(No Model.)

S. E. SMITH.

CHANGEABLE BUTTON.

No. 358,080. Patented Feb. 22, 1887.

Fig. 1.

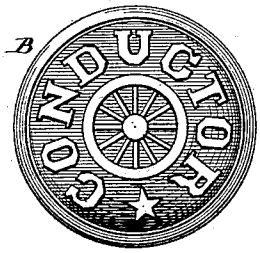


Fig. 2.

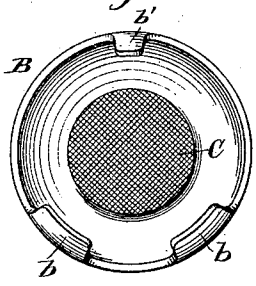


Fig. 3.

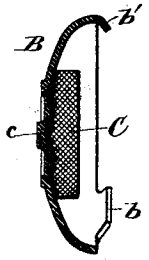


Fig. 4.

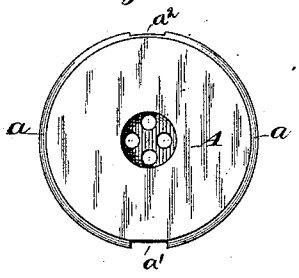


Fig. 5.

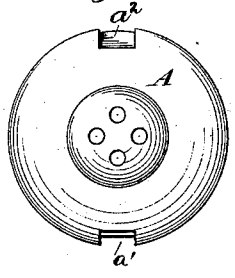


Fig. 6.

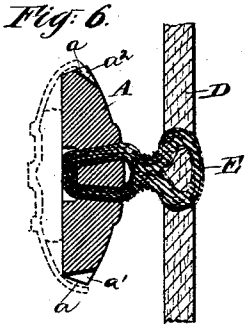


Fig. 7.

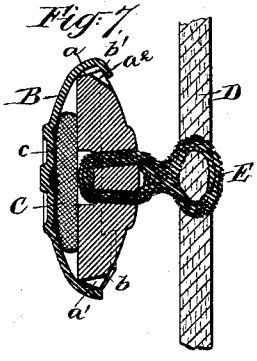
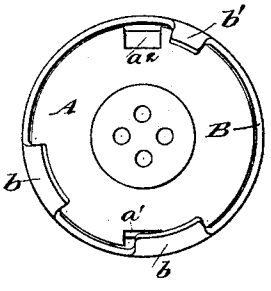


Fig. 8.



Witnesses:
Charles R. Searle,
M. F. Boyle.

Inventor:
Samuel E. Smith
by his attorney
Thomas Drew Stetson

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL ELISHA SMITH, OF BROOKLYN, NEW YORK.

CHANGEABLE BUTTON.

SPECIFICATION forming part of Letters Patent No. 358,080, dated February 22, 1887.

Application filed December 11, 1886. Serial No. 221,287. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ELISHA SMITH, of Brooklyn, Kings county, in the State of New York, have invented a certain new and useful Improvement in Changeable Buttons, of which the following is a specification.

The improvement pertains to that class of buttons in which a covering shell of brass or other suitable material is applied removably to a body, which latter is permanently attached to the garment. When the body is used without the covering, it may appear as part of an ordinary citizen's dress. When the removable shell is applied, it may appear as part of a military, police, fire-department, railroad, steamship, or other uniform.

In some of the most approved forms the shell is allowed to extend backward at one side, and is formed inward at the back, so as to hook strongly upon the body of the button on one side, and the opposite side of the shell is formed with a comparatively narrow locking-arm, which correspondingly reaches backward to engage behind the button, the body of the button being formed with a notch corresponding in width to the locking-arm, which allows the arm to pass—that is to say, when the shell is in one position it may be applied or removed by a tilting motion traversing the locking-arm of the shell backward or forward through the notch in the button. When it has been thus applied, the locking is effected by partially turning the shell upon the button. This brings the locking-arm out of coincidence with the notch, and the shell remains strongly attached so long as this condition obtains. When it is to be removed, the shell is turned again into the position to make the arm coincide with the notch, and then that edge of the shell being pulled off the other and broader hook of the shell is easily disengaged. Such buttons are open to the objection that they are liable, either at first or after a little use, to have the shell turned too easily on the body. Furthermore, the notch as heretofore constructed is unsightly.

I have discovered that by beveling the edge of the body so that the diameter at the face shall be less than the diameter at the back I can produce a sufficient notch in the beveled portion alone. The face is flat, or nearly so, and may be circular. The notch in the beveled edge is not conspicuous, because the sharply-defined edge of the circular face produces so marked an impression on the eye.

