

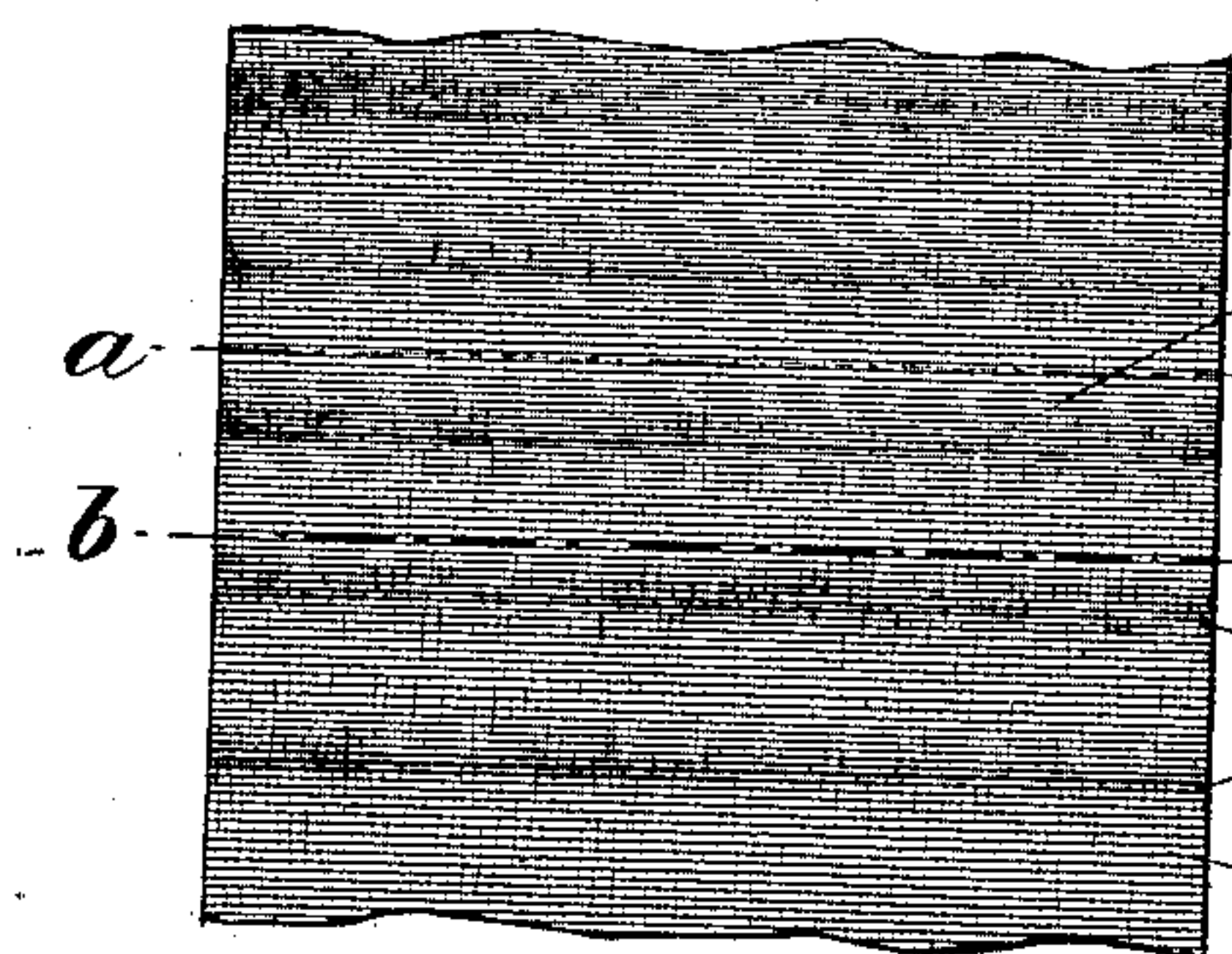


Fig. 2

