

(No Model.)

J. P. NOYES.

BUTTON.

No. 323,359.

Patented July 28, 1885.

Fig. 1.

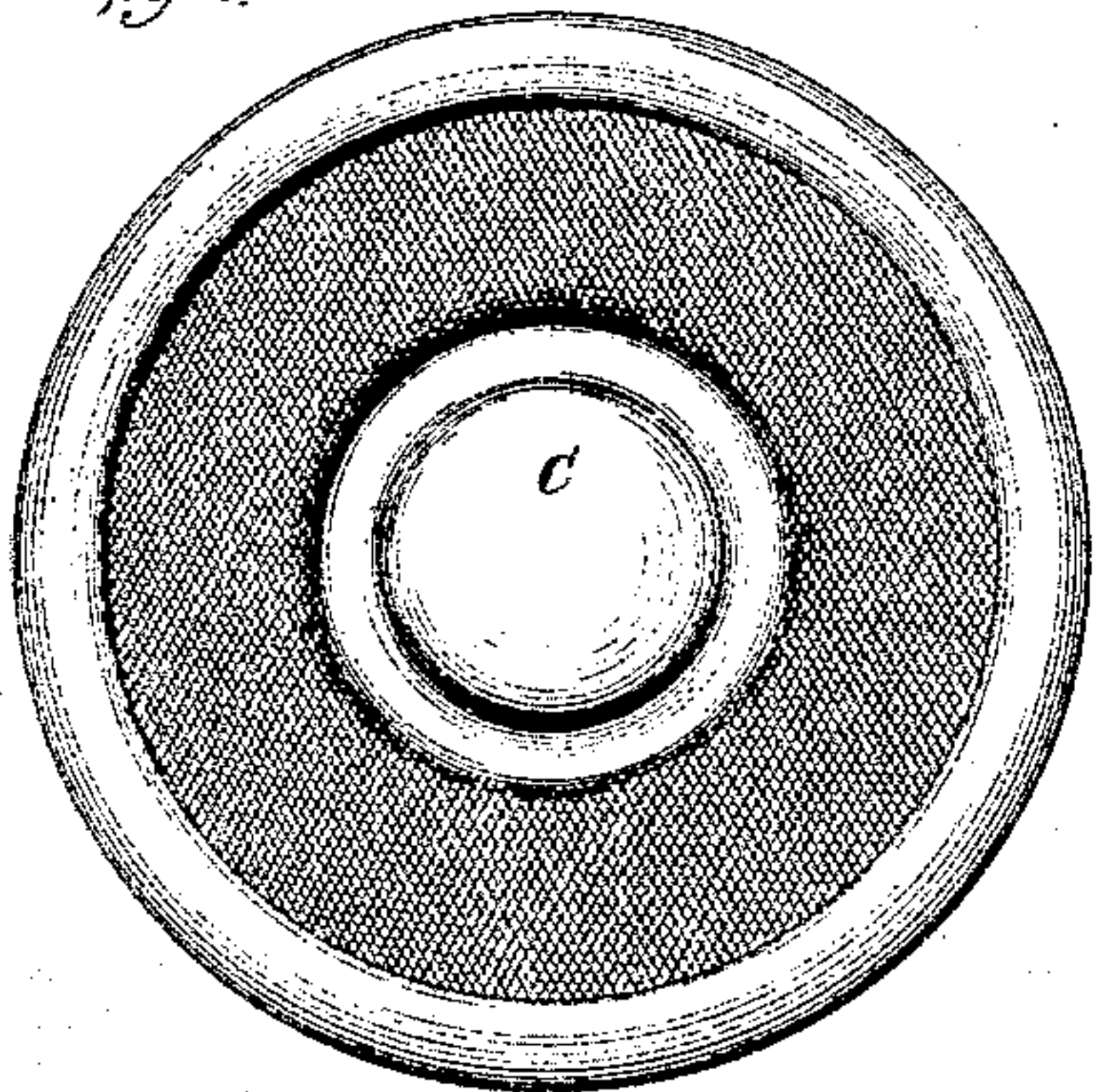


Fig. 2.

