W. B. EICHHOLTZ.

PUSH BUTTON.

APPLICATION FILED MAR. 15, 1911.

1,039,039.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

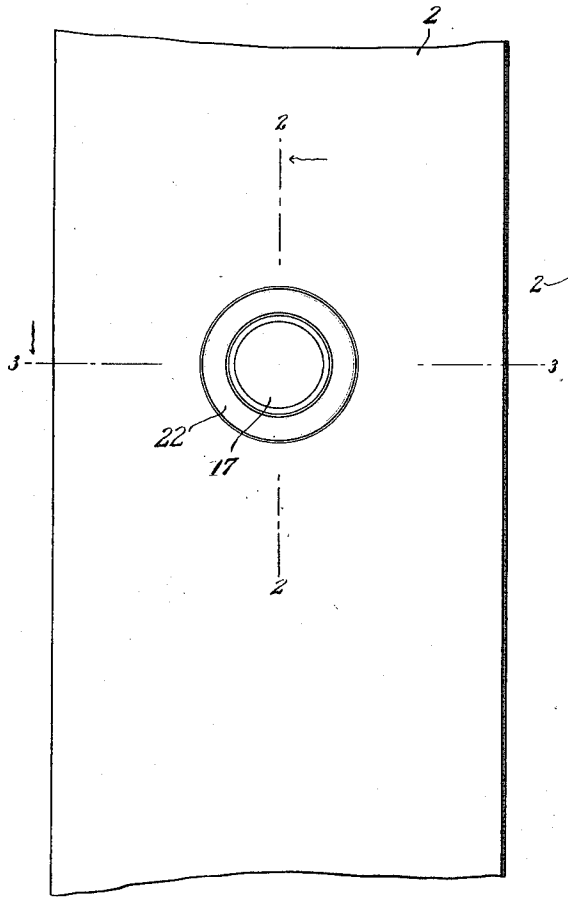


Fig. 5.

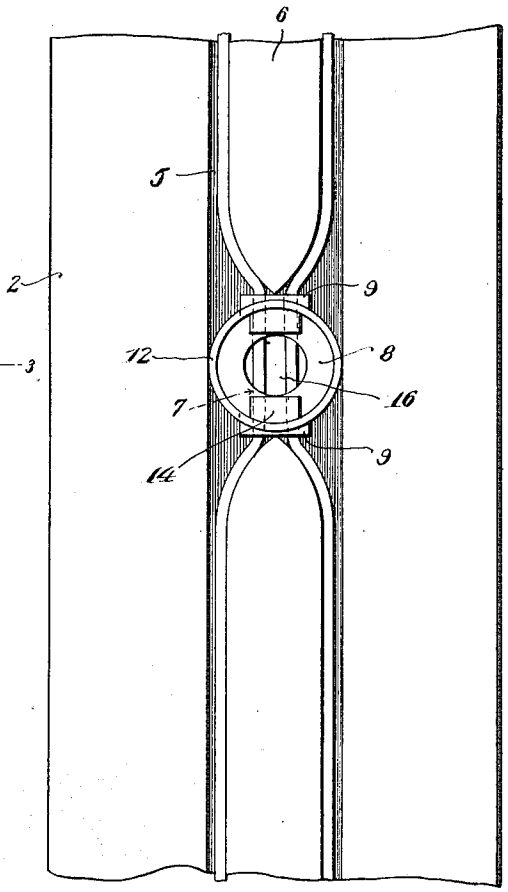
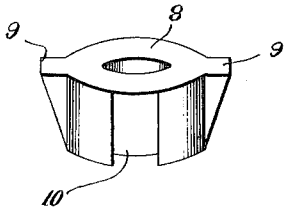


Fig. 7.



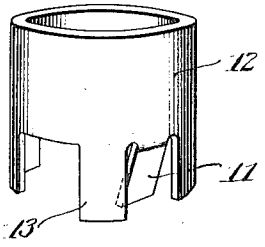


Fig. 6.

Witnesses

J. H. Crawford.

James A. Kaehl

Inventor

William B. Eichholtz,

By Victor J. Evans

Attorney

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2 SHEETS—SHEET 2.

