

No. 696,362.

Patented Mar. 25, 1902.

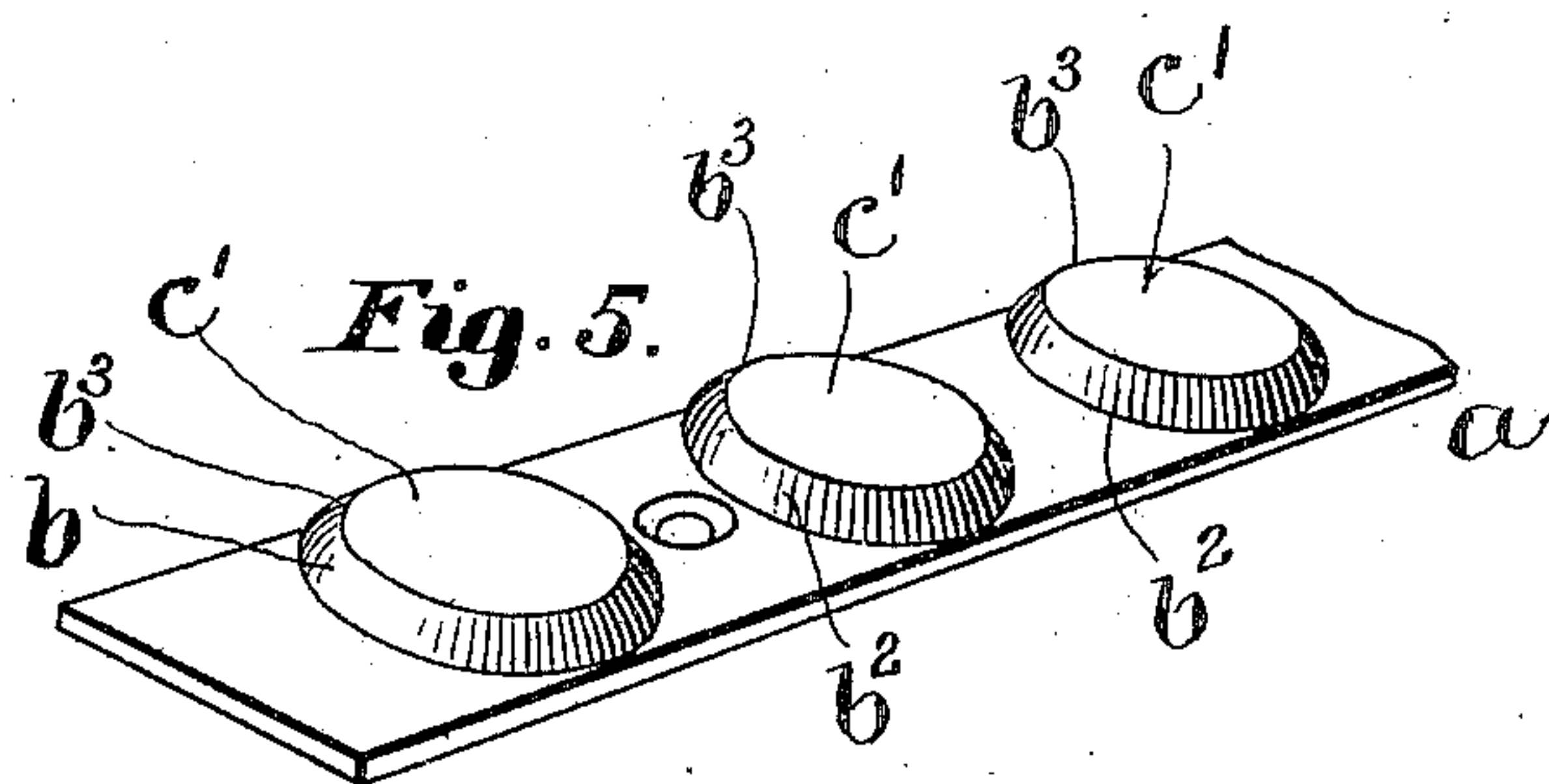