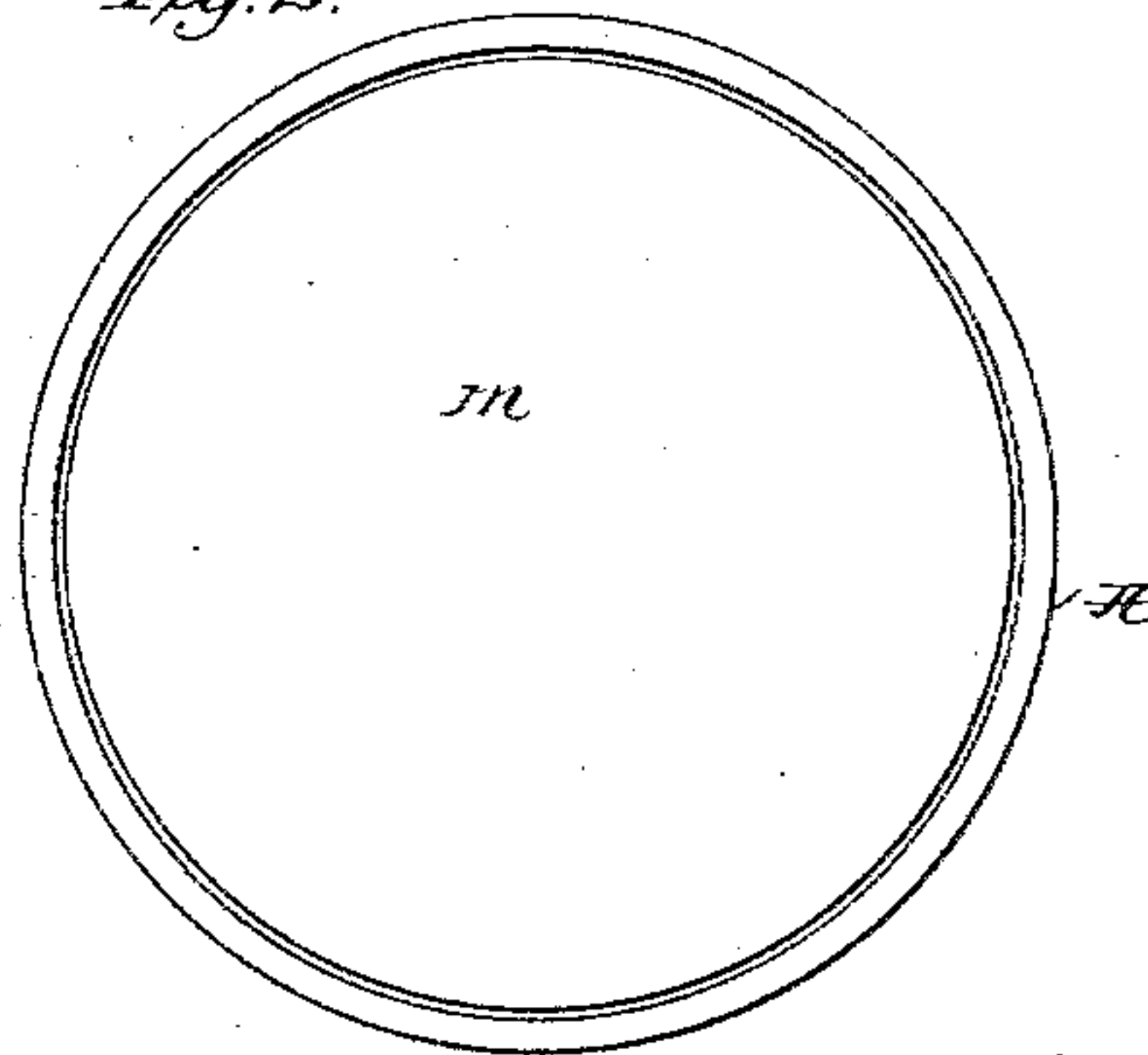


Fig. 3.

