

(No Model.)

E. P. WHITNEY.  
BUTTON AND FASTENING.

No. 338,377.

Patented Mar. 23, 1886.

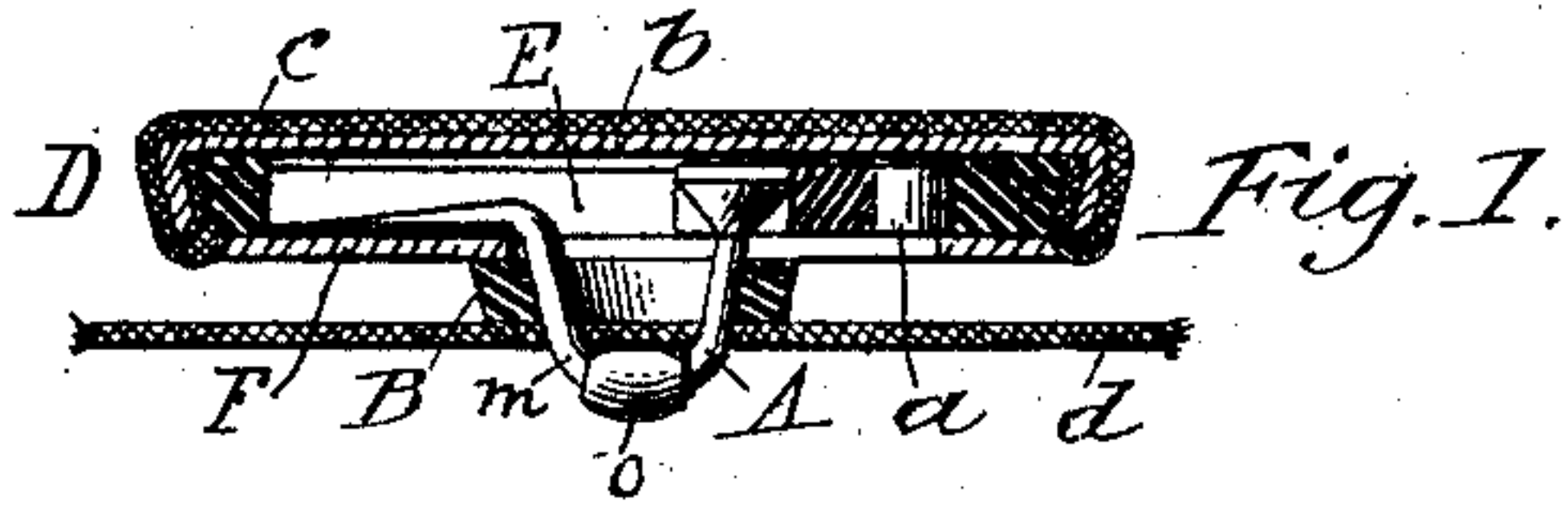


Fig. 2.