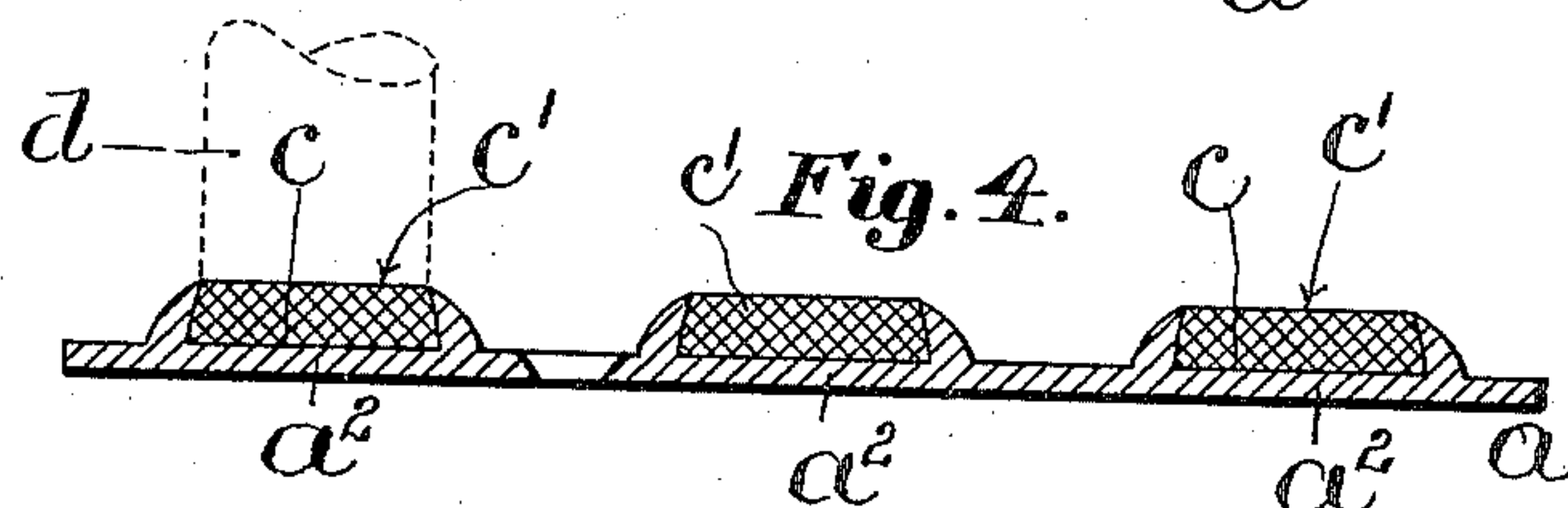
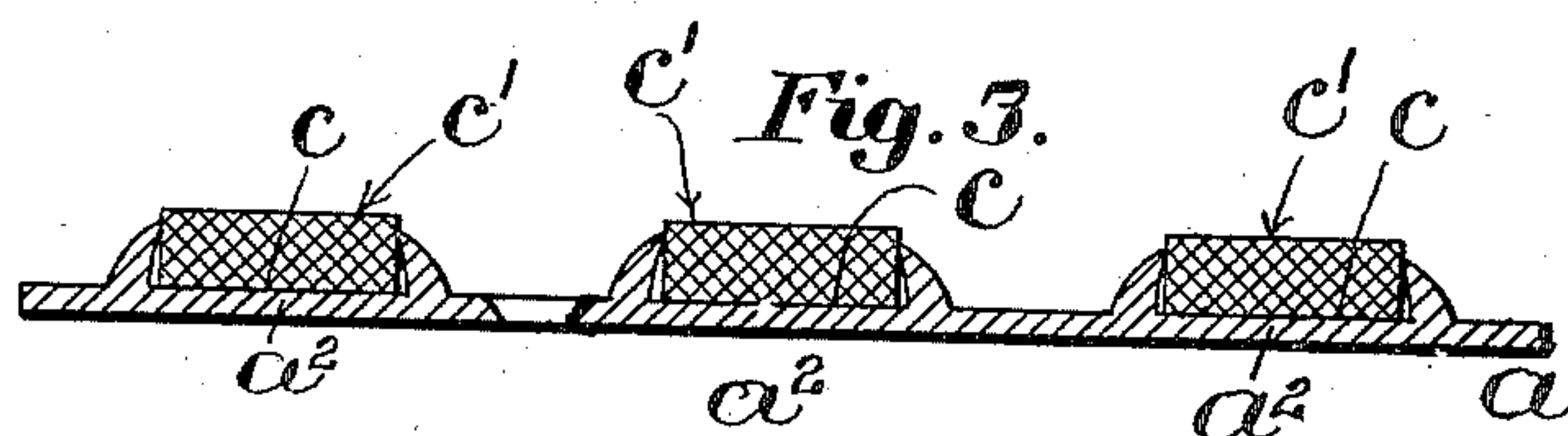
