

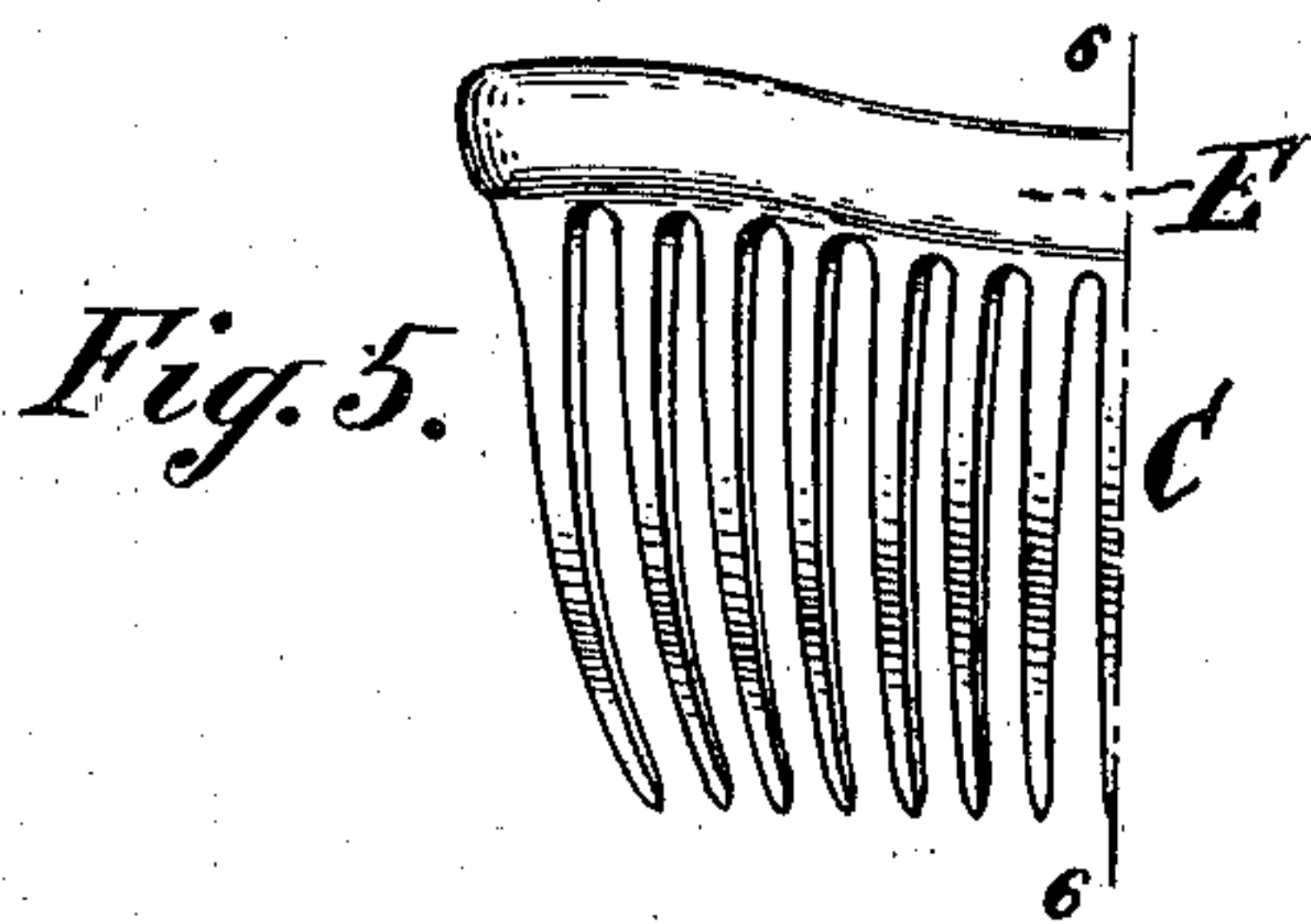
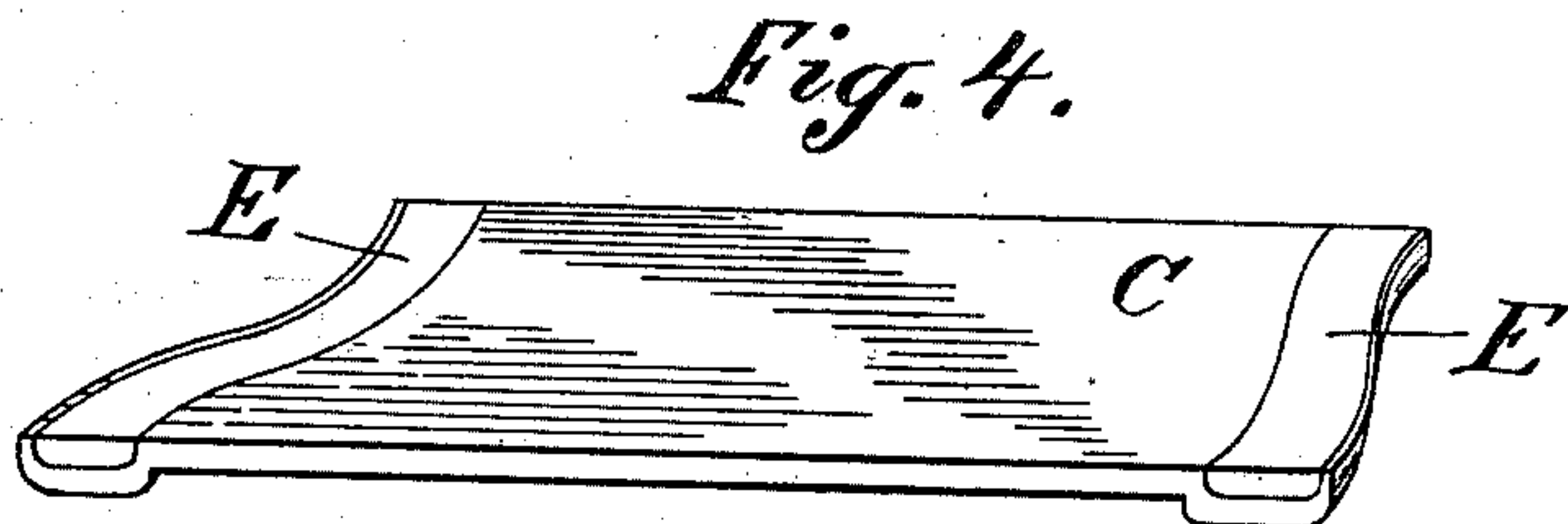
