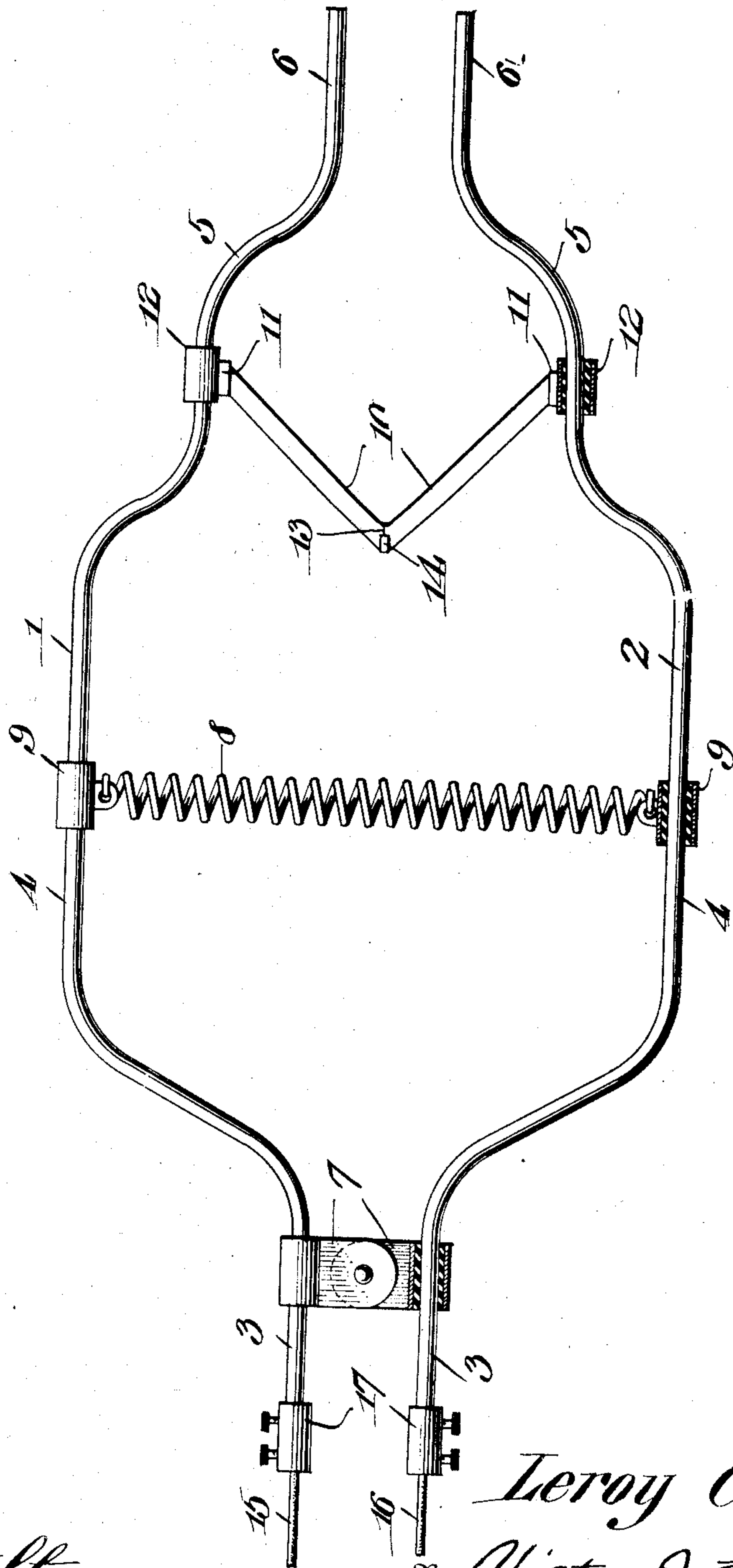


L. CAIN.  
 AUTOMATIC FIRE ALARM.  
 APPLICATION FILED MAR. 1, 1910.

979,376.

Patented Dec. 20, 1910.



Witnesses

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# UNITED STATES PATENT OFFICE.

LEROY CAIN, OF CALEDONIA, MICHIGAN.

AUTOMATIC FIRE-ALARM.

979,376.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed March 1, 1910. Serial No. 546,680.

