

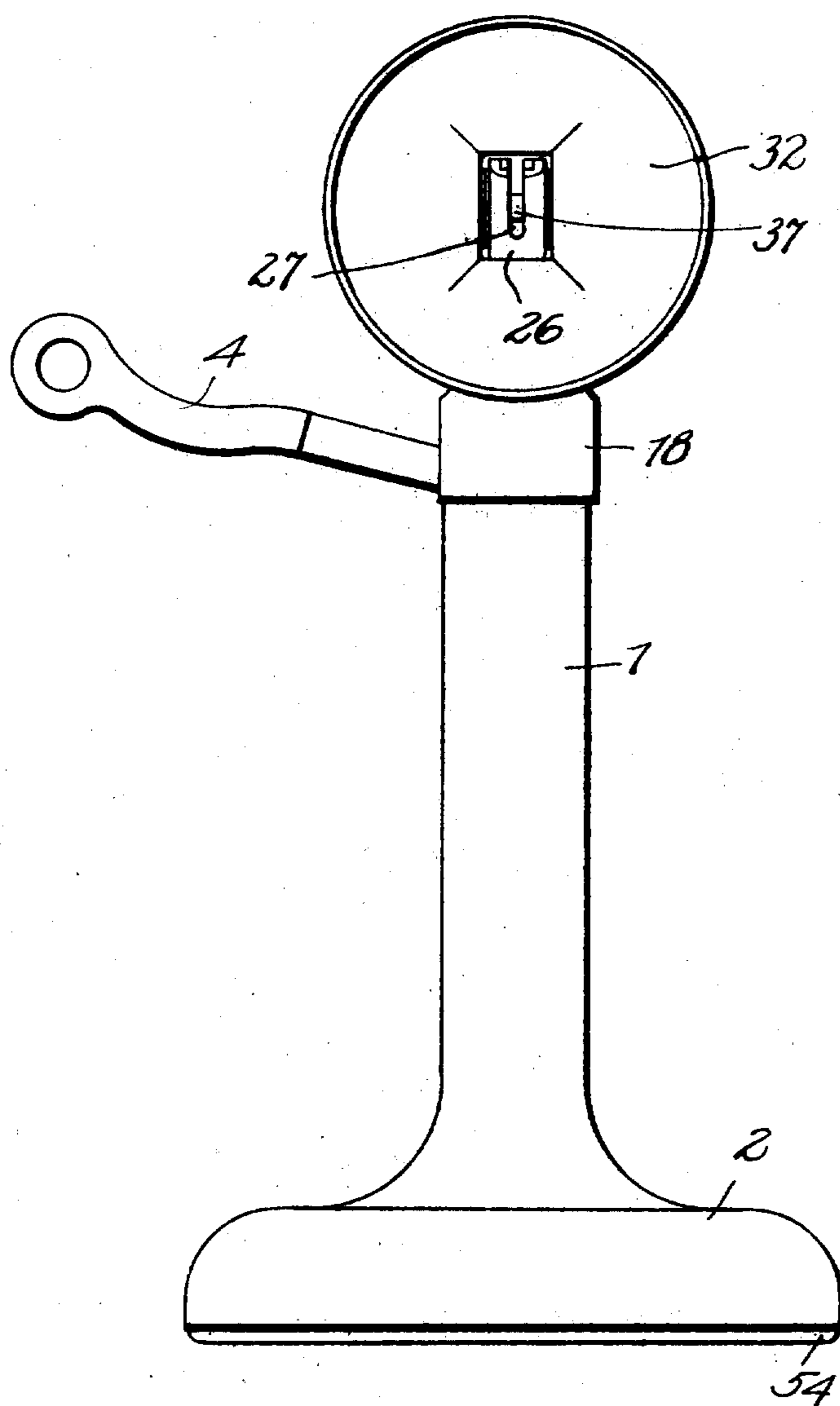
R. H. MANSON.  
TELEPHONE DESK SET.  
APPLICATION FILED AUG. 23, 1907.

