

(No Model.)

C. W. DEAN.
Manufacture of Staples.

No. 239,737.

Patented April 5, 1881.

Fig. 1



Fig. 5



Fig. 2

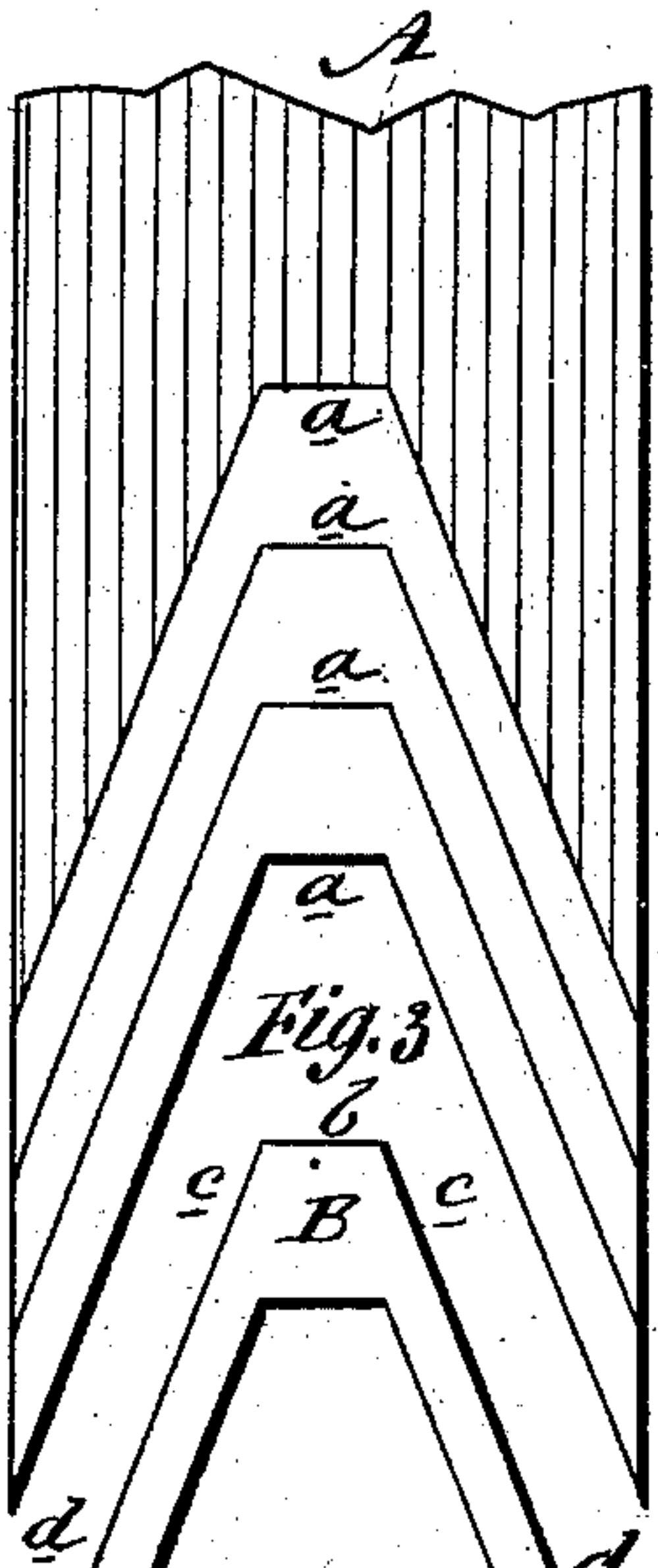


Fig. 6

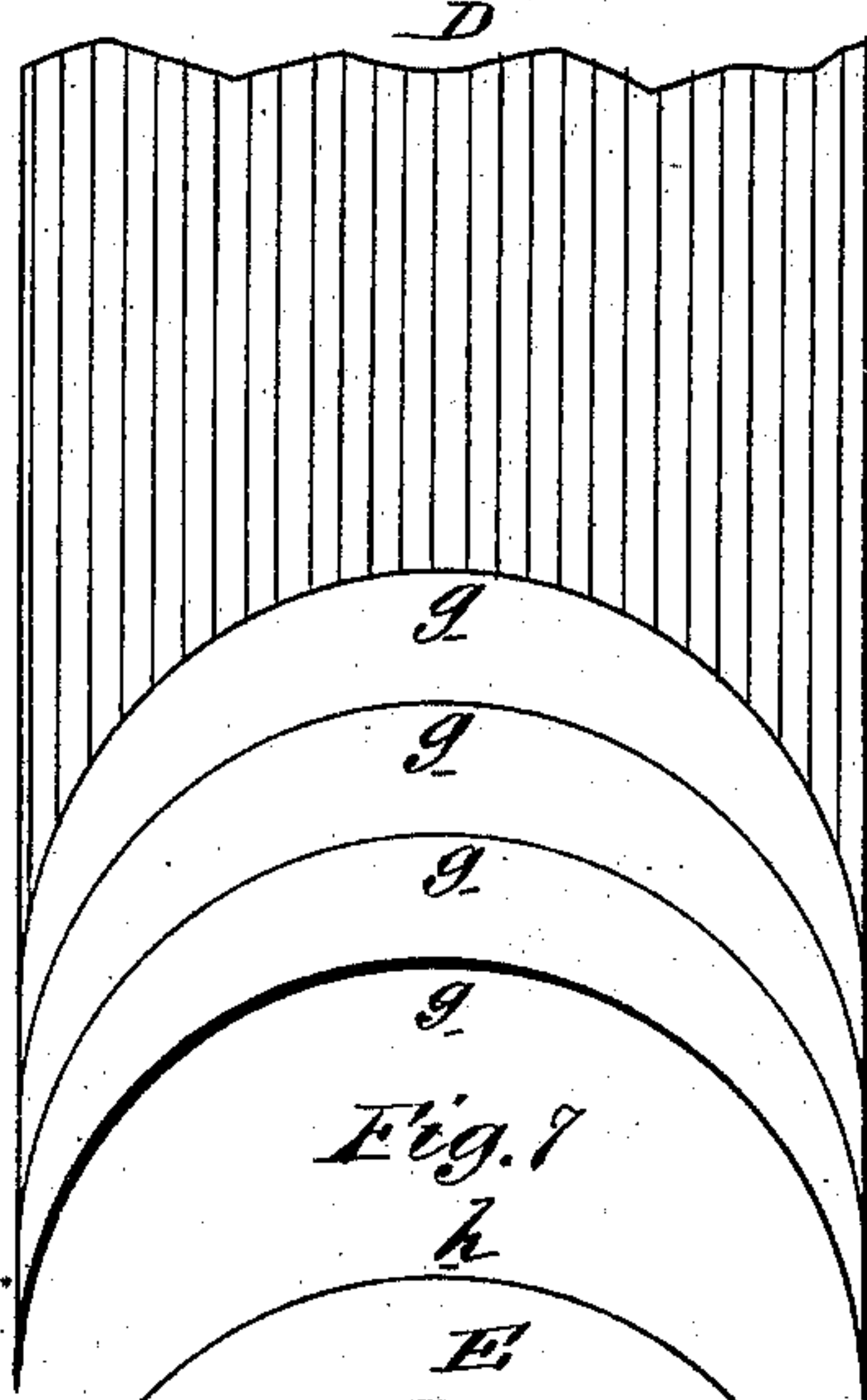


