C. BRENT.

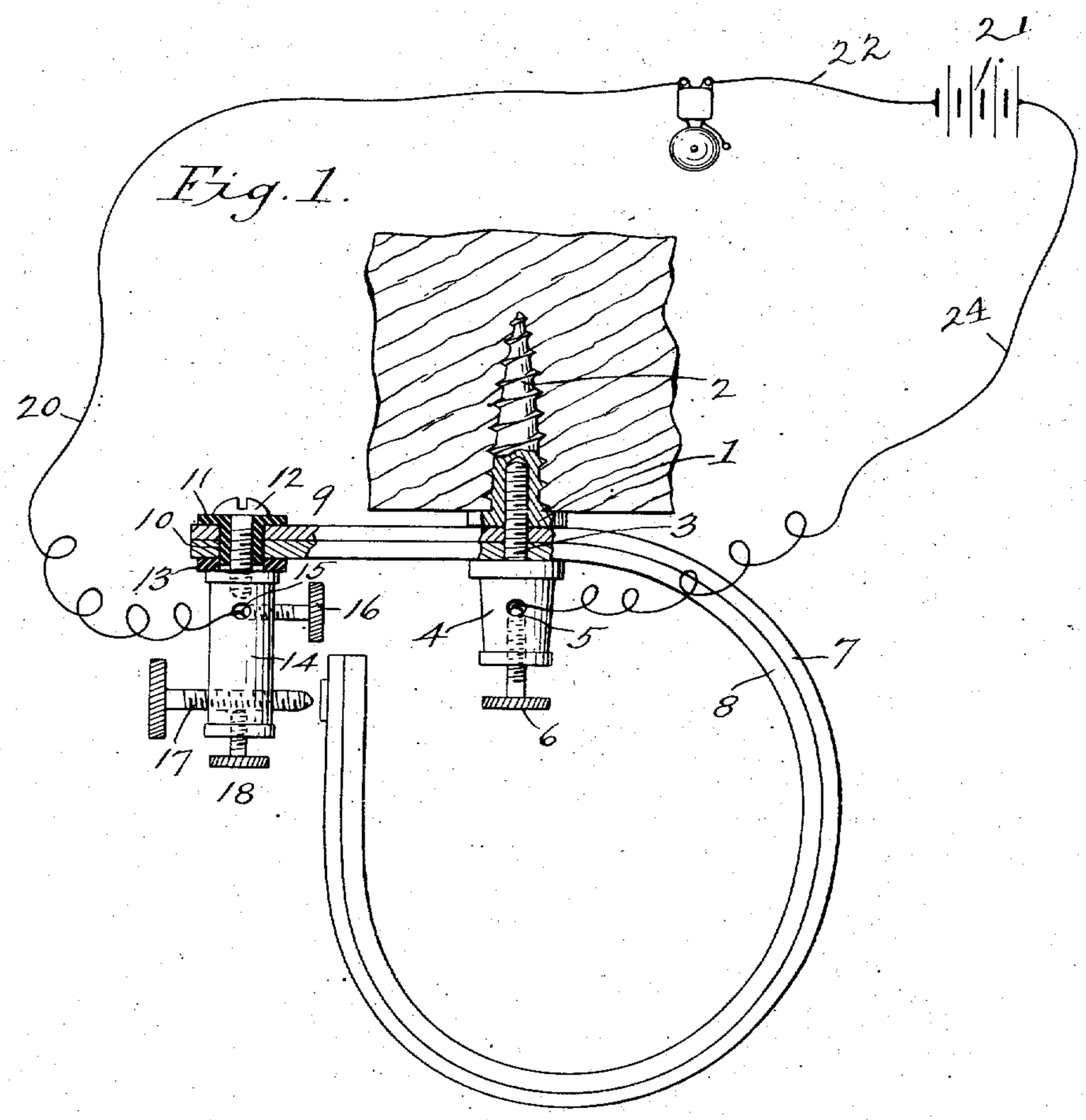
CONTACT DEVICE.

APPLICATION FILED NOV. 5, 1906.

928,934. **Patented July 27, 1909.**

2 SHEETS—SHEET 1.

Fig. 1.