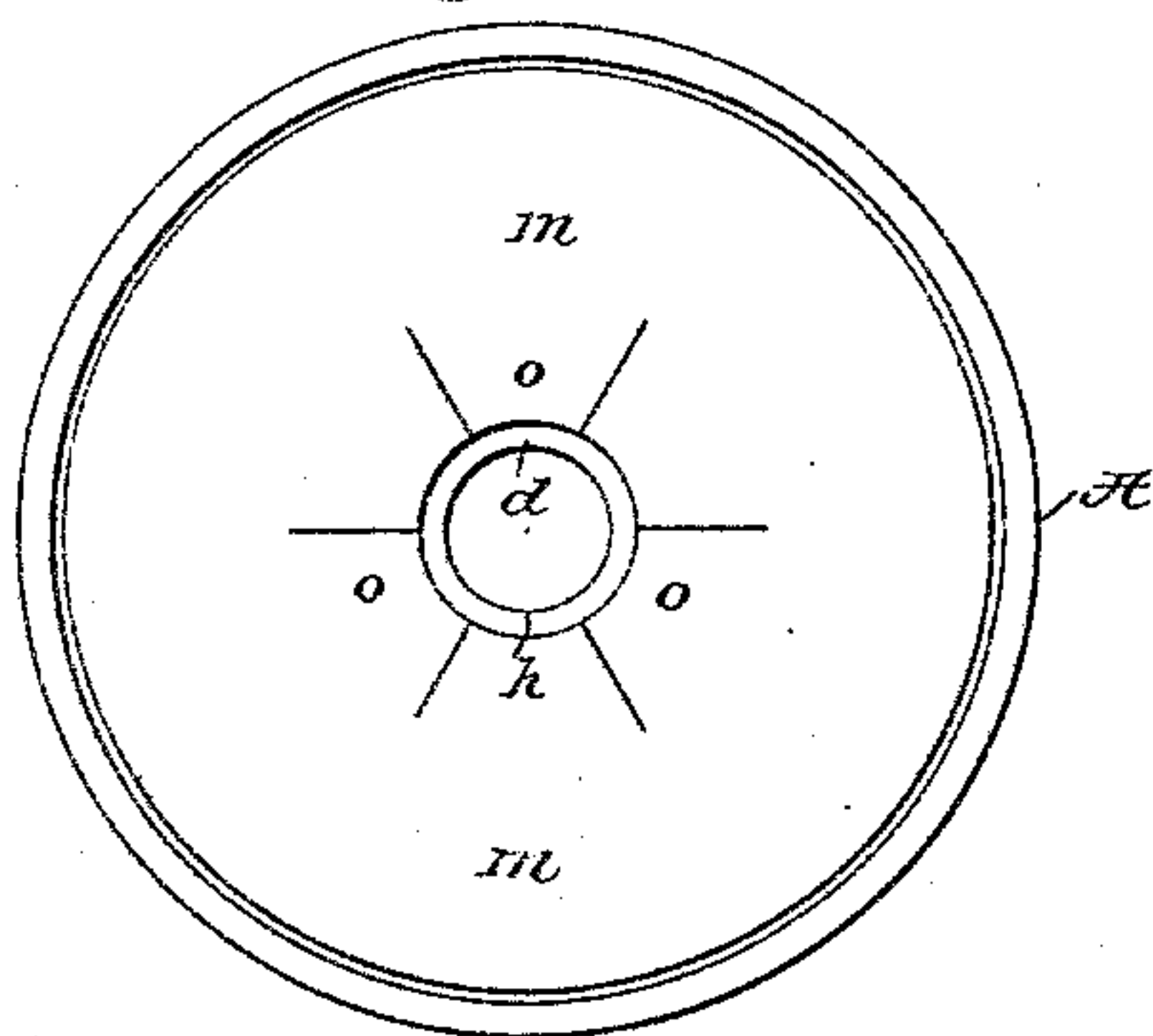


Fig. 4.

