

(No Model.)

F. D. BELKNAP.
METHOD OF MANUFACTURING STENCIL TYPE.

No. 573,851.

Patented Dec. 29, 1896.

Fig. 1.

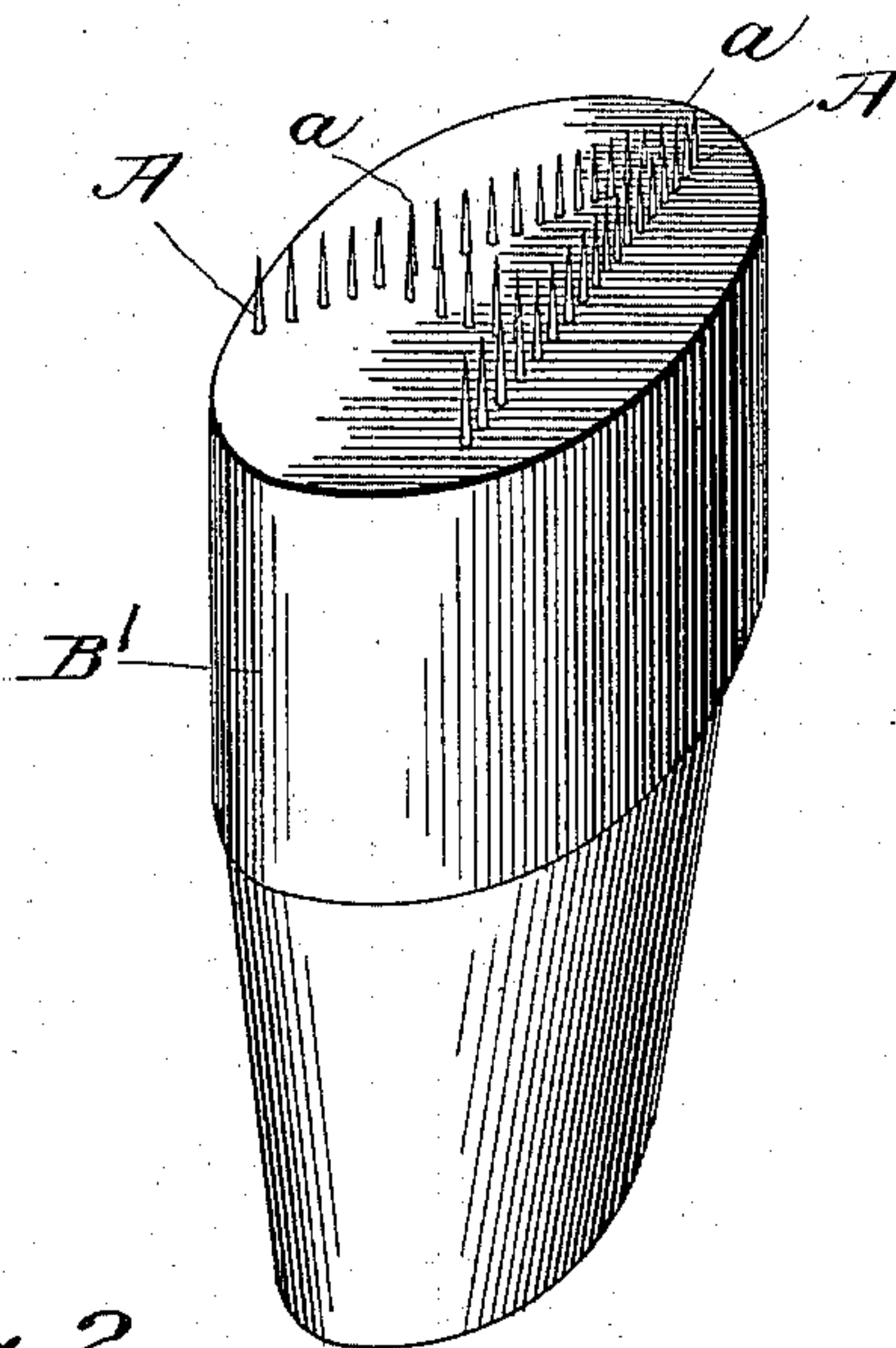


Fig. 2.

