(No Model.)

F. J. WALL.

ELECTRIC BELL PULL.

No. 282,246. Patented July 31, 1883.

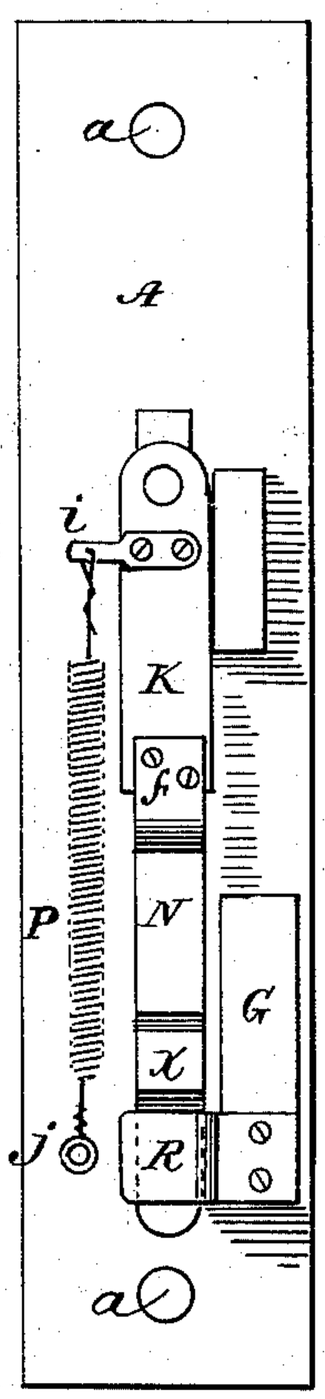

Fig. 1.

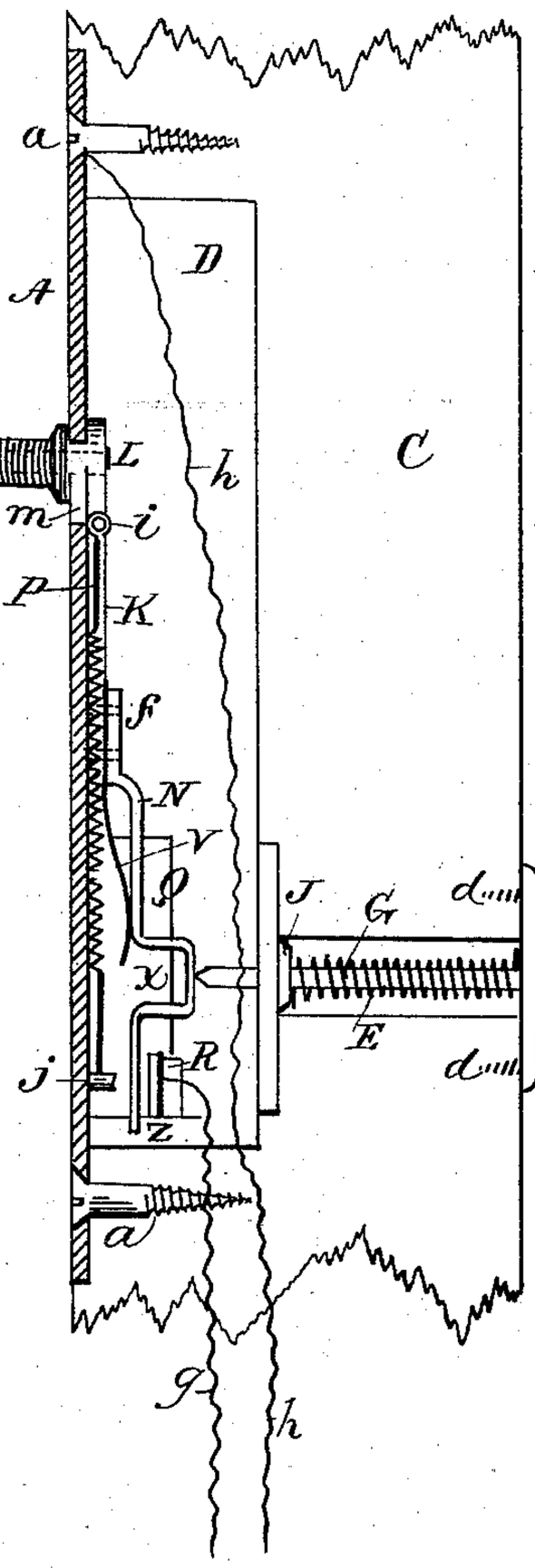

Fig. 2.