Fig. 3

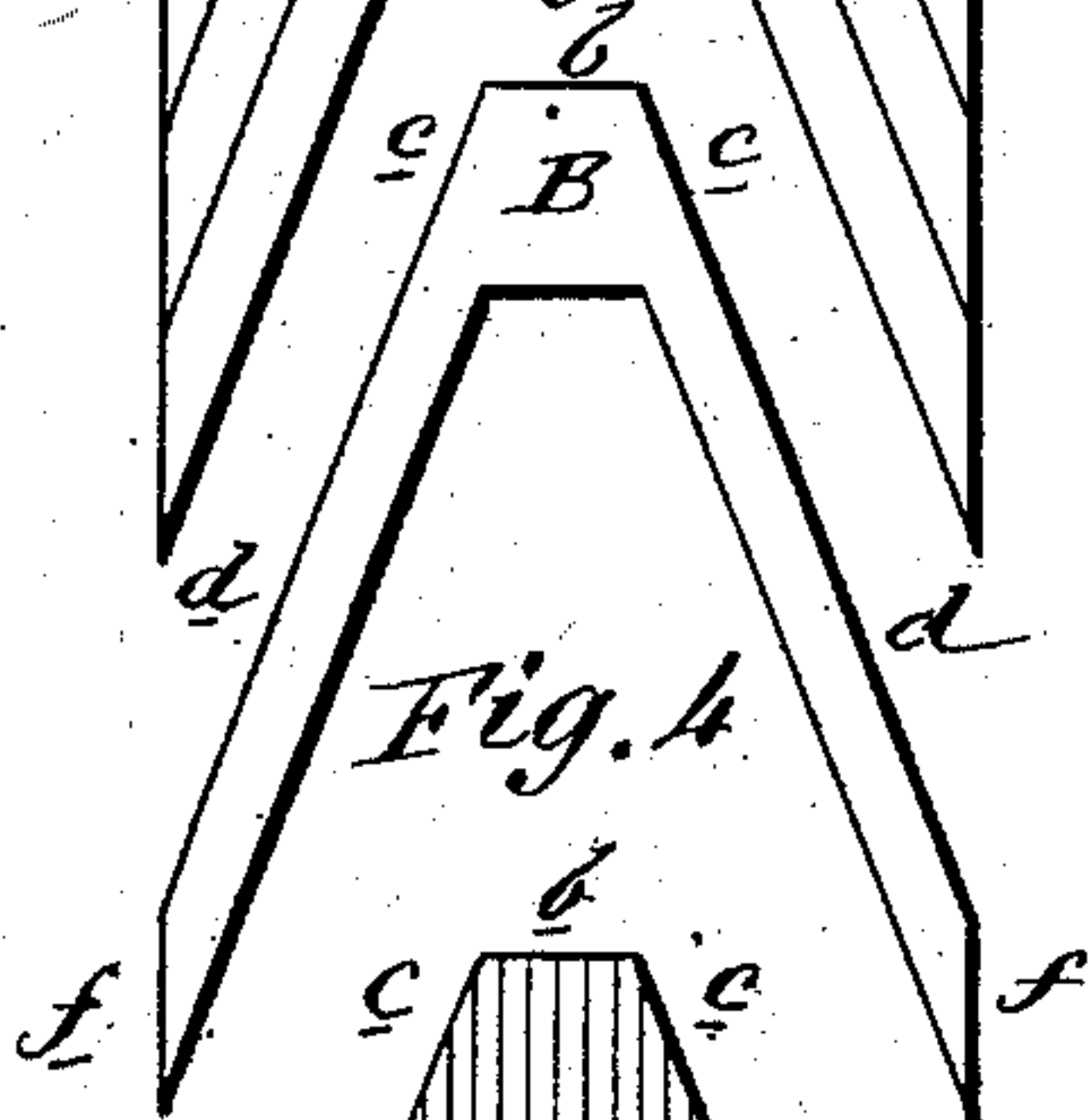


Fig. 7

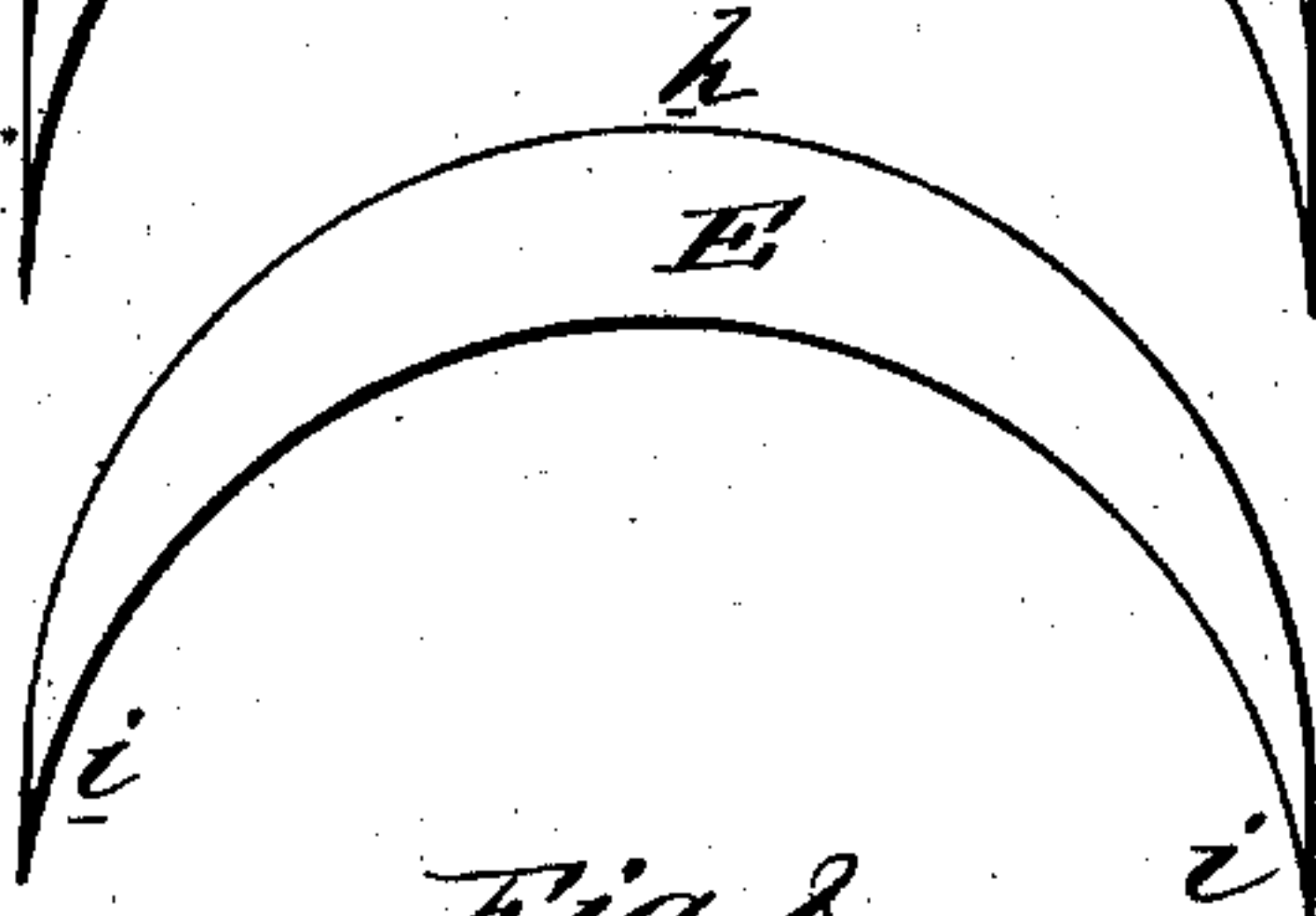


Fig. 4

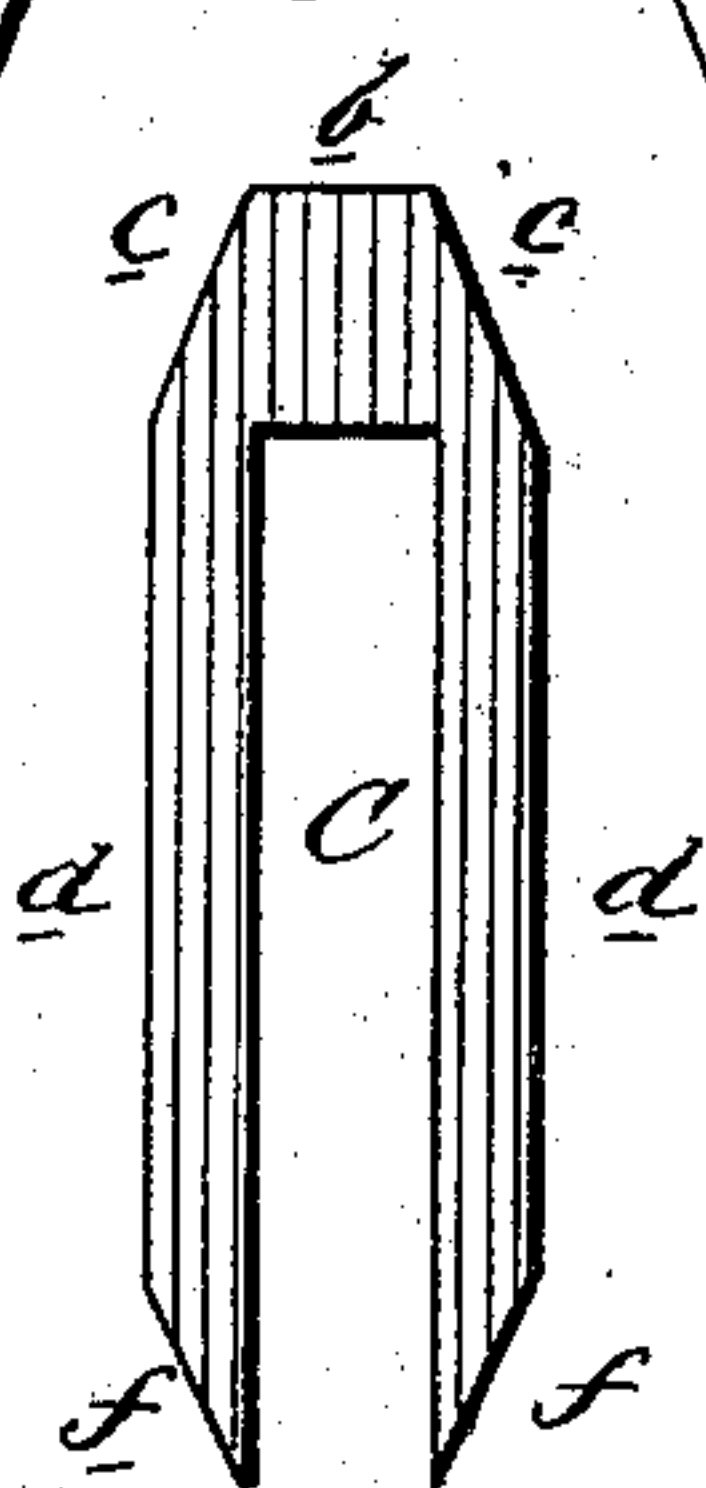


Fig. 8

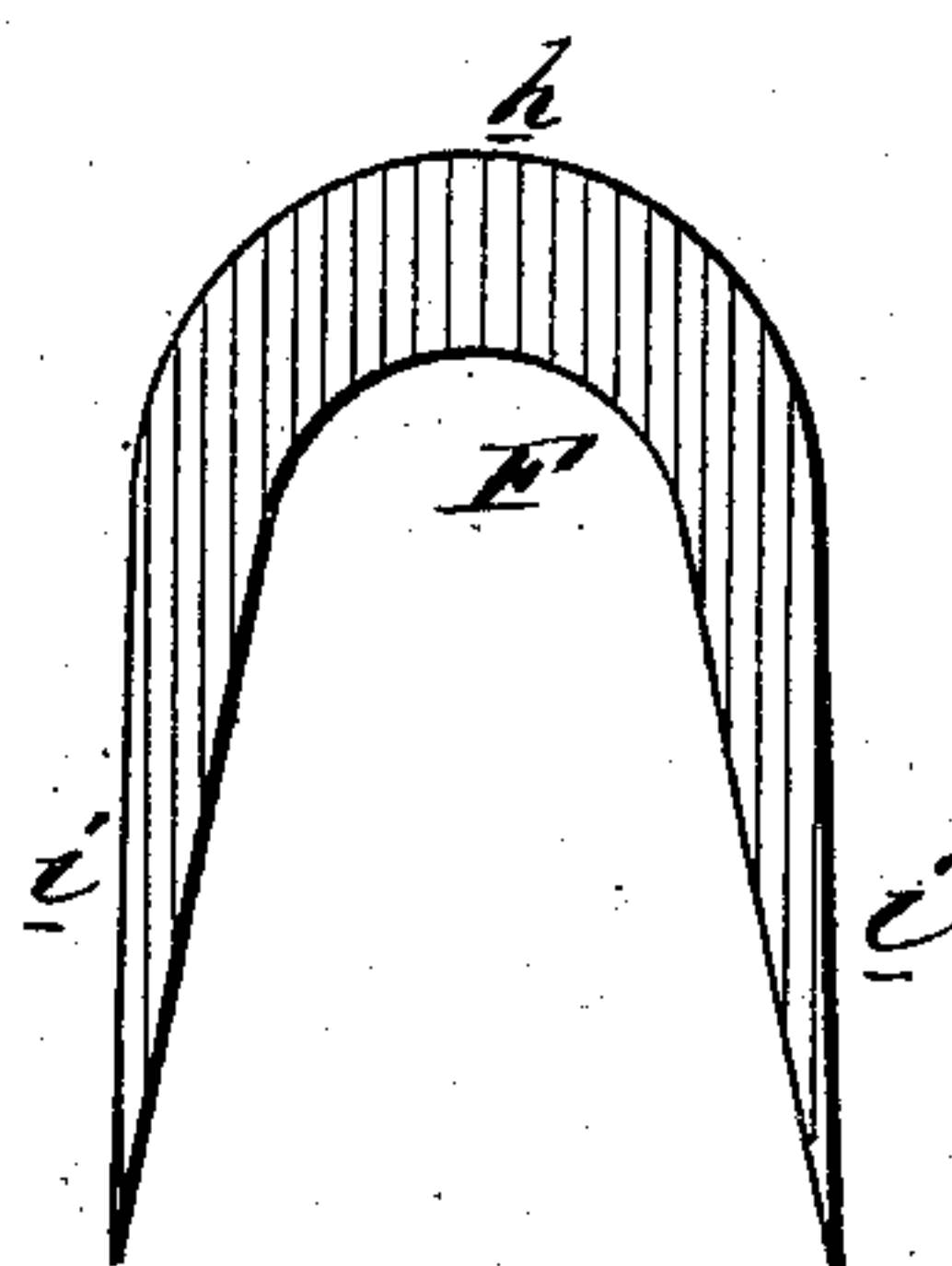