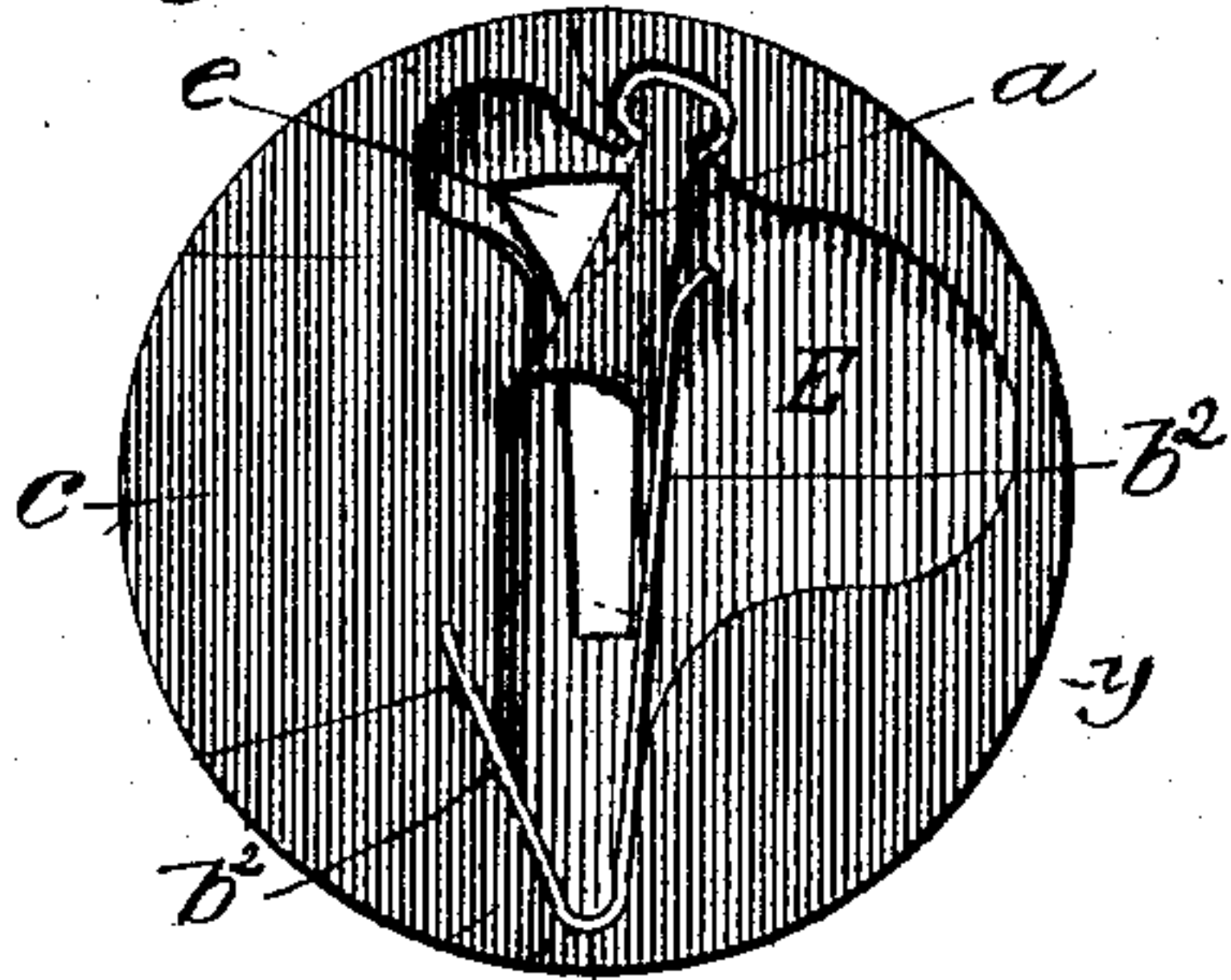


Fig. 6.

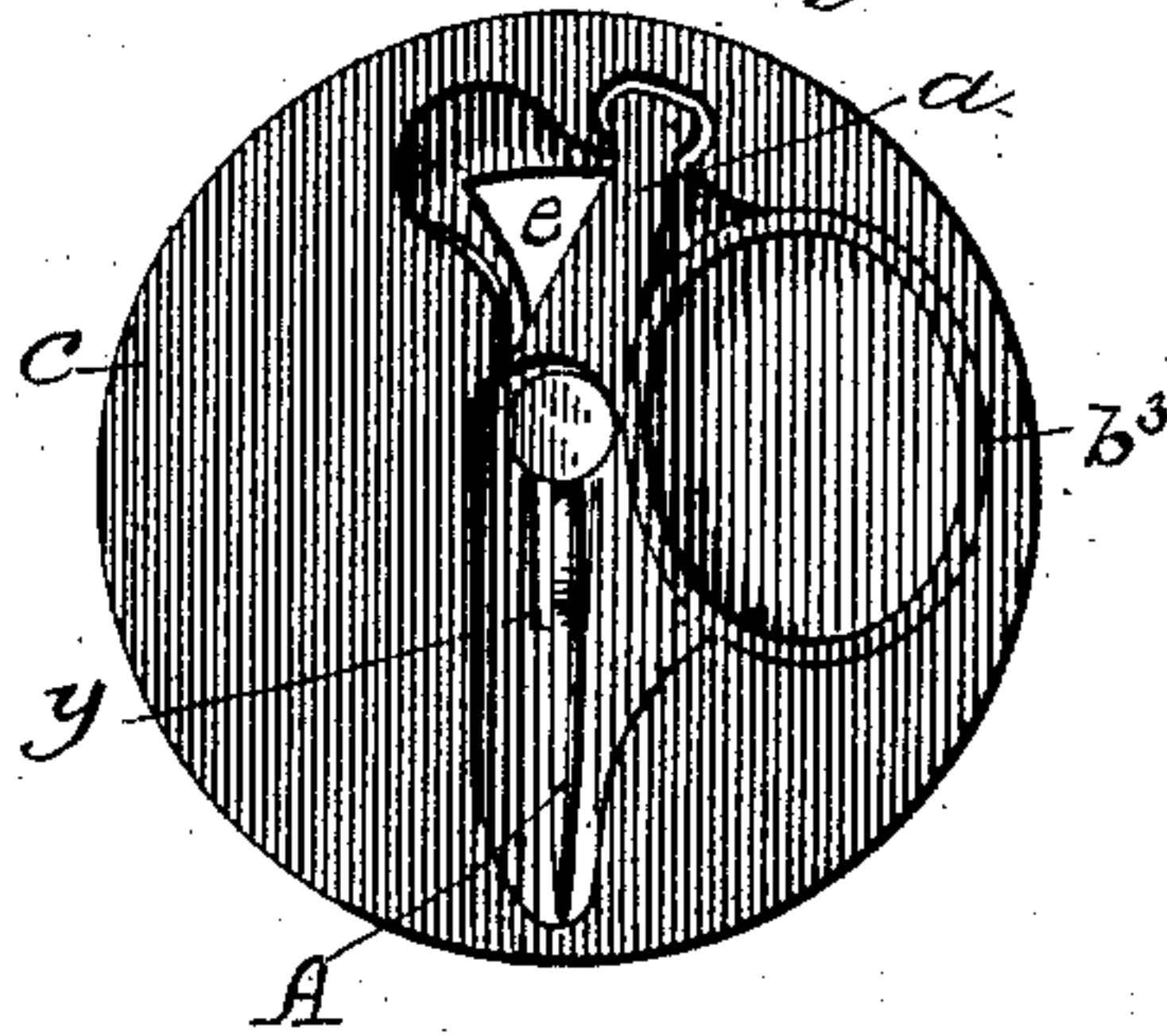


Fig. 3.