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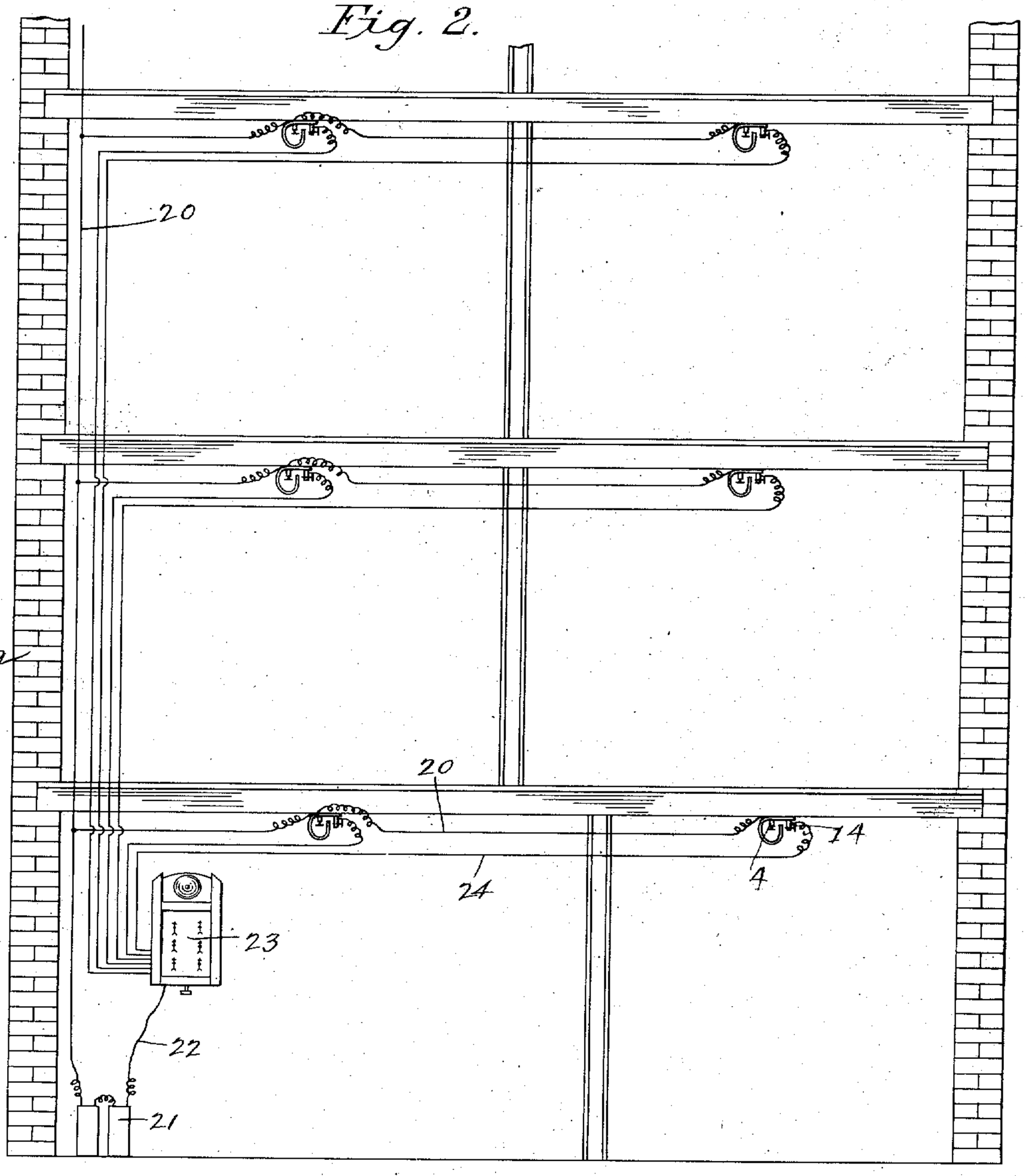
2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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CONTACT DEVICE.

No. 928,934. Specification of Letters Patent. Patented July 27, 1909.

Application filed November 5, 1906. Serial No. 342,014.

To all whom it may concern:

Be it known that I, CHARLES BRENT, residing at Brandon, in the Province of Manitoba and Dominion of Canada, have invented a certain new and useful Improvement in Contact Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

It is customary in many places such as in hotels, warehouses and factories to provide each of the rooms with, or so arranged in different parts of such establishments, devices for operating a suitable annunciator at the office or in any other desired place to indicate the part of the building in which a fire is located, in case of a fire breaking out. These devices have been quite numerous and have given more or less satisfaction, but it has been found in practice that they get out of order and do not work just at the time when they are most needed. It is also a fact that in most instances they are very difficult to adjust and are not sufficiently sensitive in their operation.

