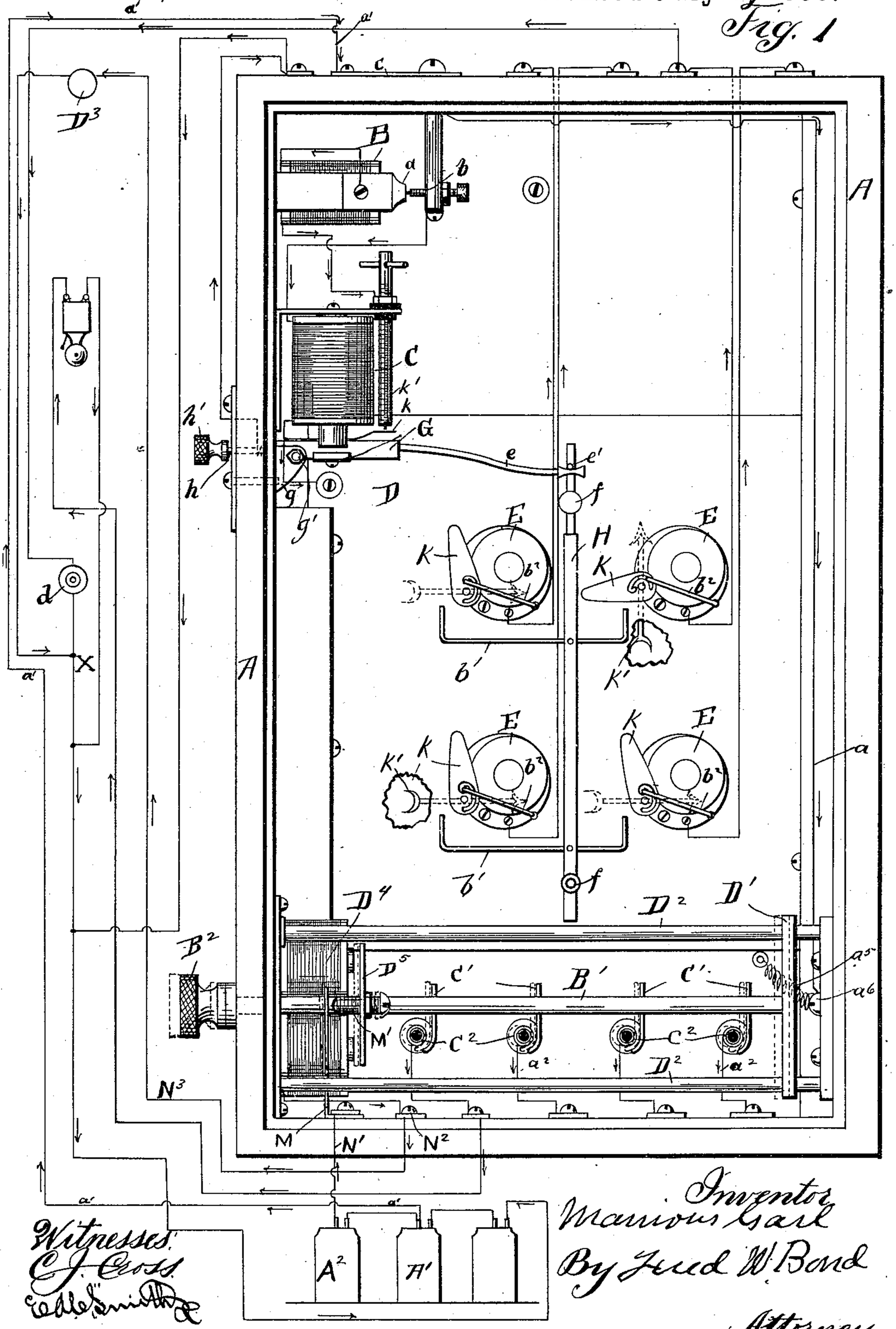
(No Model.) 3 Sheets—Sheet 1.

M. GARL.

COMBINED ANNUNCIATOR AND FIRE ALARM.