900,404.

Patented Oct. 6, 1908.

5 SHEETS—SHEET 1.

Fig. 1



Witnesses

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Leonard W. Novander

By

Inventor

Ray H. Manson

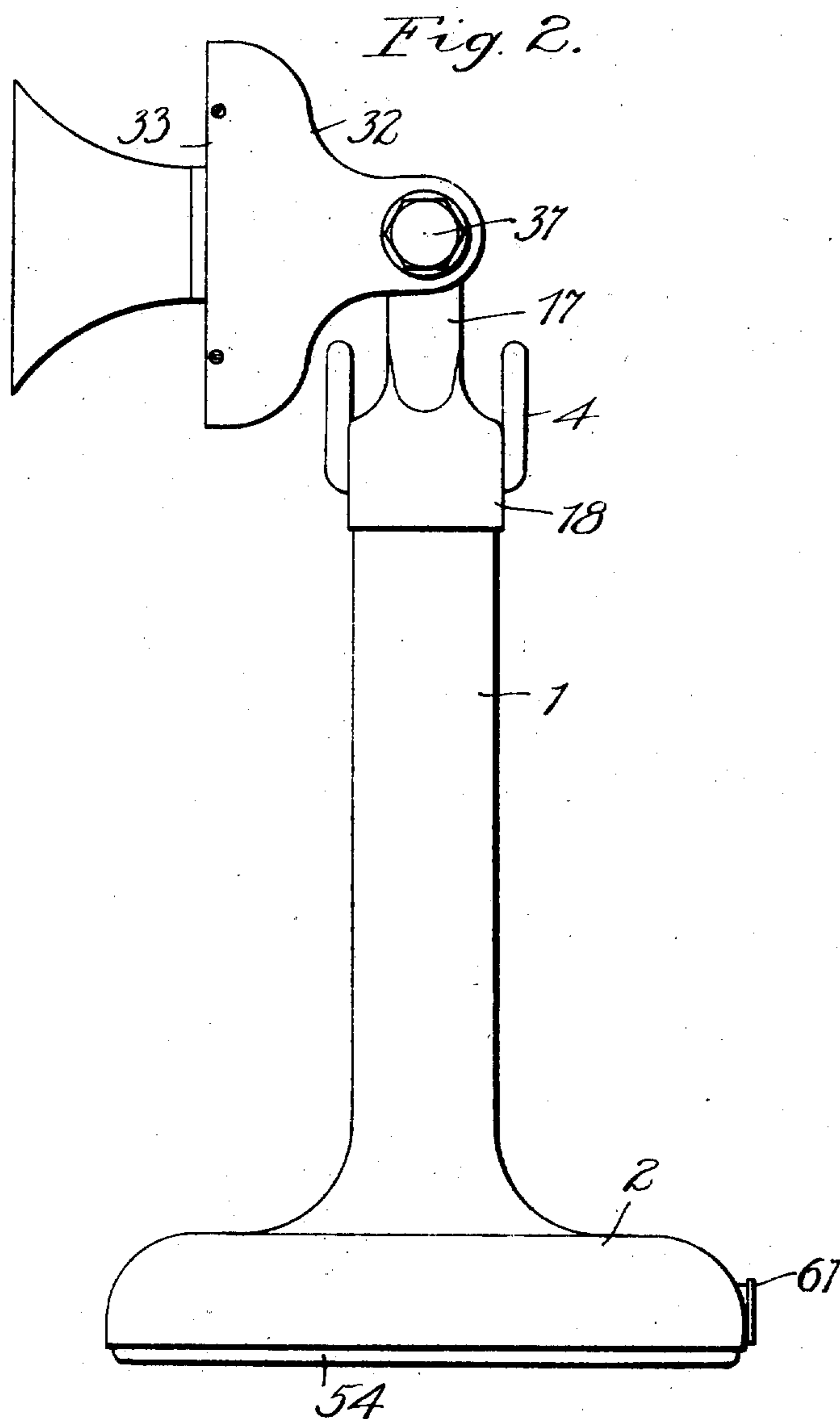
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5 SHEETS—SHEET 2.