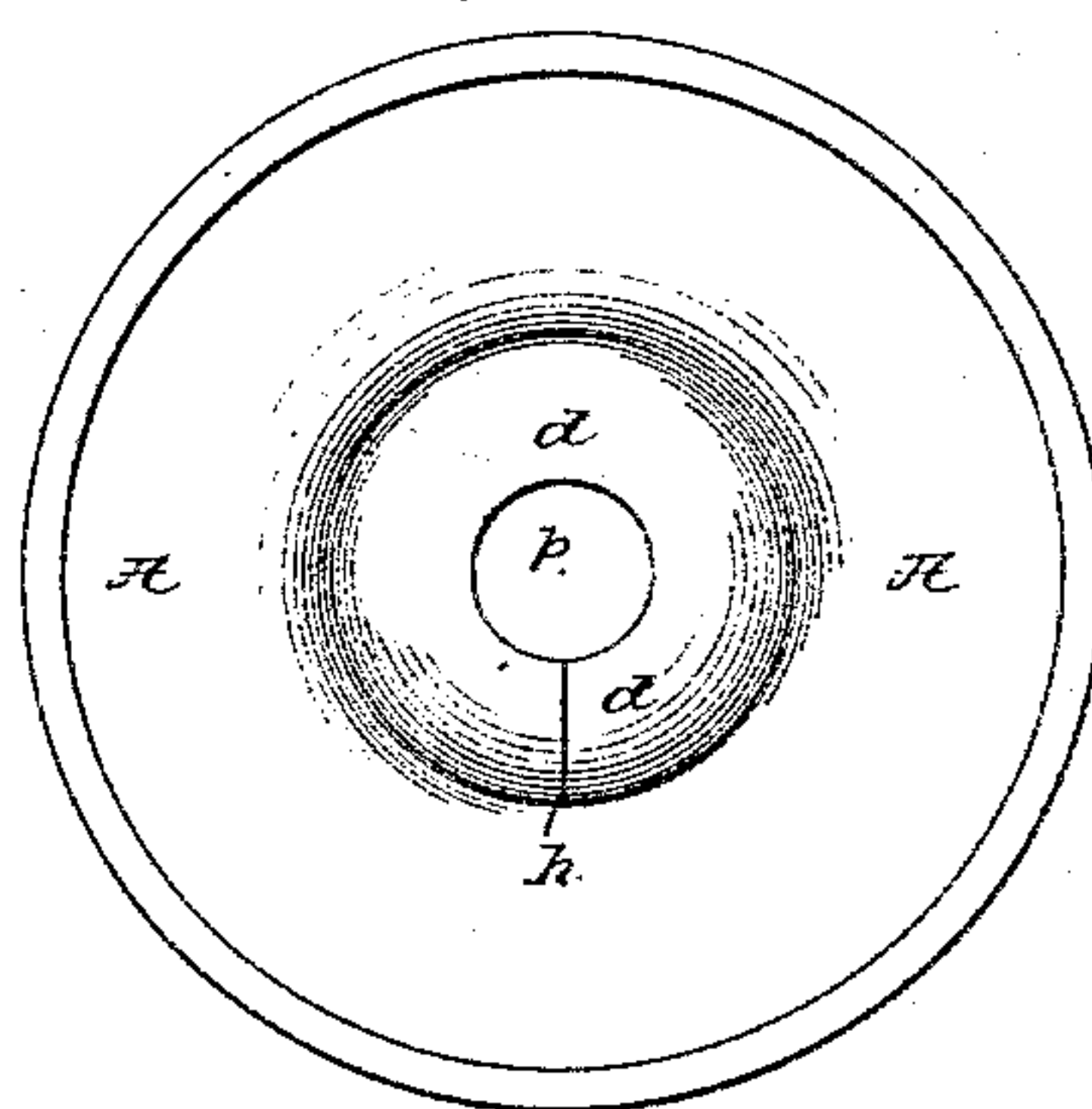


Fig. 5.