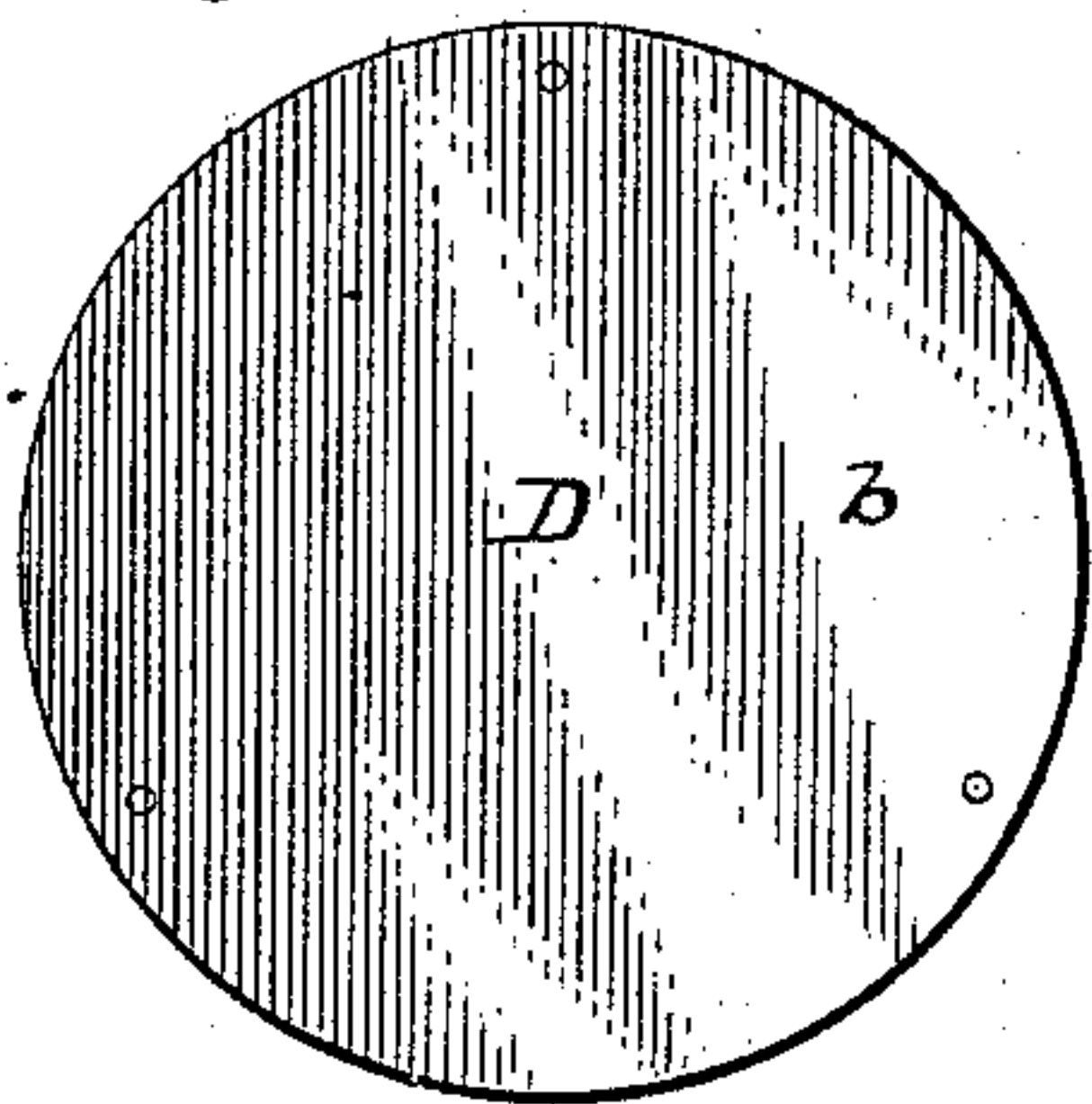


Fig. 7.

