(No Model.)

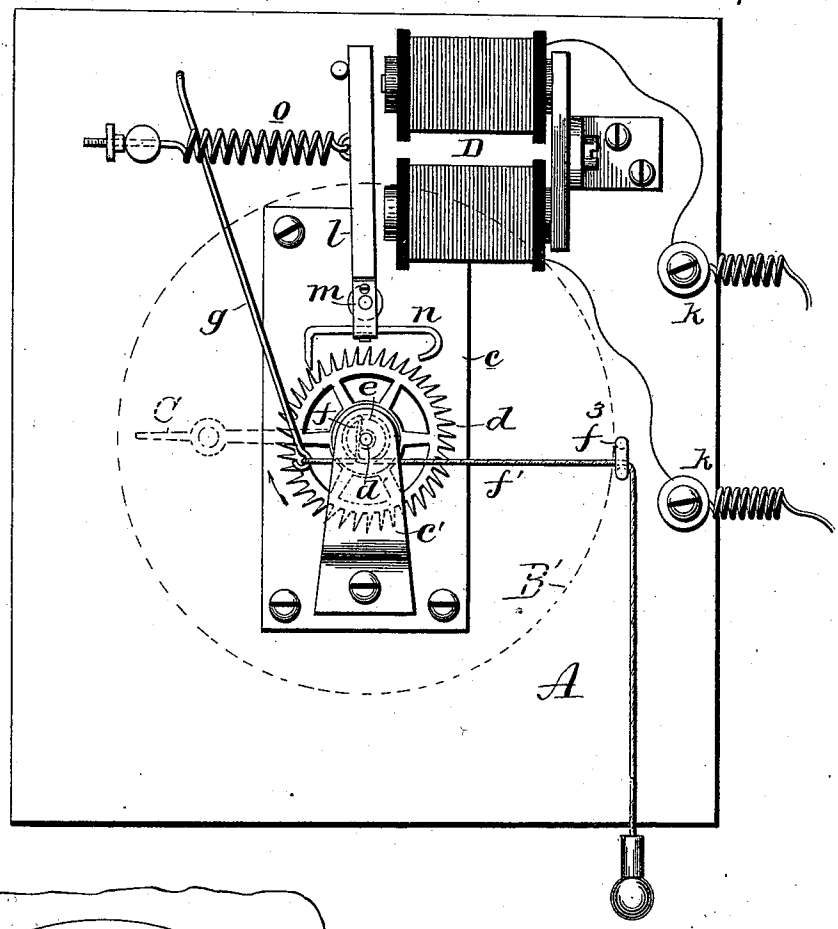
2 Sheets—Sheet 1.

S. & E. W. WHITEHALL.

ELECTRIC CALL SYSTEM.

No. 510,457. Patented Dec. 12, 1893.

Fig. 2.



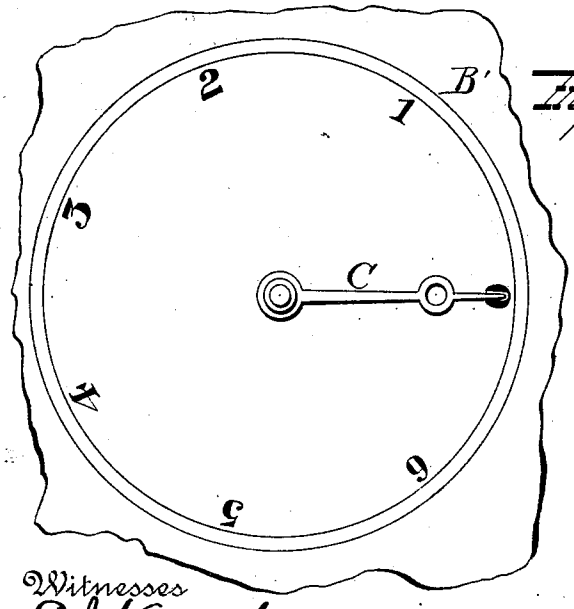
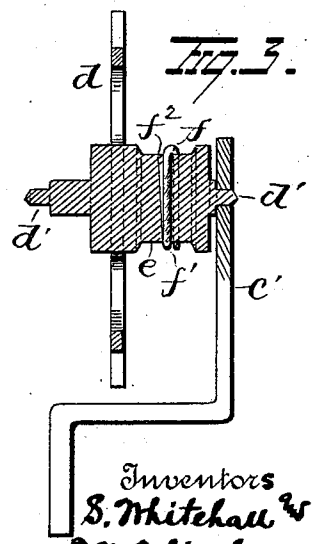


Fig. 1.

Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

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ELECTRIC CALL SYSTEM.

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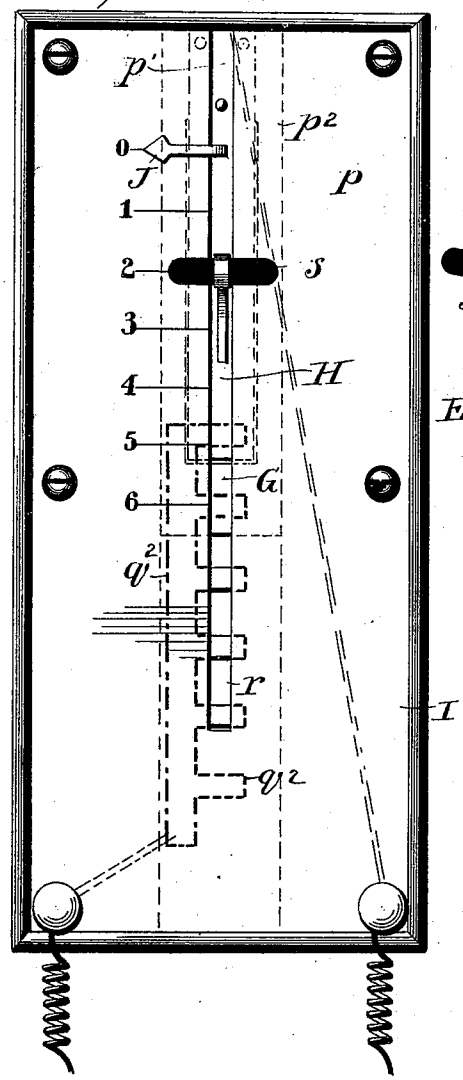
Fig. 4.



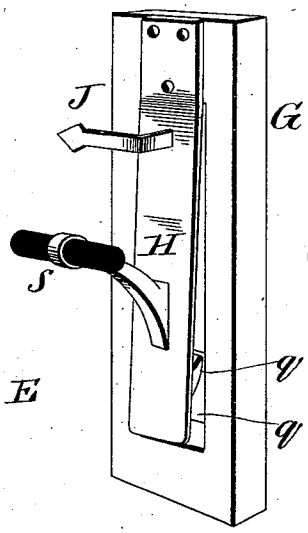


Fig. 5.

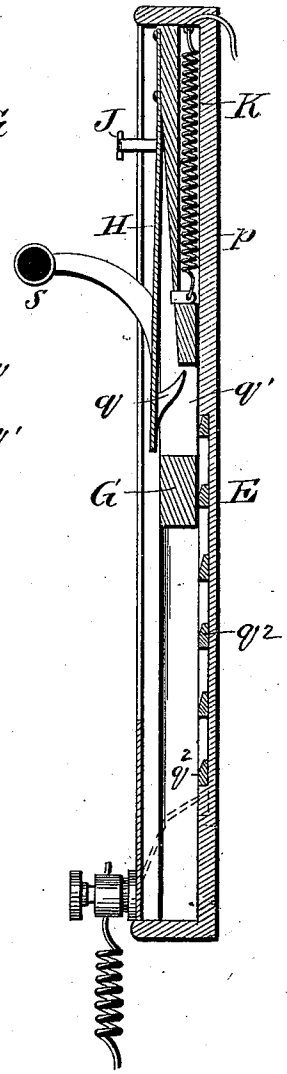


Fig. 7.