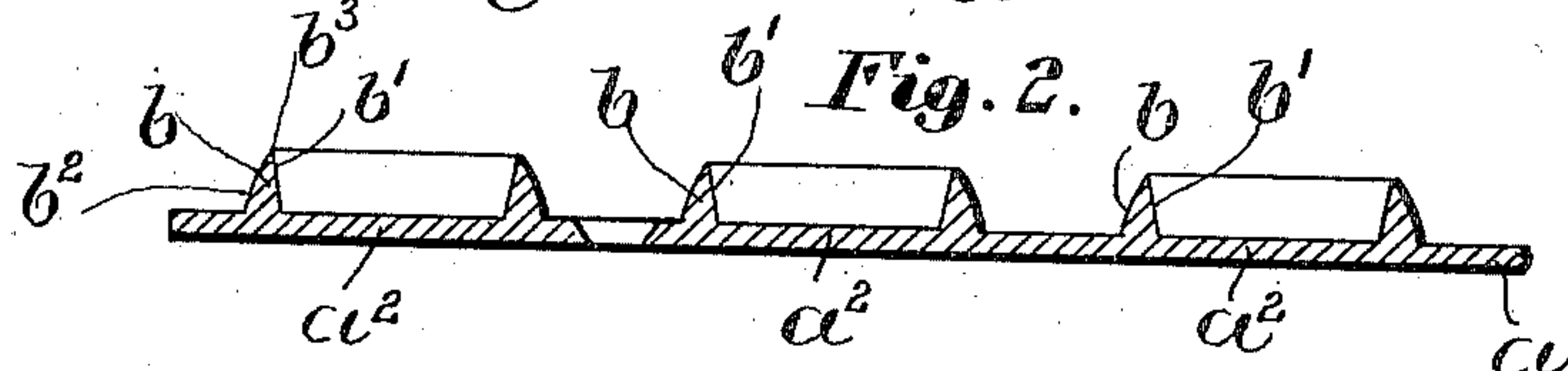
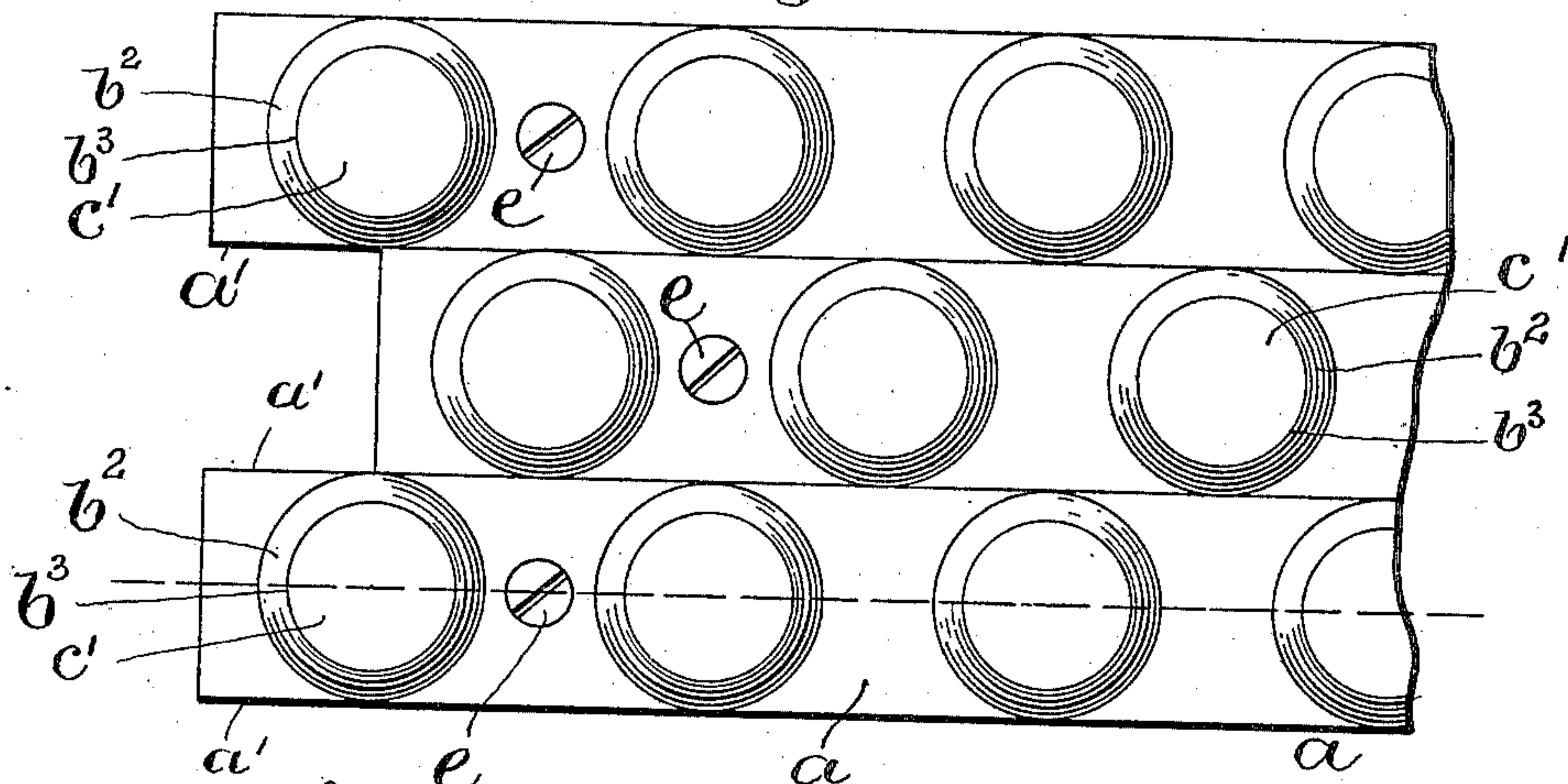
T. P. FARMER.

