

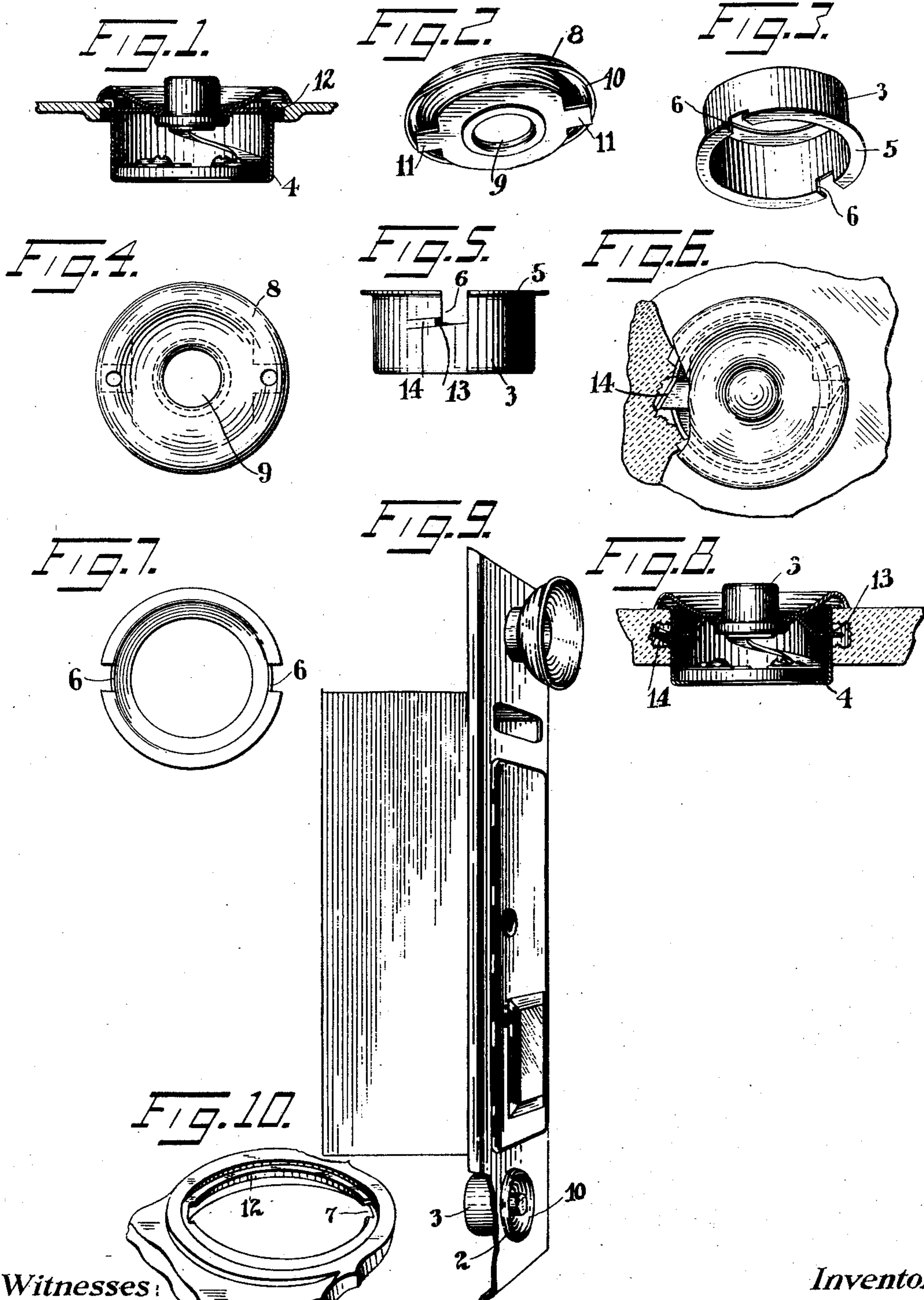
H. WILHELM.

PUSH BUTTON.

APPLICATION FILED NOV. 30, 1907.

906,762.

Patented Dec. 15, 1908



Witnesses:

M. Levy,
H. O. Penney.

Inventor:

Henry Wilhelm,

By his Attorney,

F. H. Richards.

UNITED STATES PATENT OFFICE.

HENRY WILHELM, OF NEW YORK, N. Y.

PUSH-BUTTON.

No. 906,762.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed November 30, 1907. Serial No. 404,614.

To all whom it may concern:

Be it known that I, HENRY WILHELM, a citizen of the United States, residing in New York, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Push-Buttons, of which the following is a specification.

The present improvement relates to push buttons, and particularly to push buttons adapted for use with letter boxes of flats and apartment houses and which can also be used, with very slight changes, as a push button on walls of various structures, the object of the invention being to provide a push button all the parts of which can be readily inserted and removed from the front of the box without the necessity of removing the structure to which the button is applied should it be necessary to replace the same with a new one; in other words, to provide a push button complete in itself, without the necessity of having a board or other support for the fiber back, and which push button can be shipped ready for insertion into position in the letter box or other structure wherein it is to be used and can be inserted into such structure through the front of the opening provided for it therein.