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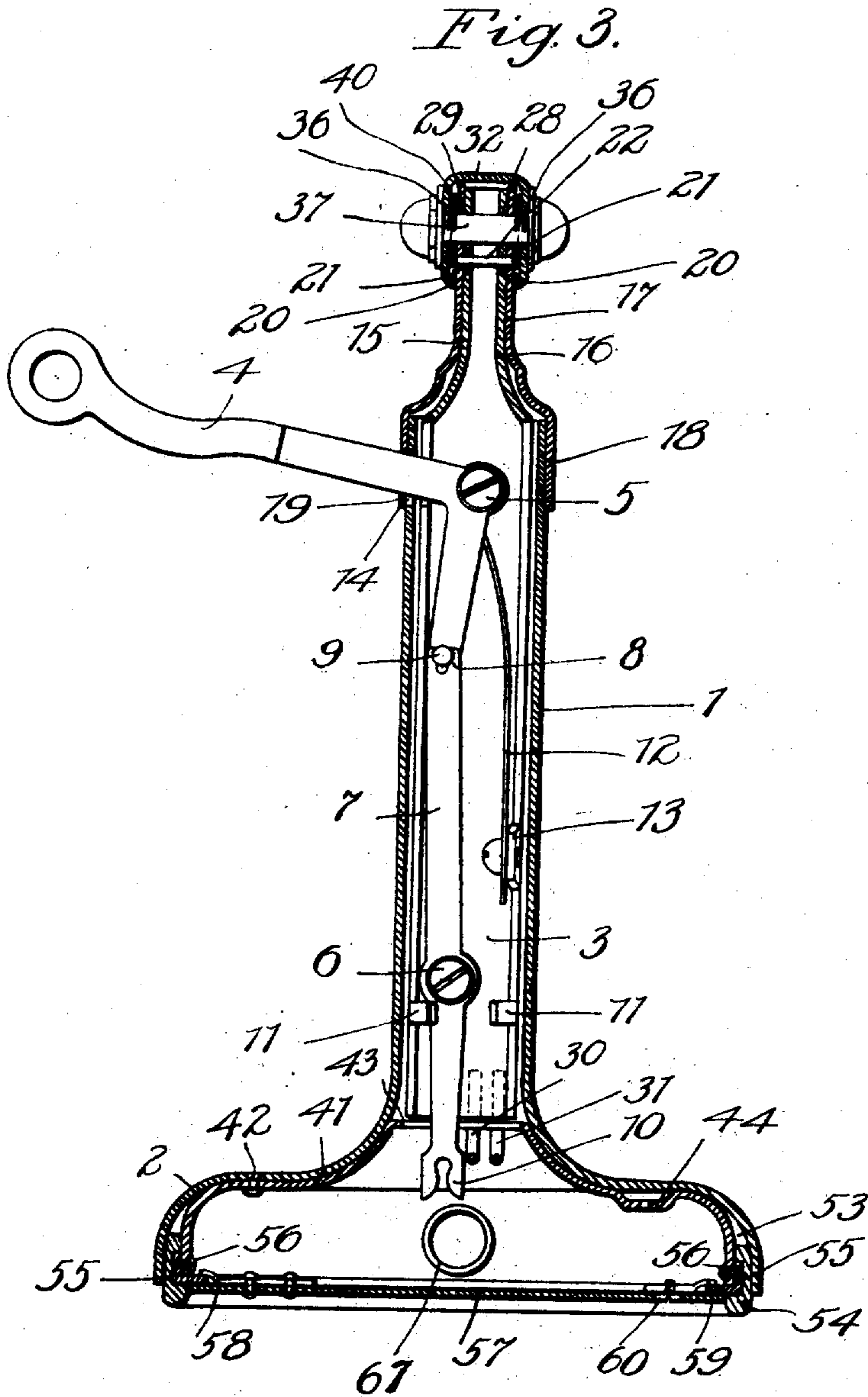
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6 SHEETS—SHEET 3.



