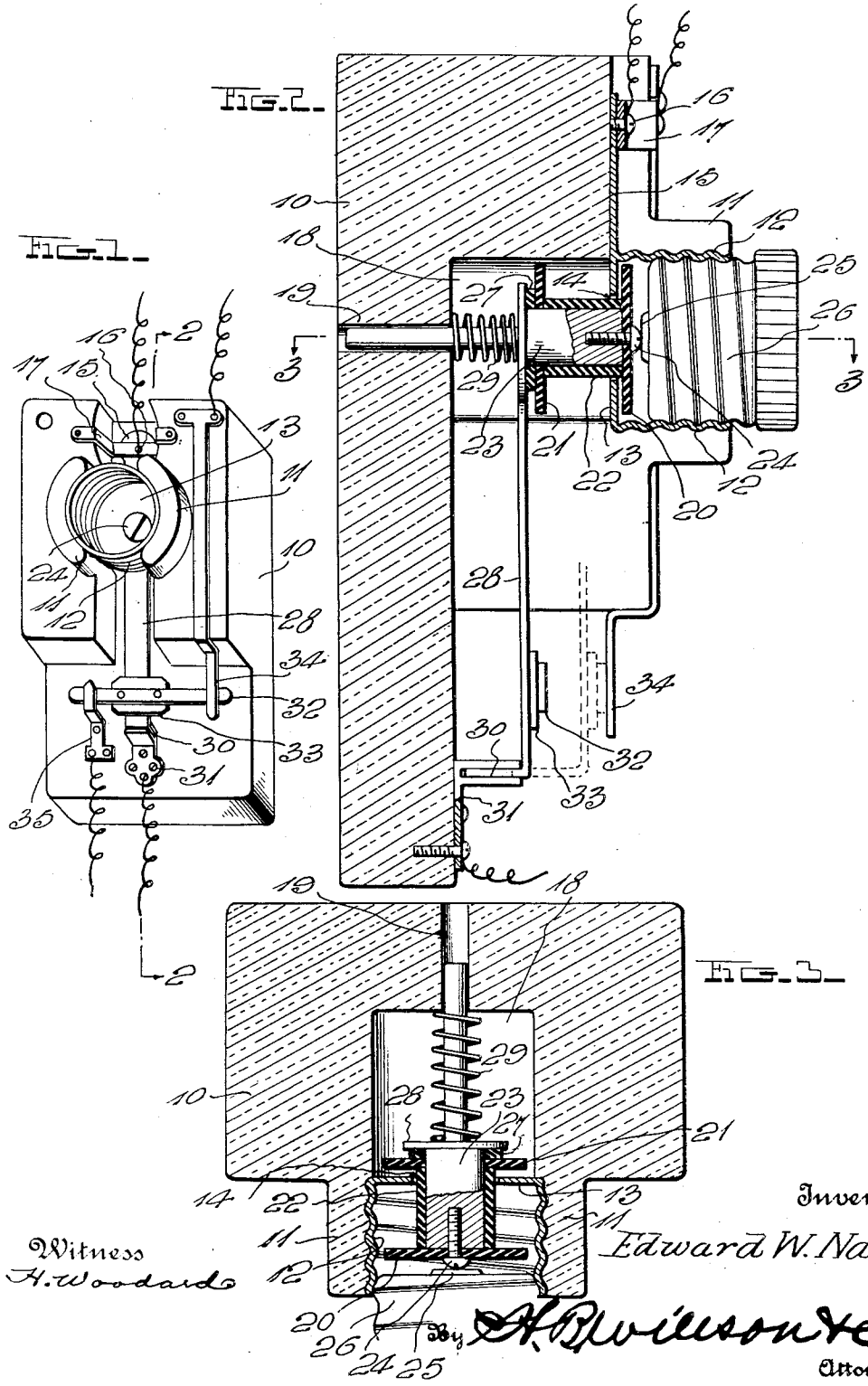
June 19, 1928. 1,674,339

E. W. NASS

FUSE CONTROLLED SWITCH

Filed July 5, 1927



Patented June 19, 1928. 1,674,339

UNITED STATES PATENT OFFICE.

EDWARD W. NASS, OF NEW ORLEANS, LOUISIANA.

FUSE-CONTROLLED SWITCH.

Application filed July 5, 1927. Serial No. 203,569.

The invention aims to provide a new and improved device, embodying both holding means for an ordinary circuit interrupting fuse, and a switch controlled by the fuse, said switch being operable to complete a circuit upon removal of the fuse. Hence, the switch may be used for any of a number of purposes, primarily to detect unauthorized tampering with fuses, which often leads to loss by the power companies, to fire, to serious electric burns, etc.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawing.

Fig. 1 is a perspective view.

Fig. 2 is a vertical section on line 2—2 of Fig. 1.

Fig. 3 is a horizontal section on line 3—3 of Fig. 2 with the fuse partially removed.

In the drawings above briefly described, the preferred form of construction has been illustrated, and while this construction will be specifically described, it is to be understood that within the scope of the invention as claimed, numerous variations may be made.

The numeral 10 denotes an insulating base of any desired form, preferably constructed from porcelain. This base is provided with suitable portions 11 for holding a fuse socket 12 whose inner wall 13 is formed with a central opening, said socket being also provided with a lateral conductor 15 provided with a suitable binding post or terminal 16 and secured to the base, for instance by a clamp 17.