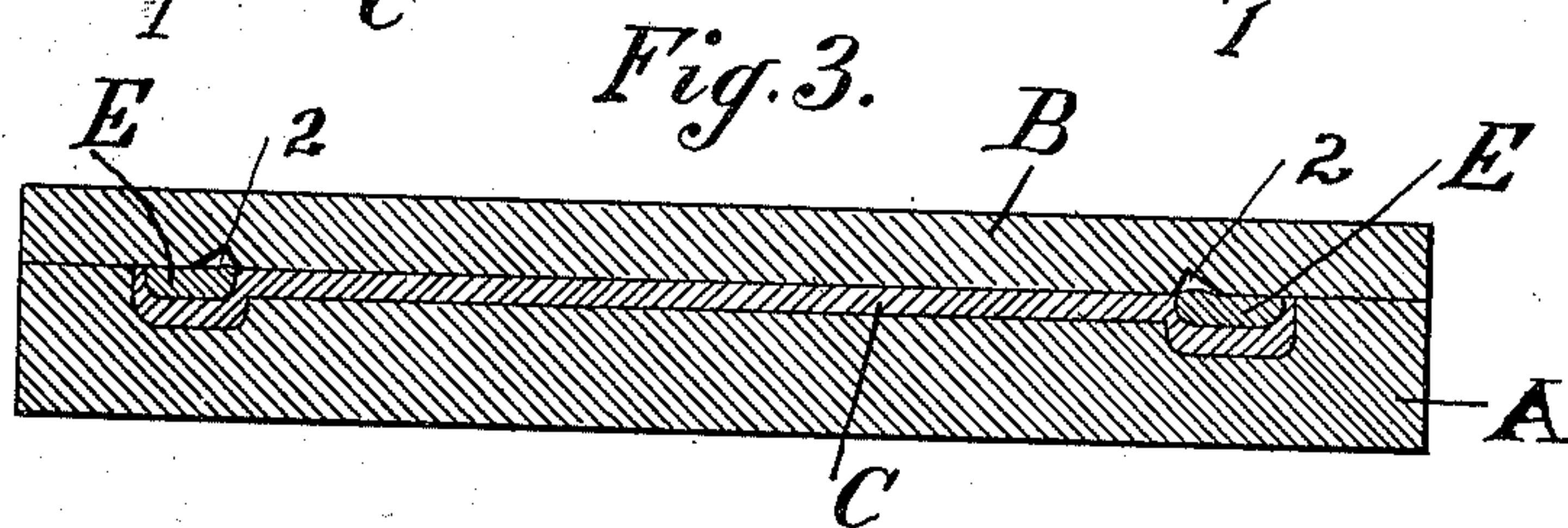
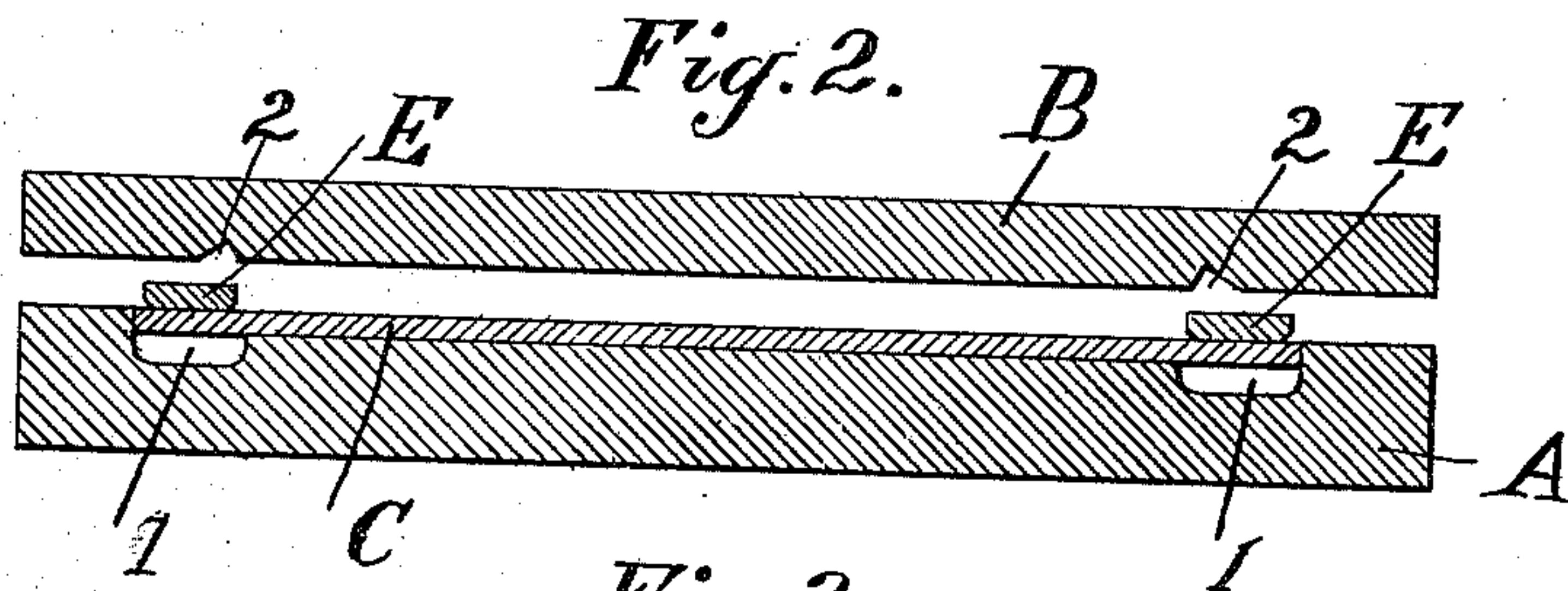