*To all whom it may concern:*

Be it known that I, LEROY CAIN, a citizen of the United States, residing at Caledonia, in the county of Kent and State of Michigan, have invented new and useful Improvements in Automatic Fire-Alarms, of which the following is a specification.

The invention relates to an automatic fire alarm being more particularly directed to a thermostatic circuit closer constructed to be normally inoperative and rendered operative by the undue rise in the temperature adjacent the point at which the device is located.

The main object of the present invention is the provision of a device of the character noted including pivotally connected members forming the terminals of a circuit and adapted to be drawn into circuit closing position by a spring or other tensioning device, the construction including sections arranged for end bearing and held in such relation by a fuse connection, to maintain the members in separated or non-circuit-closing relation.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawing, in which the figure comprises a plan of the improved device.

Referring particularly to the accompanying drawing, the improved circuit closing device comprises duplicate members 1 and 2, preferably constructed of bar like material and each made of a single length thereof. Each member is formed to provide a comparatively straight coupling section 3, an offset curved section 4, an inwardly disposed spacing section 5, and a comparatively straight contact section 6.

The coupling sections 3 and contact sections 6 are practically in alinement longitudinally of the device, while the offset section 4 presents the maximum projection beyond the sections 3 and 6, while the section 5 occupies an intermediate position. The respective sections are connected through hinged members 7 each secured to one of the coupling sections 3 adjacent its connection with the curved section 4. The hinge sections are pivotally connected to hingedly mount the members 1 and 2 with respect to each other, said hinge sections being of some non-conductive material, as fiber or the like,

or being otherwise effectively insulated from the respective members 1 and 2. The curved sections 4 are connected by a spring 8, preferably connected to said sections through the medium of a sleeve 9 or the like of insulating material.

The spring is tensioned to normally maintain the contact sections 6 of the device in engagement. The spacing sections 5 are separated by duplicate bars or strips 10 loosely seated at their outer ends in sockets 11 formed in fiber or other insulating sleeves 12 secured to the sections 5. The respective bars 10 have their meeting ends beveled, as at 13, and are of such length that when the members 1 and 2 are separated the desired distance the bars 10 form approximately a right angle with each other, their meeting ends being beveled to secure a more or less close fit at their juncture. The beveled ends of the respective bars are connected by solder, as at 14, thus maintaining said bars in their approximately right angle form and thereby insuring a spacing of the contact sections 6 against the tension of the spring 8.

The terminals of the otherwise complete circuit, as 15 and 16, which circuit may include an alarm or any appropriate similar device, are secured by any suitable connectors, as 17, to the coupling sections 3 of the members.

In use the device is applied at any point which it is desired to protect, and when the parts are arranged in the operative relation described it will be understood that the circuit is broken through the spacing of the sections 6 of the members. Upon any undue rising of the heat adjacent the device the solder 14 will be melted freeing the connection between the inner ends of the bars 10 and permitting said bars, owing to their angular relation, to move independently and thereby remove the spacing element between the members. The spring 8 operates to force the contact sections 6 of the members into engagement closing the circuit and sounding the alarm or operating such other device as may be arranged within the circuit.

The device is simple and, owing to its comparatively few parts, the small compass adapts it for ready insertion under conditions where other devices for a similar purpose could not be used.



Having thus described the invention, what I claim as new, is:—

5 1. A thermostatic circuit closer including duplicate members forming the terminals of the circuit, a hinge connecting said members, a spring tensioned to normally force the similar parts of said members into contact to close the circuit, and means for maintaining said members spaced against the  
10 tension of the spring, said means including angularly related bars maintained in their angular relation by a fusible substance.

15 2. A thermostatic circuit closer including duplicate members forming the terminals of the circuit, a hinge connecting said members, a spring tensioned to normally force the similar parts of said members into con-

tact to close the circuit, and means for maintaining said members spaced against the tension of the spring, said means including duplicate bars loosely engaging the  
20 respective members at their outer ends and connected in angular relation at their inner ends by a fusible material, the angular relation of the bars being such that the tension of the spring tends to disturb such  
25 relation on the melting of the fusible material.

In testimony whereof I affix my signature in presence of two witnesses.

LEROY CAIN.

Witnesses:

CONRAD F. BEELER,  
ALLAN B. BETZNER.