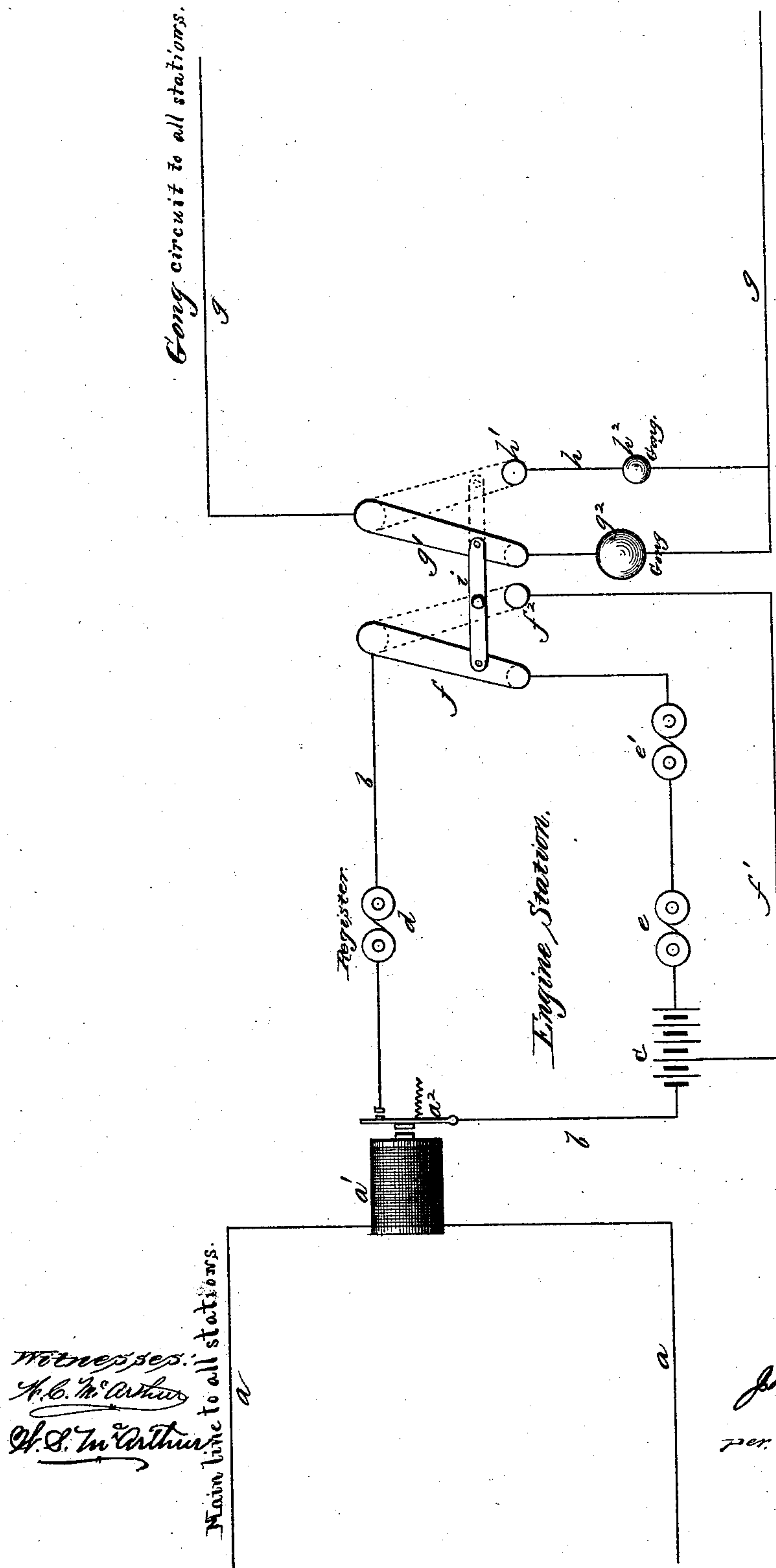


(No Model.)

J. P. BARRETT.  
FIRE ALARM CIRCUIT.

No. 376,133.

Patented Jan. 10, 1888.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN P. BARRETT, OF CHICAGO, ILLINOIS.

## FIRE-ALARM CIRCUIT.

SPECIFICATION forming part of Letters Patent No. 376,133, dated January 10, 1888.

Application filed November 16, 1886. Serial No. 219,062. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN P. BARRETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Alarm Circuits, of which the following is a specification, to wit:

This invention relates to fire-alarm circuits; and it consists in certain peculiarities of the construction and arrangement of the same, substantially as will be hereinafter more fully described and claimed, whereby the fire-companies are not disturbed by alarms or calls to which they are not to respond.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawing, in which I have represented a diagram of the local circuit at an engine-house, and its connecting main-line circuit.