No. 563,269. Patented July 7, 1896.

Fig. 1



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(No Model.) 3 Sheets—Sheet 2.

M. GARL.

COMBINED ANNUNCIATOR AND FIRE ALARM.

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Fig. 2

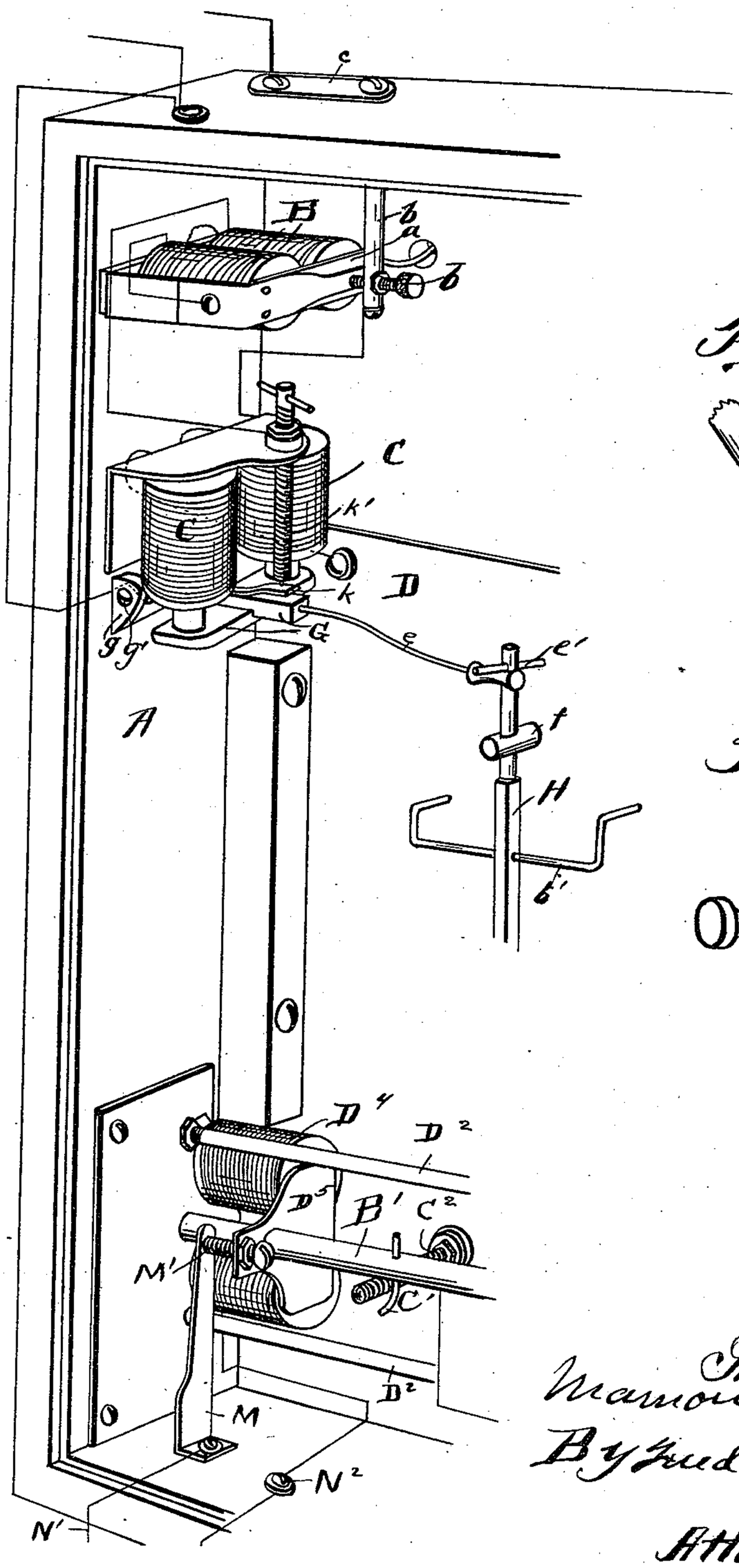


Fig. 3

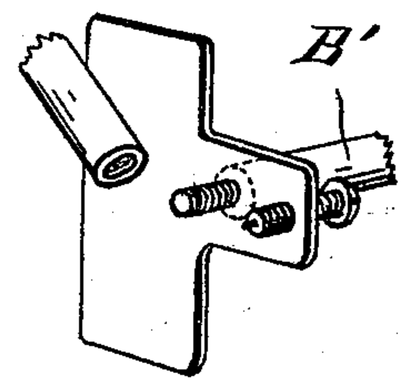
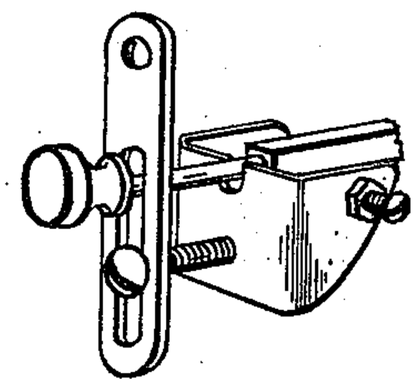


Fig. 4



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(No Model.) 3 Sheets—Sheet 3.

M. GARL.

COMBINED ANNUNCIATOR AND FIRE ALARM.

No. 563,269. Patented July 7, 1896.

Fig. 1.