SURFACE FOR PREVENTING SLIPPING AND RESISTING WEAR.

(Application filed Jan. 13, 1902.)

(No Model.)

Fig. 1.



Witnesses:
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UNITED STATES PATENT OFFICE

THEODORE P. FARMER, OF SOUTHWEST HARBOR, MAINE.

SURFACE FOR PREVENTING SLIPPING AND RESISTING WEAR.

SPECIFICATION forming part of Letters Patent No. 696,362, dated March 25, 1902

Application filed January 13, 1902. Serial No. 89,414. (No model.)

To all whom it may concern:

Be it known that I, THEODORE P. FARMER, of Southwest Harbor, in the town of Tremont, in the county of Hancock and State of Maine, have invented certain new and useful Improvements in Surfaces for Preventing Slipping and Resisting Wear, of which the following is a specification.

This invention has for its object to provide a new article of manufacture designed for employment upon exposed surfaces to prevent the slipping of persons passing thereover and for preventing the wearing of such surfaces.

In my copending application, Serial No. 42,190, filed January 5, 1901, there is shown and described an antislipping device consisting of a metallic stud having grooves for the reception of slip-resistant material, the walls of the grooves diverging downwardly, whereby the area or surface of the material increases as it is worn away, there being provisions whereby the stud may be secured in place. The present invention is designed to secure besides some of the advantages of said previous construction others which I have found to be highly desirable in antislipping or wear-resisting devices—that is to say, in the present invention I have preserved the general construction by means of which the exposed area of the slip-resistant material increases as the surface is worn away; but in addition thereto I provide an elongated metallic backing-strip, upon which the slip-resistant material is secured and which can be produced and marketed in the form of merchantable bars of any suitable or desirable lengths adapted to be divided by the user into operative members or strips, the said strips being of such construction that they may be laid side by side to provide a surface of any desirable area to cover stair-treads and other exposed surfaces upon which persons are liable to slip or which are subject to constant wear.

In all prior constructions where a substantially continuous surface is provided it has been necessary to specially fit the surface to the stair-tread or other exposed area to which it was designed to be secured, and consequently the result has been in many cases the installation of an unsightly slip-resisting surface or the incomplete covering of the part

sought to be protected or guarded. With my invention each of the metallic strips is provided with a plurality of raised endless flanges integral with the strip and arranged in the longitudinal line of the strip to provide cavities for the reception of the slip-resistant material. Each cavity thus formed has a solid backing or bottom provided by the body of the strip and side walls which are raised from the said face, whereby the exposed area of the slip-resistant material is raised above the face of the strip. Preferably the walls of the cavities taper to provide a sharp edge of hard metal to inclose the slip-resistant material, whereby all of the surface upon which persons tread or step is slip-resisting, being in this respect a marked improvement over all prior constructions where a comparatively large area of hard metal was exposed. Preferably, though not necessarily, the raised flanges are interiorly undercut to provide not only for the exposure of a greater area of slip-resistant material as the surface becomes worn away, but also to provide against the removal of said slip-resistant material; but it will be apparent that other means may be provided for retaining said material in place.