In large cities using an electrical fire-alarm, and having a number of fire-companies, an alarm turned in from any box is sent first to headquarters, and from thence is sent out upon the main line, which is connected with each fire-station or engine-house in the city. At each station is a local circuit, including within it a register for recording the number of the box and a device for waking the company and opening the doors of the stalls, releasing the horses, &c. It is usual to divide the companies into sections, or arrange the orders so that only a portion of the whole force is expected to respond to a call from any particular box; but as the main line connects with every station in the city, the men are roused, the horses hitched, and all ready to start before it is known what box is being struck, or if they are expected to respond. In this manner many of the companies are disturbed each day and night, uselessly, and it is especially wearing upon the men to be thus called out several times during the night. To remedy this, I propose to so arrange the local circuits as to prevent waking the men till it is known that they are needed to respond to the call, and I do this as herein represented.

*a* represents the main-line circuit, which is

arranged and operated in the usual and well-known manner, not necessary to more particularly describe herein. In this main circuit is a relay, *a'*, having a hinged spring-actuated armature, *a''*, which forms a part of a local circuit, *b*, at the engine-station. Included in this local circuit, which is extended from the battery, or from a connection with the local circuit just described, around the devices termed "door-opener" and "waker," to a post or contact point, *f''*, with which the switch *f* may be swung into electrical connection at any time, completing the circuit through the battery and register, but cutting out the door-opener and waker, for a purpose presently seen.

*g* represents a second main circuit connecting each fire-station with the central office or headquarters, and in which, at each station, is located a switch, *g'*, and a large gong or electro-mechanical bell, *g''*, of well-known form. This circuit is also provided with a wire, *h*, connected at one end to the main line of the circuit, and extended around the large gong to a contact-post, *h'*, with which the key or switch *g'* is swung in contact when desired; and this secondary gong-line, *h*, is provided with a small gong, *h''*. It will be seen that the movement of the switch will cut out the large gong and cut the small one into the main gong-line. For convenience of operation the two switches are connected by a link or bar, *b'*, (properly insulated,) so that both switches are moved together.

In use during the day the circuits are generally arranged as shown in full lines in the drawing, and when an alarm is struck the devices in the local and gong circuits operate as heretofore described. At night the switches are thrown over into position shown by dotted lines, and the secondary local and gong circuits are in use. If a call is now sent in, the register receives it, and the small gong notifies the watchman without disturbing the sleepers. A glance at the register informs the watchman whether his company is needed; and if so, he at once reverses the switches, allowing the currents to take their usual course and alarm the company. By this arrangement I save the men much needless loss of sleep, and only wake them when they are needed for duty. Of



course, while I have herein described the device as especially intended for night use, it may, if desired, be used at all times.

It will be understood that there are two main  
 5 circuits connecting the headquarters with each fire-station, on which the connections are simultaneously made when an alarm is sounded. The main gong-circuit strikes upon the gongs at the stations the alarm-box which is called,  
 10 and the other main circuit operates through the relays and local circuits to register the alarm, wake the men, and release the horses from their stalls. In the use of this invention the shunting of the currents of the two main circuits, as  
 15 previously described, accomplishes the object of alarming the watchman without disturbing the whole company till it is known whether the call is one to which this particular company is expected to respond.

20 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fire-alarm system, the combination, with the main circuit and a local-station circuit operated thereby and provided with the  
 25 usual register, door-opener, &c., of a switch in said local circuit, and an auxiliary conductor

connected with said local circuit, passed around the door-opener and arranged to be connected with the switch-key when it is moved, substantially as and for the purpose set forth. 30

2. The combination, with a gong-circuit for sounding the alarms at a station, having one end at each station branched and each branch provided with a signal-gong, one of which is larger  
 35 or heavier toned than the other, of a switch in said circuit for making connection with either terminal branch, whereby either the light or heavy gong is thrown into the circuit at will, substantially as and for the purpose set forth. 40

3. In a fire-alarm system, the combination, with the local circuit *b*, provided with the switch *f*, and auxiliary conductor *f'*, of the gong-circuit *g*, provided with the large gong *g'* and switch *g'*, and the auxiliary conductor *h* and  
 45 small gong *h'*, the two switches being connected to move together, substantially as and for the purpose set forth.

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

JOHN P. BARRETT.

Witnesses:

W. C. McARTHUR,  
 W. S. McARTHUR.