WITNESSES  
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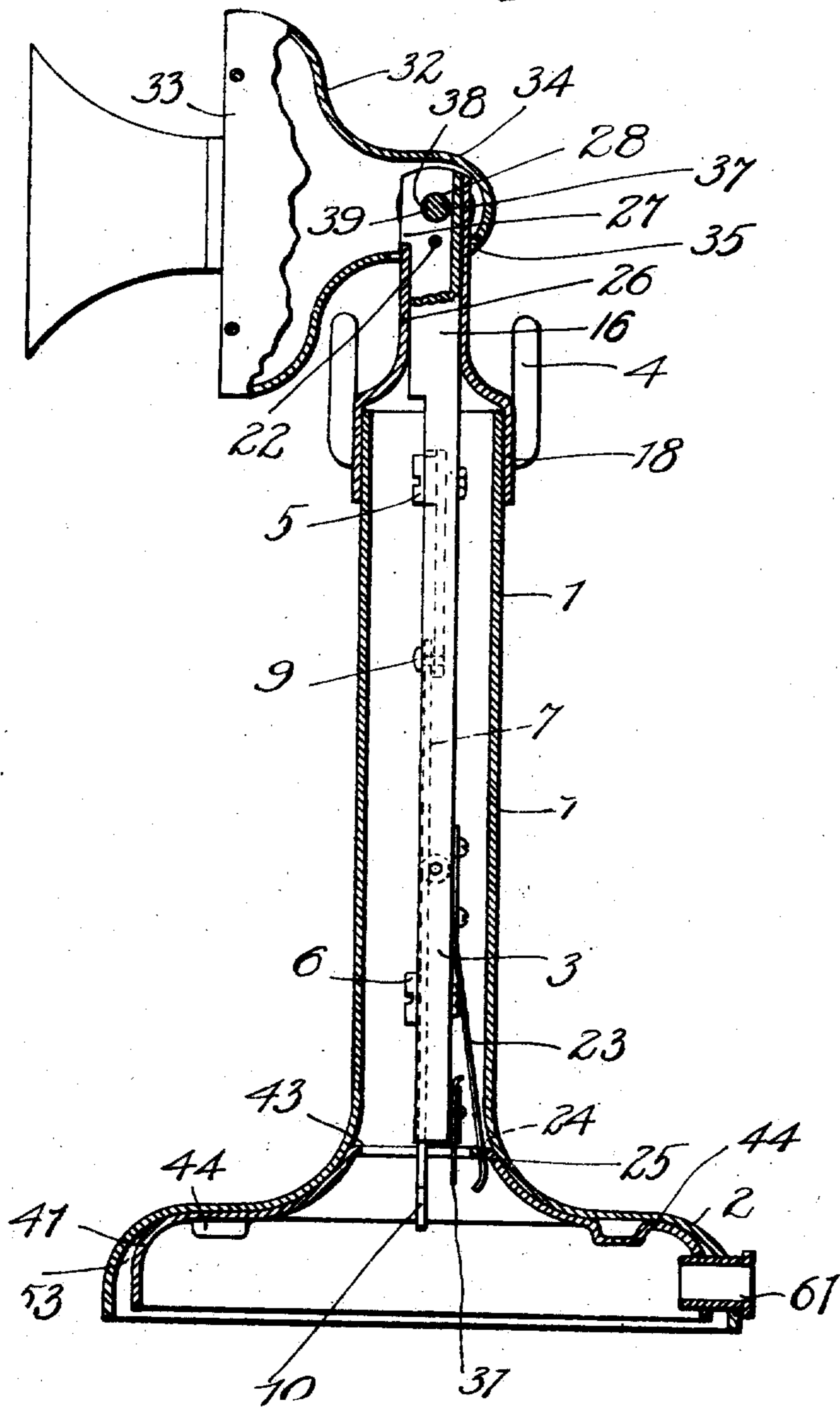
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5 SHEETS—SHEET 4.