The base 10 is recessed, as at 18, behind the fuse socket 12 and is formed with an opening 19 at the rear end of the recess, in axial alinement with said socket. An insulating washer 20 is disposed within this socket, a similar washer 21 is spaced outwardly from its end wall 13, and an insulating sleeve 22 passes through the opening 14 and at its ends abuts said washers 20—21. A metal plunger 23 passes through the washer 21 and the sleeve 22 and abuts the washer 20, the rear end of this plunger being slidably received in the opening 19. A contact screw 24 clamps the washers 20—21 and the sleeve 22 upon the plunger 23 and is adapted to abut the usual central contact 25 of a plug fuse 26. An insulating washer 27 is interposed between the washer 21 and a metal arm 28 which is rigidly secured to and projects laterally from the plunger 23, and it will be observed that when the screw 24 is tightened, all of the parts 20—21—22—27, are tightly clamped in place upon said plunger. A coiled compression spring 29 surrounds the plunger between the arm 28 and the rear end of the recess 18, said spring being held under compression when the fuse 26 is in place. As soon however as said fuse is removed, the spring 29 acts to forwardly shift the plunger 23, and the arm 28 then effects closing of a switch, for instance to sound an alarm, or to effect other desired work.

The outer end of the arm 28 is spaced forwardly from one end portion of the base 10 and is laterally bent at 30 toward said end portion. This end 30 contacts with a suitable stationary contact 31, constituting a second terminal for the fuse-controlled circuit, the other terminal being above described.

Secured to the arm 28 is a metal strip 32 which by suitable means 33, is insulated from said arm. The ends of this strip 32 are cooperable with stationary contacts 34—35 suitably mounted upon the base 10, and as long as the fuse 26 is in place within the socket 12, said strip is out of engagement with the contacts 34—35. As soon as the fuse is removed however and the spring 29 forwardly forces the plunger 23 and its arm 28, this arm moves the strip 32 into engagement with the contacts 34—35, so that a circuit may be completed to give an alarm or perform any other desired function.

The device is rather simple and inexpensive, yet is efficient, reliable and every way desirable. On account of such advantages as these, the details herein disclosed are preferred. However, within the scope of the invention as claimed, variations may be made as above stated.

I claim:

1. In a fuse-controlled switch, fuse holding means, a switch having a control member held in predetermined position while a fuse is in said holding means, and means for automatically moving said control member to another position upon removal of the fuse, said fuse holding means and switch having independent terminals, whereby the switch may control a circuit other than that embodying the fuse.

2. In a fuse-controlled switch, a fuse

socket, a terminal in conducting relation therewith, a contact insulated from said socket and disposed at the inner end thereof, a second terminal in conducting relation with said contact, a movable member at the inner end of said socket adapted to be moved in one direction by insertion of a fuse into the socket, means for moving said member in the other direction upon removal of the fuse, and a switch operatively connected with and controlled by said movable member.

3. In a fuse-controlled switch, a fuse socket having a terminal, a plunger co-axial with said socket and having a contact to be engaged by the usual central contact of a plug fuse, spring means for forcing said plunger toward the open end of the socket when said plunger is freed by removal of the fuse, a metal arm projecting from and secured to said plunger, said arm being in electrical conducting relation with said contact, and a switch having a movable member connected with said arm to be controlled thereby.

4. In a fuse-controlled switch, a fuse socket having a terminal, a plunger co-axial with said socket and having a contact to be engaged by the usual central contact of a plug fuse, spring means for forcing said plunger toward the open end of the socket when said plunger is freed by removal of the fuse, a metal arm projecting from and secured to said plunger, said arm being in electrical conducting relation with said contact, a movable switch member secured to and insulated from said arm, and fixed contact means co-operable with said movable switch member.

5. In a fuse-controlled switch, a fuse socket having an opening in its inner end wall and provided also with a terminal, an insulating sleeve passing slidably through said opening, insulating washers abutting the ends of said sleeve and disposed at the inner and outer sides of said end wall respectively, a metal plunger passing through the outer washer and said sleeve and abutting the inner washer, a metal contact screw threaded into said plunger and clamping the two washers and the sleeve thereon, spring means for forcing the plunger toward the open end of the fuse socket upon removal of the fuse, and switch means operatively connected with and controlled by said plunger.

6. In a fuse-controlled switch, a fuse socket having a terminal, a plunger co-axial with said socket and having a contact to be engaged by the usual central contact of a plug fuse, spring means for forcing said plunger toward the open end of the socket when said plunger is freed by removal of the fuse, a metal arm projecting from and secured to said plunger, said arm being in electrical conducting relation with said contact, a stationary contact engaged by the outer end of said arm and constituting a second terminal for the fuse-controlled circuit, and a switch controlled by said plunger.

7. In a fuse-controlled switch, a fuse socket having an opening in its inner end wall and provided also with a terminal, an insulating sleeve passing slidably through said opening, insulating washers abutting the ends of said sleeve and disposed at the inner and outer sides of said end wall respectively, a metal plunger passing through the outer washer and said sleeve and abutting the inner washer, a metal contact screw threaded into said plunger and clamping the two washers and the sleeve thereon, spring means for forcing the plunger toward the open end of the fuse socket upon removal of the fuse, a metal arm secured to and projecting from said plunger, a stationary contact engaged by said arm and constituting a second terminal for the fuse-controlled circuit, a movable switch member secured to and insulated from said arm, and stationary contact means cooperable with said movable switch member.

In testimony whereof I have hereunto affixed my signature.

EDWARD W. NASS.