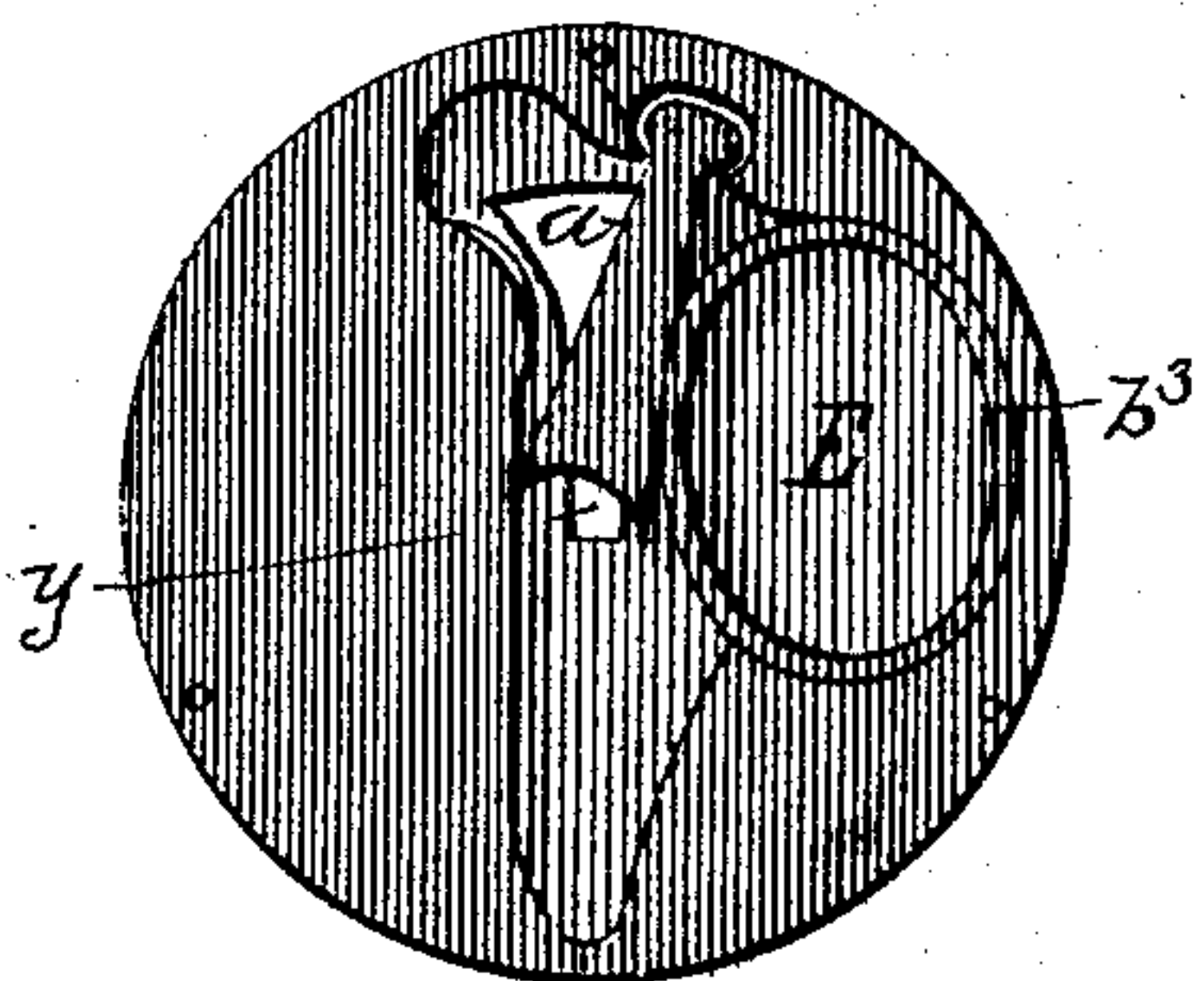


Fig. 4.

