

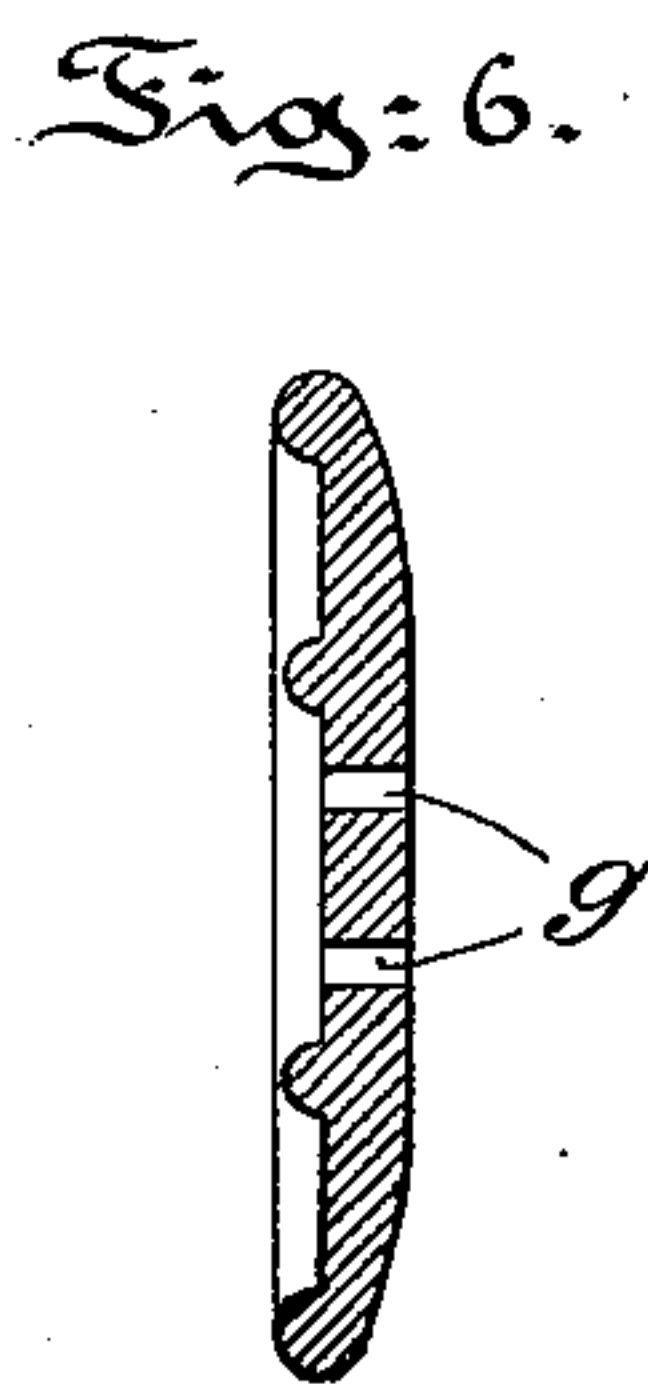