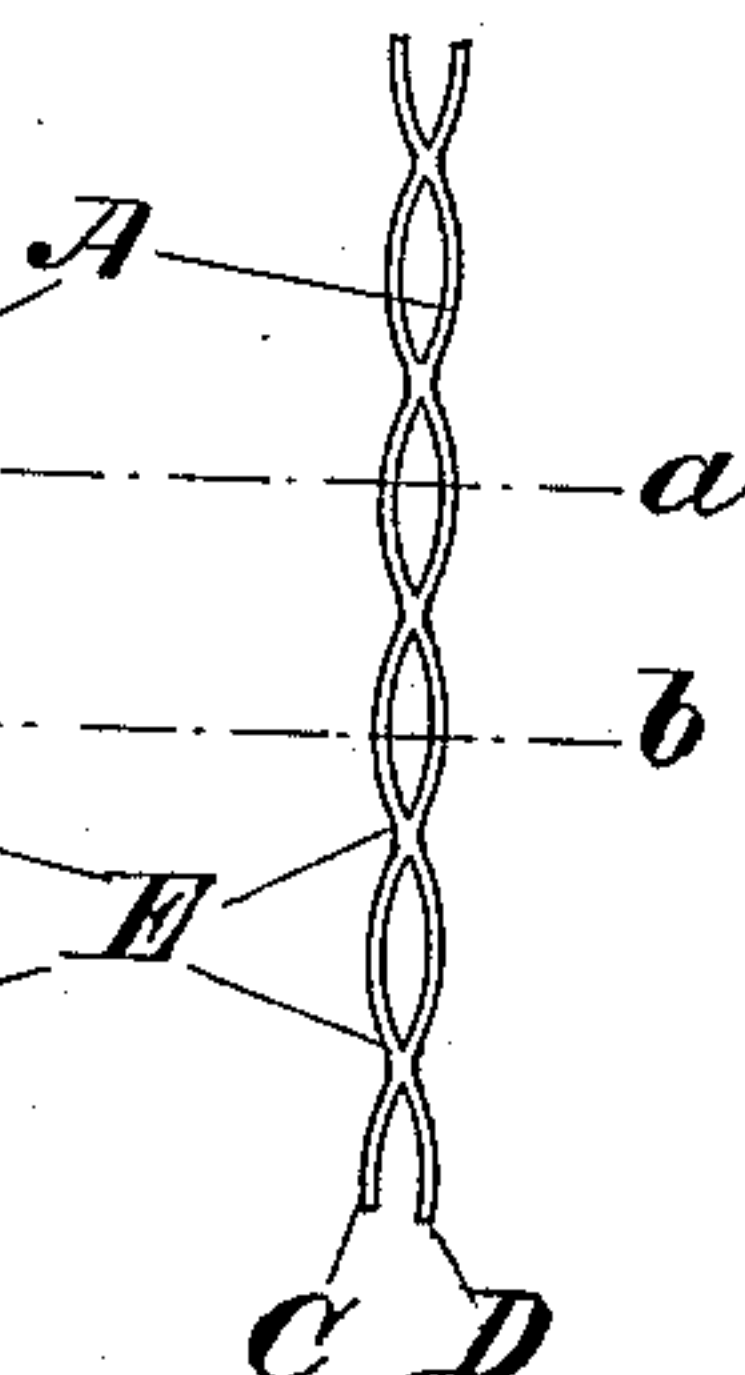


Fig. 3

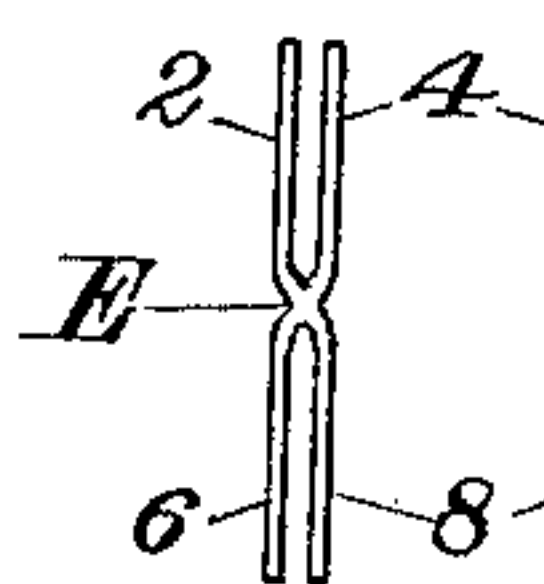