Fig. 4.



Witnesses

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5 SHEETS—SHEET 5.

Fig. 5.

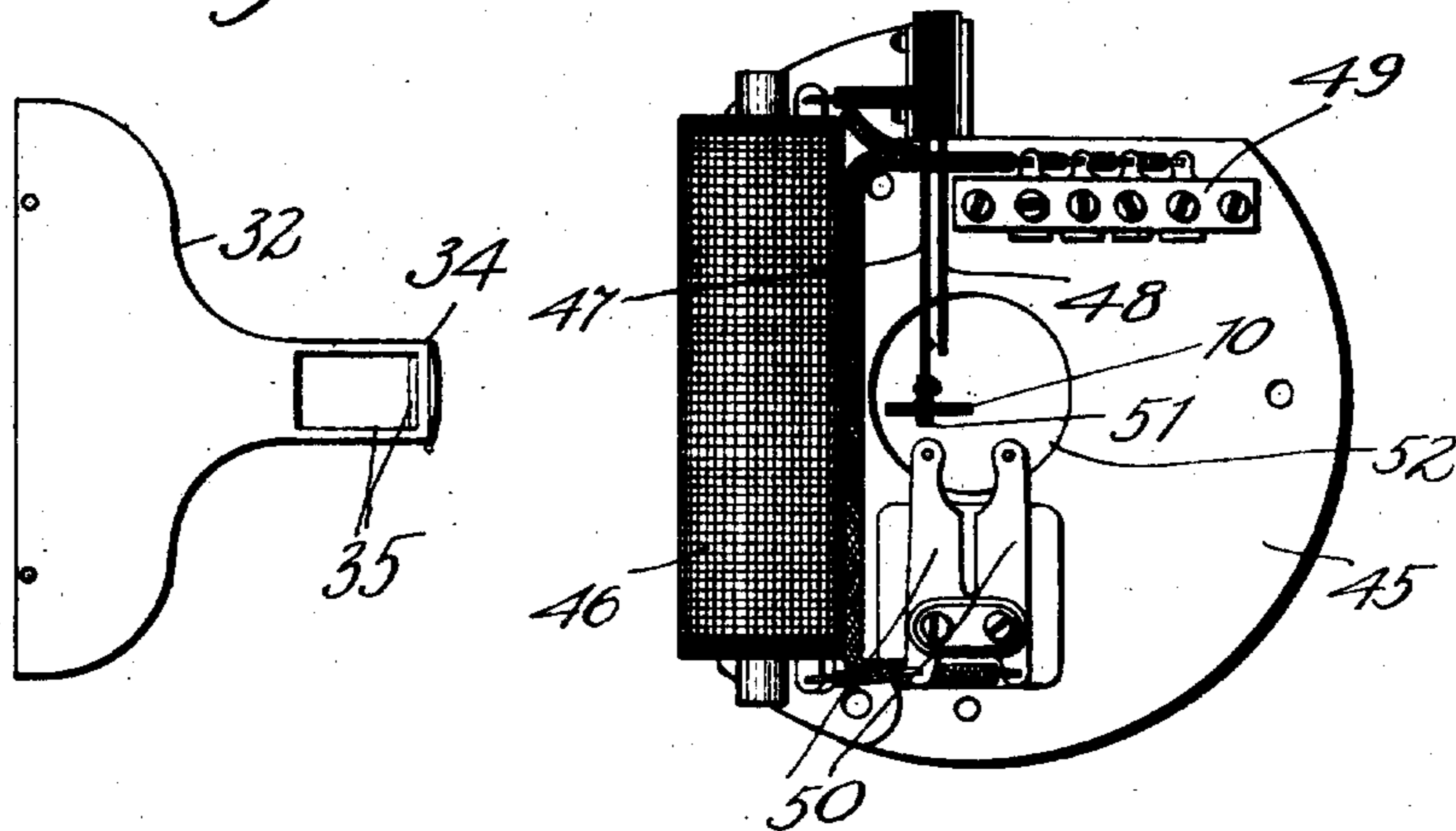