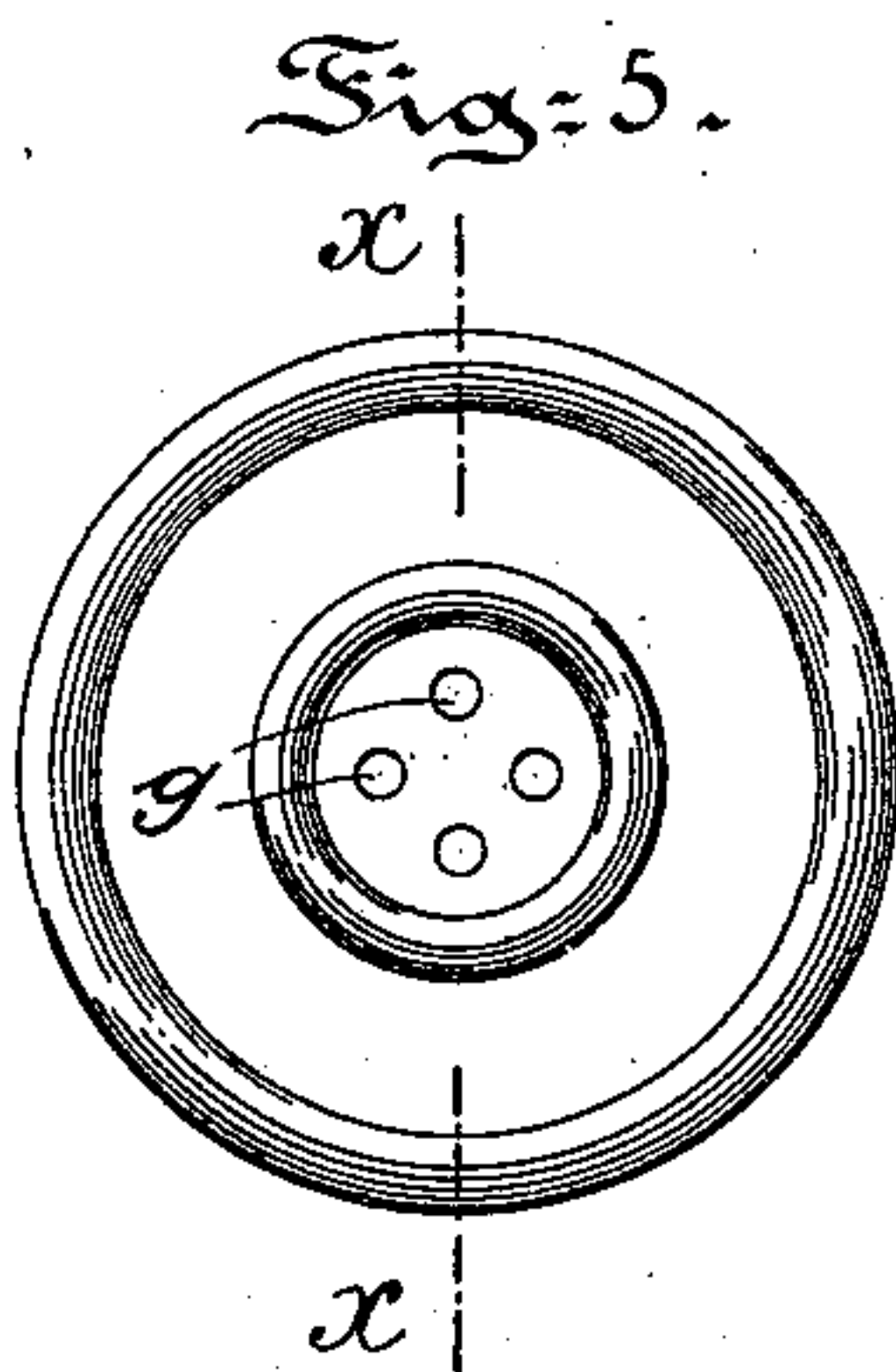
