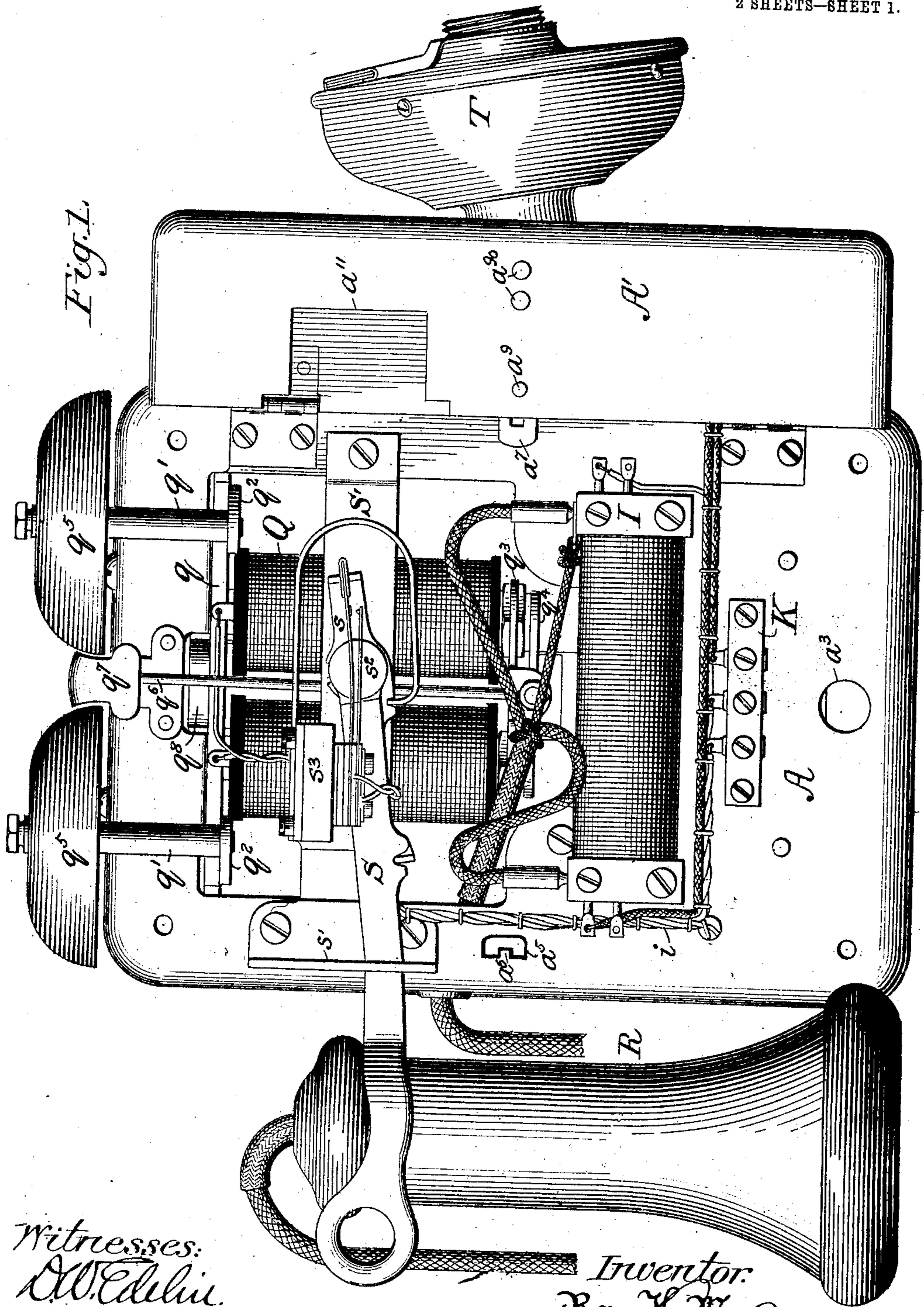


No. 829,535.