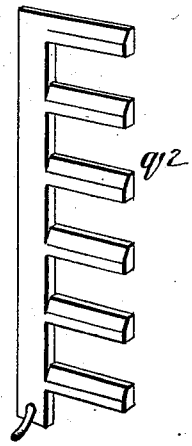
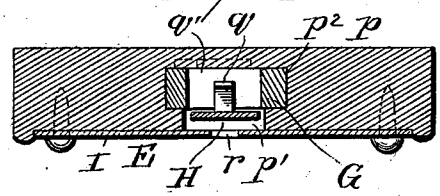


Fig. 6.



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UNITED STATES PATENT OFFICE.

SAMUEL WHITEHALL, OF SOUTH BEND, AND EUPHRATES W. WHITEHALL, OF ATTICA, INDIANA.

ELECTRIC-CALL SYSTEM.

SPECIFICATION forming part of Letters Patent No. 510,457, dated December 12, 1893.

Application filed March 7, 1893. Serial No. 464,961. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL WHITEHALL, of South Bend, in the county of St. Joseph, and EUPHRATES W. WHITEHALL, of Attica, in the county of Fountain, State of Indiana, have invented certain new and useful Improvements in Electric-Call Systems; and we 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.

Our invention relates to an improvement in electric call systems,—the object of the invention being to provide simple and efficient means whereby instructions may be accurately transmitted from one point to another.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is a face view of the indicator. Fig. 2 is a rear view of the same, showing the operating mechanism. Fig. 3 is a view of the escapement wheel and drum carried thereby. Fig. 4 is a face view of the call operating device. Fig. 5 is a longitudinal sectional view of the slide of the call operating device. Fig. 6 is a cross section on the line x—x of Fig. 4. Fig. 7 is a detail view of the make and break plate of the call operating device.

It may be here stated that our improved system is applicable for use in connection with hotel, street car, railroad car and other service, but for sake of convenience we prefer to describe it in connection with hotel service.

A represents a suitable plate or frame for supporting the operating mechanism of the indicator and B represents a face plate of celluloid or other suitable material, on which a dial B′ is arranged and provided with figures or other indicating matter.

To the rear face of the supporting plate or frame A, a plate c is secured and to the plate c a bracket c' is secured. Between the plate c and the bracket c', an escapement wheel d is located, the shaft d' of said escapement wheel being mounted in said bracket and plate and being adapted to pass through the latter and the main supporting plate or frame A. The shaft d' is provided at its free end with a hand or pointer C adapted to register with the figures or other indicating matter on the dial B′, as shown in Fig. 1. The shaft d' carries a drum e adapted to rotate with it and the escapement wheel d. The drum e is made with a perforation f, through which a cord f' is passed and secured by means of a pin f^2 or in any other suitable manner. The cord f' is wound on the drum e in opposite directions, and one end made to pass through a suitable eye or loop f^3 secured to the plate A, and adapted to be grasped by the hand of the operator in resetting the indicator as hereinafter explained. The other end of the cord f' is connected with the free end of a spring g, the other end of said spring being secured to the plate A, said spring tending to cause the shaft d', escapement wheel d and drum e to rotate for a purpose hereinafter explained.

Electro-magnets D are secured to the plate or frame A, and the respective ends of their coils connected with binding posts k, k. The armature lever l of the magnets is secured to a pivotally supported yoke m, which latter carries an escapement pallet n adapted to mesh with the escapement wheel d. The armature lever l is maintained normally away from the magnets when no current is passing through the coils of the latter, by means of a spring o. From this construction and arrangement of parts it will be seen that when the armature lever l is caused to vibrate by causing the current of electricity to intermittently pass through the coils of the magnets, the pallet will be caused to permit the rotation, step by step, of the escapement wheel d, the rotation of said wheel being caused by the spring g. As the escapement wheel rotates, carrying its shaft with it, the hand or pointer will be caused to move over the face of the dial B′, to the extent permitted by the vibration of the pivotally supported armature lever,—the figure on the face of the dial at which the hand

or pointer stops indicating certain predetermined information. For instance Figure 1 may indicate that a guest in the hotel wishes a glass of water, and Figure 2 that a guest wishes dinner served at his room, &c. When the hand or pointer shall have moved to the desired point, it will remain there until returned by the porter or other person in the office of the hotel. The hand or pointer can be returned to the starting point by simply pulling upon the free end of the cord f' in an obvious manner.