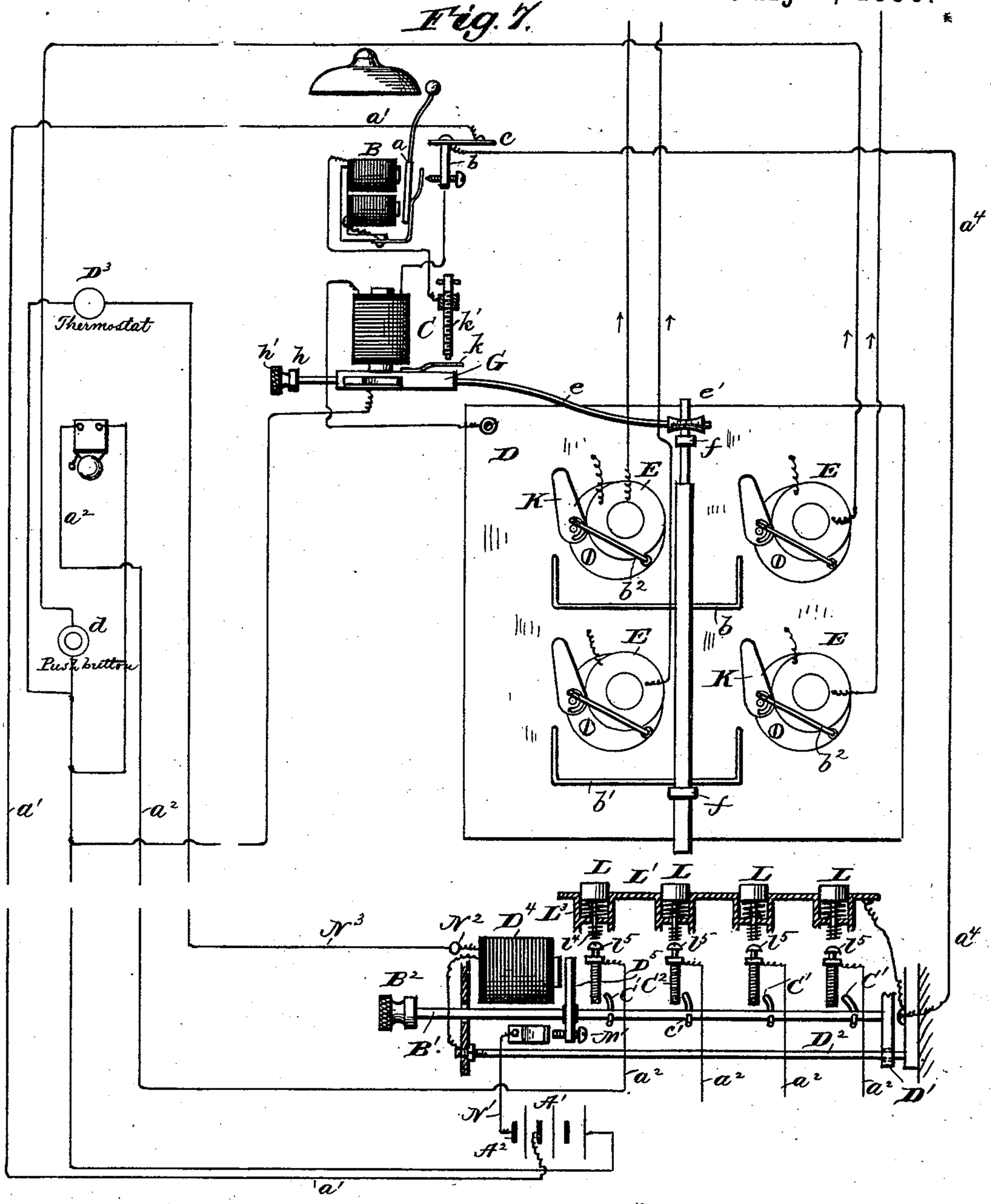


Fig. 5.

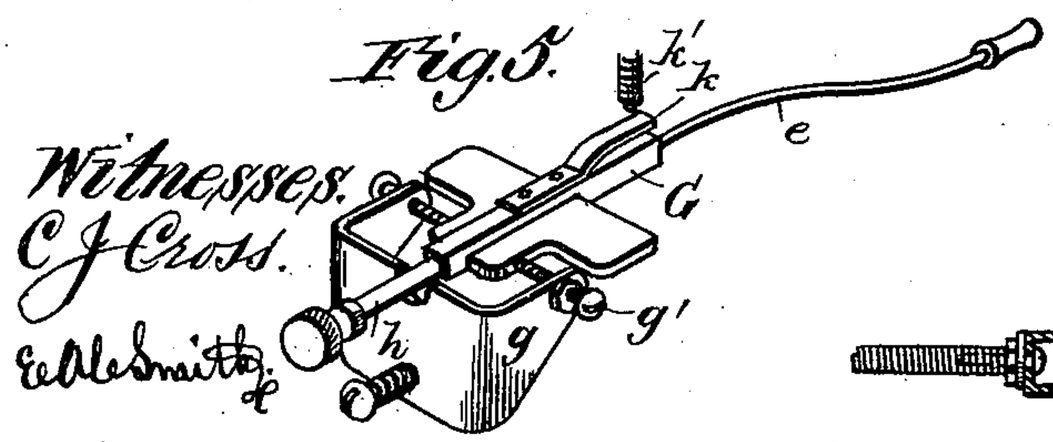
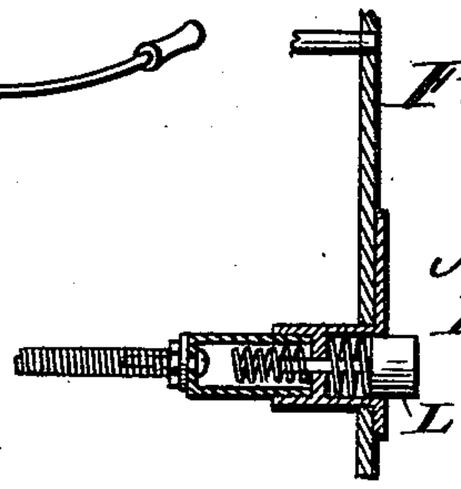


Fig. 6.



Witnesses.
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E. A. Smith & Co.

Inventor.
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By Fred W. Bond.
Atty.

UNITED STATES PATENT OFFICE.

MANIOUS GARL, OF AKRON, OHIO.

COMBINED ANNUNCIATOR AND FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 563,269, dated July 7, 1896.

Application filed September 27, 1894. Serial No. 524,319. (No model.)