PATENTED AUG. 28, 1906.

R. H. MANSON.  
TELEPHONE WALL SET.  
APPLICATION FILED FEB. 28, 1905.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

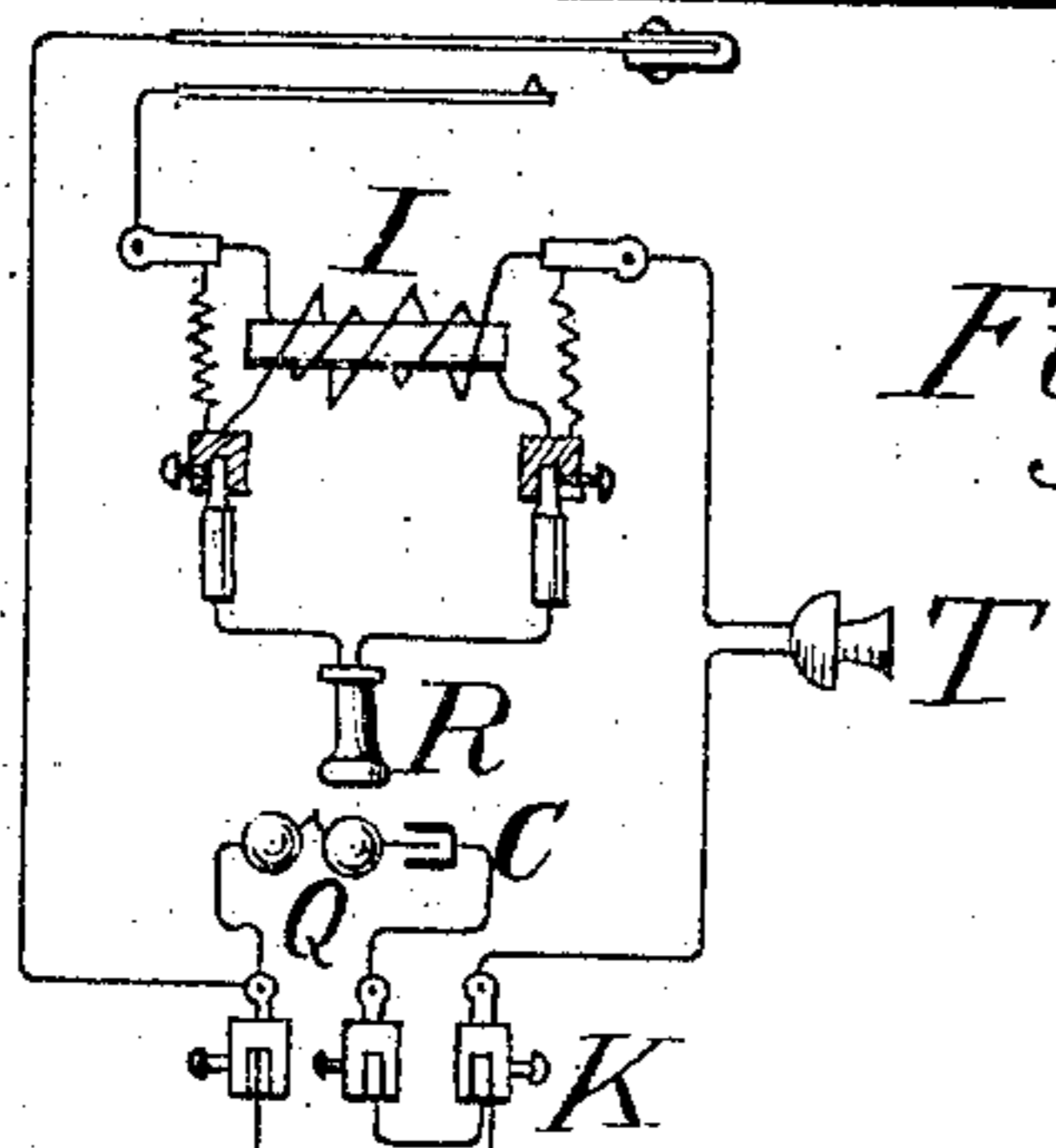