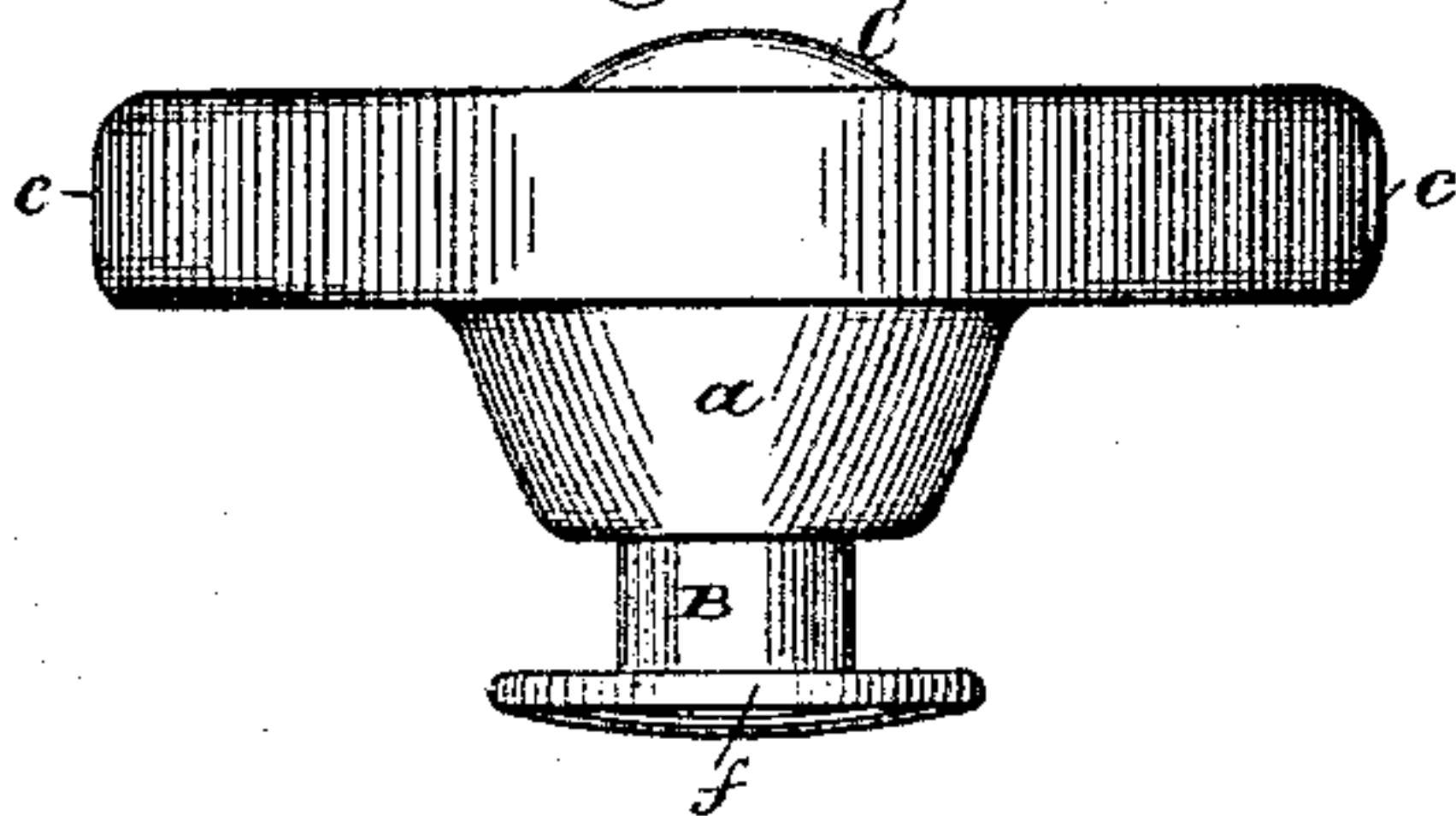


Fig. 6.

