

(No Model.)

A. LUNGEN.
PUSH BUTTON.

No. 467,875.

Patented Jan. 26, 1892.

Fig. 1.

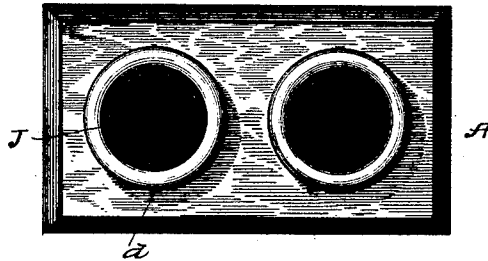


Fig. 2.

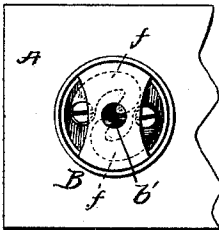


Fig. 3.

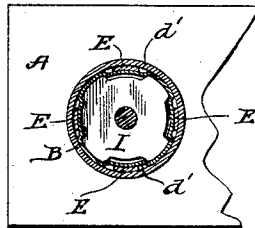


Fig. 4.

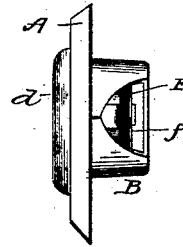
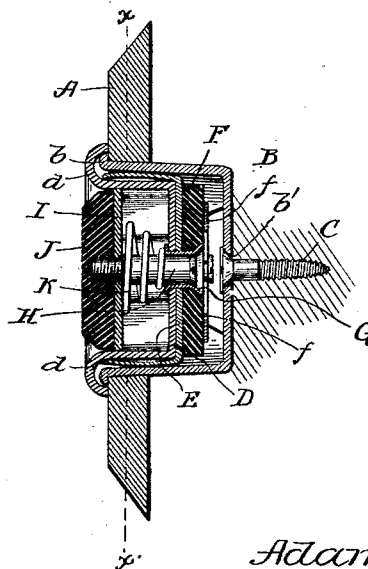


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ADAM LUNGEN, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND ROBERT EDWARDS, OF SAME PLACE.

PUSH-BUTTON.

SPECIFICATION forming part of Letters Patent No. 467,875, dated January 26, 1892.

Application filed March 4, 1891. Serial No. 383,681. (No model.)

To all whom it may concern:

Be it known that I, ADAM LUNGEN, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Push-Buttons for Electric Alarms or Call-Bells, of which the following is a specification.

This invention relates to improvements in push-buttons for electric alarms or call-bells. Heretofore in the construction of push-buttons a front plate has been employed, which fits against a desk or door-frame, attached thereto by means of screws, and provided with holes into which the button and contact-making mechanism are inserted. Two or more screws are always necessary to be employed, which adds to the expense and disfigures the face of the device.

One object of my invention is to provide means whereby this disadvantage is overcome. In carrying out this object I employ, in combination with the front or face plate, a cup-shaped member having an outwardly-extending flange which bears against the front of the face-plate and a screw-hole at its center, whereby the cup, together with the face-plate, may be screwed into its position in the desk, wall, or other place by the use of but a single screw and that where it will be out of sight.

The invention further consists in the means for frictionally securing the button and contact-making mechanism to its seat.

It further consists in means for preventing the twisting or turning of the button, all as will fully appear hereinafter.

In the drawings, Figure 1 is a front view of my device, showing the face-plate and two push-buttons inserted therein. Fig. 2 is a rear view of the same with the fastening-screw removed, and showing the contact-points and the cup-shaped member cut away for the admission of the circuit-wires. Fig. 3 is a sectional view taken on the line *x x* of Fig. 5. Fig. 4 is a side elevation of the same; and Fig. 5 is a vertical central section through the whole device, showing my whole assemblage of elements.

Referring now by letter, A represents the face-plate, which fits against the desk or door frame.

B is a cup-shaped member or shield having the flange *b* at its top, which bears against the front of the face-plate for the purpose of holding the same to its position. This member B is cut away upon its sides, as shown, for the purpose of admitting the circuit-wires. It also has a perforation at *b'*, whereby by means of the screw C the face-plate is held in position.