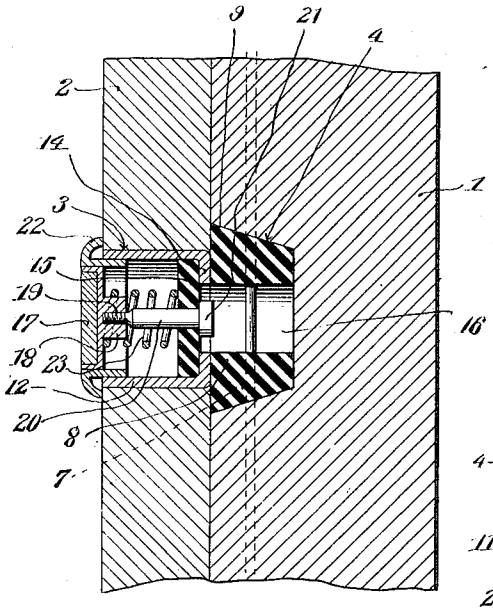

Fig. 3.

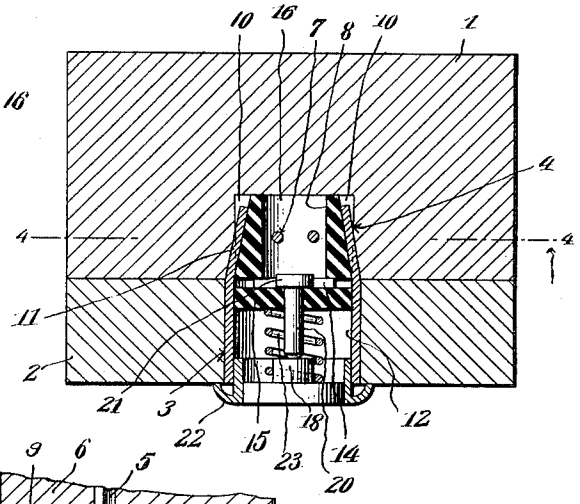

Fig. 2.

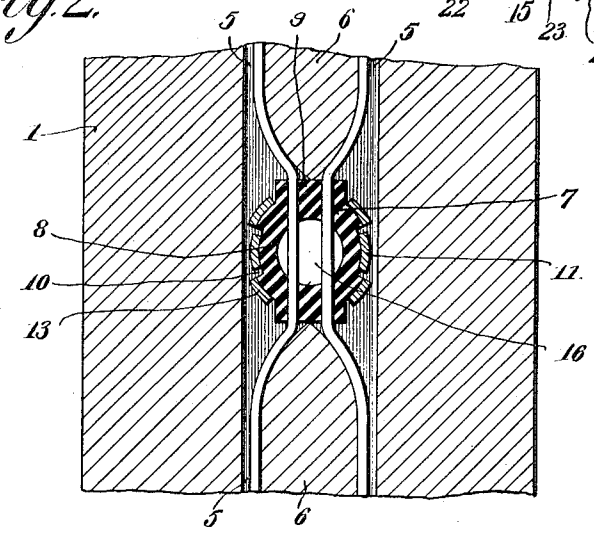

Fig. 4.

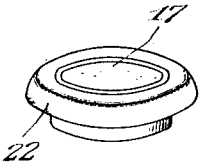

Fig. 8.

Witnesses

J. H. Crawford,

James L. Roche

Inventor

William B. Eichholtz,

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM BELL EICHHOLTZ, OF NEW ORLEANS, LOUISIANA.

PUSH-BUTTON.

1,039,039. Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed March 15, 1911. Serial No. 614,663.

To all whom it may concern.

Be it known that I, WILLIAM BELL EICHHOLTZ, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Push-Buttons, of which the following is a specification.

This invention relates to push-buttons, the object being to provide a device of this character which will be simple in construction, consisting of but few parts which are connected with each other without the use of screws or permanent fastening devices.

Another object of the invention is to provide means whereby the line wires when attached to the button and to the support on which the button is mounted will be held against contacting with each other and thereby prevent a circuit.