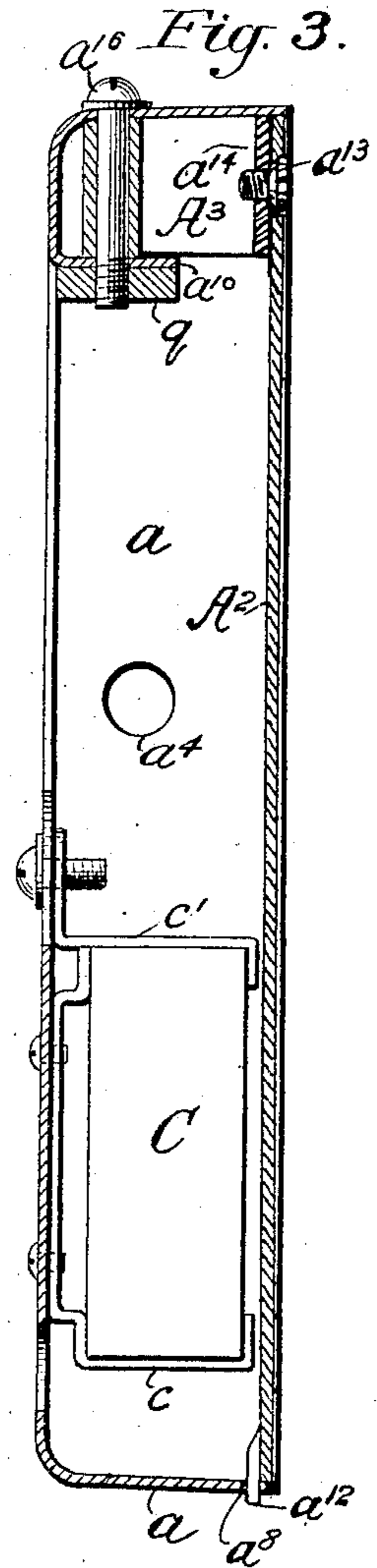
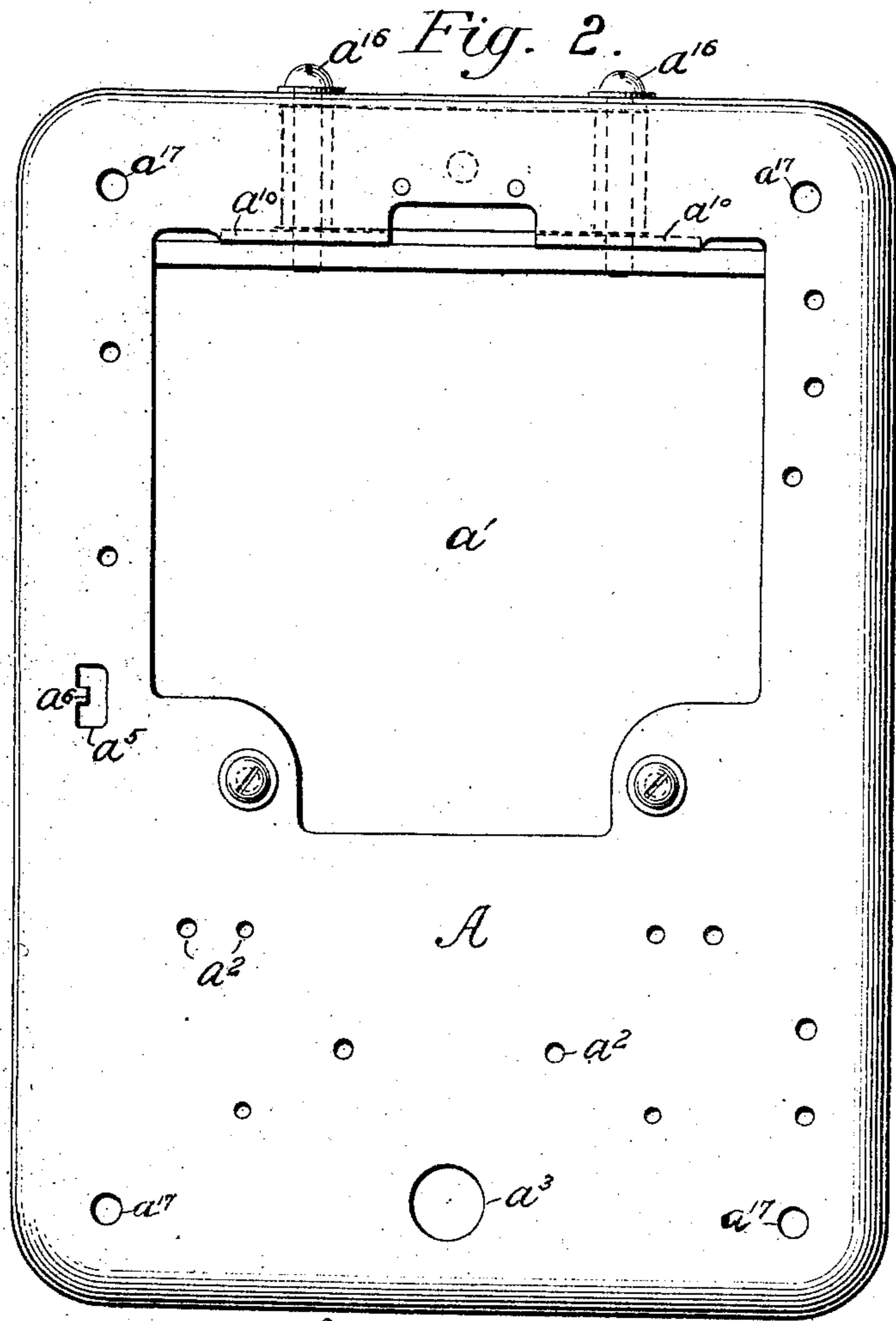