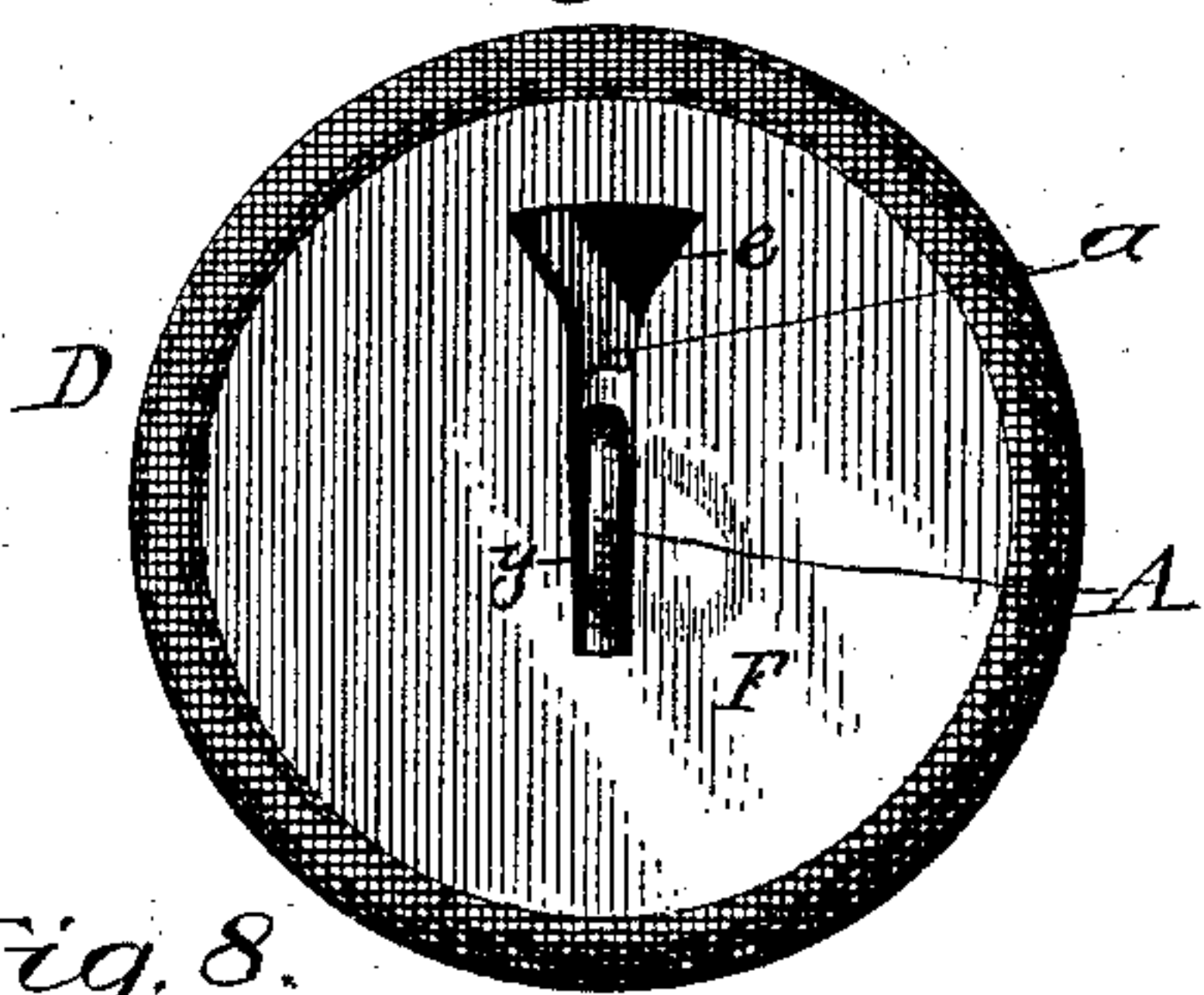


Fig. 10.

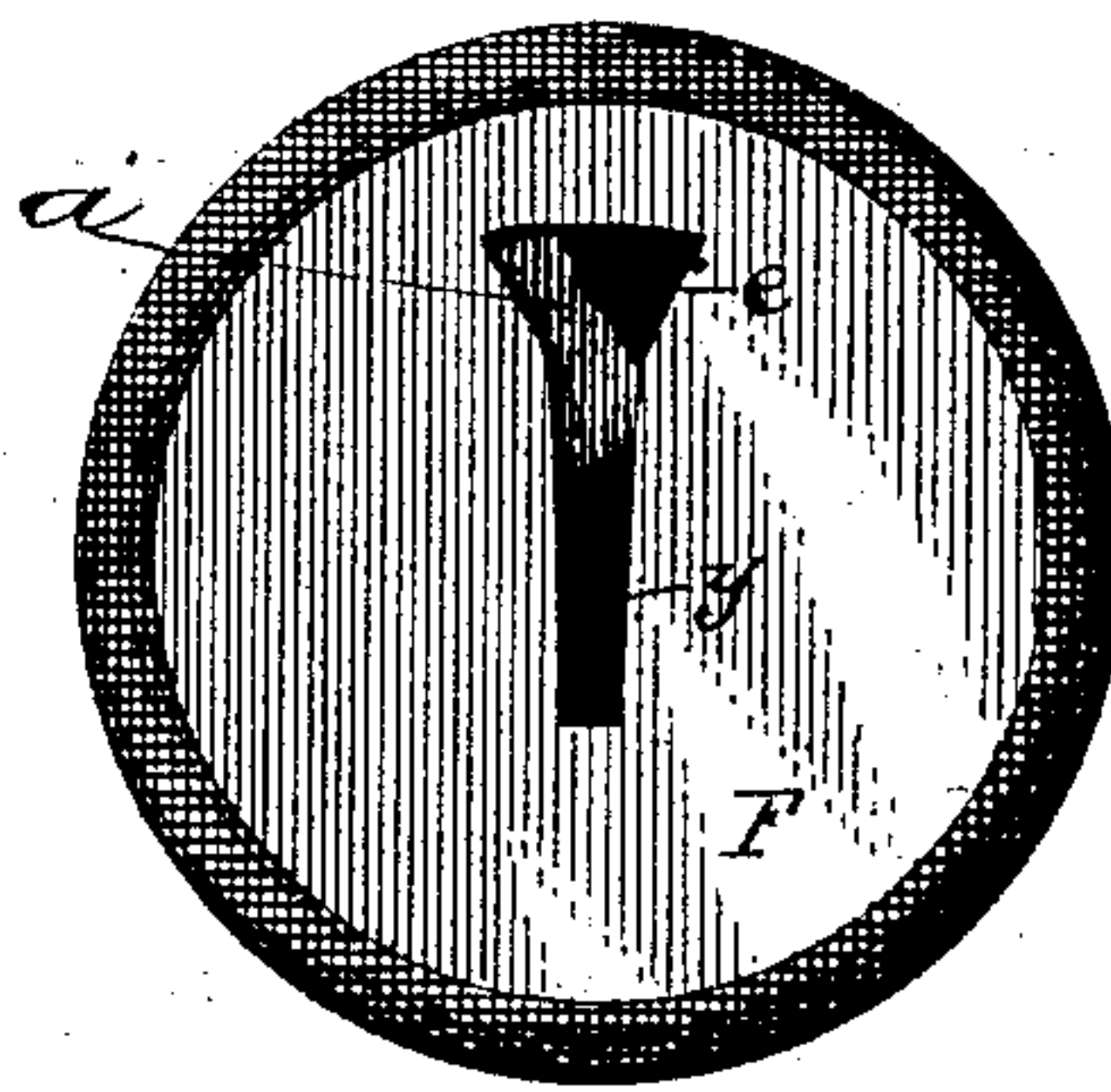


Fig. 8.