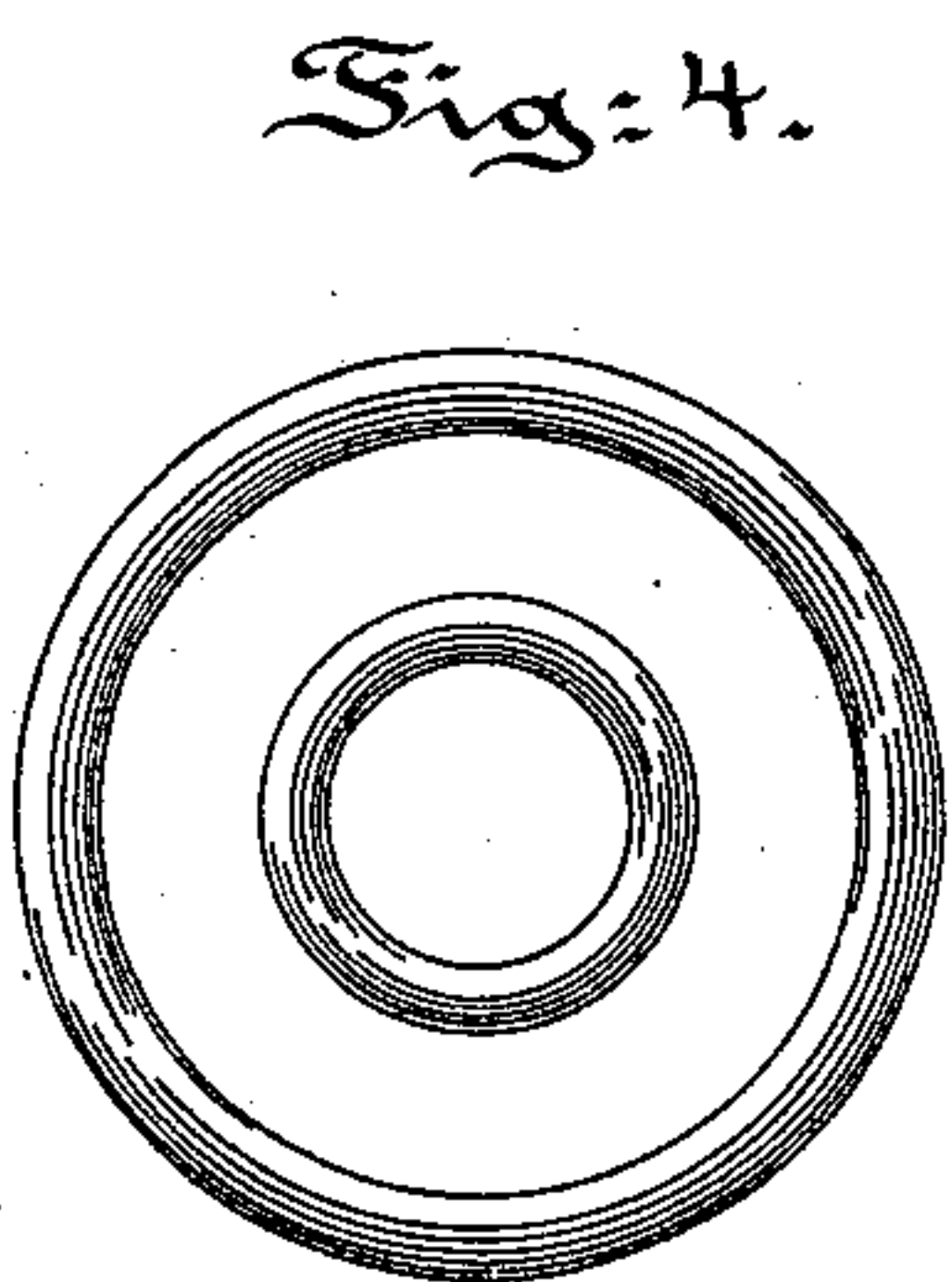
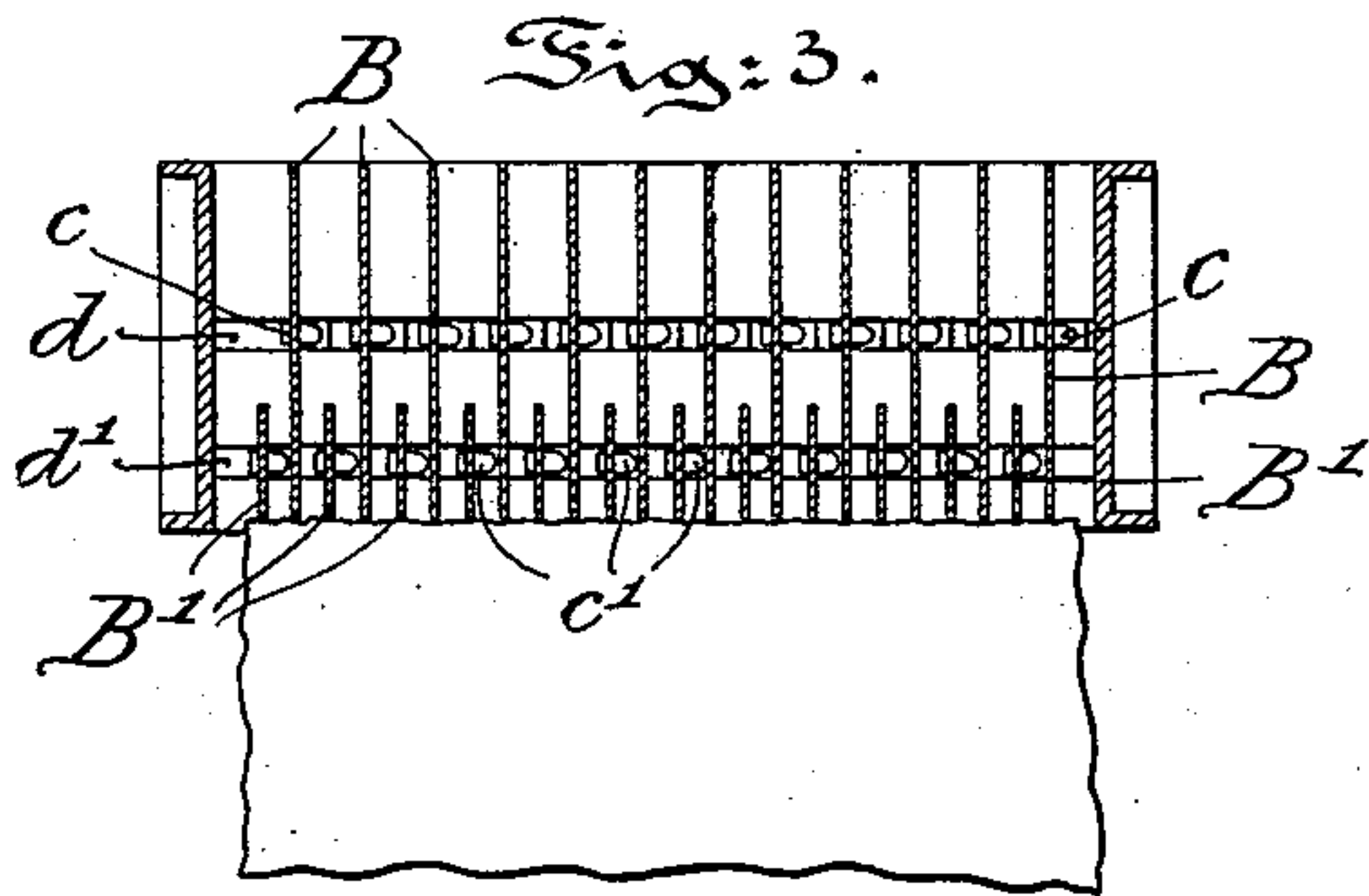