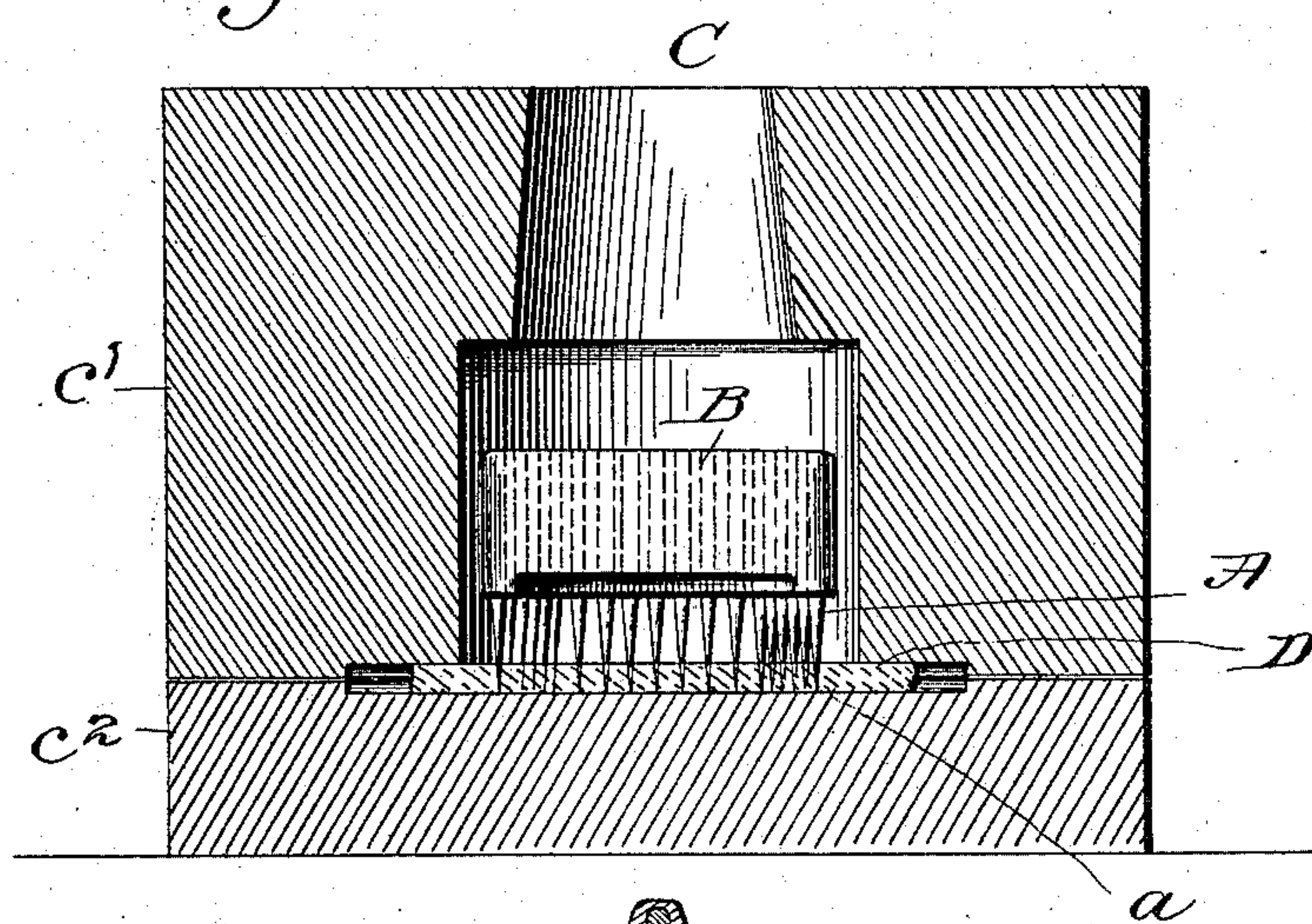
