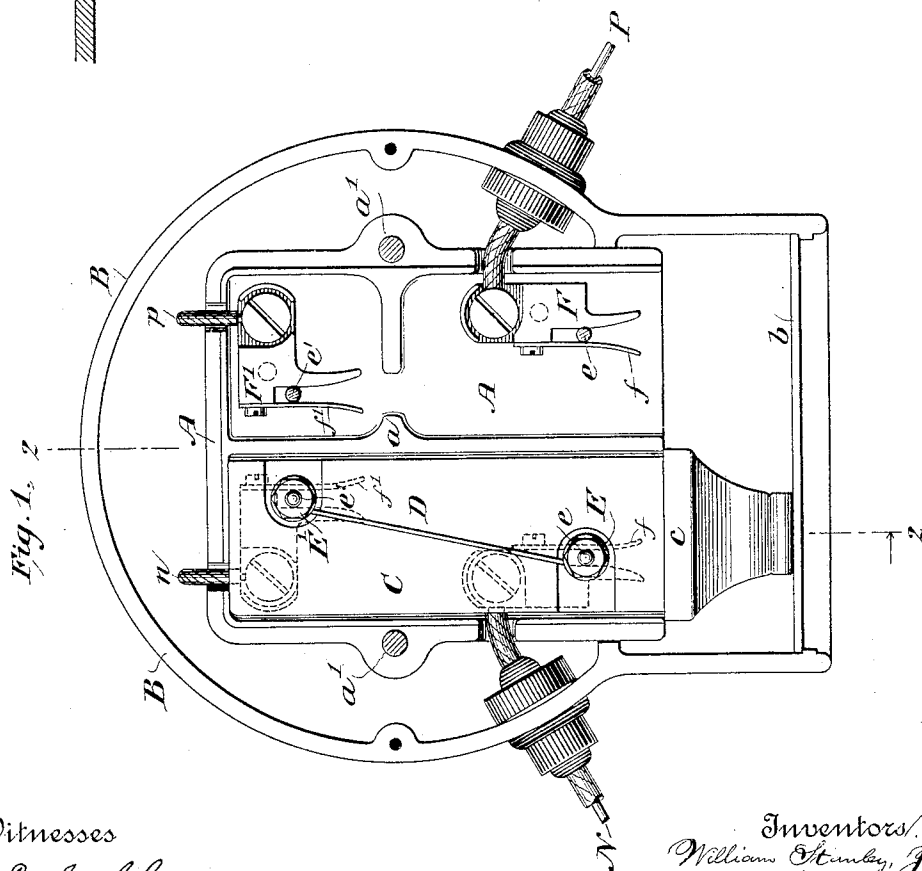
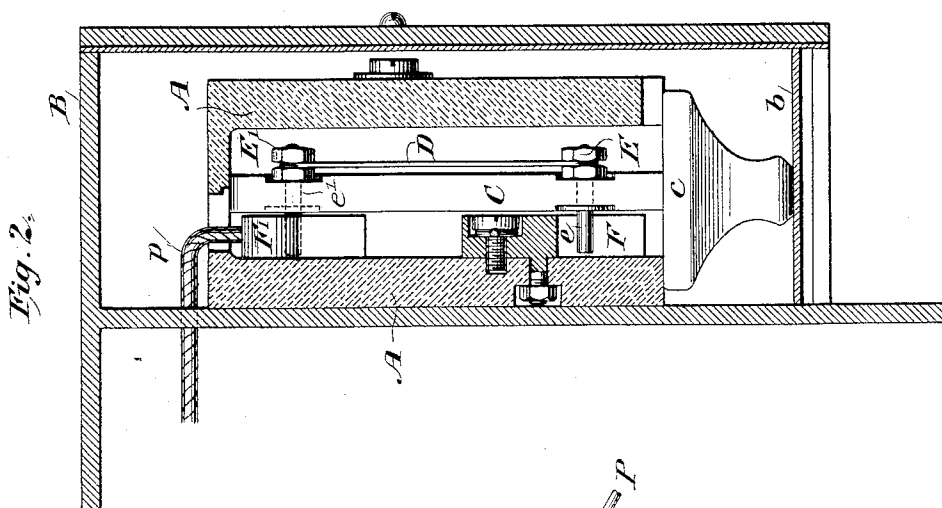


(No Model.)

W. STANLEY, Jr. & J. H. KELMAN.
ELECTRIC FUSE BOX.

No. 484,545.

Patented Oct. 18, 1892.



Witnesses

C. E. Ashley
Saml. Macpeak.

Inventors

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UNITED STATES PATENT OFFICE.

WILLIAM STANLEY, JR., AND JOHN H. KELMAN, OF PITTSFIELD,
MASSACHUSETTS.

ELECTRIC-FUSE BOX.

SPECIFICATION forming part of Letters Patent No. 484,545, dated October 18, 1892.

Application filed December 21, 1891. Serial No. 415,787. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM STANLEY, Jr., and JOHN H. KELMAN, citizens of the United States, and residents of Pittsfield, in the county of Berkshire and State of Massachusetts, have jointly invented certain new and useful Improvements in Electric-Fuse Boxes, of which the following is a specification.