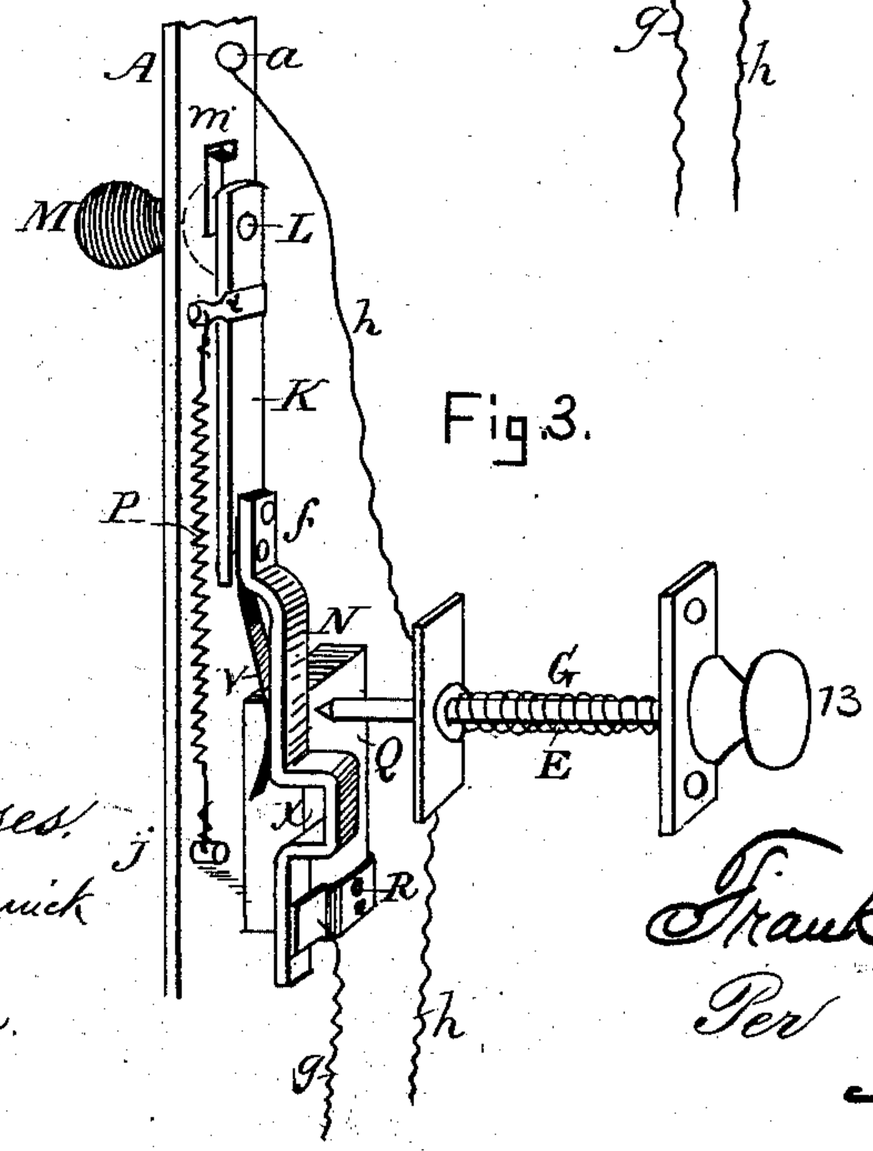

Fig. 3.

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ELECTRIC BELL-PULL.

SPECIFICATION forming part of Letters Patent No. 282,246, dated July 31, 1883.