A further object of the invention is the provision of a push button such as that hereinbefore referred to which can also be used, with very slight changes, in holes in walls and can be locked therein after the same is inserted into the opening or hole in the wall provided therefor, by the manipulation of the button, thus doing away with the necessity of attaching the same by means of screws or similar fastening devices.

In the drawings accompanying and forming part of this specification, Figure 1 is a sectional view of this improved push button in position in a letter box or similar structure; Fig. 2 is a perspective view of the cap of such button detached; Fig. 3 is a perspective view of the cup of such button detached; Fig. 4 is a front view of the cap shown in Fig. 2; Fig. 5 is a side view of another form of cup adapted for use in an opening in a wall; Fig. 6 is a front view of the push button when made for use in an opening in the wall, a part thereof being broken away to show the mode of attachment of the button; Fig. 7 is a top view of the cup shown in Fig. 3; Fig. 8 is a view similar to Fig. 1, but showing that form of push button adapted for use in an opening

in a wall or other structure, a portion of the wall being shown; Fig. 9 is a perspective view of a letter box partly broken away and showing this improved push button in position thereon; and Fig. 10 is a rear view of a portion of the front of such box.

Similar characters of reference indicate corresponding parts throughout the different figures of the drawings.

In push buttons as hitherto made various means have been used for holding the fiber backs in position, the more general method being, for instance when the push buttons are to be applied in a series of two, three or five, as in letter boxes in apartment or flat houses, to secure the fiber backs directly on a board which forms the back of the entire set of boxes. This requires that the board be shipped with the boxes and push buttons, and that the board be placed in position before the boxes can be secured thereto. Another way is to fix the fiber backs on posts projecting rearwardly of the boxes. And still another way is to attach to the rear of the boxes means for supporting the fiber backs and to attach the cap of the button by means of threads to the wall of the opening in the letter box. One of the disadvantages of some of these constructions is that it is usually impossible to remove the fiber backs through the openings in the front of the boxes through which the buttons project, so that when it becomes necessary to replace a fiber back or to get at the contact springs thereof the entire box must first be removed in order to make the necessary repairs; while the disadvantage of the other constructions is that the cap and the wall of the opening in the box must both be threaded and the member for supporting the fiber back specially constructed and attached to the letter box at the rear thereof, all of which materially increase the cost of manufacture of devices of this character.

The object of the present invention, therefore, is to provide a push button which can be inserted and removed as a whole from the front of the letter box after the same has been attached to the wall, without the necessity of detaching the letter box and which can be shipped for ready insertion in the letter box without the necessity of shipping them mounted on a board, and which will permit, as hereinbefore stated, the fiber back and the other parts of the push button to be readily reached from the front of the letter box and

can also, by very slight changes, be inserted and locked within an opening in a wall, thus doing away, as hereinbefore stated, with independent fastening means.

5 The letter box, one form of which is shown in Fig. 9, has its plate provided with the usual size of opening 2 for the push button. This improved push button comprises, in the preferred form thereof, a cup 3 of sufficient
10 diameter to be inserted into the opening 2 in the letter box plate, from the front thereof. This cup is provided at its rear with an annular rim 4 of sufficient width to locate the fiber back and hold the same within the cup, and
15 is also furnished at its forward edge with an outwardly extending rim 5 adapted to overlap the edge of the wall surrounding the opening 2 of the letter box and thus maintain the cup in position within such opening. This cup
20 3 is provided with a pair of recesses 6 communicating with its forward edge, and which recesses are of a greater depth than the thickness of the wall of the opening in the front plate of the letter box, such wall being
25 provided with a pair of recesses 7 with which the recesses in the cup are adapted to register. The cap 8, having the usual centrally located opening 9 for the projection of the button, is provided with a rim 10 overlapping
30 the front wall of the letter box plate around the opening, and carries at its rear, attached thereto in any suitable manner, a pair of lugs or locking projections 11, which, when inserted into the recesses 6 of the cup after the
35 same is inserted in position within its opening, project in the rear of the front wall of the letter box plate, this being permitted by the recesses 7 formed in the wall of the opening of the plate, whereby, on turning the cap, the
40 projections 11 will ride up over inclined surfaces 12 formed on the rear of such front plate adjacent to the opening thereof and thus lock the entire structure in position on the letter box.

45 To remove the push button from the letter box, it is merely necessary to reverse the movement of the cap, whereupon the entire structure comprising the cap, the button, the fiber back and the spring, and also the cup,
50 can be removed from the front of the box, thus enabling all parts of the structure to be gotten at without detaching the box from its support. By forming the box in the manner shown the necessity of rabbeting the
55 opening is also obviated for the purpose of limiting the inward movement of the cup. When it is desired to use this same button as a push button for insertion into an opening in a wall which thus corresponds with the plate
60 of a letter box or other structure, the cup is cut away adjacent to its recesses to form a pair of slots 13 and tongues or projections 14, these slots being inclined with relation to the recesses 6, whereby, after the cup is inserted
65 into the opening in the wall and the fiber