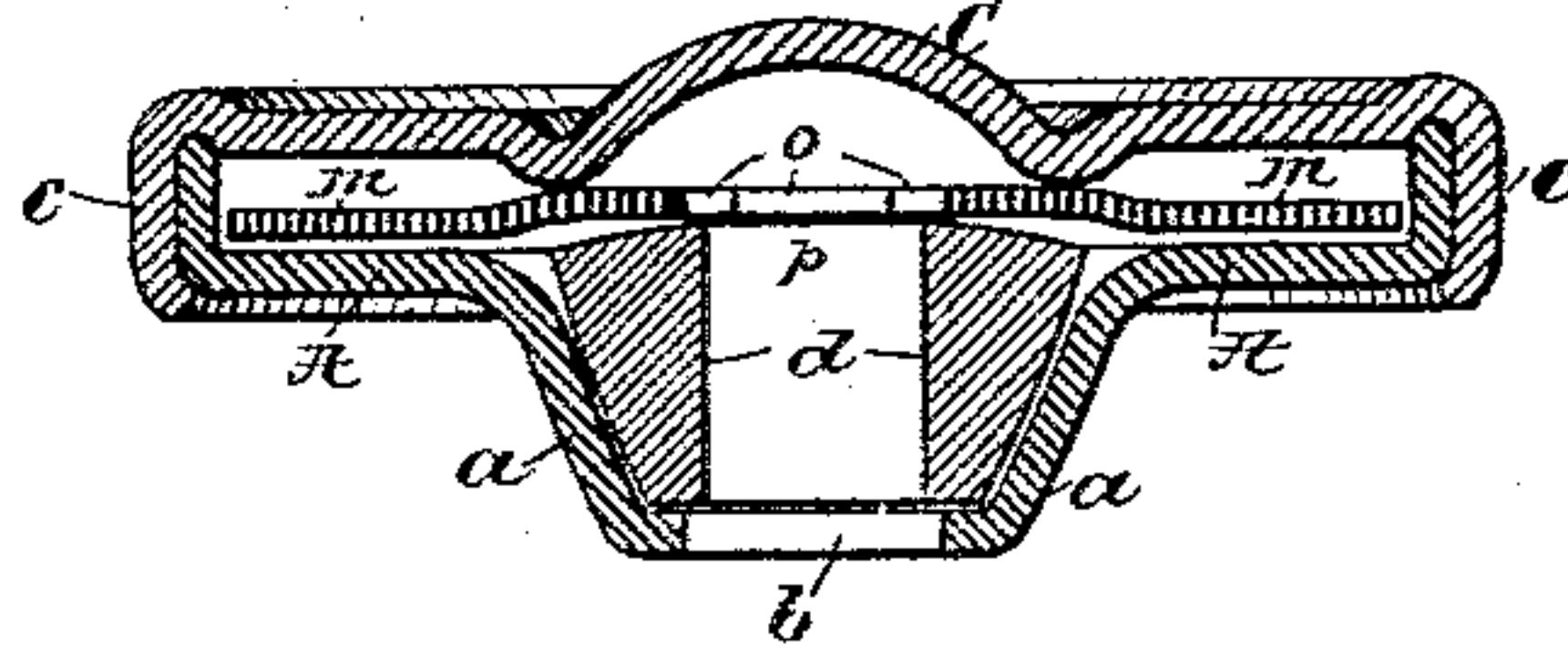


Fig. 7.

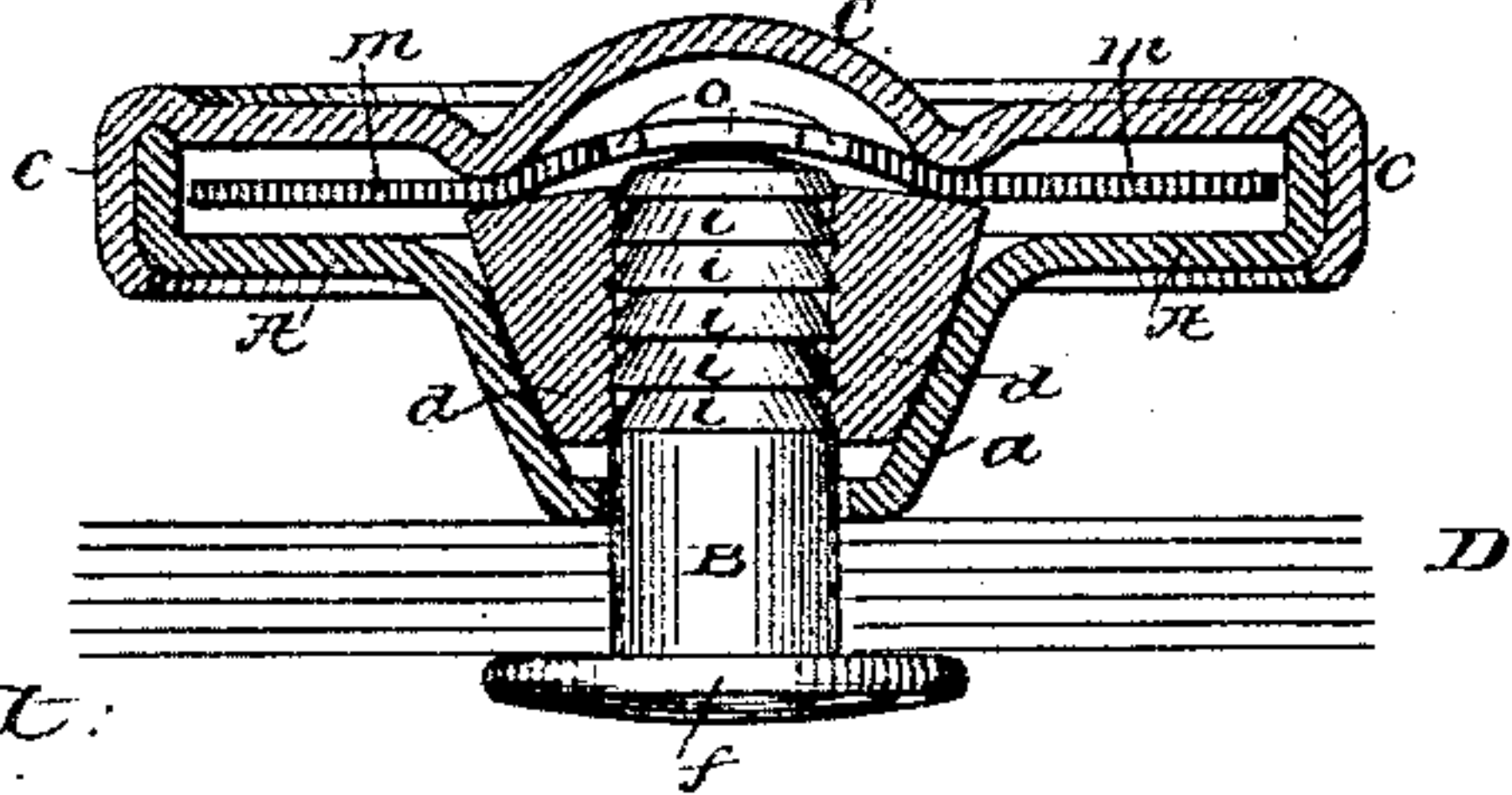
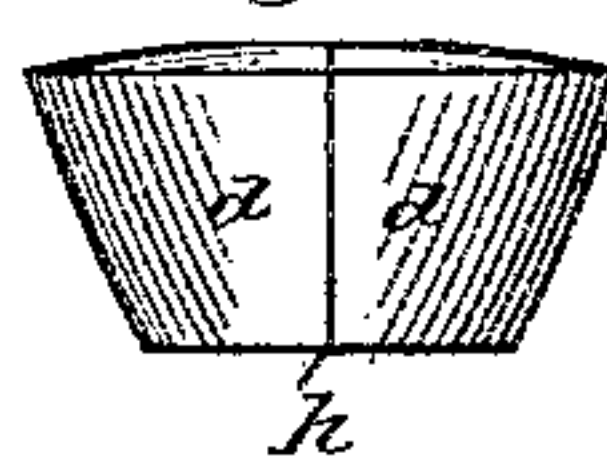