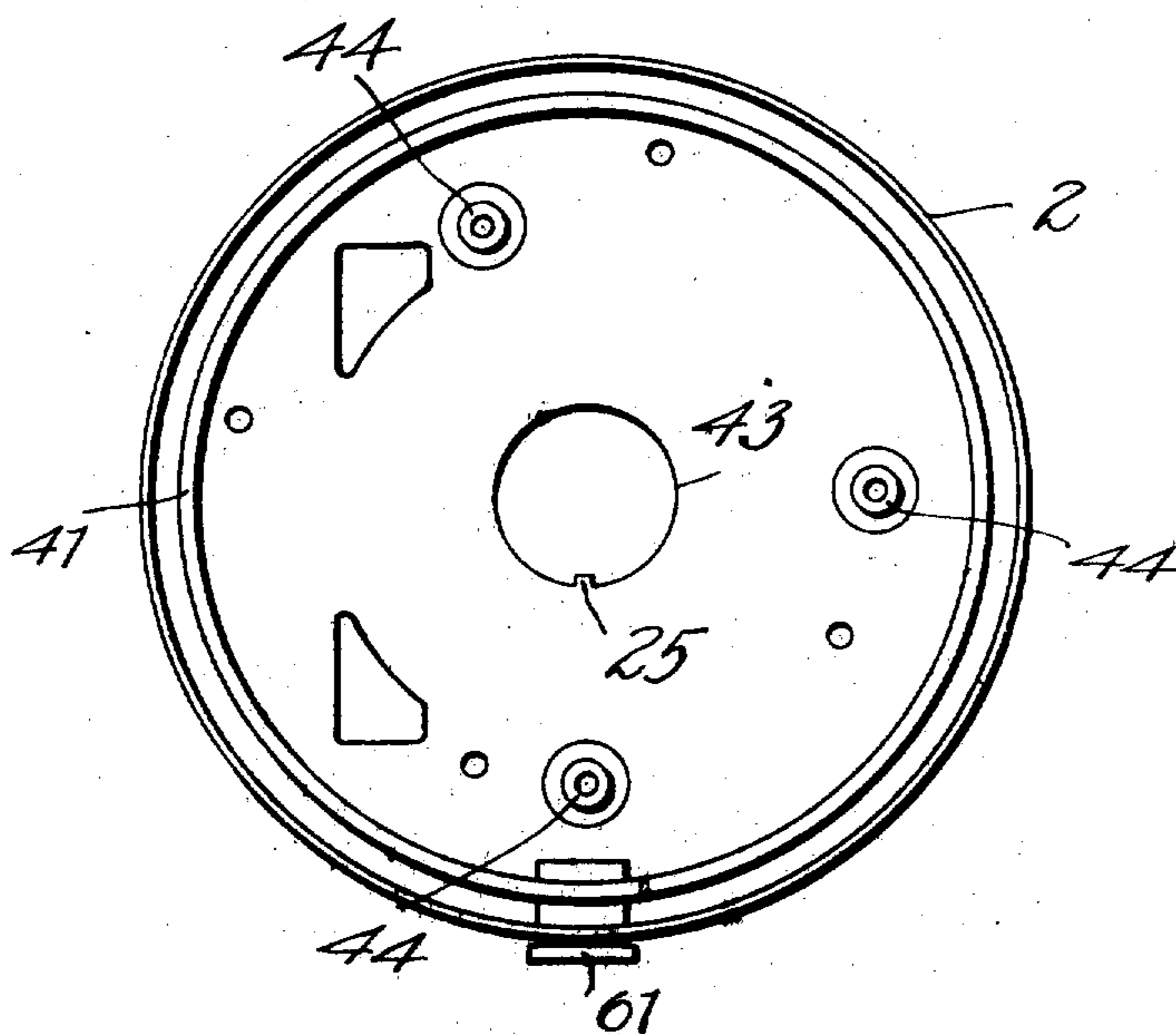


Fig. 6.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## TELEPHONE DESK SET.