D is a second cup-shaped member which has the outwardly-curved top *d*, bearing against the front of the face-plate A, and projecting beyond the flange *b* of the shield B. The outer and inner walls of this cup D have longitudinally-extending depressions or grooves in them, as appear at *d' d'*, Fig. 3. In these depressions fit the flat springs E E, which serve a purpose which will appear later.

F is a circular disk of insulating material, to which are secured the contact-points *ff*. The circuit-wires are connected to these by means of the set-screws shown.

The cup D and the disk F each have a hole in their center, and they are secured to one another by means of the eyelet G, the springs E being clamped between the two.

H is a contact-screw, the outward movement of which is resisted by the head bearing against the eyelet G. The outer end of the contact-screw is of smaller diameter than the remaining portion and is provided with the threads. This end passes through the opening in the center of the plate I and screws into the inner side of the push-button proper J. The flange formed by the sudden enlargement of the contact-screw bears against the plate I, and the latter is thereby held closely in contact with the inner side of the button J. This plate I is preferably of thin metal and is of a contour to fit the depressions of the cup D, being thereby prevented from twisting or turning. This button J, being fixed to this said plate, is also prevented from turning. This is one of the main points of my invention, as it has become a desideratum when the button is engraved with a number or name to have the same always held in a vertical position.

K is a coil-spring encircling the contact-screw H, its ends bearing, respectively, against

the plate I and the flange of the eyelet G. This resists the internal pressure of the button and keeps it normally in its outward position. I prefer to make this spring of few
5 coils and of quickly-increasing diameter, so that it may be depressed to a perfectly-flat condition.

The cup-shaped member D, carrying with it the contact-points *f f*, the disk F, springs
10 E E, contact-screw H, plate I, button J, and spring K may be readily withdrawn from and inserted into its seat in the cup B. The springs E bear outwardly against the inner surface of the cup B, and thereby retain the
15 above assemblage of instrumentalities in place. This is an important feature, as it does away with the accurate fitting now required. It is observed that this method of holding the contact devices in their seat is also applica-
20 ble to lamp-sockets. The neck of the lamp or the case of the lamp cut out would correspond to the cup D, and with the addition of the springs the lamp would be held firmly in place.

25 The operation of my device is obvious.

Having thus described my invention, I claim—

1. The combination of contact-making mechanism for push-buttons, face-plate, and means
30 for securing the said plate in place, which consists of the cup-shaped member provided with flanges which bear against the front of the face-plate and a fastening-screw for the latter.

35 2. The combination, with the cup-shaped member D, having grooves or depressions on its inner wall, the springs E on its outer wall, the contact-points secured thereto, and the contact-screw passing through the base of the same, the spring K, and the plate secured to
40 the push-button of a shape to fit the depression of the cup D, of the cup-shaped member or shield B, provided with an outwardly-ex-

tending flange at its top, and the fastening-screw, substantially as described. 45

3. In combination, the cup-shaped member or shell in which the button reciprocates, provided with grooves or depressions in its inner wall, the disk attached to the button, of
50 a shape to fit the grooves or depressions of the shell for preventing a twisting or turning of the button, and means for frictionally securing the same to its seat, substantially as described.

4. The combination of the cup-shaped member D, having depressions in its circumference, carrying with it the contact-making mechanism, and the springs E on the outside thereof and fitting the depressions therein for
60 frictionally securing the latter in place.

5. The combination, with the cup-shaped member D, having grooves or depressions on its inner wall, the springs E on its outer wall, the contact-points secured thereto, and the contact-screw passing through the same, of
65 the spring K and the plate I, secured to the push-button, of a shape to fit the depression of the cup D, substantially as and for the purpose set forth.

6. In combination, the cup-shaped member D, having grooves or depressions on its inner wall, the springs E, the contact-points and contact-screw, the spring K, the plate I, secured to the push-button and of a shape to fit the depression of the cup D, the face-plate A, the
75 cup-shaped member or shells B, having the flange at its top, and the fastening-screw, substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing 80 witnesses.

ADAM LUNGEN.

Witnesses:

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