On the accompanying drawings, Figure 1 represents the ends of several strips secured in parallelism to provide a practically continuous surface. Fig. 2 represents a longitudinal section through one of the strips, illustrating the first step in its manufacture. Fig. 3 represents the same in section with the walls of the cavities swaged inward and with the slip-resistant material placed loosely in said cavities. Fig. 4 represents in section a portion of a finished strip, part of the die being illustrated in dotted lines in the act of forcing the relatively soft slip-resistant material into one of the cavities and spreading it laterally to completely fill the same. Fig. 5 represents in perspective view a portion of one of the finished strips.

The strips which are shown upon the drawings (full size, save as to length) are preferably formed of iron or steel and are indicated at *a*. They may be furnished in lengths from one to ten feet or more, as the case may require, and they are provided with parallel edges *a' a'*, whereby one strip may fit snugly against an adjoining strip, as indi-

cated in Fig. 1. By suitable apparatus each strip is formed with a series of raised flanges or annuli b , which are integral with the strip. These flanges in the first step of manufacture are provided with interior and exterior walls b^1 b^2 , respectively, to provide a sharp edge b^3 . A cup-like cavity is thus provided, which in this stage of manufacture converges downwardly. By suitable machinery, such as a swaging-die, the inclosing wall of each cavity is swaged inwardly, as shown in Fig. 3, to change the shape of the cavity so that it converges upwardly, whereby the inner wall of each cavity is undercut. In each of the cavities thus provided is placed a block c , of slip-resistant material, such as lead, lead composition, or other substance which may be found suitable for the purpose. These blocks may be separately formed and placed in the cavities by hand or by machinery, or a sheet of the slip-resistant material may be placed upon the strip and the said material forced into the cavity by a suitable press. If the blocks are formed as shown in Fig. 3, they project a short distance above the edges b^3 of the annuli or flanges, and they may be pressed into the cavities by a suitable die, as indicated in dotted lines at d , Fig. 4, and caused to laterally expand to completely fill the cavities. The strip thus formed has a series of exposed surfaces or blocks c' , of slip-resistant material, each block of said material being encircled or surrounded by a flange, the outer wall of which is curved downwardly and outwardly to present a finished appearance and the inner wall of which extends downwardly and outwardly to retain the slip-resistant material in place and to provide for the exposure of a greater area of frictional surface as the top of the block becomes worn away. The under face of each block rests upon a solid backing a^2 , which may or may not be of the thickness of the remainder of the plate a , according to circumstances; but in any event the said backing affords a comparatively rigid support for the block of slip-resistant material.

It will be readily understood that the cavity provided by the raised flange may be of any suitable shape, either square, oblong, elliptical, or irregular, although in view of the ease of manufacture I prefer to form the strips with the circular flanges or annuli, as shown.

The exposed face of the strips and the walls b^3 of the raised portions of the strips may be nickel-plated or gilded to present an attractive appearance and adapt the strip for use in stores, offices, and dwellings. Said strips may be placed side by side, so that the blocks of slip-resistant material are in diagonal rows;

but, on the other hand, they may be placed in such way that the said blocks of slip-resistant material are arranged in lines at right angles to the longitudinal lines of the said strips.

For the purpose of securing the strips in place they are provided at intervals with apertures e for the reception of screws or other fastening devices.

I have contemplated increasing the width of each strip and providing it with a plurality of rows of raised flanges, although I do not prefer this construction.

It will be seen that a strip of the described construction made of indeterminate length constitutes an inexpensive blank or merchantable bar, which may be placed on the market as such and is adapted to be converted by the user into a plurality of operative wear-resisting and slip-preventing members of operative length suited to the dimensions of the surface to which they are to be applied, the said blank comprising a row of blocks of slip-resistant material and a holder therefor composed of a single piece or part, which includes not only the bottoms and walls of block-receiving cavities, but also divisible connections between said cavities and blocks. The cheapness of said blank or bar is due to the one-part formation of the holder portion and enables large areas of surface to be economically provided with a wear-resisting and slip-preventing covering.

Having thus explained the nature of the invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

A wear-resisting and slip-preventing blank or merchantable bar of indeterminate length, comprising a row of blocks of slip-resistant material, each block presenting a surface uninterrupted throughout its horizontal cross-section or diameter, and a holder for said blocks composed of an elongated, relatively thin, and narrow hard-metal strip, and block-securing flanges integral therewith, said strip constituting in one piece not only bottoms and walls of block-receiving cavities, but also connections between said blocks, said connections being divisible so that the blank may be converted into a plurality of wear-resisting and slip-preventing members of operative length.

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

THEODORE P. FARMER.

Witnesses:

MARCUS B. MAY.

C. C. STECHER.