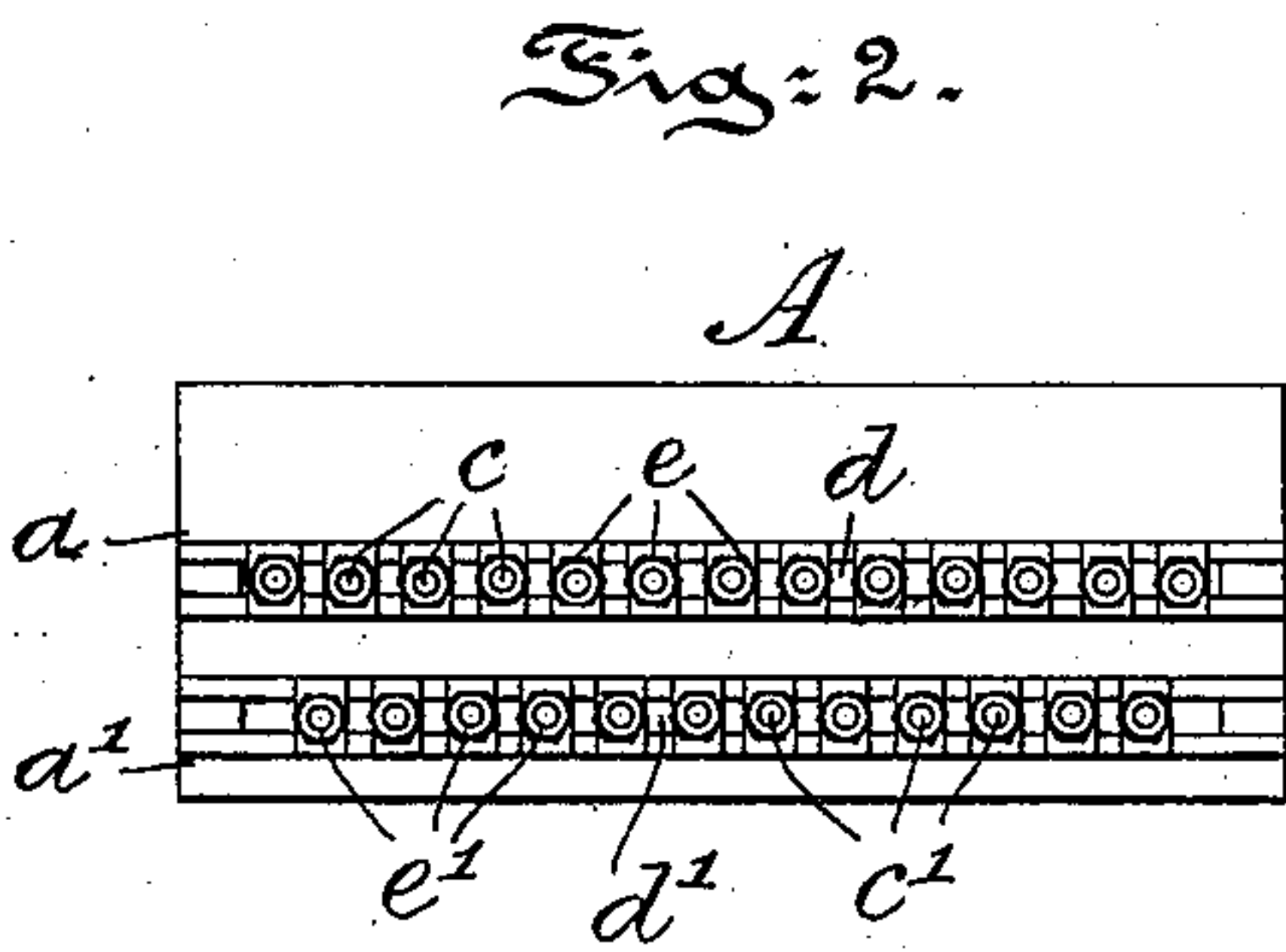