In the drawings, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a plan view of my improved button showing the same operatively positioned on a supporting element. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a section on line 3—3 of Fig. 1. Fig. 4 is a section on line 4—4 of Fig. 2. Fig. 5 is a plan view of the button-supporting element showing the socket or shell connected therewith and the insulating base member and illustrating the manner of connecting the line wires with the base member. Fig. 6 is a perspective view of the socket or shell. Fig. 7 is a perspective view of the insulating base member. Fig. 8 is a perspective view of the ferrule.

The push-button is designed principally for attachment to street-cars or similar carriers or vehicles, and as illustrated, the button support 1 may represent a parting strip between the windows of the vehicle or it may represent any other portion of the vehicle upon which the button is to be mounted for convenient reach. The support 1 has secured thereagainst a finishing strip 2 which has formed therein a passage 3 which is arranged in coincidence with a similar passage 4 in the support 1. The support 1 is provided with alining parallel grooves 5 which are separated from each other by intervening ribs 6. These ribs terminate at their inner ends in line with the passage 4 in the support 1 so as to form stops for a purpose to be hereinafter described. The side surfaces of the ribs 6 at the inner terminals thereof are flared inwardly toward each other and in the direction of the line wire-receiving passages 7 in the insulating base 8.

The insulating base is preferably of cylindrical configuration and is designed to fit in the passage 4 in the support 1, being provided at opposite sides with lugs 9 whose outer surfaces are beveled toward the axial line of the passage 4 and which are arranged in frictional contact with the extremities of the ribs 6. The passages 7 are arranged in close proximity with each other and they are parallel to each other and thereby hold the intermediate portions of the line wires operatively positioned with respect to each other so as to be engaged by the contact. The line wires are extended through the grooves 5 and are held spaced from each other by the ribs 6, thereby insuring against a short circuit, incident to the wires becoming accidentally engaged with each other. The insulating base is provided on its opposite side with flared recesses 10 in which retaining tongues 11 of the socket or shell 12 are bent into engagement, being confined between the walls of the recesses so as to hold the socket or shell against movement on the base. As an additional means for holding the socket or shell operatively mounted on the base, I provide the shell with spaced pairs of tongues 13 which embrace the lugs 9 of the base member. The shell also has stamped therefrom lugs 14 which bear against the insulating base, as shown.

The socket or shell has its outer end extended through the passage 3 in the finishing strip 2 and frictionally held within the shell is an insulating washer 15 having a central passage therein which alines with the passage 16 in the insulating base. The button 17 is provided with a socket portion 18 which extends into the socket or shell, being interiorly threaded to receive the correspondingly threaded portion 19 of a contacting pin 20. This pin has its inner end extended through the passage in the insulating washer and it is formed to provide a relatively broad contacting head 21 which may be extended into the passage 16 of the insulating base and engaged with the line wires of the button circuit. The button is preferably slidable in a ferrule 22, the same being held removably engaged with the socket or shell through frictional contact therewith.

This construction is such that the ferrule may be conveniently removed from the socket or shell when it is desired to remove the finishing strip 2 from the button support 1 or when it is desired to repair the button or to substitute worn parts thereof by new parts. A suitable extensile spring 23 is coiled about the contact pin 20 and is confined between the insulating washer 15 and the button 17, exerting its tension against the latter to normally hold the same outwardly.

I claim:—

1. A push button comprising a support provided with spaced longitudinally extending grooves and with a recess intersecting said grooves, circuit wires arranged within the grooves, a finishing strip secured to the support and having an opening alined with said recess, an insulating base frictionally engaged within said recess, a circuit-closer, and a circuit-closer supporting shell fitted within said opening and having a portion thereof in removable engagement with said support and insulating base substantially as and for the purpose described.

2. An electric push button comprising a support provided with spaced circuit wire receiving grooves and with a recess intersecting said grooves, an insulating base frictionally engaged within the said recess and provided with passages formed therein, circuit wires extending through the passages formed in the base, a circuit-closer, and a circuit-closer receiving passage formed in the base and traversing the first passages so as to expose the circuit wires for circuit closing contact with respect to the path of travel of the circuit-closer.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM BELL EICHHOLTZ.

Witnesses:
ANNIE F. DEIBEL,
FRED. DEIBEL.