

(No Model.)

G. C. BUGBEE.
HINGED SHOE BUTTON.

No. 381,328.

Patented Apr. 17, 1888.

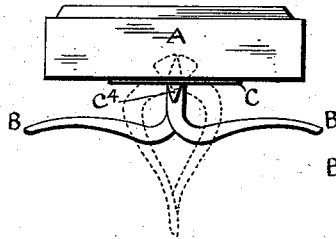


FIG. 1.

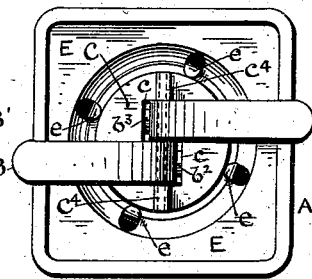


FIG. 2.

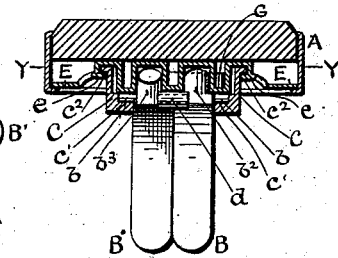


FIG. 3.

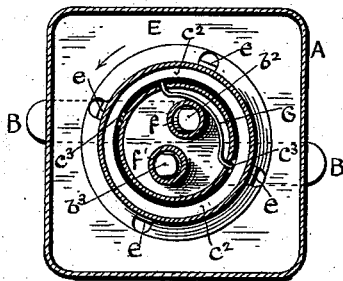


FIG. 4.

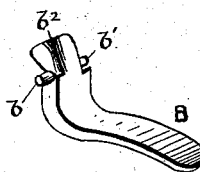


FIG. 6.

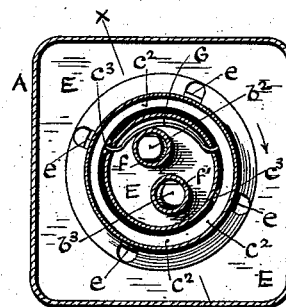


FIG. 5.

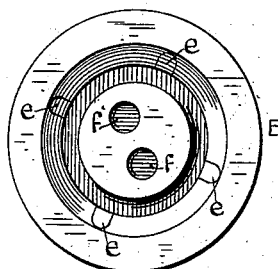


FIG. 8.

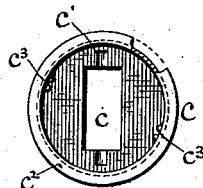


FIG. 7.

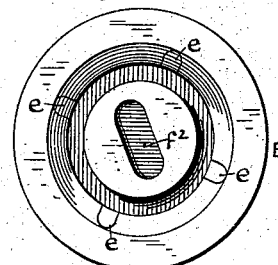


FIG. 9.

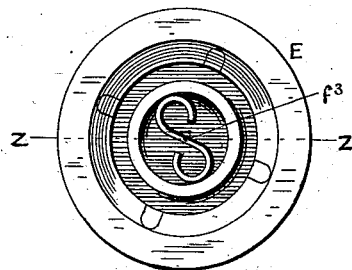


FIG. 10.



FIG. 11.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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HINGED-SHOE BUTTON.

SPECIFICATION forming part of Letters Patent No. 381,328, dated April 17, 1888.

Application filed February 3, 1888. Serial No. 262,872. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. BUGBEE, of North Attleborough, county of Bristol, and State of Massachusetts, have invented a new and useful Improvement in Hinged-Shoe Buttons; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

10 This invention relates to that variety of buttons the back of which is composed of two pivoted arms adapted to be turned into a position substantially parallel with the button-head to hold the article in place, and into a
15 position substantially at right angles to the head to enable the button to be applied and removed.

The improvement consists in certain features of construction hereinafter described and
20 claimed, whereby the arms can be brought into their two positions automatically by turning the button-head.

In the accompanying drawings, Figure 1 represents a side view of a button embodying
25 the invention. Fig. 2 shows a rear view of the same. Fig. 3 represents a view at right angles to that shown in Fig. 1, the head of the button being in section on line *x x*, Fig. 5, and the arms being in position for the button to be applied and removed. Figs. 4 and 5 represent
30 horizontal sections on line *Y Y* of Fig. 3, with the arms in different positions. Fig. 6 shows one of the arms in perspective. Fig. 7 represents a top view of the cup to which the arms are pivoted. Fig. 8 shows a rear view of the lever-plate employed. Figs. 9 and 10 show rear views of modified forms of lever-plates. Fig. 11 represents a transverse section
35 on line *Z Z* of the plate shown in Fig. 10.