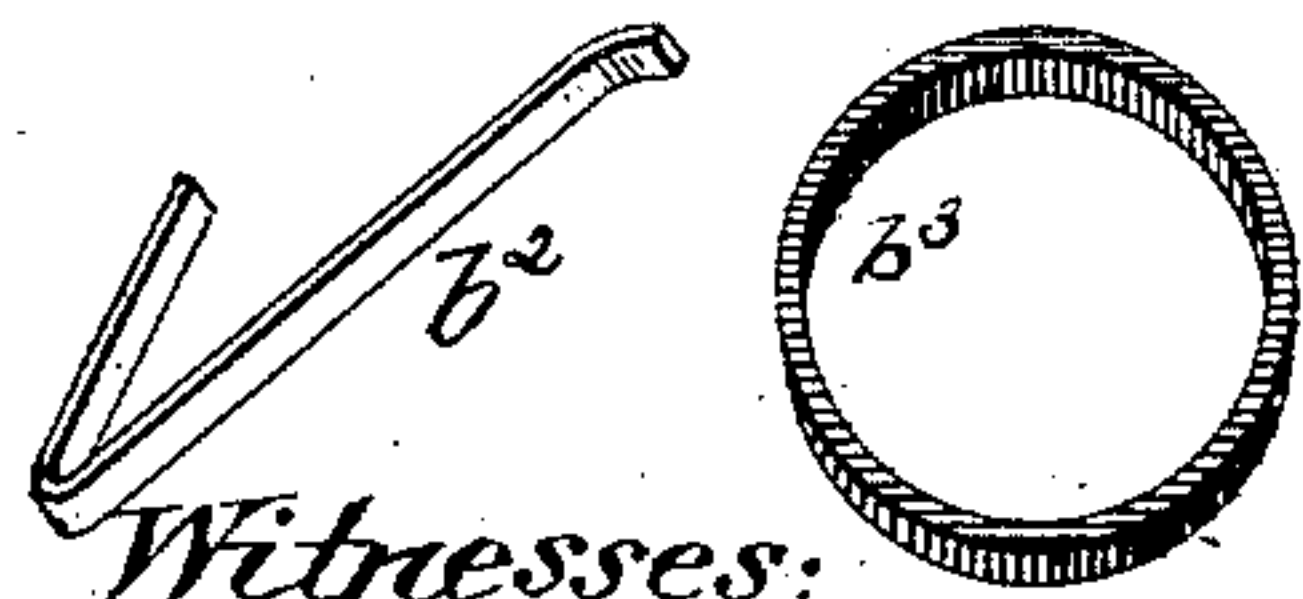


Fig. 9.

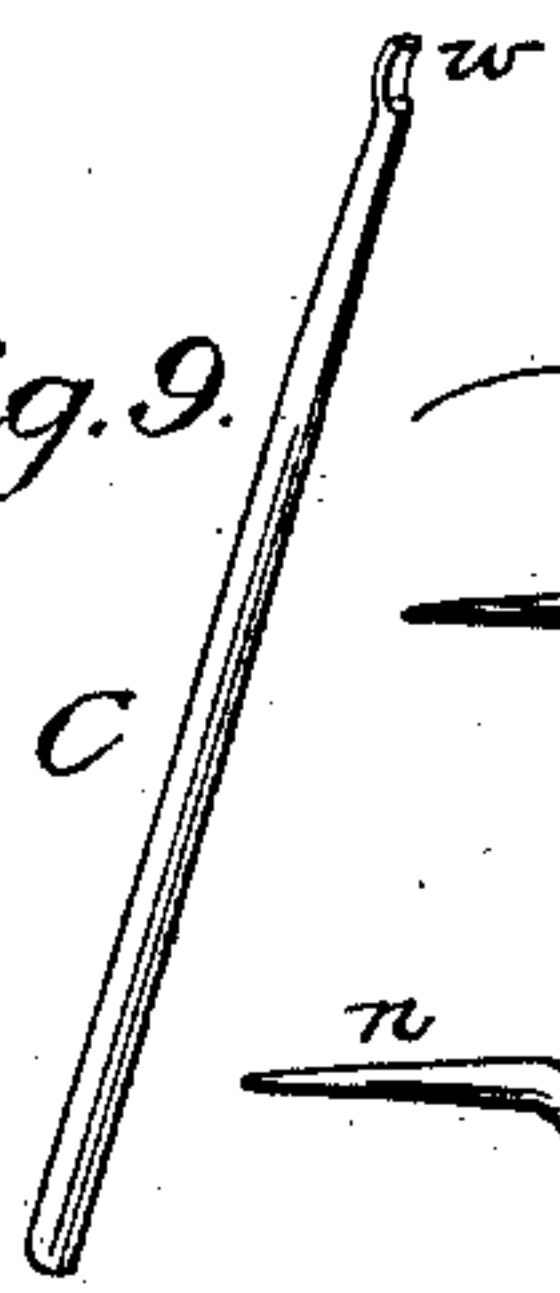


Fig. 11.

