A. V. & O. T. CLORIUS.
ALARM PRESS BUTTON CONTACT.
APPLICATION FILED APR. 8, 1913.

1,095,382. Patented May 5, 1914.

Fig. 1.

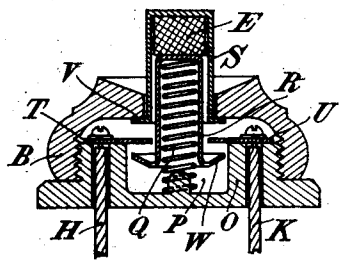


Fig. 2.

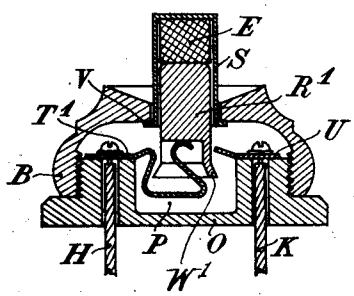
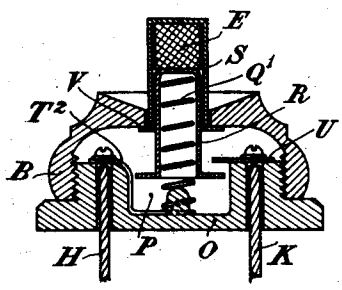


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ALARM PRESS-BUTTON CONTACT.

1,095,382. Specification of Letters Patent. Patented May 5, 1914.

Application filed April 8, 1913. Serial No. 759,697.

To all whom it may concern:

Be it known that we, AXEL VALDEMAR CLORIUS, manager, and ODIN THORVALD CLORIUS, manager, both of No. 17 Niels Ebbesensvej, Copenhagen, in the Kingdom of Denmark, have invented certain new and useful Improvements in Alarm Press-Button Contacts; and we 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of the present invention is to provide an arrangement by means of which the push-button contact of an electric bell ringing circuit may be simultaneously used as a fire-alarm contact.

Through this invention the mounting and connection of electric fire alarm arrangements are simplified to such a degree, that they can be used at a very small expense in bedrooms, sickrooms, sitting-rooms, nurseries and the like.

In existing bell ringing circuits the usual push-button contacts can be easily replaced by the aforesaid combined fire-alarm and push-button contact, as the latter is of the same size and appearance as those now in use, it consequently not being necessary to alter or break the old circuit. As regards new bell ringing circuits these may from the very beginning be provided with the said combined contacts, which resemble the ordinary contacts both as regards appearance and size.

In the accompanying drawing Figure 1 is a central vertical section of one form of device embodying the invention, Fig. 2 is a central vertical section of a modified construction, and Fig. 3 is a like view of another form of the device.

In the form of construction shown in Fig. 1 the support O of insulating material is provided in the center with a cylindrical depression P upon the bottom of which rests a spiral spring Q said spring passing up in the thimble-shaped metal piston R and pressing the latter against the fusible plug E serving as distance piece and placed inside the push-button S, said push-button consisting likewise of metal and being guided in the cover B which with the support O constitutes a casing for the parts. The contact plate T to which is connected the one conducting wire H and the contact plate U to which is connected the other conducting wire K are in this case flat metal strips screwed on to the support O and partly projecting over the depression P. Upon pressing the push-button S the spiral spring Q is compressed and the push-button S, which at its lower end is provided with a sufficiently broad flange V, will thus touch both contact plates T and U whereby the circuit is closed. When in case of fire the plug E melts, the spiral spring Q presses the piston R upward, whereby the flange W at the lower end of the piston R, will come into contact with the two plates T and U and thus close the circuit. In this form of construction the fusible plug E, which should as a rule melt at a temperature of about 40° C. and accordingly must consist of stearin or similar substance that is comparatively soft at the ordinary room temperature, can only be subjected to the pre-determined pressure exerted by the spiral spring Q and never to the incalculable pressure on the push-button. Furthermore, in this construction the fusible plug is removed as far as possible from the contact plates used for the fire-alarm, so that the melting stearin cannot soil same and thus at the decisive moment prevent a metallic contact. This soiling is furthermore prevented partly thereby that the lower surfaces of the contact plates T and U are used for the fire-alarm and partly that the flange W on the piston R is bowl-shaped and provided with holes. When the cover B is removed, for instance for connecting the push-contact to the ringing circuit and for fastening the contact to the wall or for renewing the melting plug E, the projecting contact plates T and U will prevent the piston R and the spiral spring Q from falling out or getting displaced. This is of importance as this work is generally carried out by unskilled hands.

In the modification illustrated in Fig. 2, one of the contact plates indicated by T′ is made flexible and formed so that its free end bears upon the bottom of the piston R′ which as indicated has a solid body portion. The spiral spring Q shown in Fig. 1 is dispensed with. When using the device as an ordinary push-button the button S with the

piston D is pushed in until its flange V engages that portion of the spring contact plate T′ which lies in its path and the extended portion of the contact-plate U thus closing the circuit. When in case of fire and the plug E melts, the spring contact-plate T′ will push the piston R′ outward and a laterally projecting flange W′ formed on the inner end of the piston will be engaged by the contact plate U and close the circuit.

In the modification illustrated in Fig. 3 the spiral spring Q′ has a portion as T^2 which conforms to depression P of the support O and is connected to the conductor H, thereby dispensing with the contact plate T.

It will furthermore be seen that in the combined press-button and fire-alarm contacts as described above the current is unavoidably closed when the cover B is removed. This is of importance should anybody attempt to put the fire-alarm out of operation in case of arson. In case the melting plug consists of stearin it is provided that the diameter of same corresponds to that of the standard stearin candles on the market.

In the forms of construction shown the melting plug used as distance piece is placed in the outward projecting press-button, whereby the radiating heat from an outbreak of fire will easily affect it.

We claim:

1. In a push-button contact, a hollow push-button, a readily fusible body in the cavity of the button, a piston normally held against said body, a contact on the button, a contact on the piston, a fixed contact between the movable contacts, and a second contact arranged to coöperate with the fixed contact to close the circuit.

2. In a push-button contact, a casing, a hollow push-button mounted therein, a readily fusible body in the cavity of the button, a spring actuated piston bearing against said body, a contact on the button, a contact on the piston, fixed contacts between the movable contacts arranged to be engaged by the contact on the button before the piston reaches the bottom of the casing.

In testimony that we claim the foregoing as our invention, we have signed our names in presence of two subscribing witnesses.

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Witnesses:
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