Fig. 5.

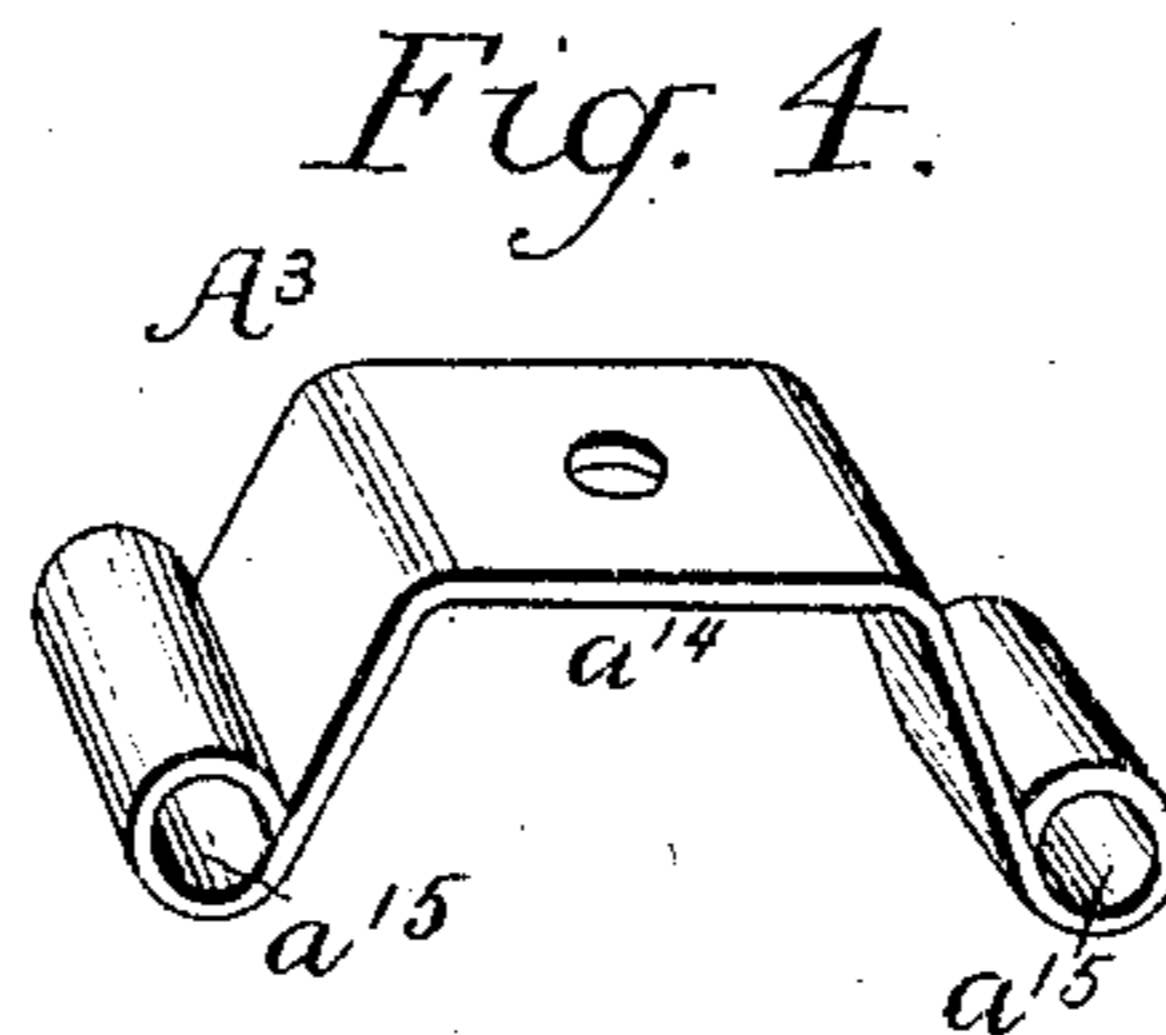


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## TELEPHONE WALL SET.

No. 829,535.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 28, 1905. Serial No. 247,714.

*To all whom it may concern:*

Be it known that I, RAY H. MANSON, a citizen of the United States, residing at Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Telephone Wall Sets, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to telephone wall sets, and has for its object the production of a telephone of this type which shall be very compact, using full-sized standard parts, so that they will be interchangeable with those of the regular full-size telephone, making it possible to take repair parts from the standard stock. The telephone is also designed to use the standard common-battery circuit, so that the instrument can be used for the same talking and signaling service as the larger common battery sets. All of the working parts are concealed within the case and otherwise protected, so that it is impossible to injure the mechanism even when subjected to abuse.

The case is made up in two parts, each of which is of steel, drawn into shape without seams, thus making a very rigid construction. The cover is hinged and locked in its closed position by a spring-catch. When open, all of the working parts of the telephone are exposed for inspection or adjustment.

The wiring between the various parts or pieces of apparatus is done with insulated wire and flexible cord sewed into a cable similar to that used in switchboard construction. Distinguishing colors are used in the insulation of different wires, so that the circuit can be readily followed. All parts entering into the circuit are thoroughly insulated from the metal box and from exposed metal parts, so that it is impossible for the user to receive a shock while using the telephone.

The condenser, which is necessary in this type of telephone, is located within the base. A metal cover is provided to close the opening of the base and protect the parts which would otherwise be exposed. This cover has two ears on its lower edge which are made to insert in perforations made in the lower portion of the base, while the upper portion of the cover is held by a single screw.

The metal-box telephone shown in the accompanying illustration is provided with an

adjustable transmitter-arm, a removable lever-hook switch, a self-contained ringer, a balanced Wheatstone-bridge coil, and a small-size condenser of one microfarad capacity. In the circuit used the condenser is only used in ringing and for that reason can be made small.