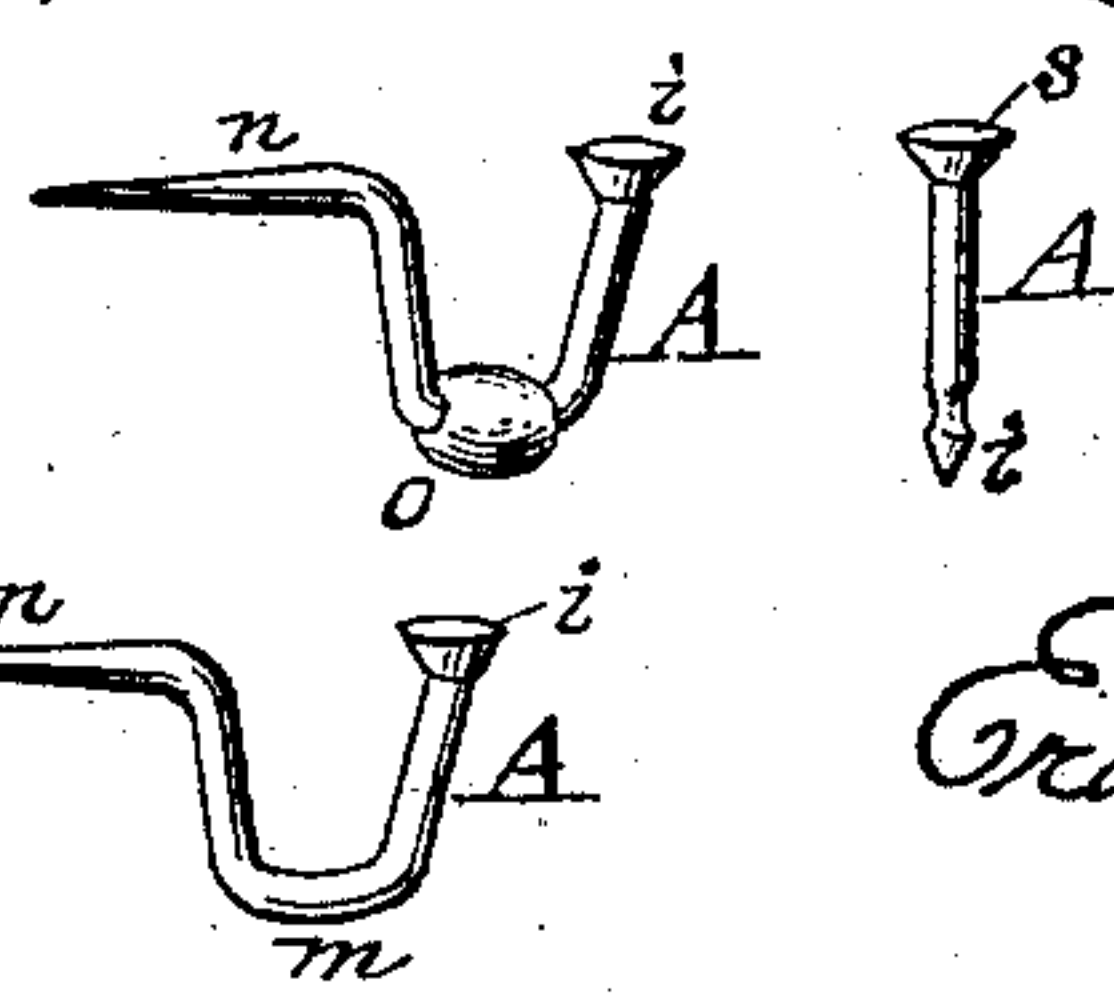
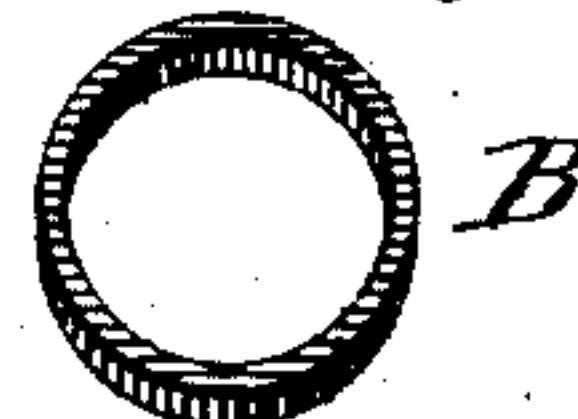


Fig. 12.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## BUTTON AND FASTENING.

SPECIFICATION forming part of Letters Patent No. 338,377, dated March 23, 1886.

Application filed May 14, 1885. Serial No. 165,536. (No model.)

*To all whom it may concern:*

Be it known that I, ERASTUS P. WHITNEY, of the city, county, and State of New York, have invented a new and Improved Button and Fastening therefor; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to that class of buttons wherein the button-head is detachable from the shank or shank-eye; and the object of the invention is to provide a detachable shank that may be readily passed through the fabric without cutting or injuring the same, and then be readily and securely locked into the button-head.

In the accompanying drawings, Figure 1 is a central vertical section of a button and fastening constructed according to my invention, the view showing the same secured to a fabric. Fig. 2 is a plan view of the button-head with the top or cap removed. Fig. 3 is a plan view of the button with the cap in place. Fig. 4 is a bottom view of the button, showing the shank connected thereto. Fig. 5 is a detached view of the shank-securing latch. Figs. 6 and 7 are views similar to Fig. 2, illustrating modifications. Fig. 8 shows detached views of the latch-springs shown in Figs. 2, 6, and 7. Fig. 9 is a view of the key used to detach the shank from the button-head. Fig. 10 is a bottom view of the button-head, the shank being removed. Fig. 11 shows different forms of the shank, and Fig. 12 is a detached view of a protecting-ring.

