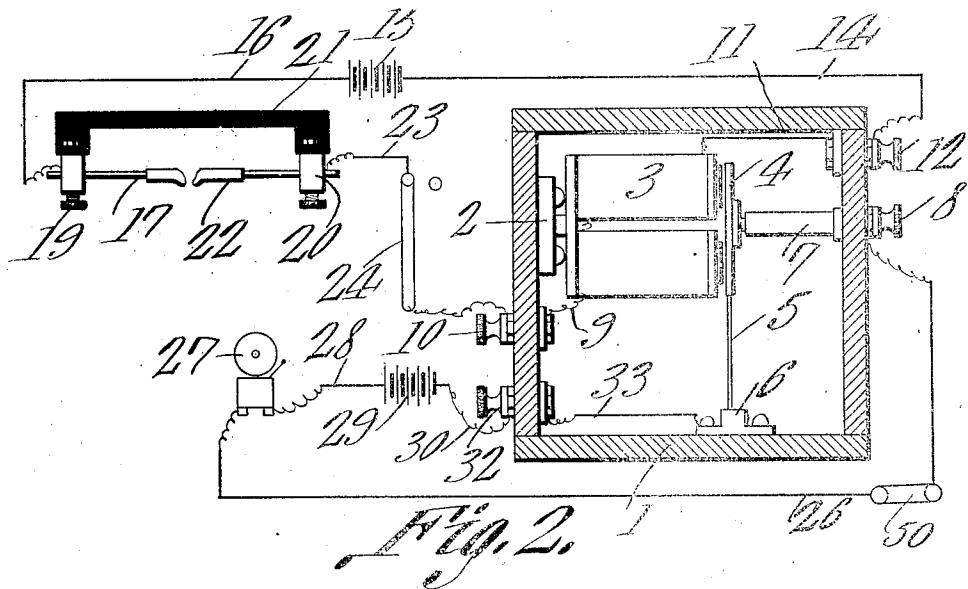
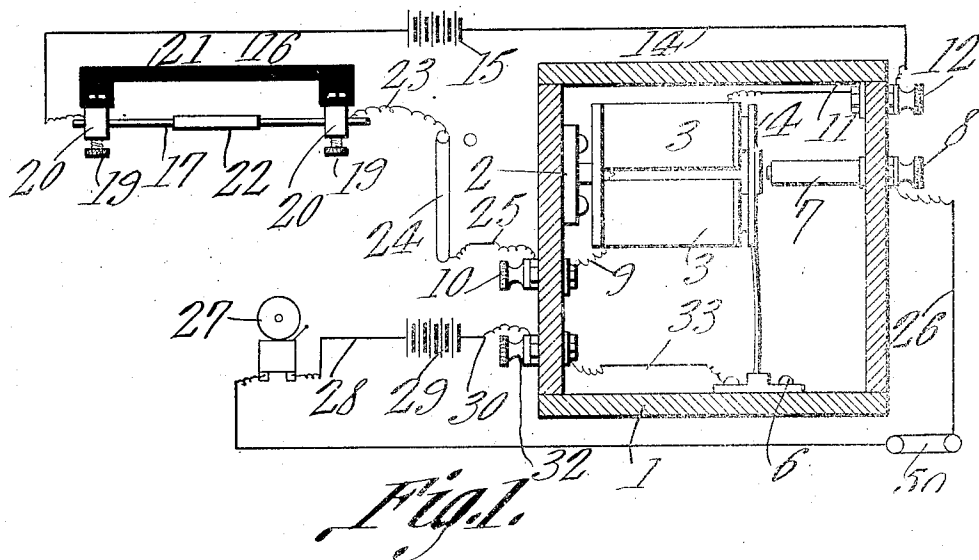


R. E. SHERER.  
FIRE ALARM.  
APPLICATION FILED APR. 14, 1911.

1,056,951.

Patented Mar. 25, 1913.



Witnesses

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# UNITED STATES PATENT OFFICE.

ROY E. SHERER, OF LUCK, WISCONSIN.

## FIRE-ALARM.

1,056,951.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed April 14, 1911. Serial No. 621,079.

*To all whom it may concern:*

Be it known that I, ROY E. SHERER, a citizen of the United States, residing at Luck, in the county of Polk and State of Wisconsin, have invented a new and useful Fire-Alarm, of which the following is a specification.

It is one object of the present invention to provide a simple form of signal, so constructed that when a fuse, melting at low temperature, is severed, a signal will be operated, electrically, thereby indicating that a rise in temperature, sufficient to melt the fuse, has taken place.

A further object of the invention is to provide novel means for maintaining the several constituent elements of the structure in proper relation to each other, during the operation of the device, and when the structure is inactive.

A further object of the invention is to provide a fuse which shall be so constructed that an unusually low degree of heat, will be sufficient to melt the same.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 is a sectional elevation, showing the parts of the structure, in the positions which they will assume when normal conditions exist; Fig. 2 is a similar view showing the parts in the positions which they will assume when a fire is in progress.