Fig. 4

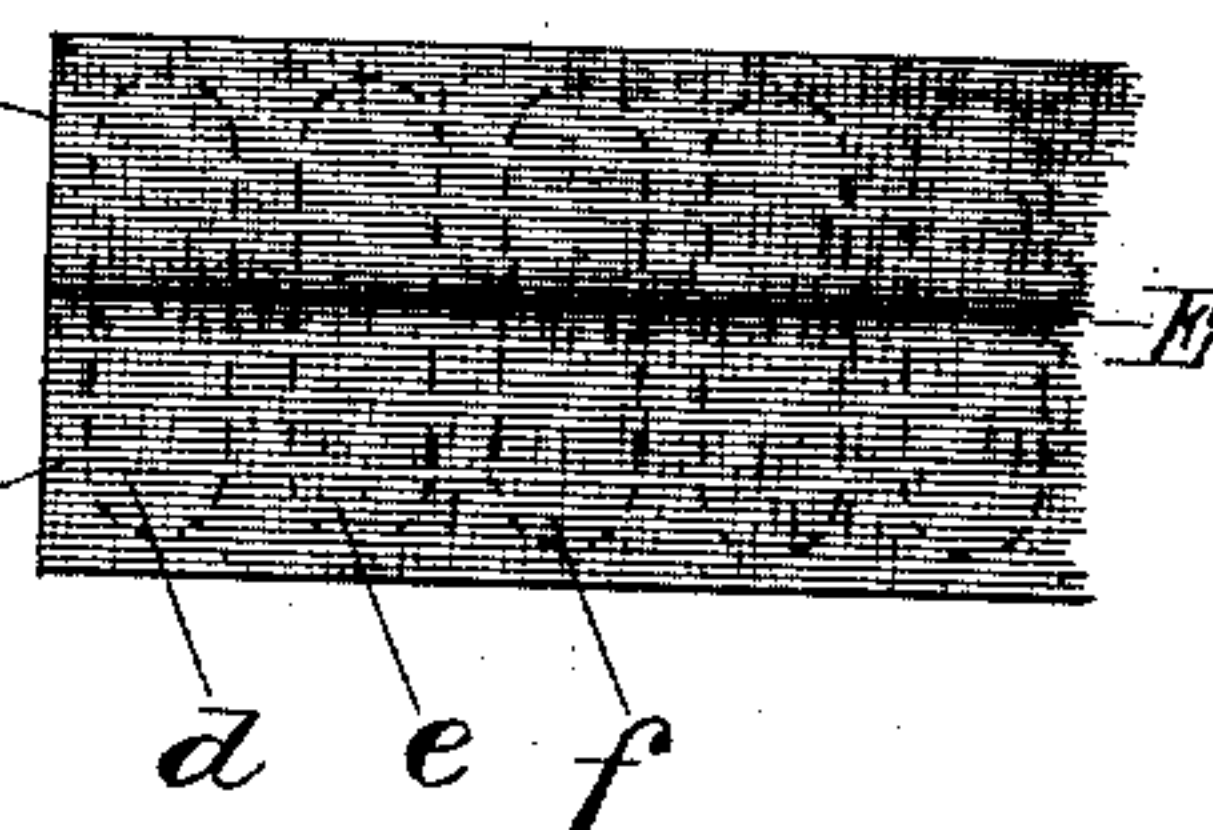


Fig. 6