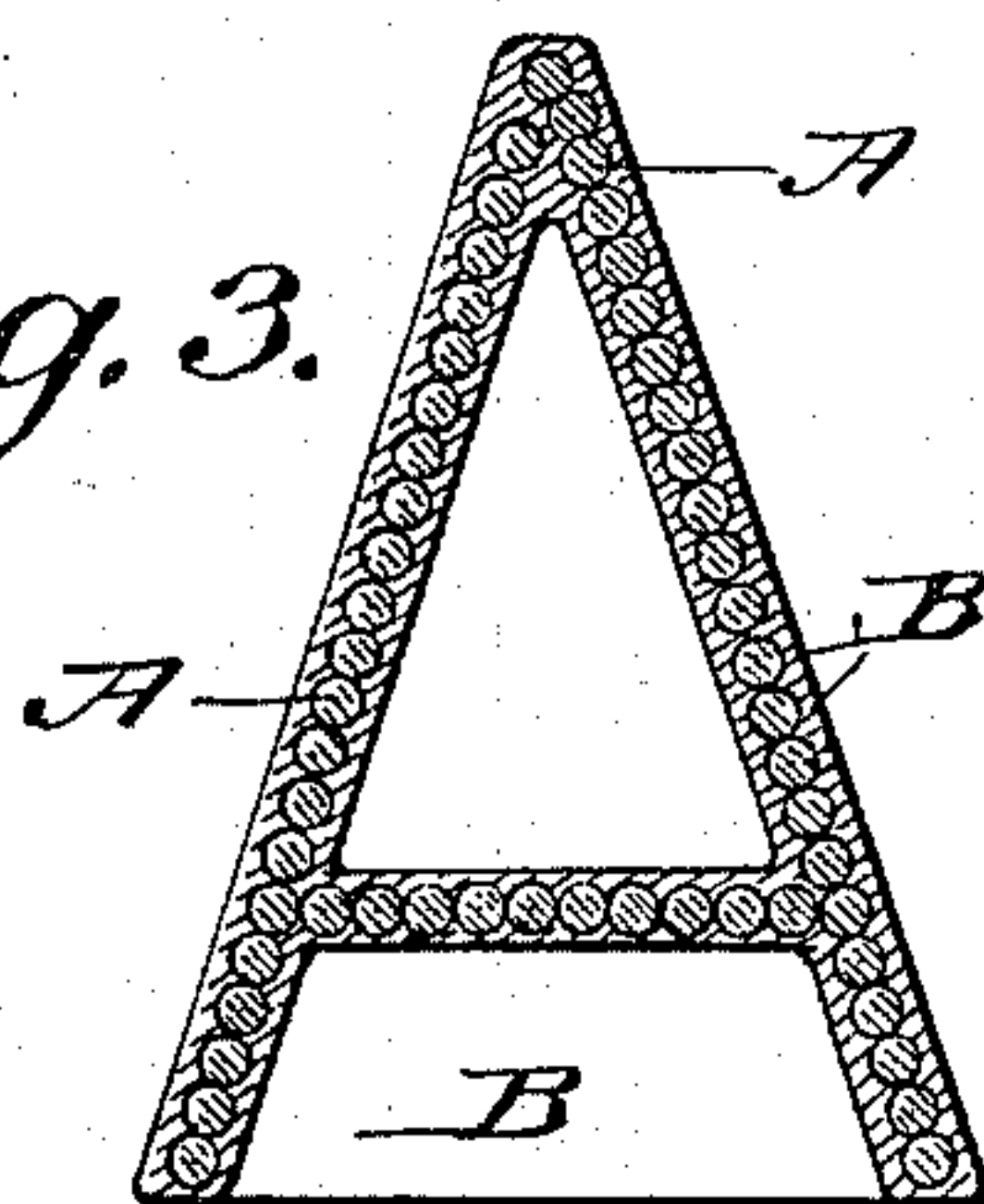