In carrying out the invention there is provided a supporting case 1, carrying a bracket 2, upon which is supported an electro-magnet 3, adapted to attract an armature 4, carried upon one end of a spring arm 5, the spring arm 5 being secured to a bracket 6 which, in its turn, is carried by the support 1.

Extended inwardly from the case 1, is a contact post 7, adapted to be engaged by the armature 4, when the same is released from the magnet 3. The contact post 7 carries, upon the outside of the case 1, a binding screw 8.

One of the winding terminals 9 of the magnet 3, is connected with a binding post

10, mounted in the case 1. The other winding terminal 11 of the magnet 3 is connected with a binding post 12, also carried by the case 1.

From the binding post 12, a conductor 14 leads to a battery 15 or other source of electrical supply, and from the battery 15 there leads a conductor 16 to one end of a fuse 17, maintained by means of clamp screws 19, in arms 20, depending from a bracket 21, the bracket being fashioned from insulating material. The intermediate portion of the fuse 17 is surrounded by a wrapping 22, of such material that it will ignite at a point well below the melting point of the fuse, the construction, obviously, being such that when the wrapping 22 is ignited, the melting of the fuse 17 will be accelerated. From the fuse 17 there leads another conductor 23. The conductor 23 is bound upon the fuse 17, and a conductor 16 is bound thereon, and both conductors and the fuse 17 are held in the arms 20, by the clamp screws 19. The conductor 23 is connected with a switch 24, and from the switch 24 there leads a conductor 25 to the binding post 10.

From the binding post 8, there leads a conductor 26, and in this conductor 26 is an electrically operated signal, preferably a bell 27. One side of the bell 27 is connected by a conductor 28, with a battery 29, there being a conductor 30, leading from the battery 29 to a binding post 32, carried by the case 1, there being a conductor 33 uniting the binding post 32 with the bracket 6.

Presupposing that the parts are in the positions shown in Fig. 1, the device includes the following closed circuit: one winding terminal 11 of the magnet, the binding member 12, the conductor 14, the battery 15, the conductor 16, the fuse 17, the conductor 23, the switch 24, the conductor 25, the binding post 10, and the other terminal 9 of the winding of the electromagnet. This closed circuit will energize the magnet 3, attracting the armature 4 away from the contact member 7. The signal circuit is therefore broken between the elements 4 and 7, as shown in Fig. 1. This signal circuit embraces the following elements: the contact 7, the binding post 8, the conductor 26, the bell 27, the conductor 28, the battery 29, the conductor 30, the binding post 32, the conductor 33, the bracket 6, the spring arm 5, and the armature 4.

As soon as the fuse 17 melts, and parts, as

shown in Fig. 2, it is obvious that the fuse circuit will be opened, thereby demagnetizing the member 3, and permitting the spring arm 5, to swing the armature 4 against the contact 7, whereupon the signal circuit will be closed, at the members 4 and 7, the bell 27 sounding, and indicating the presence of dangerous temperature conditions which have caused a severing of the fuse 17. It is to be noted that the fuse 17 is surrounded by the inflammable cover 22, and that this covering will ignite, at a relatively low point. As soon as this wrapping 22 commences to burn, the fuse 17 will be heated, far above the point of ignition of the wrapping 22, so that a relatively low temperature point will be sufficient to break the fuse circuit, and to close the signal circuit.

If desired, the signal circuit may include a switch 50.

The cover or wrapping 22 may be fashioned from a wide variety of materials. It may consist of textile fiber or tinder commingled with a stable phosphorous compound; the kindling temperature of the wrapping, in any event, being lower than the fusing point of any alloy having the necessary electrical conductivity. The burning of the cover or wrapping 22 hastens the severing of the fuse and also permits the use of a fuse which is a better conductor than one in which the melting point alone is considered.

Having thus described the invention what is claimed is:—

1. A device of the class described comprising a fusible conducting member; and

an inflammable element attached to the conducting member, and adapted to be ignited, under a lower degree of heat than that at which the conducting member melts, thereby to hasten the melting of the conducting member, the conducting member being fusible under the heat generated by the burning of the inflammable element.

2. A device of the class described comprising a fusible conducting member; and an inflammable covering surrounding the conducting member, the covering being adapted to be ignited at a lower degree of heat than that at which the conducting member melts, thereby to hasten the melting of the conducting member, the conducting member being fusible under the heat generated by the burning of the covering.

3. A device of the class described comprising a conducting member fusible under a low degree of heat; and an inflammable, tubular element surrounding the conducting member and completely housing the conducting member, intermediate the ends of the conducting member, the tubular element igniting at a lower degree of heat than that at which the conducting member melts, thereby to hasten the melting of the conducting member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROY E. SHERER.

Witnesses:

C. G. SHERER,  
C. A. LOVE.