10 In systems of electrical distribution, in order to guard the translating devices—such as electric transformers, lamps, motors, and the like—from danger of injury from currents of abnormal potential or volume it is the practice to interpose between the supply-conductors and the translating devices short sections of conductor, which, either by reason of their small cross-section or their peculiar molecular structure, or both, are more easily fused by the passage of such abnormal currents than the conductors forming the other portions of the circuit. The occurrence of an excessive volume of current will cause such sections of the conductor to burn away or melt, thus interrupting the circuit and protecting the translating device from further influx of current. Such a device is termed a "safety-fuse." It is usually inserted in the main conductor at the proper point between suitable terminal clamps or screws, so that a new fusible conductor may be substituted at any time in place of one which has been destroyed by inserting the same between the terminal clamping-screws. It has been usual to inclose such fuses within a case or box of incombustible material which is termed a "fuse-box."

Our invention relates to an improved construction of such fuse-boxes, whereby the substitution of a new fuse in place of one destroyed may be readily and expeditiously performed by an unskilled person, at the same time avoiding the danger from electric currents to which such a person is necessarily exposed while attempting to replace the fuse in the manner heretofore practiced.

45 In the accompanying drawings, Figure 1 is a front elevation of our improved fuse-box and its inclosing case, both the cover of the case and the front of the fuse-box having been

removed to more clearly exhibit the internal construction. Fig. 2 is a vertical transverse section through the fuse-box and case in the plane of the dotted line 2 2 in Fig. 1.

Referring to Fig. 1, A represents the fuse-box proper, which we prefer to construct of porcelain or some equivalent substance which is both incombustible and a non-conductor of electricity. This fuse-box is hollow and of a rectangular form, open at the lower end and divided by a central vertical partition *a* into two chambers of equal size. The fuse-box A is made in two halves of similar form or dimensions which are put together in the manner best seen in Fig. 2 and secured by bolts or equivalent devices *a' a'*, passing through flanges formed on the exterior of the parts. The fuse-box A is inclosed within and secured to the back of a hollow metallic case B, having at the bottom a removable plate *b*. Each vertical compartment of the fuse-box is adapted to receive a rectangular supporting plate or carrier of incombustible material, upon which the safety-fuse is mounted. One of these carriers is shown on the left at C in Fig. 1, the other one on the right having been removed in order to exhibit the arrangement of the electrical connections behind. The carrier C is furnished with an enlarged head *c* of the same material and of the form shown in Figs. 1 and 2, which serves to completely close the lower opening in the fuse-box when the carrier is in place. It also serves as a non-conducting handle by which the carrier and fuse may be inserted or withdrawn with safety to the operator. The fuse D is made of a piece of wire having a comparatively-low melting-point and of small cross-section, which is extended between clamps E E. These clamps are mounted upon and are in conducting connection with stout metallic pins *e* and *e'*, which latter pass directly through the supporting-plate A and project rearwardly therefrom, as best seen in Fig. 2.

Upon the back plate of the fuse-box A are mounted two clips or spring-jacks F and F', which form the terminals of the main conducting-wires P p N n. Each of these spring-jacks consists of a stationary portion, as at

F and F', and a spring-finger, as at *f* and *f'*, and they are so placed that when the carrier C is thrust into its place in the fuse-box the pins E and E' carried thereupon will enter the respective spring-jacks, and thus establish an electrical connection from one to the other, passing through the fuse-wire D. By reference to Fig. 2 it will be observed that the fuse-carrier C, when inserted into its place in the box, divides the latter transversely into two chambers. The front one contains the fuse D, while the rear one contains the spring-jacks F and F'. Hence the destruction of a fuse-wire cannot in any way interfere with or injure any other portion of the apparatus, because each such fuse-wire is inclosed in an isolated chamber of incombustible material.

In case of the destruction of a fuse the attendant or any person may substitute a new one already mounted upon its support or carrier ready for use simply by removing the sliding plate *b* of the outer casing, withdrawing the carrier C, inserting another carrier with its fuse in place thereof, and replacing the plate *b*. In so doing the attendant is only obliged to handle the fuse-carrier by its non-conducting handle *c*, the connections being made automatically, so that there is no possibility of personal injury, such as sometimes occurs when an unskilled person attempts to replace a fuse by inserting it between termi-

nal clamps, substantially in the manner shown at E E.

We claim as our joint invention—

1. A detachable incombustible fuse-carrier having upon one of its faces metallic terminals to which the ends of the fuse are attached, pins or studs electrically continuous with said terminals, projecting from its opposite face, and metallic spring-clips affixed to an incombustible inclosing case and adapted to receive and make electrical contact with said pins, as set forth.

2. An outer case of incombustible material and a detachable incombustible fuse-carrier adapted to be inserted into the open end thereof and having an enlarged head for closing said open end, whereby the interior of said case is divided into two non-communicating chambers, one of which contains the fuse and the other the fixed terminals, whereby said fuse is automatically connected with the main conductors, as set forth.

In testimony whereof we have hereunto subscribed our names this 23d day of April, A. D. 1891.

WILLIAM STANLEY, JR.
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Witnesses:

WALTER F. HAWKINS,
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