To all whom it may concern:

Be it known that I, MANIOUS GARL, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in a Combined Annunciator and Fire-Alarm; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a view showing the back of the frame removed and illustrating the arrangement of the different parts, and also showing the manner of connecting the different wires. Fig. 2 is a view showing a portion of the frame and illustrating the position of the different magnets, except the indicating-magnets, which are removed. Fig. 3 is a view showing the fire-alarm armature and manner of connecting the bar and post. Fig. 4 is a view showing the outer end of the setting-arm, also showing the plate for adjusting the upward movement of the outer end of the setting-arm. Fig. 5 is a view of the setting-arm, showing the same properly pivoted and provided with its armature. Fig. 6 is a sectional view of the plate, return-call push-button, and the fire-alarm spring. Fig. 7 is a diagrammatic view showing a portion of the mechanism and the circuit connections.

The present invention has relation to combined annunciators and fire-alarms; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

In the accompanying drawings, A represents the frame, which is constructed in the ordinary manner, reference being had to properly attaching the different parts hereinafter described, and is of a size to correspond with the numbers designed to be placed in the frame.

The bell-magnets B are constructed in the ordinary manner and are arranged substantially as illustrated in Figs. 1 and 2. The magnets B are provided with the armature *a*, which operates upon the adjusting-post *b* and its different parts in the ordinary manner. From battery A′ leads the wire *a′*, which wire is extended to and connected with the plate *c*, which plate is connected with and to the post *b*, which post is connected to one of the lifting-magnets C, the other lifting-magnet C being connected to the plate D, which plate is provided with the indicating-magnets E, which indicating-magnets are each provided with ordinary return-wires.

To make a call, the push-button *d* is operated in the ordinary manner, which connects the lifting-magnet C and elevates the armature G, which armature is provided with the extended arm *e*, the inner end of which arm is insulated and loosely attached to the top or upper end of the indicator-replacing bar or slide H by means of the pin *e′* or its equivalent. The indicator-replacing bar or slide is held in proper position by means of the posts *f*, which posts are connected with the plate D in any convenient and well-known manner.

The armature G is located below the lifting-magnets C, substantially as illustrated in Fig. 2, and, as shown in Fig. 5, it is pivotally attached to the yoke *g* by means of the set-screws *g′*, which set-screws are attached to the yoke *g*, said yoke being attached to the frame A.

The armature G is provided with the arm *h*, which arm extends through the frame, and its outer end is provided with the weighted knob *h′*, which knob serves as a counterbalance for the armature G and its different parts, said weighted knob *h′* and the arm *h* together being somewhat lighter than the armature G and its parts, by which arrangement the armature G and its parts will fall by gravity, and by reason of the counterbalance will be easily lifted, thereby saving battery power.

When it is desired to bring all of the indicators to their normal position by hand or in the ordinary manner, the knob *h′* is forced downward, thereby elevating the slide H and its different parts, which movement brings the indicators to their normal position, as hereinafter described.

It will be understood that the knob *h′* is not intended to be operated by hand, except when all of the indicators are to be put back

to their normal position, for the reason that the indicators are reset automatically and the last call is only indicated. By my peculiar manner of connecting the magnets C and E said magnets will act in unison when a call is made, thereby lifting the armature G and the bar H simultaneously, which replaces the indicator acted upon by the call just before the last. As the armature G is lifted the spring *k* is brought into contact with the post *k'*, which connects the bell-magnet B, and rings the call-bell and shunts the magnets C and E. After the call is made or the current broken the armature G, together with its arm *e* and the slide H, falls and permits the respective gravity-arm K to assume substantially a horizontal position, as indicated in Fig. 1, which brings the proper indicator-arm K' into proper position to indicate the place from which the last call is made.

For the purpose of providing a means for a return call to answer a call that has been made, push-buttons L are provided, which are located at the bottom or lower portion of the frame A, the return-call push-button corresponding in number with the indicator-magnets, thereby providing a return call for each place from which a call is made. The push-buttons L are extended through the plate L' and into the sockets L^2, within which sockets are located springs L^3, which springs are for the purpose of normally holding the springs L^4 out of contact with the posts L^5, said posts L^5 being connected to the various call-bells by the wires a^2.