Fig. 9

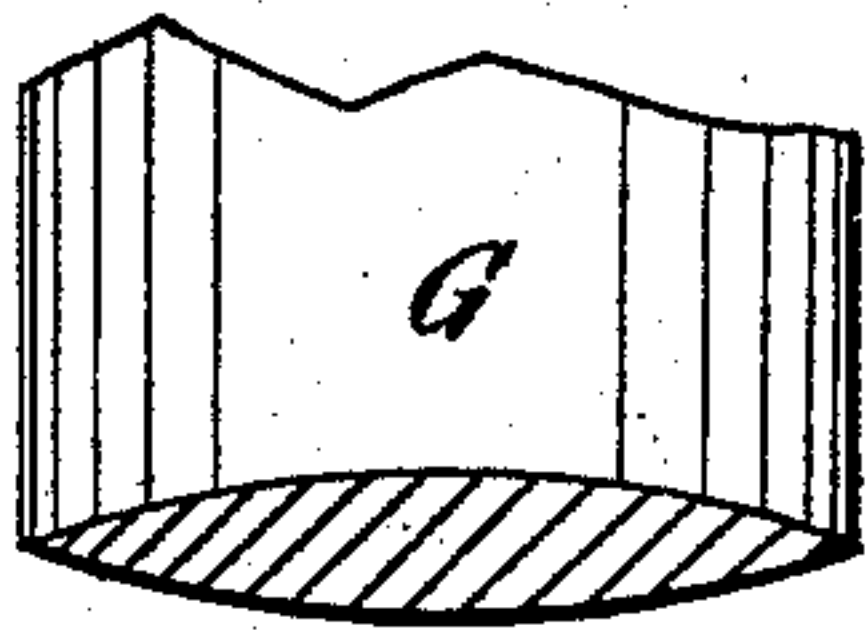


Fig. 10

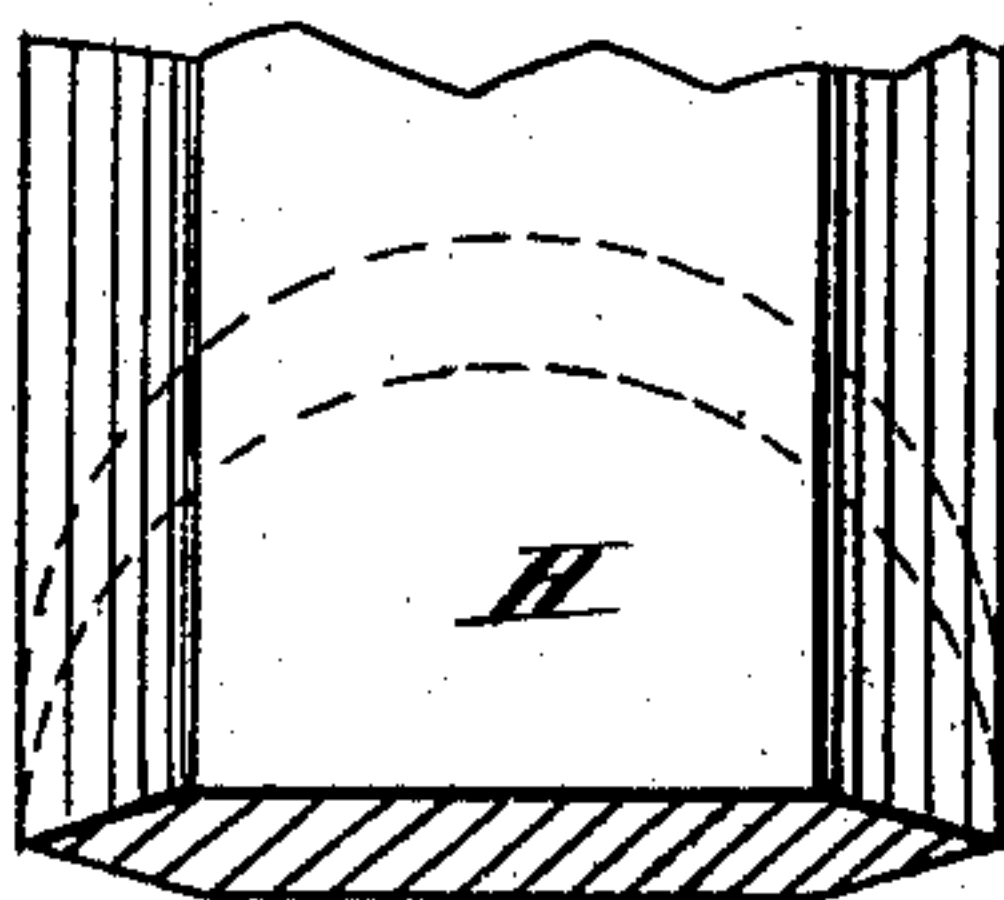


Fig. 11

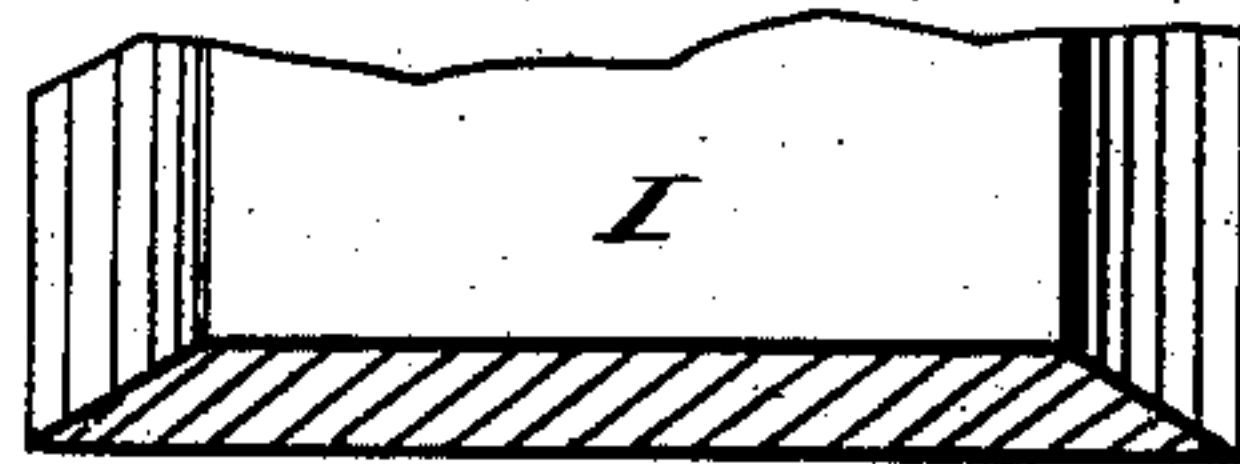
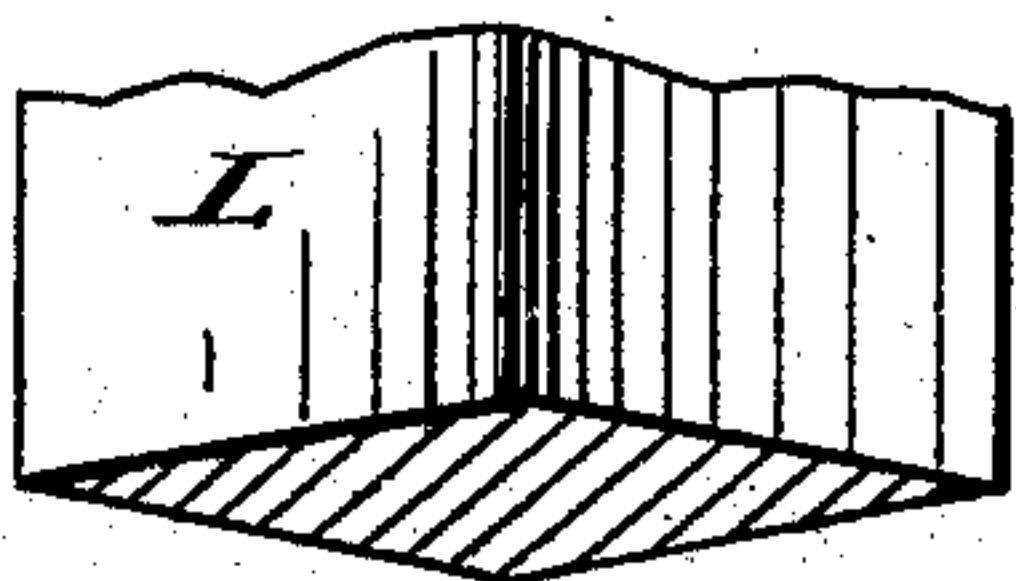


Fig. 12



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CHARLES W. DEAN, OF SOUTH WAREHAM, MASSACHUSETTS.

MANUFACTURE OF STAPLES.

SPECIFICATION forming part of Letters Patent No. 239,737, dated April 5, 1881.

Application filed December 10, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. DEAN, of South Wareham, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Staples, of which the following is a specification.

My invention applies more especially to the manufacture of small staples or double-pointed tacks for fastening carpets, or for other purposes, but may be also applied to staples of any of the usual sizes for common uses.

My invention aims to form staples from bars of metal in lieu of wire, as heretofore, in a more rapid and economical manner, and which will also insure certain advantageous qualities in the staples.