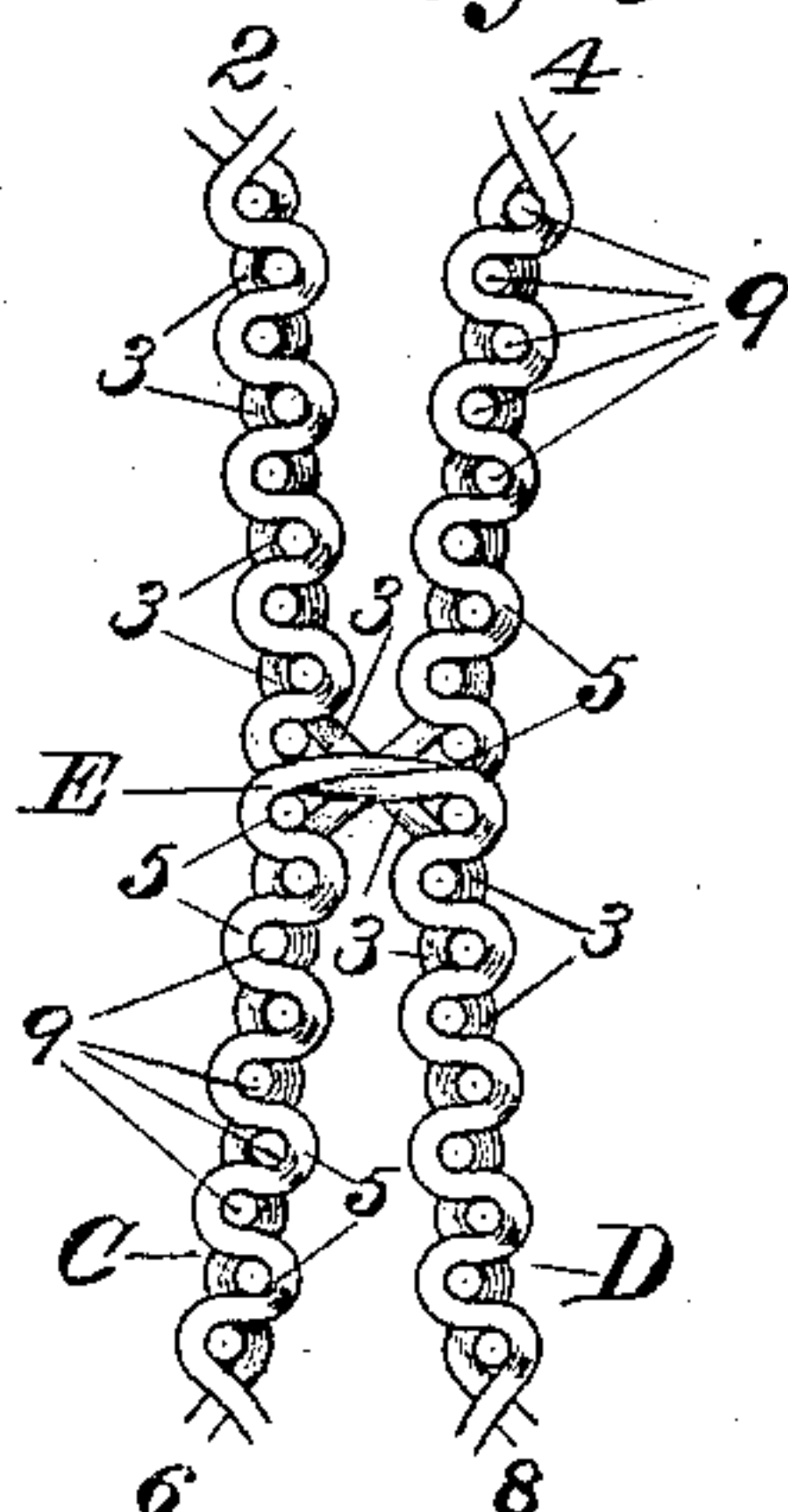
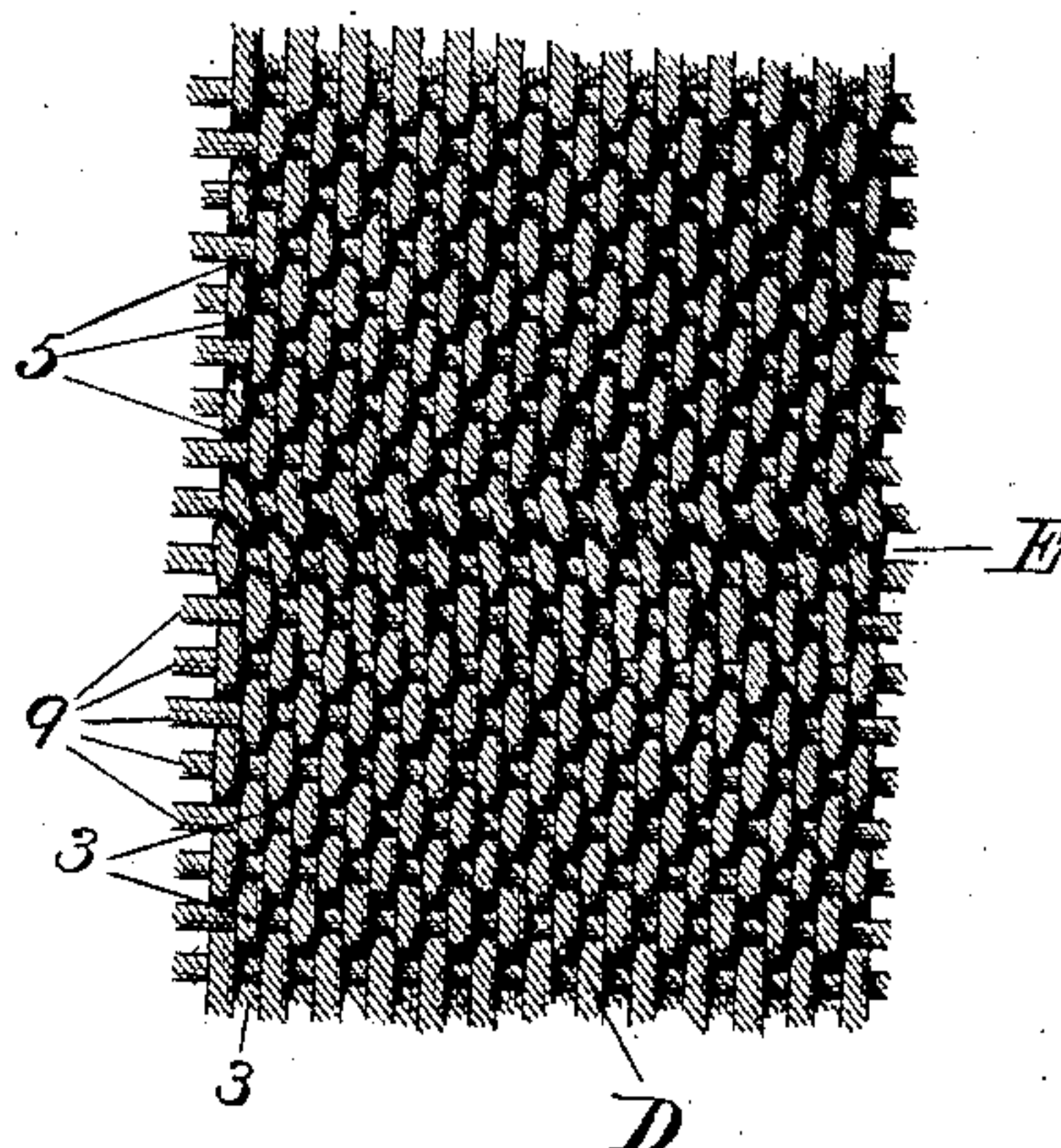