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH P. NOYES, OF BINGHAMTON, NEW YORK, ASSIGNOR TO JOSEPH P. NOYES & CO., OF SAME PLACE.

BUTTON.

SPECIFICATION forming part of Letters Patent No. 323,359, dated July 28, 1885.

Application filed May 14, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. NOYES, a citizen of the United States, residing at Binghamton, county of Broome, and State of New York, have invented certain new and useful Improvements in Buttons, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates generally to that class of buttons which are adapted to be fastened to the garment by means of a metallic pin or shank, which passes through the fabric and enters the head or body of the button, as distinguished from those which are adapted to be attached by thread passing through the fabric and an eye or eyes in or on the button. In the buttons of this class as commonly constructed the fastening pin or shank has been secured in the head or body either by being clinched or by engaging with holding-jaws with which the head was provided.

The present invention relates, particularly, to this latter class of buttons; and it consists in certain improvements in the means for holding the shank in the head and in certain combinations of said means with other parts, which will now be fully explained and pointed out in connection with the accompanying drawings, in which—

Figure 1 is a plan or top view of the complete button. Fig. 2 is a similar view with the cover removed. Fig. 3 is a like view illustrating a slight modification which will be hereinafter referred to. Fig. 4 is a similar view with the cover and the interior disk removed so as to expose the device for holding the shank in the head. Fig. 5 is a side view of the complete button with the shank inserted in the head. Fig. 6 is a cross-section of the button-head or body before the shank is inserted. Fig. 7 is a like view showing the shank inserted, and Fig. 8 is a side view of the device for holding the shank removed from its seat in the head.

Referring to said figures, it is to be understood that the back A of the head or body of the button is made of metal or other stiff material, and is of substantially the usual form. It is provided at its center with a depression, *a*, in which is seated the device for holding

the shank in the head, and in the bottom of which depression is located the usual opening, *b*, for the reception of the attaching stem or shank B. The top or cover C of the head is made of metal or cloth, or of any of the materials or combinations of materials commonly used for such purposes, and is secured to the back A by means of the inwardly-bent flange *c*, or in any other convenient or suitable manner.

The head or body thus constructed instead of being provided with spring-jaws to engage with the shank B, as in the ordinary constructions, is provided with a holding device, which consists of a longitudinally-perforated cone, *d*, which is seated loosely in the depression *a*, and is so shaped as to conform substantially to the sides of said depression. The central opening, *p*, of the cone *d* is slightly smaller than the diameter of the shank B, but the cone is made of some slightly yielding or elastic material, so that it will spread sufficiently to receive the end of the shank.