In the drawings, Figure 1 is a front view of my improved telephone set with the cover opened. Fig. 2 is a face view of the formed-up base-plate of the set. Fig. 3 is a vertical section thereof. Fig. 4 is a perspective view of the distance-piece in Figs. 2 and 3. Fig. 5 is a diagram of the circuits.

Referring to Fig. 1, A is the hollow base, upon which all the parts of my improved set are mounted. This consists of seamless steel in sheet form drawn up to form a box-shaped body with deep sides or flanges a. The design of this base is a very important part of my invention, for upon it depends the elimination of all the expensive small parts which will be hereinafter pointed out. In the course of preparation of this case it has formed in it a large opening a' to receive the ringer and a number of smaller openings a<sup>2</sup> for securing devices, such as screws or rivets, whereby the several mountings are secured; also, an opening a<sup>3</sup> for the entrance of line-wires, so as to connect to terminals on rack K; also, in the left-hand side flange an opening a<sup>4</sup>, which is afterward bushed with insulation and serves for the passage of the receiver-cord. In forming up the base the upper edges of the opening a' are turned in at a<sup>10</sup> to form flanges upon which the iron yoke of the ringer-frame is bolted.

Hinged upon the base at one side is the hollow cover A', which is also formed up out of seamless steel. This cover carries upon its face the transmitter T, preferably by means of a ball-and-socket joint, which, however, in itself forms no part of the present invention. This cover has a notch or opening a<sup>11</sup>, which when it is closed takes over the lever of the switch-hook and is covered by the escutcheon thereof. It also carries a latch-spring a<sup>7</sup>, riveted at a<sup>90</sup> and provided with an opening in the cover for inserting a pin or other pointed tool to force the latch out of engagement with tongue a<sup>8</sup>. The opposite wall of opening a<sup>5</sup> prevents spring a<sup>7</sup> being forced in beyond its elastic limit. When the cover is

closed, a notch or slot in this spring takes over the tongue  $a^6$  left on one side of the opening  $a^5$  in the base, this construction avoiding the use of any separate fastening device.

5 The rear opening of the base is closed by a cover-plate  $A^2$ , provided at its lower end with projections  $a^{12}$ , which are slipped into the openings  $a^8$  and held at its upper end by a screw  $a^{13}$ , taking into the bridge  $a^{14}$  of the distance-piece  $A^3$ . This is best shown in Fig. 4  
10 and consists of a strip of sheet metal bent up and with its ends turned over at  $a^{15}$  to take the shanks of the bolts  $a^{16}$ , which pass down through the top flange  $a$  of the base and  
15 through the flanges  $a^{10}$  into the yoke  $q$  of the ringer. This bridge serves, therefore, to stiffen the flanges  $a^{10}$  as well as to secure the back plate. The screws or other fastening devices which secure the whole instrument to  
20 the wall pass through the corners of the base at  $a^{17}$  of the back plate.

Beneath the lower part of the base  $A$ , I secure my condenser  $C$ , by means of spring-clips  $c$  and  $c'$ , the latter being removable or  
25 formed so they can be sprung up to insert or remove the condenser and coming down upon the upper end of clip or clips  $c$  to limit their play, both the upper and lower portions of these clips being offset from the inner face of  
30 the base-plate to leave space for the screws or rivet-heads and bulging of the condenser sides.

The ringer is shown at  $Q$  and is of a standard type, having an iron yoke  $q$  supporting  
35 its operating parts, its gong-posts  $q'$  being carried by adjustment-plates  $q^2$  and extending up in front of the base-plate, the upper edges of the cover  $A'$  being notched to take over them. The gongs  $q^5$  may be of different  
40 sizes, provided for by the adjustment of plates  $q^2$ . The armature  $q^4$  is carried on the yoke  $q^3$ , secured to the cores of the magnets, and the clapper-rod  $q^6$  passes up vertically beneath a hood  $q^7$ , riveted to the base  $A$ .  
45 The latter is notched beneath the hood to take the permanent magnet end  $q^8$ , and the cover-plate is notched to give play to the clapper.