In order to provide means whereby the indicator can be operated from the rooms of the hotel, a call operating device or circuit breaker E, such as shown in Figs. 4, 5, 6 and 7 will be employed and included in circuit with the indicator. In constructing the circuit breaker E a block or frame p is employed and provided with an elongated opening p', in the walls of which recesses or guide ways p^2 are made, for the accommodation of a slide block or plate G. To the slide G, a spring plate H is secured at one end, said spring plate being provided at or near its free end with a tooth or projection q adapted to project through an opening q' in the slide G. A notched or recessed metallic plate q^2 is secured to the block or plate G within the elongated recess p' and adapted to be engaged by the tooth q projecting from the plate H. A face plate I is secured to the block G and provided with an elongated slot r coincident with the elongated opening in the block p, but not extending to the full length of said opening. On the face plate I figures, corresponding with the figures on the indicator, are produced, with which figures a pointer J, secured to the plate H, is adapted to register. The block G is retained normally at the upper extremity of its movement, by means of a metallic spring K, secured at one end to the frame p and at the other end to the block G. A handle or knob s is secured to the plate H and projects through the elongated slot in the face plate I. By means of this handle or knob the slide G can be moved downwardly and the spring plate H pressed in order to cause the tooth q to make contact with the notched plate q^2, and thus make and break the circuit which includes the indicator, the notched plate q^2, the spring plate H and the spring K. The slide G will be moved downwardly (the plate H being pressed to cause the tooth q to make contact with the notched plate q^2) until the desired figure on the face plate is reached by the pointer, after which the block will be released, the tooth q moving out of contact with the notched plate, and the slide permitted to return to its normal position through the action of the spring K.

Our improvements may be used in connection with the ordinary hotel annunciator system,—the latter indicating the number of the room from which the call was sent, while our improvements will indicate the wishes of the guest. The indicator can be used in series or in parallel with the annunciators without extra wiring.

The devices are simple in construction and effectual in the performance of their functions.

Slight changes might be made in the details of construction of our invention without departing from the spirit thereof or limiting its scope and hence we do not wish to limit ourselves to the precise details of construction herein set forth but,

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

1. In a call system, the combination with a plate or frame, of an escapement wheel, a drum adapted to rotate with the escapement wheel, a cord connected with and adapted to be wound about said drum, one end of said cord being free, and adapted to be pulled by the operator in resetting the indicator, a spring connected to the other end of said cord, a pallet adapted to mesh with said escapement wheel, and electro-magnetic devices constructed and adapted to vibrate said escapement step by step, a dial, and a pointer carried by the shaft of said escapement wheel and adapted to move over said dial, substantially as set forth.

2. In a call system, the combination with a plate or frame, of an escapement wheel, a drum adapted to rotate with the escapement wheel, a cord connected with and adapted to be wound about said drum, one end of said cord being free, and adapted to be pulled by the operator resetting the indicator, a spring connected to the other end of said cord, a pallet adapted to mesh with said escapement wheel, an electro-magnet, an armature connected with the pallet and adapted to vibrate the same, a dial, and a pointer carried by the shaft of the escapement wheel and adapted to move over said dial, substantially as set forth.

3. In an electric call system, the combination with an indicator having a dial and a pointer or hand and mechanism for causing said pointer or hand to have a step by step movement over the dial, said dial having figures or other characters thereon, of a circuit breaker included in circuit with the indicator, said circuit breaker comprising a frame, a slide, a spring plate carried by said slide, a notched plate, a tooth carried by the slide and adapted to ride over the notched plate, and a face plate having figures or characters corresponding with the figures or characters on the dial of the indicator, substantially as set forth.

4. In an electric call system, the combination with a frame, of a slide adapted to have

a movement in said frame, a notched plate secured to the frame, a spring plate carried by the slide, a tooth carried by the spring plate and adapted to move over said notched plate, a spring for returning said slide, a handle or knob secured to the spring plate, a face plate having figures or characters thereon, and a pointer carried by said spring plate and adapted to register with said figures or characters, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

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E. W. WHITEHALL.

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ALBERT SCHOONOVER.