To this end the chief feature of my invention, briefly stated, consists in forming staples by cutting them successively from bars of metal in a form approximating to their finished shape, with their legs diverging, and then bending these legs parallel, or nearly so, to complete the staple, as hereinafter fully set forth.

Figures 1 and 5 of the annexed drawings present cross-sections of metal bars of suitable shape for the manufacture of my improved staples. Figs. 2 and 6 present face views of said bars having several successive transverse cuts made on the end thereof in the proximate form of staples. Figs. 3 and 7 represent, respectively, one of these cuts or sections detached, forming approximate or rudimentary staples. Figs. 4 and 8 represent the same with their legs bent parallel, or nearly so, forming the completed staple. Figs. 9, 10, 11, and 12 represent perspective cross-sectional views of bars of various forms with sharp edges, for the manufacture of the staples, in lieu of the square-edged bars shown in Figs. 1 and 5.

Similar letters of reference indicate corresponding parts.

From the above introduction it will now be readily understood that to manufacture my improved staples I first prepare bars or narrow plates of wrought iron or steel or other metal, of preferably great length compared with their width, and of any suitable cross-section, either plain rectangular bars, as shown in Figs. 1 and 5, or various prismatic forms, with sharp or beveled edges, as shown in Figs.

9, 10, 11, and 12. These bars or blanks are then cut up from one end into a series of forked sections, so that no waste of metal whatever results, as indicated by *a a g g* in Figs. 2 and 6. As these cut sections are detached one by one, as shown by *B E* in Figs. 3 and 7, it will be observed that they form staples of approximate or rudimentary shape, their legs being divergent. These sections are, however, then bent to bring their legs parallel, or nearly so, which completes the staples, as shown in Figs. 4 and 8, the process being very rapid and simple. In these drawings I have shown two slightly different forms of staples, the one being of angular *V* form, while the other is of curved crescent shape; but in both cases it will be observed that the staples are cut at one action from metal bars in their approximate shape, with their legs diverging, and that these legs are afterward bent parallel to complete the staple; but I do not, however, confine myself to these special shapes, nor to any special shape of staple produced according to this system, for obviously the shapes may vary considerably without departing from this system of manufacture.

It will be observed that the angle at which the divergent legs of the staple-cuts approach the sides of the blank bar causes the desired acute angle to be produced at the entering-points of the staple, as indicated at *f f* and *i i* in Figs. 3 and 7; and it will be further observed that this system of cutting the staples in their divergent or approximate shape from the bar enables one cut to closely succeed the other, whereas were the staples to be cut into their completed shape from the bars, not only would the die or cutters have greater work to perform, but greater waste of metal would result.

It will be observed that the angular form of staple shown in the left column in the drawings, when complete, will have a flat head, *b*, sloping shoulders *c c*, straight parallel legs *d d*, and points *f f*, beveled on the outside, while the curved staple shown on the right column will have a round head, *h*, and legs *i i* tapering to points, each of which forms will have particular advantages for certain purposes. It may be also noted that when the staples are cut from plain rectangular bars, as shown in the first figures, the staple-points will not

taper on the broad sides; but when cut from bars with beveled edges, as in Figs. 9, 10, 11, and 12 the points will also taper on one or more sides, thus becoming more insinuating
5 and easier to drive, while the head will be quite broad, to better receive the blows of the hammer and take a wide and firm bearing on the carpet or other article against which it may be driven.

10 It may now be observed that not only is this mode of manufacturing staples very rapid and simple, but very economical of metal, and produces the staple in complete form with very few operations, and those of a direct kind, and
15 without much bending or displacing of the fiber of the metal. Furthermore, as these staples are entirely cut from bars of metal they will possess a toughness and stiffness which will render them difficult to bend or break in
20 driving or withdrawing, and thus render both operations more easy than is the case with bendable wire staples. Moreover, the sharp cut and burred faces of the staples will give

them greater adhesion when driven into the wood or other material than is the case with
25 smooth-surfaced wire staples, thus combining a number of advantages which render my invention an important improvement in this line of manufacture.

Having thus fully described my invention, 30 what I claim as new, and desire to secure by Letters Patent, is—

1. The process herein described of manufacturing metallic staples, which consists in first cutting them from bars with head and divergent legs, and then bending the latter to the
35 required position, as described.

2. A staple cut in one piece from bar metal, and having a flat head, *b*, sloping shoulders *c*, and parallel legs *d d*, substantially as herein
40 shown and described.

CHARLES WARREN DEAN.

Witnesses:

JAMES G. SPROAT,
EDGAR ROBINSON.