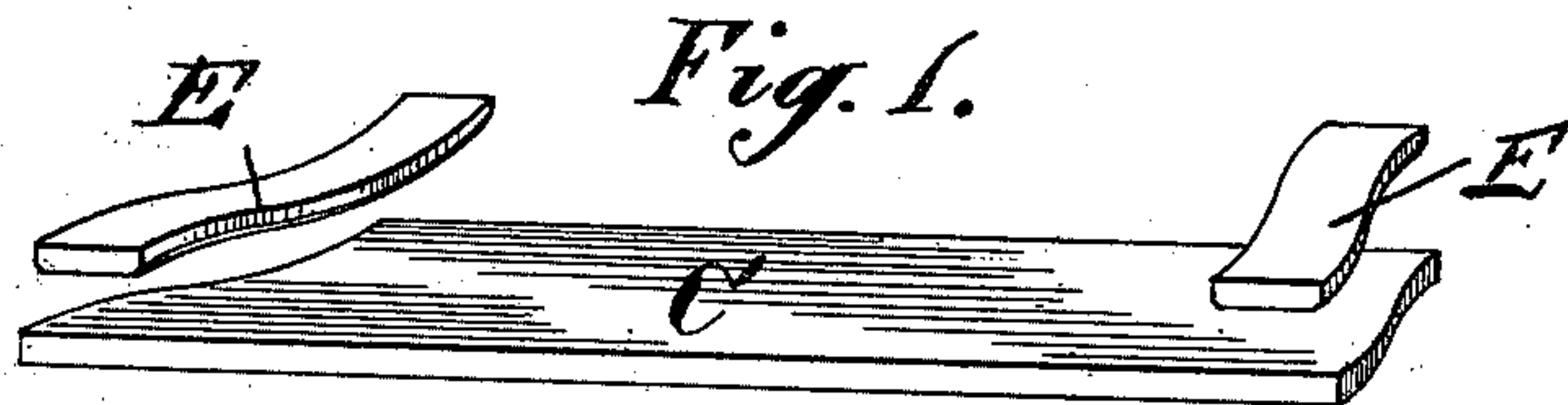
No. 732,997.

