

No. 676,085.

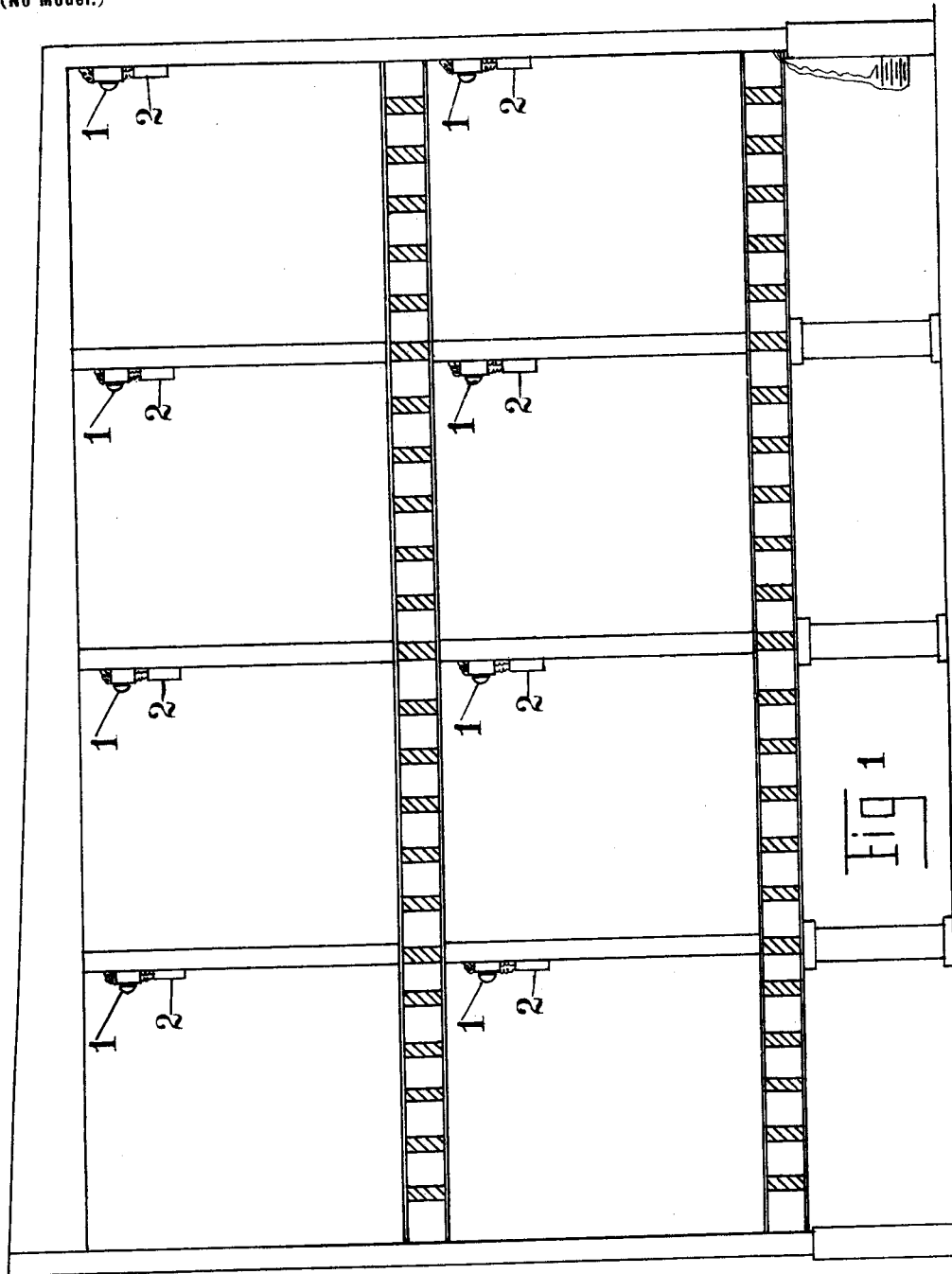
Patented June 11, 1901.