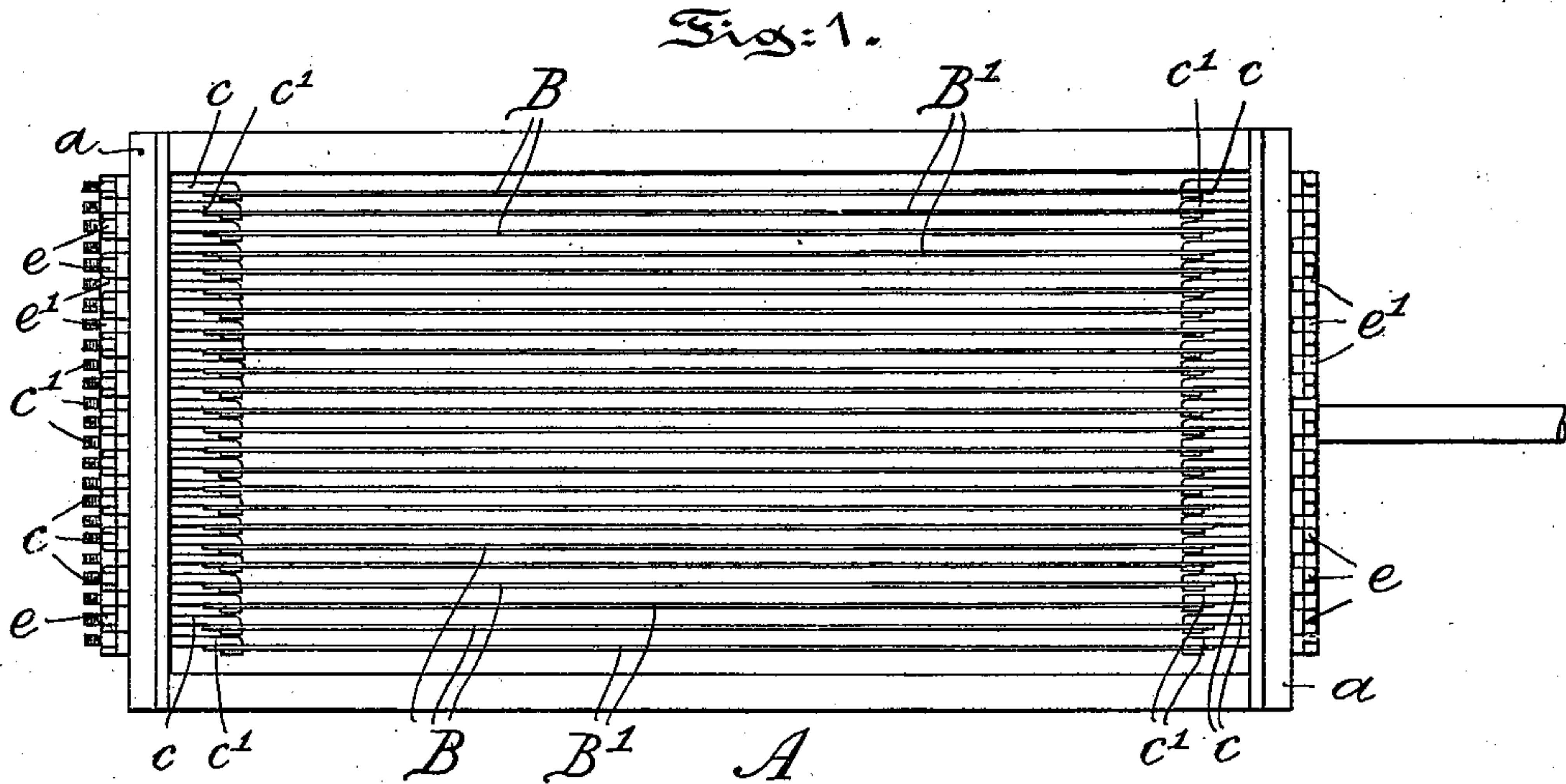
(No Model.)