It is the object of this invention, therefore, to provide a thermally operated device, which will operate a suitable annunciator and will be easy of adjustment as well as thoroughly reliable.

It is also a feature of this invention to provide a device which can be used with a call-bell system already in use in hotels and the like.

More specifically the invention relates to a contact for an electrically operated annunciator system, whereby the slightest rise in temperature above normal conditions, as in case of fire breaking out in any part of the building, will operate the device, complete the circuit and indicate in what part of the building the fire is located.

The device preferably consists of a suitable contact connected to one side of an electrical circuit and coöperating with a thermostatic bar which, when acted upon by heat, will engage the contact, complete the circuit and in that way indicate upon the annunciator the place where the device is in operation and the location of the fire.

The invention may be further briefly summarized as consisting in construction and combination of parts hereinafter set forth in the following descriptions, drawings and claims.

Referring to the drawings, Figure 1 is a detail view of the device with some of the parts broken away to more clearly show the construction thereof, and Fig. 2 shows the device applied to an electrical annunciator system.

In the drawings one form of the device is shown and it consists of a supporting member 1 which may be made in the form of a plate to be secured to the wall or ceiling or may be supplied with a wood screw 2, which may be readily secured in the wood-work. This supporting member 1 is provided with a threaded opening for receiving the shank 3 of a binding post 4 having an opening 5 for the reception of one of the wires of the circuit and a set screw 6 for holding the wire in place. The shank 3 passes through an opening in the thermostatic bar to be described, to hold the same in place. The thermostatic bar above mentioned is preferably made up of a strip 7 and a strip 8 secured together preferably by soldering and bent into the form of a loop as shown. The strips of this bar are preferably of metals having different co-efficients of expansion and in practice I have found that when the strip 7 is of steel without temper, and the strip 8 is of zinc, very good results are obtained.

One end 9 of the thermostatic bar extends beyond the supporting member 1 where it is provided with an opening 10 adapted to receive an insulating washer 11 surrounding a screw 12 passing through a washer 13 and into a binding-post 14 in a manner such that all of the parts are clamped tightly to the bar. The opening 15 and set screw 16 serve to hold the other line of the circuit. At the end of the binding-post 14 a contact screw 17 is provided and it is arranged to be adjusted in and out as the case may be and held in such adjusted position by means of a set screw 18. The thermostatic bar is arranged to form a loop or ring as shown and its end remains free to coöperate with the contact screw 17 which is normally adjusted so that the bar is out of contact therewith.

From the fore-going descriptions it is obvious that upon the application of heat to the bar it will expand and cause the free end to move out and engage the contact screw 17, thus completing the circuit at this point.

Any preferred wiring for and form of annunciator may be employed, but a very efficient form is shown in the drawing wherein the wire 20 represents the ground wire con-

nected to all parts of the building, to the binding-post 14 of each contact device, and to the battery 21. The wire 22 connects the battery with the annunciator 23 and a wire 24 leads from the binding-post 24 of each contact device to the corresponding indicating device of the annunciator.

It will be readily understood that in case of a fire taking place in any one of the rooms in a building equipped with my device, the thermostatic bar will be acted upon by the heat from the fire, the circuit will be completed at this point and the annunciator will indicate the one of the devices in operation and the location of the fire.

In a hotel where call-bell systems are already installed, one of these devices may be inserted in the circuit in each room and in case of fire the device will operate in the manner already described. The call-bell will ring at the office and will continue to ring as long as the bar holds the circuit closed or as long as the high temperature continues. From this the clerk will know that there is probably a fire in the room corresponding to the indicating device on the annunciator.

Having described my invention, I claim:—

1. In a contact device, in combination, a support, a binding post carried thereby, a thermostatic bar secured intermediate of its ends to said post and having one of its free ends bent around to form a loop, a contact screw mounted in and insulated from the other one of the ends of said bar, the end of the loop being adapted to normally remain out of engagement with said contact but when heated to engage the same; said bar being composed of two strips of metal secured together and having different co-efficients of expansion.

2. In a contact device, in combination, a support, a post carried by said support, a thermostatic bar secured near one end to said support and having its other end bent around in the form of a loop said loop being composed of two strips of metal secured together and having different co-efficients of expansion, the one with the greater expansion being arranged on the inside of the loop, a contact screw mounted in the end of said bar and adapted to be engaged by the free end of said loop, said free end being normally out of contact with said screw, and means for holding said contact screw in any adjusted position.

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

CHARLES BRENT.

Witnesses:
JOSEPH E. GAVIN,
JOHN M. PROVOOST.