The button-head D may be of any desired shape or style, and is provided with an interior cavity, E, (best shown in Fig. 2,) in which the shank A is secured. The bottom F of the button-head is provided with a slot, *y*, Fig. 2, which communicates with the interior cavity E. The slot *y* is narrow and of the same width throughout the greater portion of its length, but is formed at one end with an enlargement, *e*. The shank A is composed of a piece of wire having an enlarged head, *i*, a downwardly-extending loop or eye, *m*, and a long horizontal point, *n*, in the same plane with the head *i*. The sharp point *n* of the shank is first passed through the cloth *d*, so that a sufficient portion of the cloth will be held in the loop or

eye *m*, to hold the button securely thereto. The button-head D is then connected to the shank by inserting the point *n* of the shank through the slot *y* into the cavity E, the enlarged head *i* of the shank being inserted into the cavity through the triangular enlargement *e* of the slot. When the shank is thus inserted, it is moved along the slot until the loop portion *m* reaches the end of the slot. When in this position, the head *i* of the shank is beyond the enlargement *e* of the slot, and, being too large to pull through the body of the slot, is then retained in the cavity by engagement with the margins of said slot. At the same time the point of the shank is inclosed in the cavity above the bottom F, and thus the button-head is held to the shank. The slot in the bottom plate is so placed that when the shank is slid into proper position in the cavity the loop *m* will be located at the center of the button-head.

To retain the shank securely within the button-cavity and to prevent its detachment therefrom a locking device is provided. This consists of a latch, *a*, which is pivoted within the cavity in such manner that it may swing over a portion of the slot *e y* to cover the same. When the shank is in position and the latch swung over the slot, the head *i* of the shank rests against the free end of the latch. The shank is thus prevented, while the latch is in position over the slot, from being moved backward toward the enlargement *e* of the slot, and is thus retained in the button-cavity. The latch is normally held in position over the slot by a light metal spring, *b*<sup>2</sup>, arranged within the cavity, as shown in Fig. 2. The latch is held resting across the slot by the spring, and when the shank is inserted the engagement of its head with the latch swings the latch out of the way, and when the shank is entirely inserted in the slot the latch is returned to its normal position by the spring. Owing to its concaved free end and slight diagonal position across the slot, any backward pressure of the shank exerts a tendency to swing the latch still further across the slot; but further movement in that direction is prevented by the free end of the latch engaging with the wall of the cavity, thus effecting a stop across the slot.

The button-head itself is, as shown, composed of a body portion, *c*, in which the cavity



E, of suitable size and shape to fulfill its functions, is cut, a top or cap plate, *b*, and a bottom plate, *F*, the three parts being suitably riveted together; but preferably the body portion and  
5 bottom plate are in one piece.

In order to protect the fabric *d* from being torn, and at the same time permit the eye or loop *m* of the shank an easy rocking or turning movement, a small rubber sphere or ball,  
10 *o*, having a perforation extending therethrough is placed beneath the fabric, and through its perforation the shank-loop is passed before the shank is secured to the button-head. This ball is held on the shank-loop beneath the  
15 fabric, and forms a bearing on which the shank may turn to accommodate the button to different positions on its axis in the fabric.

To protect the button-hole from abrasion by the metallic shank, a second rubber ring,  
20 *B*, is stretched over the button-head and surrounds the shank between the fabric and button-head.

Instead of a ribbon-spring, as shown in Fig. 2, a ring-like spring, *b*<sup>3</sup>, of rubber or suitable  
25 material, may be used to hold the latch in position across the slot, as shown in Fig. 6.

In Fig. 7 is shown a modified form of button-head arranged to receive the modified shank, *A'*, shown in Fig. 11. This shank is  
30 provided with a broad base, *s*, which is held beneath the cloth, and with a pointed head, *i*, by which it is secured to the button-head. In this case the slot *y* is made shorter, reaching just barely beyond the center of the bottom,  
35 and narrowed to embrace the contracted neck of the shank, and the latch *a* is made longer, so as to leave just room enough between its free end and the narrow end of the slot to confine the pointed head *i* and prevent its moving  
40 back toward the enlarged end of the slot. In other respects the button in this figure is similar to that shown in Fig. 6.

To detach the shank from the button-head, a tool, *C*, is used. This consists of a small rod  
45 having a hooked end, *w*, which is inserted in that portion of the enlargement *e* of slot *y* not covered by the latch, and pushes the latch back, so as to enable the shank to be moved backward through the slot, and thus be re-  
50 moved.

I claim as my invention--

1. A button-head having an interior cavity and a slot in its bottom communicating with said cavity, in combination with a detachable shank which is held in said cavity through  
55 said slot, and a spring-actuated locking-latch within said cavity, which stands normally across said slot, is displaced by the insertion of the shank, and automatically resumes its normal position across the slot when the shank  
60 is inserted, whereby said shank is retained in said cavity, substantially as set forth.

2. A button-head provided with an interior cavity and with a slot in its bottom communicating with said cavity, in combination with  
65 a shank having an eye or loop, whereby it is secured to the fabric, an enlarged head and elongated point, which head and point are inserted in said cavity through said slot and take over the inner margin of said slot, and means  
70 for locking said shank in said button-head, substantially as set forth.

3. A button-head provided with an interior cavity and with a slot in its bottom communicating with said cavity, said slot having an enlargement at one end thereof, in combination  
75 with a detachable shank having an elongated point which passes through the body or narrower portion of said slot and is held within the cavity beyond the termination of the slot,  
80 and an enlarged head which is inserted through the enlargement of the slot and engages the margins of the body of the slot, a latch pivoted within said cavity, and a spring which normally holds said latch in the position across  
85 said slot to act as a stop behind the shank, substantially as set forth, whereby the detachment of the shank from the button-head is prevented.

4. A button-head and a shank detachably secured thereto, said shank having an eye or loop whereby it is held to the fabric, in combination with an elastic ball beneath the fabric having a perforation extending therethrough,  
90 and through which perforation said loop is passed before the shank is secured to the button-head, substantially as set forth.

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