D. L. CROSSCUP.

MANUFACTURE OF MARBLE, ONYX, OR SIMILAR BUTTONS.

No. 564,365.

Patented July 21, 1896.



Witnesses:
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UNITED STATES PATENT OFFICE.

DANIEL L. CROSSCUP, OF PHILADELPHIA, PENNSYLVANIA.

MANUFACTURE OF MARBLE, ONYX, OR SIMILAR BUTTONS.

SPECIFICATION forming part of Letters Patent No. 564,365, dated July 21, 1896.

Application filed January 14, 1896. Serial No. 575,460. (No model.)

To all whom it may concern:

Be it known that I, DANIEL L. CROSSCUP, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Marble, Onyx, or Similar Buttons and in the Methods of and Apparatus for Producing the Same, of which the following is a specification.

My invention has relation to the manufacture from fancy or variegated marble, onyx, or the like, buttons for coats and other garments, and it has relation also to the apparatus for producing such a button for said purposes.

The principal objects of my present invention are, first, to provide an economical, efficient, and simple method of and apparatus for producing thin slabs of onyx and similar material from a solid block to constitute blanks for the formation of buttons and similar articles; second, to provide a method of producing thin slabs of onyx and similar brittle material in the formation of button and similar blanks, which consists in dividing a single block into slabs of a thickness greater than that required and at the same operation supporting and subdividing the slabs thus formed to obtain slabs of required thickness, and, third, to provide an apparatus for dividing a block of onyx or similar brittle material into thin slabs, consisting of a frame having two series of alternating saw-blades, one series being of greater vertical breadth than the other and designed to cut the block into slabs greater in thickness than that required and to support said slabs while the other series of blades is subdividing the same into required thickness.

It is necessary that the blades be arranged so that the narrow and wide blades follow in sequence, because if the blades were of equal width, such as the width of the blades B, they would be too flexible torsionally and in their torsional movements would easily snap off the sawed portions of the block. Again, if the blades were all of equal width corresponding to the blades B', there would be a sidewise movement against each cut slab, which, not being supported by an adjacent blade, would easily snap off the onyx slab.