Fig. 3.



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METHOD OF MANUFACTURING STENCIL-TYPE.

SPECIFICATION forming part of Letters Patent No. 573,851, dated December 29, 1896.

Application filed February 28, 1896. Serial No. 581,107. (No model.)

To all whom it may concern:

Be it known that I, FRANK D. BELKNAP, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Stencil-Type and Methods of Manufacturing the Same; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to type for forming stencils from which any given number of reproductions or copies of the original may be made, and more particularly it relates to the form of such type used on the ordinary type-writing machine for the purpose of writing names and addresses in stencil-cards or in a strip of stencil-paper for use in addressing a large number of circulars or other missives to the persons whose names and addresses are on the list. Such type consists, ordinarily, of a series of needle-points arranged to form the outline of a letter or character, said needle-points being so placed that they will perforate the stencil when the type is pressed against it and leave a series of perforations in said stencil-paper outlining the letter or character. Heretofore such type have been made by inserting the needle-points in a mass of cement contained within a small cup. The process of doing this has been slow and costly, the cement requiring some time to set, and the resultant type has been of inferior quality because the needles would frequently get out of alinement during the considerable amount of manipulation required, and were further liable to become loosened in the cement. I have overcome these disadvantages by an improved process of manufacture, and the preferred form of apparatus which may be employed in carrying out the process is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved form of type. Fig. 2 is a sectional view of the mold in which it is cast, with the needle-points in position ready for the pouring in of the type-metal. Fig. 3 is a cross-section of the needles and material in which they are embedded prior to their introduction into the mold.

Throughout the drawings like reference-letters refer to like parts.

A A are a series of needle-points which are formed into the outline of the letter A, as shown in Fig. 3, by means of any viscous or sticky material B. This material B is preferably of such nature that when surrounded by hot molten type-metal it will melt or partially evaporate and rise to the surface of the molten metal or escape altogether from the mouth of the mold. Various kinds of viscous material may be used, but I prefer shellac.

Having formed the letter in outline of needle-points stuck together as above described, I next insert the points of the needles in any strip of material, such as the strip of blotting-paper D, which is of the thickness to which I wish the needle-points to project from the body of the type. The third step in the process consists in inserting the strip, together with the needles attached thereto, in a mold of the proper form to cast the body of the type.

The mold shown in Fig. 2 consists of the upper and lower portions C' and C'', with the opening C for pouring. The form of needle-points is adjusted in the center of the opening in the mold and held by the strip D in such position.

The fourth and last step of the process is the pouring of the molten type-metal into the mold through the opening C. The viscous material B is dissolved and the type-metal closes firmly around the needle-points, or, if the material B is insoluble, the type-metal fills the space between it and the strip of paper D, so as to firmly grasp the needle-points A and form a smooth solid face. On taking the mold apart, forcing the type out, and removing the strip of paper D a type will be found having the solid body of cast metal B', with a smooth face in which the needle-points A are firmly seated, while their extreme points *a a* project in even regularly-spaced rows or curves forming the outline of the desired character.

The advantages of my invention are in the greatly-increased rapidity and reduced cost of manufacture resulting from the improved process and in the greater strength, evenness, and typographical beauty of the type produced.

Of course many different kinds of molds

could be used, the strip of paper D could be replaced by perforated strips of metal, the employment of the viscous material might be done away with, and some equivalent method
5 of holding the needle-points in position substituted without departing from the spirit and scope of my invention.

Having, therefore, described my invention, what I claim as new, and desire to protect by
10 Letters Patent, is—

The improved process of making stenciled type which consists of the following steps; first, forming the letter of needle-points stuck

together with any viscous material; second, inserting the points of the needles in a thin
15 strip of material; third, centering the needles and strip of material in a proper mold; fourth, pouring molten metal into the mold to cast the body of the type about the needle-points,
20 substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK D. BELKNAP.

Witnesses:

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