40 *A* is the button-head, which may be of any preferred form. *B B'* are the arms which are hinged thereto, and constitute the combined post and shoe of the button. As shown in Figs. 1 and 6, these arms are bent or formed
45 into substantially an *L* shape, and each is furnished with two laterally-projecting pivots, *b b'*. As shown in Fig. 3, the arms are hinged to a cup or plate, *C*, which is perforated at *c*,

to admit them, and is preferably provided with cavities *c' c'*, to receive the two outer
50 pivots, *b b*, of the arms. The bearings of the inner pivots, *b' b'*, are in a sleeve or tube, *d*, Fig. 3, which is slipped over said pivots, this construction enabling the arms to be pivoted
55 in the same diametrical line and to be brought close together laterally.

The cup *C* may be mounted in any desired manner to turn on the head *A*; but as shown
in Fig. 3 it has a flange, *c''*, at its top, which rests upon ears *e*, projecting inwardly from a
60 plate, *E*. These ears are integral with the plate, and are produced by cutting them out of the plate, as shown in Fig. 8, and then binding them inwardly to hold the cup in place,
as shown in Figs. 2 and 3.

65 The plate *E* is rigidly secured to the button-head, and, as shown in the drawings, forms the back plate or lining thereof. It is also brought down to overlie the pivots *b b* on the arms and retain them in the cavities *c'* in the
70 cup *C*. The plate *E* is also arranged and constructed to act as a lever-plate to operate the arms when the button-head is turned. For this purpose it is furnished, as shown in Figs. 3, 4, 5, and 8, with two perforations or cups,
75 *f f'*, which receive the inner ends, *b'' b''*, respectively, of the arms. For locking the arms in position, a spring, *G*, is provided, which is secured within the plate *E*, Figs. 3, 4, and 5,
80 and the cup *C* is furnished upon the inside of its vertical wall or rim with two notches, *c''*, Figs. 4, 5, and 7. The ends of the spring pass outwardly through slots in the plate *E*, and when the arms are parallel with the button-head one end of the spring engages one of the
85 notches *c''*, as shown in Fig. 4, and when the arms are at right angles to the button-head the opposite end of the spring engages the other notch *c''*, as shown in Fig. 5, thus holding the cup *C*, and thereby the arms, in fixed positions
90 relative to the button-head.

Preferably the cup *C* is furnished on its back with two lugs, *c'*, Figs. 1 and 2, which pass into the button-holes and assist the spring in preventing any accidental turning of the button-
95 head after the button has been applied.

The operation of the button is as follows: The arms being in the position shown by dotted lines in Fig. 1 and by full lines in Fig. 3, they are passed into the button-holes. The button-head is then turned (and the button-head pushed toward the cuff during such turning) in the direction of the arrow, Fig. 5, when the lever-plate, by the engagement of its cups *f f'* with the inner ends of the arms, will move the arms into a position parallel with the head, as indicated at Fig. 4, the button-head making about one-eighth of a revolution. To remove the button from the cuff the head is turned in the opposite direction, as indicated by the arrow, Fig. 4, and is pulled away from the cuff, the arms passing out of the same and assuming their former position shown by dotted lines in Fig. 1. In both positions the arms are locked with relation to the button-head by the engagement of the spring *G* with the notches *c'* in the cup *C*, as hereinbefore explained.

Instead of providing each of the arms with the pivots *b b'*, a single pivotal pin may be employed passing through both arms, as indicated by dotted lines in Fig. 2. Instead, also, of providing the plate *E* with two perforations or cups *f f'*, a single perforation or cup, *f''*, Fig. 9, in the plate may be used; or the plate may have an *S*-shaped bar, *f''*, projecting from its rear surface, as shown in Figs. 10 and 11, the hooks of the *S* engaging the inner ends *b' b''* of the arms and controlling their movements in the same manner as already described.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with the button-head, of a cup or plate mounted to rotate thereon, two *L*-shaped arms pivoted in said cup or plate, and a lever-plate, substantially as described,

secured to the button-head and engaging the inner ends of the arms to move them into position when the head is turned, substantially as set forth.

2. The combination, with the button-head, of a cup or plate mounted to rotate thereon, two *L*-shaped arms pivoted to said cup or plate, a lever-plate, substantially as described, secured to the button-head and engaging the inner ends of the arms to move them into position when the head is turned, and a spring for engaging the cup and locking it with relation to the head, substantially as set forth.

3. The combination, with the button-head, of a cup or plate mounted to rotate thereon, two *L*-shaped arms having inner and outer pivots and hinged to said cup, a sleeve, *d*, surrounding and forming a bearing for the inner pivots, and a lever-plate, substantially as described, secured to the button-head and engaging the inner ends of the arms to move them into position when the head is turned, substantially as set forth.

4. The combination, with the button head, of the cup *C*, having a flange, *c'*, and notches *c''*, the arms *B B'*, hinged to the cup, the lever-plate *E*, secured to the button-head, engaging the inner ends of the arms, as described, and having tongues *e*, which are bent under the flange *c'* to hold the cup *C* in place, and the spring *G*, attached to said plate and arranged, as described, to engage the notches *c''* and lock the arms with relation to the button-head, substantially as set forth.

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