Hitherto, aside from the difficulty and expense attending the bringing of fancy marble or onyx into the condition of narrow slabs, it has been regarded as impossible to cut such matter so as to constitute a blank for a button without cracking or destroying the onyx or the like. Especially is this so in the case of onyx, due largely to the structural formation thereof, and as far as I am aware garment-buttons have never been made of such matter, because onyx could not be brought to a condition in which from a blank it could be worked into a button and practically used on a garment. By costly experimentation I have succeeded in accomplishing such a result in the proper handling of marble, onyx, or the like, so as to form the same into blanks and then into a complete button with eyes or eyelets for application to garments as fastening means, and a button which is not only ornamental, but also cheap and substantial or durable.

My invention, stated in general terms, consists of the manufacture of an onyx or marble garment-button and the apparatus for producing the same in substantially the manner hereinafter described and claimed.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a top or plan view of an apparatus embodying features of my invention and adapted to saw or cut a block of marble, onyx, or the like by one operation into small slabs to become blanks when turned off into circular or other form, and then drilled to constitute a garment-button. Fig. 2 is an end elevational view of the apparatus of Fig. 1. Fig. 3 is a transverse sectional view of the apparatus or machine of Fig. 1. Fig. 4 is a top or plan view of the blank turned off to subsequently become a button. Fig. 5 is a similar view of the completed button, and Fig. 6 is a cross-sectional view on the line $x x$ of Fig. 5.

Referring to the drawings, A represents a saw-frame in the ends of which are provided upper and lower guides or brackets a and a' for detachably supporting to position two series of smooth or sharp saws or cutters B

and B' of two different breadths. The cutters or saws B of the upper bracket *a* are alternated with respect to the saws or cutters B' of the lower bracket *a'*, but the two series of saws or cutters in action back and forth operate in unison to sever each oblong block in one operation into a series of narrow slabs, and owing to the peculiar formation or structure of marble, and especially onyx, if the blades or saws B were not of a greater breadth than the blades or saws B' the onyx would be split into fragments rather than into narrow strips or slabs, such as required, and in perfect condition for their subsequent transformation into blanks to become buttons. This has been ascertained by extended experimentation in the direction of cutting different kinds of marble, onyx, or similar matter, whereby it has been ascertained that it is essential to the making of slab-blanks that one series of the saws or cutters must be of greater breadth than the other series; and, moreover, by reason of that fact a support for the block being cut is furnished by the saws or cutters B, to insure perfect and satisfactory action of the saws or cutters B', leaving in the finished operation of the two series of blades resultant small perfect thin slabs adapted to be readily transformed into button-blanks. The respective series of cutters or saws are held to position by angle-irons *c* and *c'*, extending through the end slotted portions *d* and *d'* of the guides or brackets *a* and *a'*, and held taut thereto by means of nuts *e* and *e'*, as clearly illustrated in Figs. 1 and 2. When the narrow slabs are formed, as hereinbefore explained, they are brought into a circular or other condition in a mandrel, in which they are held by means of shellac or other glutinous substance, and by such action they thereby assume button-blanks. The blanks thus formed are then removed from the man-

drel and polished. The middle of the button to complete the same is then drilled in a lathe or by means of any other suitable tool, assuming thereby the shape or form as illustrated in Fig. 5.

It may be here remarked that care must be taken in the handling of each blank while in the mandrel in the truing up or turning off of the same, as well as polishing and drilling of the eyes *g* therein, owing to the structural formation of the onyx or marble which is to form the garment-button. Further the two series of cutters or saws B and B' must act in unison, and thus to economize in the time to bring the small slabs required into a condition to become blanks, as illustrated in Fig. 4, and for the subsequent formation of the same into garment-buttons of the character or type illustrated in Fig. 5 of the drawings.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of a frame provided with upper and lower guides or brackets for detachably supporting two series of parallel saw-blades, whereof the blades of one series are of greater breadth than the blades of the other series and adapted to cut while operating in unison a block into slabs of greater thickness than required and to support said slabs while one of the series of said blades is subdividing said block into required thickness, substantially as and for the purposes described.

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

DANIEL L. CROSSCUP.

Witnesses:

J. WALTER DOUGLASS,
THOMAS M. SMITH.