I have discovered that by cementing or otherwise securing a piece of felt or other elastic material in the center of the back of the shell I can insure a constant tension on the hooks, which aids greatly to keep the shell in the locked condition on the button until the parts are intentionally pressed together to allow the shell to be turned into the position for disengaging.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a front view of the button complete in the condition for serving as part of a uniform. Fig. 2 is an inside or rear view of the shell and the elastic material detached from the other parts. Fig. 3 is a central vertical section of the parts shown in Fig. 2. Fig. 4 is a face view of the button in the condition for serving as part of a citizen's dress. In this figure the shell has been removed and what I term the "body" is alone serving as the entire button. Fig. 5 is a back view of the same. Fig. 6 is a central vertical section of the same. The position of the shell and felt, when these parts are applied and locked, is indicated in dotted lines. Fig. 7 is a section showing the button complete, with the shell and the body in the relation which they will assume when pressed together by the finger and thumb to compress the felt and allow the shell to be turned on the body. Fig. 8 is a rear view of the body and shell with the shell in the act of being turned into or from the locked position.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A is the body of the button proper, of hard rubber or other suitable material, and *a* is the beveled edge thereof. The front face is flat and circular. The button is of a style to present a tasty appearance corresponding with the prevailing fashion at the time for buttons of citizens' dress. A notch, *a'*, is made at one point in the beveled portion of the edge.

B is a shell, of brass or other suitable material, preferably convex or dishing, as shown, and stamped or otherwise provided with decorative devices or distinguishing symbols or

letters, according to the military, naval, ferry-company, telegraph, or other service for which it is designed. Two portions of the edge are extended backward and bent inward to hook upon a considerable portion of the edge of the button A. I will refer to these as together forming a single broad hook, *b*. The opposite edge is formed with a narrow locking-arm, *b'*, which extends rearward, and is formed inward, as shown. The width of this arm is a little less than that of the notch *a'*.

C is a circular piece of felt secured in the center of the back face of the shell by cementing with fish-glue *c*, or by other reliable fastening. When the shell is applied on the button, this felt C is pressed against the center of the face and develops a constant force, pressing the shell B forward.

D represents a portion of the garment.

E represents ordinary fastening means, as strong threads, engaging the button A therewith.

When the shells are not used, the garment is part of an ordinary citizen's dress. To change it into the proper uniform, the shells are applied successively to the several buttons, first engaging the side of the button farthest from the notch *a'* by the hook *b*. Then, pressing the entire shell against the button, the locking-arm *b'* is moved into the notch *a'* until the felt C offers some resistance. Now a strong pressure of the finger and thumb urging the parts together compresses the felt and carries the locking-hook *b'* quite through the notch *a'*. Holding the parts thus compressed together, the shell is turned partially around and liberated. In order to hold the shell against being turned by slight accidental forces, I provide a slight recess, a^2, in the back face of A, in the position shown. So soon as the shell has been turned so as to bring the locking-arm *b'* to the recess the elastic force of the felt C causes the arm to lock therein. The shell is now strongly engaged with the button proper by means of its hooks *b b'*. It retains this condition for any period desired. The dress now presents the appearance of the proper uniform. A reverse of this operation removes the shells. The buttons are successively operated with the thumb and finger. First, the shell is pressed strongly toward the button to compress the felt and disengage the locking arm *b'* from the recess a^2, then the shell is partially turned. So soon as the arm *b'* coincides with the notch *a'* it will, by the elasticity of the felt, spring outward into the notch, and it is then free to be moved farther in the same direction, after which a slight lateral movement of the shell disengages the other hook, *b*, and the shell is completely liberated and removed.

The sharply-defined edge of the main part A impresses the eye as the periphery of the button, and the notch *a'* in the bevel *a* escapes attention. The effect is that of a complete circular button.

Modifications may be made in the forms and proportions without departing from the principle or sacrificing the advantages of the invention. The elasticity of the felt may be less than described. It is sufficient if it induces a proper amount of friction between the hooks *b b'* and the back of the button A to prevent the turning of the shell on the button except when force is intentionally applied for the purpose.

I prefer to bevel the notch *a'* backward, as shown. This facilitates the disengagement of the shell, when the locking-arm *b'* is brought to the correct position, without involving any difficulties; but the invention will serve with some success with a plain notch not thus beveled.

The notch may be allowed to encroach slightly upon the front of the button without seriously impairing the effect of the button. If a sufficient notch is thus formed, the shell, with the felt C, may serve without the bevel *a* on the button.

The breadth of the hook *b* may be less than shown. I can, as above suggested, use a single continuous hook in place of the two shown. I can use three or more narrow hooks, so long as they are sufficiently close together. The breadth of the locking-hook *b'* on the opposite edge may be greater than represented; but such involves a corresponding increase of the breadth of the notch *a'*. I prefer the form shown.

I have in my experiments used what is known as "Leggett's fish-glue" as the means for securing the elastic material C to the inner face of the shell B. The adherence thus produced is strong and permanent; but I do not confine myself to that means of fastening the felt.

I claim as my invention—

1. In a changeable button, the body A, having the beveled edge *a* with the sharply-defined front boundary and notch *a'*, in combination with the shell B and hooks *b b'*, arranged to serve as herein specified.

2. In a changeable button, the felt C and shell B, with its hooks *b b'*, in combination with each other, and with a button, A, having the notch *a'*, and adapted to serve as herein specified.

3. In a changeable button, the circular body A, having a sharply-defined boundary, beveled edge *a*, having the notch *a'*, and recess a^2, in combination with each other, and with the hooked shell B *b b'* and felt or analogous elastic material C, adapted to serve as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, this 10th day of December, 1886, in the presence of two subscribing witnesses.

SAMUEL ELISHA SMITH.

Witnesses:

CHARLES R. SEARLE,

M. F. BOYLE.