There are a great variety of materials of which the cone *d* may be made. I have found that horn, leather, artificial leather, comparatively hard rubber, and many other similar substances answer well for the purpose.

The cone *d* is of such length that a small space is left between its top and the cover C, so that it can be raised slightly from its seat in the depression *a* as the shank B is forced into its central opening.

The cone *d*, may be made solid but in order to facilitate the introduction of the shank B it will preferably be slit upon one side, as shown at *h*, so that it will more readily spread or open when it is raised in its seat, as just stated.

The space between the top of the cone *d* and the cover C is not sufficient to permit the cone to become displaced from its seat after the cover has been placed upon the head. It is preferable, however, that means should be provided by which the cone will be prevented from rattling or shifting its position to any extent until the shank is inserted. For this purpose a plain disk, *m*, may be interposed between the cover C and back A, so as to rest upon the top of the cone *d*, and thus hold it in position in its seat, as shown in Fig. 6. This disk *m* may be made of thin pasteboard

or of very thin metal, so that when the shank is inserted it will yield and allow the cone *d* to rise in its seat. It may be continuous, as shown in Fig. 2, or it may be of annular form, as shown in Figs. 3, 6, and 7. If made of the annular form, it will preferably be slit so as to provide spring-arms *o*, which rest upon the top of the cone *d*, as shown in Fig. 3.

The shank B will preferably be solid, as shown, but it may be hollow or of tubular form. It is provided upon its outer end with a head, *f*, to prevent it from being drawn through the fabric and upon its inner end with a number of sharp teeth, *i*, preferably cut like the teeth of a ratchet. If the material of which the cone *d* is made is comparatively soft and yielding, so that the teeth *i* of the shank will take hold of it readily, then the sides of its central opening, *p*, may be made smooth, as shown; but if the material of which the cone is made is of a more unyielding nature the sides of its central opening will preferably be made somewhat rough or irregular, so that the teeth of the shank will take hold of it more readily. The teeth *i* of the shank B will preferably be made of the ratchet form shown; but this form of teeth may be varied without departing from the invention. In some cases the teeth may be made in the form of the threads of a screw, except that they will be parallel instead of in a spiral form.

The manner of applying the button thus constructed is as follows: The shank B will be passed through the fabric D, as shown in Fig. 7, and its end inserted through the opening *b* and into the end of the opening *p* in the cone *d*. As the end of the shank is then forced farther inward, it will raise the cone *d* from its seat in the depression *a* until it is arrested by the top or cover C, the disk *m*, if the button-head is provided with the disk, yielding sufficiently to permit this. As the cone *d* is thus raised it will occupy a wider portion of the depression *a*, so that as the shank B is forced into the opening *p* the cone can spread or open slightly to receive the shank, and this will continue until the shank

has been forced inward to the proper position, as shown in Fig. 7. After the shank has been forced inward to this position, if any attempt is made to withdraw it the yielding or elastic nature of the material of which the cone *d* is composed will cause the teeth *i* to engage with and take into the sides of the opening *p*, so that the cone will wedge in between the shank and the sides of the depression *a*, and thus hold the shank firmly in the head. The elasticity of the disk *m* or the arms *o*, if the head is provided with the disk, will also tend to force the cone downward, and thus aid in causing it to wedge in between the shank and the sides of the depression *a*.

What I claim is—

1. A button head or body provided with the perforated conical-shaped holding device *d*, made of yielding or elastic material, substantially as described. 65
2. A button head or body provided with the perforated conical-shaped holding device *d*, made of yielding or elastic material, and the disk *m*, substantially as described. 70
3. A button head or body provided with the depression *a*, in which is seated the perforated conical-shaped holding device *d*, made of yielding or elastic material, substantially as described. 75
4. A button head or body provided with the depression *a*, in which is seated the perforated and slit conical-shaped holding device *d*, made of yielding or elastic material, substantially as described. 80
5. The combination, with the head or body having the depression *a* and the conical-shaped holding device *d*, made of yielding or elastic material, of the toothed shank B, substantially as described. 85

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

JOSEPH P. NOYES.

Witnesses:

ADA L. PINE,
NERI PINE.