For the purpose of providing a means for ringing all of the call-bells at one time in the event of fire, the pull-bar B' is provided, which pull-bar extends through the case A and is provided with the knob B^2, which knob is pulled outward, thereby bringing the cross-pins C' into contact with the springs C^2, which springs are attached to the posts L^5, substantially as illustrated in Fig. 6, said springs being so located that they will normally be out of contact with the pins C', but when the bar B' is pulled outward all of the cross-pins C' will be brought into contact with the springs C^2, thereby ringing all of the call-bells.

For the purpose of holding the pull-bar B' in proper position, the cross-bar D' is provided, which cross-bar slides back and forth on the bars D^2. For the purpose of automatically turning in a fire-alarm the various rooms are provided with thermostats D^3, which thermostats are properly connected to a battery and to the fire-alarm magnet D^4, and when the current is connected by the action of a thermostat to the magnets D^4 the armature D^5 will be drawn against said magnet, thereby automatically bringing into contact the pins C' with the springs C^2, and for the purpose of increasing battery power in case a large number of pins C' are to be operated upon additional batteries may be employed.

For the purpose of connecting the plate L' with the wire a^4, the wire a^5 is provided, which wire, together with the wire a^4, is attached to the screw a^6. The wire a^4 is fed from the bar *c*, this connection being arranged substantially as illustrated in Fig. 1.

For the purpose of providing additional battery power for the fire-alarm, the spring M is provided, said spring being automatically connected by means of the screw M' coming in contact with said spring, after the bar B' has been moved toward the magnet D^4, which spring is connected to the auxiliary battery A^2 by means of the wire N', then through the fire-alarm magnets D^4 onto the post N^2, then through the thermostat D^3 by means of the wire N^3, and returning is attached to the battery-wire at X.

For the purpose of elevating the gravity-arms K, after they have dropped, the sliding bar H is provided with the cross-arms *b'*, which cross-arms are bent laterally at their upper ends, as illustrated in Fig. 2, so that they will properly engage the gravity-arms K.

It will be understood that each of the magnets E are to be provided with armatures, such as b^2, so that when the armatures are lifted they will permit the gravity-arms to fall.

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

1. In an electric annunciator, the combination with a battery and a main conductor leading therefrom, of a series of magnets each connected with the terminal of said main conductor, a series of visual signals actuated by said magnets, return-circuits connected to each of said magnets and leading to the battery, a push-button, electric bells and thermostats arranged in groups throughout the building, the push-buttons being arranged in the return-circuits and the bells and thermostats in shunt-circuits, a magnet D^4 arranged in the thermostat-circuit, a sliding bar C carrying an armature D^5 controlled by the magnet D^4, a series of contacts C', one for each bell, carried by said bar and adapted to engage corresponding contacts C^2 to simultaneously close all the bell-circuits, push-buttons L adapted to close each of the bell-circuits separately, an auxiliary battery, and a circuit-closer operated by the sliding bar C for throwing said battery into circuit with the main battery when all the bell-circuits are closed, substantially as described.

2. In a combined annunciator and fire-alarm, the combination with a battery and a main conductor leading therefrom, of a series of magnets each connected with the terminal of said main conductor, a series of visual signals actuated by said magnets, return-circuits connected to each of said magnets and leading to the battery, a push-button, electric bells and thermostats arranged in groups throughout the building, the push-buttons being arranged in the return-circuits and the bells and thermostats in shunt-circuits, a magnet D^4 arranged in the thermostat-circuit, a sliding bar C carrying an armature D^5 controlled

by the magnet D^4, a series of contacts C', one for each bell, carried by said sliding bar and adapted to engage corresponding contacts C^2 to simultaneously close all the bell-circuits, and push-buttons L adapted to close each of the bell-circuits separately, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MANIOUS GARL.

Witnesses:
FRED W. BOND,
E. A. C. SMITH.