Application filed March 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. WALL, of Lawrence, in the county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Electric Signal-Bells, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation with the face-plate removed, showing the interior of the mechanism; Fig. 2, a vertical longitudinal section, showing the pull in use; and Fig. 3, an isometrical perspective view of the pull detached.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of bell-pulls which are designed for bells which are rung by electricity; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a more effective device of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In the drawings, A represents the plate to which most of the working parts are attached; B, the knob or pull proper, and C the post or jamb of the door. The jamb is mortised, as shown at D, to receive the plate A and its attached parts, which are secured thereto by the screws *a a*. The knob B is secured to the outside of the jamb in the ordinary manner by the screws *d d* in the escutcheon H, its spindle E being elongated and terminating in a wedge-shaped point within the mortise D, as shown in Fig. 2. A coiled spring, G, is disposed around the spindle where it passes through the jamb, the outer end of the spring abutting against the escutcheon of the knob and its inner end against a fixed collet, J, on the spindle, the spring acting expansively to force the spindle inward to its fullest extent.

A plate, K, is fitted to slide vertically on the inner face of the plate A, and provided with a horizontally-arranged screw-stud, which projects outwardly through the slot *m* and carries the nut or screw-knob M. Attached at *f* to the plate K there is a spring, N, provided with the angular bend *x*, and with the auxiliary spring *v*. A coiled spring, P, has its upper end secured at *i* to the plate K and at *j* to the plate A, this spring being arranged to act contractively to force the plate K downward.

An insulator, Q, which may be composed of glass, rubber, or any other good insulating material, is attached to the inner face of the plate A, and provided with the laterally-projecting metallic arm or stop R, the stop being connected to the negative pole of the battery by the conducting-wire *g*, the positive pole being connected to the upper end of the plate A by the conducting-wire *h*.

In the use of my improvement the plate K is raised to its highest point by means of the knob M, and secured by turning the knob inwardly on the screw-thread of the spindle, the point of the spindle E resting against the bend *x* of the spring N, and thereby keeping the lower or free end of said spring out of contact with the stop R, and the circuit broken, as shown in Fig. 2. If, now, the parts being in the position last described, the knob B is pulled, the spindle E will be withdrawn from the bend *x*, permitting the spring N to force its point or free end *z* against the stop R, thereby closing the circuit, or forming a circuit through the wires *g h*, stop R, plates A K, and spring, N, and causing the bell to be rung in a manner which will be readily obvious without a more explicit description. When the knob B is released, the spring G will force the spindle E in against the bend *x*, detach the point *z* of the spring N from the stop R, and thereby break the circuit and stop the ringing of the bell. It is sometimes desirable to have the bell continue to ring after the knob has been released. To accomplish this, the parts being arranged as shown in Fig. 2, the knob M is turned out slightly on the stud L, or enough to free the plate K. If, now, the knob B is pulled and the spindle E withdrawn from the spring N, the spring P will instantly force the plate K down until

the bend *x* has passed the point of the spindle, so that when the knob is released and the spindle returns its point will enter the mortise D above the bend, and as the point *z* will then be in contact with the stop R the circuit will remain closed and the bell continue to ring until the plate K is again raised and secured by the knob M. The point of the spindle is made tapering or wedge-shaped to enable it to ride easily over the bend *x* as the plate K is drawn up. When the knob M is loosened and the spring N is against the spindle, a pressure will be exerted on the plate K sufficient to resist the action of the spring P until the spindle is withdrawn, after which the spring will overcome the friction between the plates K A and force the plate K and spring N down, as described.

Having thus explained my invention, what I claim is—

1. The improved electric bell-pull herein described, the same consisting in the plates A K, stud L, knob M, spring N, springs G P, spindle E, knob B, insulator Q, stop R, and wires *g h*, constructed, combined, and arranged to operate substantially as set forth.

2. In an electric bell-pull, the spring N, provided with the bend *x*, in combination with the spindle E, stop R, insulator Q, and conducting-wires, substantially as set forth.

3. In an electric signal-bell, the sliding plate K, provided with the arm *i*, in combination with the plate A, the spring P, fastening device *j*, the spring N, the auxiliary spring *v*, the stop R, the spindle E, spring G, and wires *g* and *h*, substantially as described.

4. In an electric bell-pull, the plate A, provided with the slot *m*, in combination with the sliding plate K, provided with the knob M, spring P, and means for permanently closing the circuit to produce a continuous ringing of the bell, substantially as described.

5. In an electric bell-pull, the elongated spindle E, having its inner end shaped to adapt it to ride over the bend *x*, in combination with the knob B, electric wires, and spring G, substantially as set forth.

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