back inserted, the cap, with its projecting lugs which are in this instance beveled as shown in Fig. 6, is placed in position on the front of the cup, such lugs extending into
70 the recesses and into position to project into the inclined slots, whereby, on turning the cap in precisely the same manner as when used with a letter box, the inclined ends of the lugs or projections of such cap interlock
75 with the inclined slots of the cup and also engage the tongues of such cup and force the same outwardly into contact with the wall of the opening, as shown in Fig. 8, thus locking
80 the button in position against removal, and this without the use of screws or other similar fastening means. In this form of push button, however, it is preferable to bend the plate or other member carrying the lugs
somewhat rearwardly in order to bring the lugs a sufficient distance in the rear of the
85 front wall to provide a sufficient thickness of plaster between the lugs and the front rim of the cap. In both forms of the device herein described the lugs may be carried by a plate or annular rim secured to the cap proper in
90 any suitable way. As the cap of the push button is in both constructions locked by means of a bayonet joint, it follows that the cap is wedged in position and cannot be as easily removed by a child as when such cap
95 is screwed on, aside from the fact that this does away with the necessity of providing threads, which is expensive.

From the foregoing it will be seen that the construction is very simple, the button being
100 so formed that all of its parts can be inserted in position from the front of the letter box or other opening and locked in position without the use of threads or screws, or similar fastening means, and that by a slight change in
105 the construction of the cup the same button may be used in walls as well as with letter boxes. The number of recesses formed in the cup, and therefore the number of lugs or projections carried by the cap, may be varied
110 as circumstances may require, although the best results are obtained by the provision of two recesses in the cup and the provision of a corresponding pair of lugs or projections on the cap.
115

I claim as my invention:

1. In a device of the class specified, the combination with a structure having an opening, of a cup adapted to be inserted into such opening from the front of the structure, a
120 cap for said cup and carrying a push button said cap having means adapted to project at the outer side of the cup and engage means to lock the cup in position on the turning of said cap.
125

2. In a device of the class specified, the combination with a structure having an opening, of a cup adapted to be inserted into such opening from the front of the structure, said cup having a rim overlapping the front
130

of said structure, a cap for said cup and carrying a push button said cap having means adapted to project at the outer sides of the cup and engage means in the rear of the front of said structure to lock the cup in position on the turning of said cap.

3. In a device of the class specified, the combination with a structure having an opening, of a cup adapted to be inserted into such opening from the front of the structure and having a rim overlapping the front of said structure, a cap for said cup said cap carrying a push button and also having a rim overlapping the front of said structure and having means adapted to project at the outer sides of the cup and engage means in the rear of the front of the structure to lock the cup in position on the turning of said cap.

4. In a device of the class specified, the combination with a structure having an opening, of a cup adapted to be inserted into such opening from the front of the structure and provided with recesses communicating with the outer edge thereof, a cap for said cup said cap carrying a push button and having outwardly extending radial projections adapted to enter said recesses and project at the outer sides of the cup to engage means in the rear of the front of said structure to lock the cup in position on the turning of said cap.

5. In a device of the class specified, the combination with a structure having an opening, of a cup adapted to be inserted into such opening from the front of such structure and provided with recesses communicating with the outer edges thereof and also having a rim overlapping the structure, a cap for said cup said cap carrying a push button and having outwardly extending radial projections fitting said recesses and projecting at the outer sides of the cup to engage means located at the rear of the front of said structure to lock the cup in position on the turning of said cap.

6. A push button comprising a cup having recesses at its forward edge, and a cap carrying a push button and provided with lugs adapted to pass into said recesses and project outwardly beyond said cup at the sides thereof.

7. A push button comprising a cup having at its rear an inwardly turned flange for the

reception of a fiber back and having at its forward edge recesses, and a cap having radial projections adapted to fit into said recesses and project outwardly beyond the side walls of the cup.

8. A push button comprising a cup having recesses terminating in inclined slots, and a cap carrying a push button and having outwardly extending radial projections adapted to pass into said slots.

9. A push button comprising a cup having recesses terminating in inclined slots, and a cap having an opening, a push button therein, said cap also having outwardly extending radial projections adapted to enter the slots of said cup and project beyond the outer sides thereof.

10. A push button comprising a cup having recesses terminating in inclined slots and also having tongues, and a cap having radial projections adapted to enter said slots and engage said tongues and force them outward.

11. A push button comprising a cup having recesses terminating in inclined slots, said cup also having tongues, and a cap provided with radial projections having inclined ends and adapted to enter said slots and engage said tongues to force them outward.

12. The combination with a structure having an opening therein, of a push button comprising a cup adapted to fit said opening and provided with recesses terminating in inclined slots, said cup also having a pair of tongues, and a cap having radial projections provided with inclined ends adapted to enter said slots and engage said tongues and force the same into engagement with the wall.

13. A push button comprising a cup having an inwardly extending rim at its rear, an outwardly extending rim at its front edge, and recesses communicating with its front edge, said recesses terminating in inclined slots, said cup also having tongues, and a cap adapted to overlap said front rim and provided with radial projections having inclined ends and adapted to pass into said slots from said recesses and engage and force the tongues outwardly.

HENRY WILHELM.

Witnesses:

GEORGE M. WHEELER,
H. C. MURRAY.