Across the opening  $a'$ , I spring a bridge  $S'$ ,  
50 secured at its ends by screws and having the left-hand end  $s'$  turned over and slotted to form the escutcheon-plate and limiting-stop for the hook-lever. The latter is of the separable type, consisting of a main lever  $S$ ,  
55 latched upon a stub  $s$ , both being pivoted upon a grooved post  $s^2$ , secured in the bridge  $S'$ . For the common-battery type of instrument but a single pair of springs is required, opening when the hook is down; but as these  
60 springs are mounted to form a separable unit on the stub-plate  $s^3$  they may be changed to alter the type of instrument without removing the switch-hook.

The induction-coil  $I$  is mounted below the  
65 opening  $a'$  transversely of the base, with its

terminals up for the receiver-cord tips. The wiring from the end terminals, with the transmitter-wires, is made up into a small cable  $i$ , which is arranged so as to be out of the way and secure from tampering. From this the  
70 respective pairs are taken off to the ringer, the switch-hook, and the condenser, and the line-terminals are connected below, being mounted on the terminal-rack  $K$ . From  
75 this terminal-rack connection is made to the line-wires through the opening  $a^3$ , which may be used for this purpose only if no lower fastening device is desired, as hereinbefore mentioned.

Fig. 5 shows the circuit of the instrument. 80  
The coil  $I$  is a Wheatstone-bridge coil with the receiver  $R$  in the bridge-wire. The ringer and condenser are permanently connected across the line-terminals on the rack  $K$ , but may be shifted to the switch-hook if a  
85 different circuit is desired, a middle terminal being provided to this end.

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

1. A telephone wall set comprising a hollow base having an opening, a hollow cover hinged thereto, a ringer and condenser mounted to lie within said base, a bridge spanning the opening in said base, a hook-  
95 lever and contacts mounted on said bridge, and an induction-coil and terminal-rack mounted on the base beneath the hollow cover, where they may be exposed as required.

2. A telephone wall set comprising a hollow base, having an opening and a hollow cover hinged to said base over said opening, a ringer and condenser mounted to lie within  
100 said base, a bridge spanning the opening in said base and provided with a shelf, contact-springs mounted on said shelf, a hook-lever pivoted to said bridge adjacent to said contacts and an induction-coil and terminal-rack  
105 mounted on said base, below said opening, all of said parts positioned below said cover, where they may be exposed as required.

3. A base-plate for wall telephones comprising a body portion of sheet metal and flanges formed thereon; an opening in the  
115 body portion to receive a ringer-frame, openings in the front and sides for the passage of connecting-wires, means to secure a ringer to the flanges, and an angular stiffener or distance-piece held by said securing means and  
120 reinforcing the flanges, substantially as described.

4. In a telephone wall set, the combination with a hollow base, of a ringer, means for securing the ringer to said base, and  
125 means secured by said ringer-securing means to the base, whereby a back plate may be attached.

5. In a telephone wall set, the combination with a hollow base, having a flange of a  
130

ringer, means for securing said ringer to said flange, a distance-piece, and a closure-plate secured to said distance-piece, said ringer-securing means also securing said distance-piece to the base.

5 6. In a telephone wall set, the combination with a hollow base having a flange, of a ringer-yoke, a distance-piece, means securing the ringer-yoke and the distance-piece to the flange, and a back plate secured to the base and to the distance-piece.

10 7. In a telephone wall set, the combination with a hollow base having a flange, of a

ringer provided with a yoke, a distance-piece having looped ends, screws passing through said looped ends and engaging said yoke to secure both the yoke and distance-piece to the flange, and a back cover-plate secured to the base and distance-piece.

In testimony whereof I affix my signature 20 in presence of two witnesses.

RAY H. MANSON.

Witnesses:

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J. C. BRONSON.