PATENTED JULY 7, 1903.

W. S. BECHTOLD.
PROCESS OF MANUFACTURING COMBS.

APPLICATION FILED APR. 17, 1903.

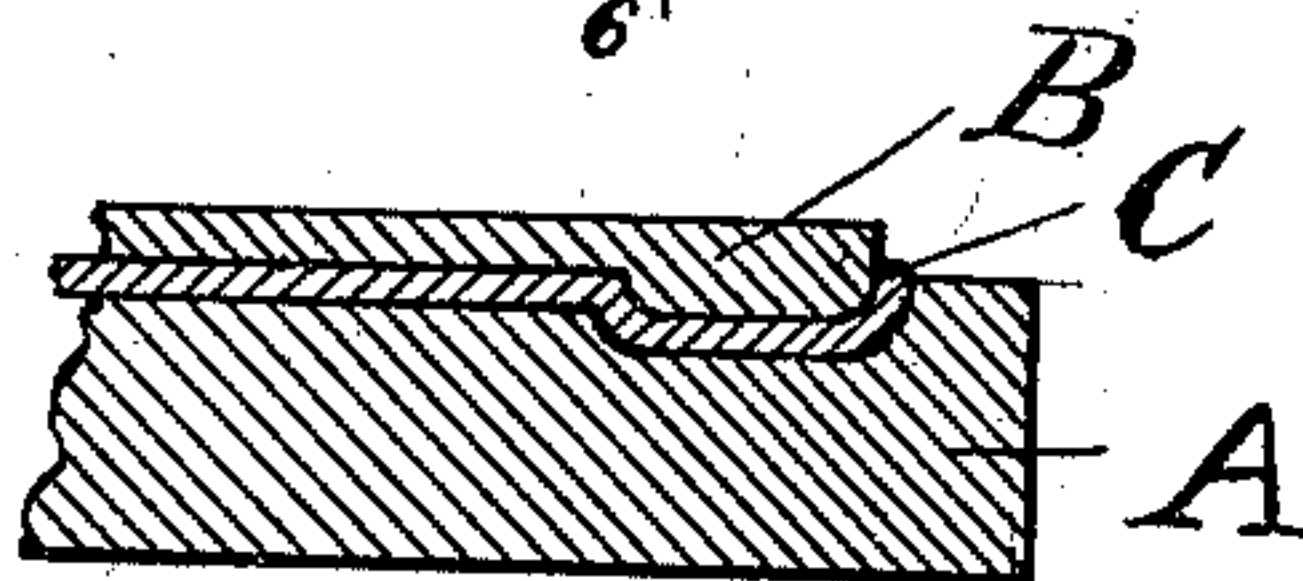
NO MODEL.



WITNESSES:

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Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM S. BECHTOLD, OF NEWARK, NEW JERSEY.

PROCESS OF MANUFACTURING COMBS.

SPECIFICATION forming part of Letters Patent No. 732,997, dated July 7, 1903.

Application filed April 17, 1903. Serial No. 153,116. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. BECHTOLD, a citizen of the United States of America, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Processes of Manufacturing Combs, of which the following is a specification.

My invention has reference to improvements in the manufacture of combs, particularly such as are known as side combs, back combs, and pompadour combs, although the method may be applied to combs adapted for any other purpose. Heretofore combs of this description have been provided with a reinforced head, the reinforcing portion being cemented to the head of the comb under pressure and heat for the purpose of welding the same thereto. In the commercial manufacture of such combs it is found that the strain exerted when the comb is inserted into the hair frequently causes a detachment of the reinforcing-strip, with consequent disfiguration. Frequently this same detachment happens during the manufacture of the comb.