W. J. BREWSTER.  
AUTOMATIC ELECTRIC FIRE ALARM.

(Application filed Aug. 4, 1900.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses:

J. F. Harris

James M. Brown

Inventor:


Willis J. Brewster

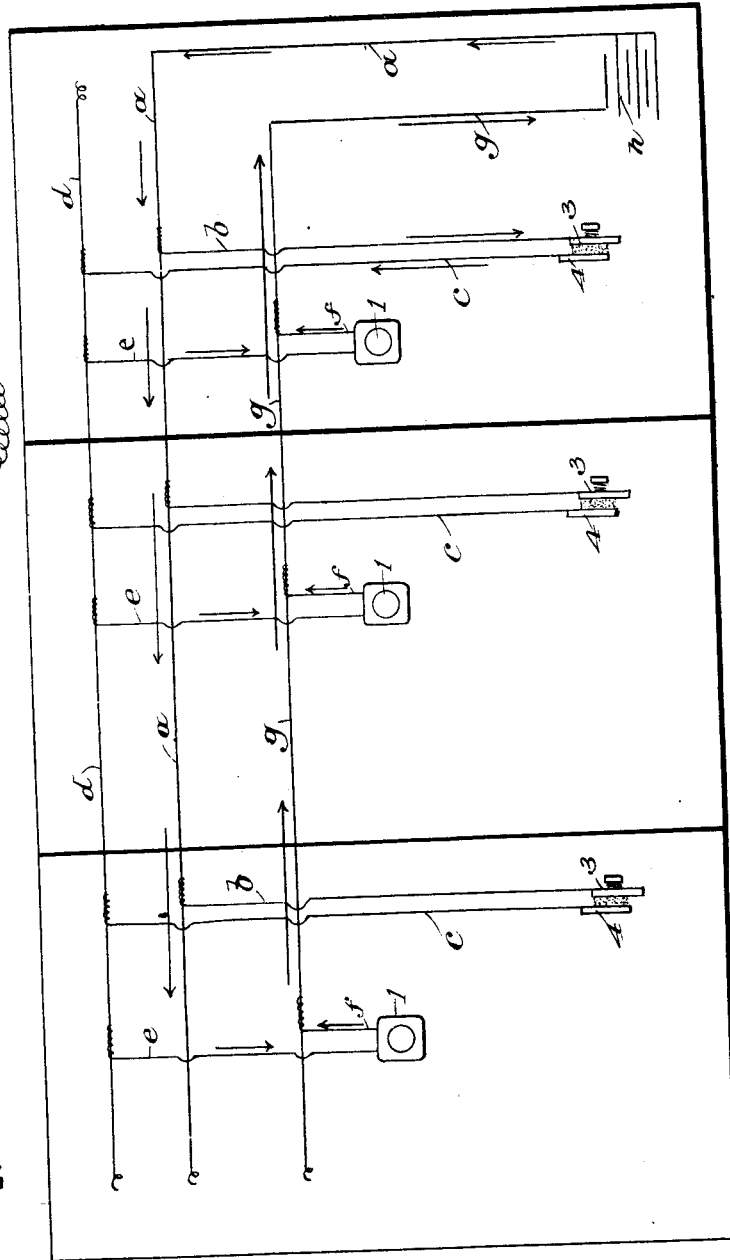
By *N. M. Brown*  
his Atty

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**2 Sheets—Sheet 2.**

Witnesses   
J. F. Harris  
James M. Brown



Inventor  
Willis J Brewster  
by H. M. Brown  
Attorney

# UNITED STATES PATENT OFFICE.

WILLIS J. BREWSTER, OF PORT EWEN, NEW YORK, ASSIGNOR TO EMILY E. BREWSTER, OF ESOPUS, NEW YORK.