Fig. 5



Witnesses:

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UNITED STATES PATENT OFFICE.

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MATERIAL FOR PAPER-FASTENERS.

SPECIFICATION forming part of Letters Patent No. 341,433, dated May 4, 1886.

Application filed November 4, 1885. Serial No. 181,836. (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 Material for Making Paper-Fasteners, of which the following is a specification.

This invention relates to an improved material from which to manufacture flexible paper-fasteners of the class 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 furnishing of a fabric from which the fasteners may be cut out in their completed state, except the gumming; and it consists in the improvements hereinafter described and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side view of a piece of fabric embodying my improvements. Fig. 2 is an edge view of the same. Fig. 3 is an end view, somewhat enlarged, of a strip cut from the fabric. Fig. 4 is a side view of said strip. Figs. 5 and 6 are respectively a greatly-exaggerated side and an end view of a small piece of the fabric.

Similar characters designate like parts in all the figures.

My improved material consists in a fabric, A, Fig. 1, either woven or knitted, having two thicknesses, C and D, which are formed into one at regular intervals, as at E, Figs. 1 and 2, during the process of manufacture. Having been prepared, the fabric is readily converted into flexible paper-fasteners by first dividing it in lines *a a b b* about midway between points E, thus producing the strips shown in Figs. 3 and 4. From these the fasteners may be cut out in their completed state, as indicated by lines *d, e, and f*. Fig. 3 is substantially an edge view of the completed

fastener, which has the four free ends 2, 4, 6, 45 and 8.

The method of making the fasteners from this fabric I have fully described, and have claimed in another application of even date herewith.

Of the two kinds of textile fabric above mentioned, I prefer to use that produced by the method of weaving. Such a fabric I have shown on a very large scale in Figs. 5 and 6. Each of the two parts C and D is composed of the usual warp and filling threads, of which those of the warp are in some way interlocked at E with the filling or woof of the opposite part. This is readily accomplished by means of ordinary Jacquard looms by methods that are well known to those familiar with that class of weaving machinery.

The method I prefer is shown in Fig. 6, wherein the warp-threads cross over each other at E, those from end 2 running into end 8, and from end 4 into end 6. Two of these threads are designated, respectively, by 3 and 5, the woof being designated by 9.

In practice I consider that it will be sufficient if about one-half of the warp-threads are crossed, as described, the remainder continuing each in the same part C or D.

Having thus described my invention, I claim—

1. The improved material herein described for making flexible paper-fasteners, it consisting in two thicknesses of textile fabric, C and D, united at E in the process of manufacture, substantially as set forth.

2. The improved material herein described for making flexible paper-fasteners, it comprising a woven fabric having two parts, C and D, united at E by the crossing of their threads, substantially as set forth.

FRANCIS H. RICHARDS.

Witnesses:

FRANK H. PIERPONT,
WILBUR M. STONE.