The purpose of my invention is therefore to provide a method for so constructing a comb that separation or detachment of the reinforcing-strip, which is commonly called a "quill," is rendered substantially impossible, and even if such partial detachment did take place it would not affect the appearance of the comb.

With this object in view my invention consists, essentially, in a method for the manufacture of combs adapted to fasten the hair in position consisting in placing upon an overhanging back of the blank a quill, then subjecting the blank and quill to the combined action of heat and pressure to turn the overhanging portion downwardly and to cause it to receive the quill, thus placing the quill at the back of the comb.

The nature of my invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 represents a perspective view of a blank and the quills arranged adjacent to the same. Fig. 2 is a cross-section showing the die and plunger and the blank and quills in proper position. Fig. 3 is a similar view with the plunger moved downwardly upon the

die. Fig. 4 shows the completed back. Fig. 5 is a rear view of the finished comb, part being broken away. Fig. 6 is a section on the line 6 6, Fig. 5. Fig. 7 is a sectional view of the die and plunger and illustrating the modified method of manufacturing the comb.

Similar letters and numerals designate corresponding parts throughout the several views of the drawings.

Referring now to the drawings, I have shown in the present instance an apparatus consisting of a die and plunger for producing a blank adapted for the formation of two combs on consequent separation of the same by suitable severing-tools in a well-known manner, although it is of course to be understood that one comb could be formed at a time; but in order to avoid waste of material a blank adapted for two combs is generally formed instead of a blank for one comb only.

Referring now to Figs. 2 and 3, the letter A designates a die having therein transverse grooves 1 1, located at the proper distance apart for the formation of a blank for two combs, and B is the plunger, preferably made flat and provided with overflow-channels 2 2 for receiving any surplus material when closing upon the die. The blank C, cut to a proper size, is laid upon the die A with its ends overhanging the grooves 1. Upon said blank are then placed the quills E, arranged in line with the grooves and made of somewhat slightly less width than the grooves. If now the plunger is caused to descend, the quills E are forced downwardly, together with the overhanging portions of the blank C, and into the grooves 1, the overhanging ends and the quills assuming the positions shown in Fig. 3—that is to say, the overhanging ends are forced into the recesses and the quills are forced into the overhanging ends, thus firmly uniting the overhanging ends and the quills, particularly when a cement is first interposed between said overhanging ends and the quills. It is of course to be understood that the die is suitably heated, as usual, so as to permit the proper bending of the plate of plastic material. The quills E are now at the back of the comb instead of at the front of the comb—that is, they are toward the hair when the comb is applied instead of being exposed or

on the visible face of the comb, as heretofore in all known forms of side, back, or pompadour combs.

Naturally if the quill should become loosened, which is, however, not liable to occur, the effect of such loosening would not be visible, as it is on the side of the comb facing the hair and would therefore not detract from the appearance of the article, as is the case with the ordinary combs. Furthermore, with the combs as ordinarily manufactured the tendency or effect of the insertion of the comb to the hair is to cause a separation between the top of the comb and the quill, while with the comb as manufactured under my process no such tendency exists.

The comb produced by the method herein described is shown in Figs. 5 and 6, from which it can be clearly seen that the inserted quill is on the side of the comb toward the hair and not on the side away or opposed to the hair.

While I have hereinbefore described a method of simultaneously bending downwardly the overhanging portions of the blank and inserting the quills, it is of course to be understood that the overhanging portions may be bent downwardly and recessed by the use of a plunger B, provided with projecting ledges *b*, Fig. 7. The quills can then be placed

in the recesses so formed and held therein by cement, as usual.

What I claim as new is—

1. The herein-described process for the manufacture of combs adapted to fasten the hair in position consisting in placing upon an overhanging portion of the blank a quill, then subjecting the blank and quill to the combined action of heat and pressure to turn the overhanging portion downwardly and to cause it to receive the quill, thus placing the quill at the back of the comb, substantially as described.

2. The herein-described process for the manufacture of combs adapted to fasten the hair in position consisting in forming the head of the comb with a recess on the side adjacent to the hair while pressing rearwardly the same portion and then inserting into said recess a quill, thus causing said quill to be located at the back of the comb, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WM. S. BECHTOLD.

Witnesses:

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EDWARD L. DUNCAN.