## AUTOMATIC ELECTRIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 676,085, dated June 11, 1901.

Application filed August 4, 1900. Serial No. 25,905. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIS J. BREWSTER, a citizen of the United States, residing at Port Ewen, Ulster county, New York, have invented certain new and useful Improvements in Automatic Electric Fire-Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a new and improved electrical fire-alarm.

In the drawings, Figure 1 shows a longitudinal sectional view of a building each room of which is supplied with my alarm in operative construction; Fig. 2, an edge view of the switch or contact plates; Fig. 3, a similar view of another form of such plates; Fig. 4, a front view of said plates inclosed in a case in operative construction; Fig. 5, a side elevation of said case, showing a slight edge of a portion of the device protruding from the case; and Fig. 6, my device in operative construction, showing three of the alarm devices and the wiring therefor.

In the drawings the numeral 1 shows the alarm, which is preferably a bell, and 2 the case containing the contacts.

In Fig. 2, 3 and 4 show the contact-plates, held from contact by an insulating material that will melt at 128° Fahrenheit and allow the plates to make contact, 7 showing a stud having a spring 8 arranged to press the plate 3 against plate 4 when the intervening substance is melted away, and thus complete the electric current and sound the alarm. In Fig. 3 I show another manner of arranging plates for this purpose, wherein 3' and 4' are the contact-plates; but 3' has pins passing through plate 5, plate 5 being insulated from plate 4 by insulating-posts, as seen. The non-conducting meltable material lies between plates 3' and 5, and when melted the spring 8' forces the plate 3 against plate 5 and pins 6 against plate 4, which completes the current and sounds the alarm.

In Fig. 4 I show the case for holding the

plates, and these plates are practically embedded in or lie against and are partly surrounded by an easily-inflammable substance, preferably made of sheets of thin paper 9, coated with a highly-inflammable substance, the edges of said sheets preferably protruding slightly beyond the edge of the case 2 in order that when any small flame or a flame-waif from a fire touches the edge of these sheets, however small said flame may be or for whatever short period of time the flame may be in contact with them, or even if a spark touches it, they will instantly burst into flame and at once melt the intervening substance between the plates, and thus complete the circuit and cause an alarm.

In wiring my apparatus I make use of a three-wire system, as seen in Fig. 6, in which letter *h* represents the battery, and *a* the out-flow, and *g* the return-flow wires forming a circuit. The third wire *d* I denominate a "switch-wire." It will be seen that the ends of the wires *a*, *g*, and *d* are not connected. It will be assumed that in room No. 1 a fire has caused the plates 3 and 4 to come in contact and complete the circuit. The current will then flow through wire *a*, down wire *b*, through plates 3 and 4, up wire *c* to wire *d*, and down wire *e* to the bell, and up wire *f* to wire *g* and to the battery, and in each room other than room No. 1 the current will pass through the bell mechanism from wire *d* and up wire *f* to *g* and to the battery, the last bell and its wires forming the complete circuit; but no current will pass through plates 3 and 4 and their wires *c* and *b* in any of the rooms except that in which the fire originates or passes, as the thermoline between the plates will remain as an insulator between the plates 3 and 4. By the use of the three wires *a*, *g*, and *d* I am enabled to wire a building with very little wire and save expense.

Having described my invention, what I claim is—

A fire-alarm system consisting of a source of electric power having an outflow and an inflow conductor disconnected at their outer ends and a third or switch wire, and having contact plates or bodies separated by a meltable non-conducting substance, one of said plates having a conductor in electrical con-

tact with the outflow-wire and the other plate  
a conductor connected electrically with the  
switch-wire, and having an inflammable sub-  
stance in proximity to the plates arranged to  
5 conduct heat to the meltable substance be-  
tween the plates when the inflammable sub-  
stance is ignited, said substance projecting  
from the vicinity of the plates, and having an  
alarm, as a bell, and ringing or operating  
10 mechanism, one pole of which is connected

with the switch-wire and the other with the  
battery return - wire substantially as de-  
scribed.

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

WILLIS J. BREWSTER.

Witnesses:

W. M. BROWN,

E. C. FASOLDT.