

(No Model.)

F. W. MANGER.
PUSH BUTTON.

No. 541,243.

Patented June 18, 1895.

Fig. 1.

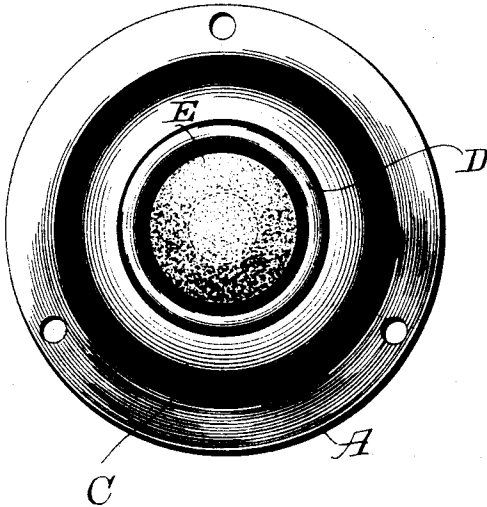
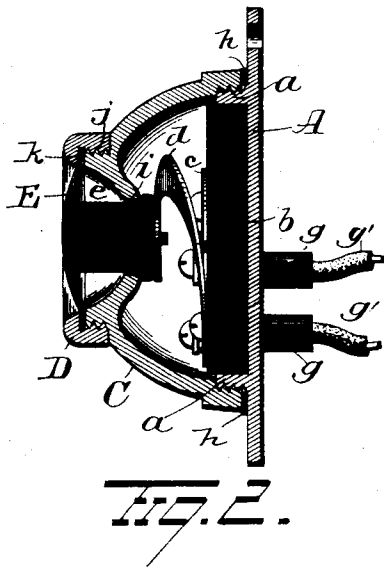
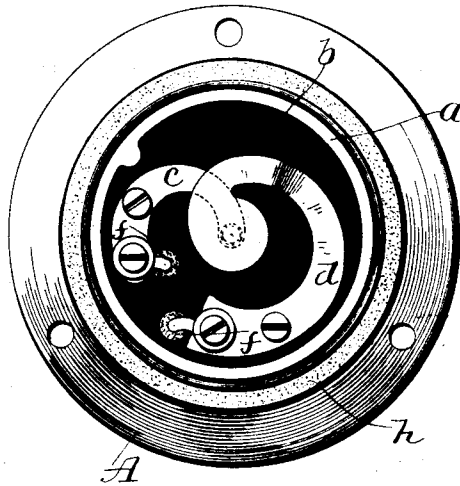


Fig. 3.



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FREDERICK WILLIAM MANGER, OF BROOKLYN, NEW YORK, ASSIGNOR TO
HUEBEL & MANGER, OF SAME PLACE.

PUSH-BUTTON.

SPECIFICATION forming part of Letters Patent No. 541,243, dated June 13, 1895.

Application filed October 1, 1894. Serial No. 524,634. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM MANGER, a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Push-Buttons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in electrical push buttons.

One of the greatest obstacles in the electrical call system on vessels, in cold storage warehouses and other places more or less exposed to moisture, has been the water and dampness penetrating the push buttons, thereby corroding the contacts and rendering the system inoperative.

It is the object of my invention to overcome this obstacle and to produce a water tight push button of simple and efficient construction.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved push button. Fig. 2 is a sectional view. Fig. 3 is a view with the shell removed.

A represents a base of suitable material, provided within its periphery with an externally screw threaded flange *a*, within which a disk of insulating material *b* is located. Should it be desired to construct the base A of non-conducting material the flange *a* may be made in the form of a solid projection and the disk *b* omitted.

A contact plate *c* and a contact spring *d* are secured to the disk *b* and provided with the usual platinum points, the contact spring being adapted to be forced into contact with the plate *c* by a button *e* arranged as hereinafter explained.

The disk *b* is made with perforations *f*, *f* for the accommodation of the leading-in wires, which also pass through perforations in the base A and through hollow bosses *g* projecting from the bottom or back of said base.

The purpose of the hollow bosses *g* is to receive rubber tubes *g'* through which the leading-in wires are made to pass, and by connecting the leading-in wires with the device in this manner, no moisture will be permitted to enter the interior of the device through the openings made for the accommodation of the wires.

The contact devices *c*, *d* are inclosed by a shell C which is provided internally with screw threads adapted to mesh with the screw threads on the flange *a* of the base A, and between the lower edge of said shell and the base A, a gasket *h* of rubber or other suitable packing material is placed. The button *e* hereinbefore referred to passes through a perforation *i* in the top of the shell C and normally bears against the contact spring *d*.

The top or outer end of the shell C is provided with an annular flange *j* within which the button *e* projects, and said flange is screw threaded externally for the reception of an internally screw threaded cap or ring D. Within the cap or ring D a disk of soft rubber E is placed, said disk being held between a flange *k* projecting inwardly from the cap or ring, and the edge of the flange *j*. From this construction and arrangement of parts it will be seen that the button (which necessarily works loosely through the perforation in the shell C) will be inclosed by the rubber disk E so that no moisture can find its way into the shell through said perforation. It will also be seen that by the use of the disk E and the gasket *h* and the rubber tubes connected to the bosses *g*, no moisture can possibly reach the contacts.

My improvements are exceedingly simple in construction, and will effectually perform the purpose for which they are intended.

Some slight changes in the details of construction and the materials used may be resorted to without departing from the spirit of my invention or limiting its scope and hence I do not wish to limit myself to the precise details of construction herein set forth, but, Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an electrical push button, the combination with a base adapted to receive the contact devices and a shell inclosing said con-

tacts, of a button passing through the shell and adapted to operate said contact devices, a cap or ring secured to said shell and a disk of flexible material held in place over said button by said cap or ring, substantially as set forth.

2. In an electrical push button, the combination with a base adapted to receive contact devices, of a shell inclosing said contact devices and having a screw threaded flange at its outer end, a button passing through the shell and adapted to engage the contact devices, a cap or ring adapted to screw on said

screw-threaded flange and having an internal flange, and a disk of soft material over said button, said disk being held at its edges between the end of the flange of the shell and the internal flange on the cap or ring, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FREDERICK WILLIAM MANGER.

Witnesses:

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