No. 900,404.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed August 23, 1907. Serial No. 389,813.

*To all whom it may concern:*

Be it known that I, RAY H. MANSON, citizen of the United States, residing at Elyria, in the county of Lorain and State of Ohio, have invented a certain new and useful Improvement in Telephone Desk Sets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to telephone desk sets and contemplates new features of construction and arrangement which have particularly to do with the design of the outer casing and apparatus supporting parts to produce an instrument which is very substantial and practically unbreakable, at the same time being very simple and economical of manufacture.

My invention may be considered as an improvement over the invention shown in my Patent No. 829,410, dated August 28, 1906. In the desk set of this patent and in others more or less trouble is encountered, due to the loosening and separation of the various parts. In these instruments also most of the parts are castings, the breakage of which has given considerable trouble and annoyance as well as causing an increase in maintenance. In some desk sets this breakage has been avoided by punching the various parts from sheet metal, but the change from castings to sheet metal punchings does not overcome the trouble resulting from loosening and separation of the parts. A great deal of this trouble occurs where the transmitter shell is secured to the base piece supported from the cap or head piece of the standard. I overcome all of these difficulties by punching all the parts from sheet metal, by making the back of the transmitter and the hinged joint or supporting base from one piece of metal, and I also construct the base and upright tube of the standard from one piece of metal, the base and upright tube in other instruments being separate and held together by various means which are very apt to become loosened to allow separation of these parts.

The exact construction and arrangement and also other incident features will be best understood when described by reference to the accompanying drawings in which—

Figure 1 is a front view of the desk set, the transmitter front being removed; Fig. 2 is a side view of the desk set, the transmitter

front being shown in place; Fig. 3 is a front view, the shell, cap and transmitter shell being shown in diametrical cross-section; Fig. 4 is a side view, the shell, cap and transmitter shell being shown in diametrical cross-section; Fig. 5 is a bottom view of the transmitter rear inclosing shell; Fig. 6 is a bottom view of the instrument base with the mounting plate removed, and Fig. 7 is a bottom plan view of the mounting plate and mechanism mounted thereon.

The integral standard shell is drawn into shape from sheet metal, preferably steel, and comprises the tubular part 1 and the base part 2. Extending through the tubular part is the mounting frame or strip 3 which is U or channel shaped and which supports the hook switch mechanism. This hook switch mechanism comprises the hook 4 which may be of the construction shown in the patent referred to. The screw 5 pivots the hook switch to the supporting strip. Near the lower end of the supporting strip, a screw 6 pivots the lever 7 to the supporting strip, the forked end 8 of this lever engaging the pin 9 at the lower end of the hook lever, while the forked lower end 10 of the lever extends through the lower end of the supporting strip and into the base when the supporting strip is in place within the tube. Circular lugs 11 extend from the edge of the U-shaped frame for guiding the U-frame through the tube and for holding it in proper position therein. A spring 12 is secured to the lug 13 extending from the U-frame edge and engages at its upper end against the hook lever to normally hold the hooked end thereof in its proper position, a slot 14 being cut in the shell through which the hook lever extends. At the upper end of the U-frame, its sides 15 and 16 are drawn together, as shown, to form a supporting post which fits into the neck 17 of the cap frame whose body part 18 slips over the upper end of the tube 1 and which has a slot 19 registering with the slot 14 in the tube through which extends the receiver hook. When the supporting strip is in proper position within the tube and the cap is in position over the upper end thereof and of the tube, openings 20 through the walls 15 and 16 and openings 21 through the corresponding walls of the cap frame will be in register to receive a locking pin 22. Secured to the back of the supporting strip and near the

lower end thereof is a locking spring 23 which has the opening 24 for receiving the locking projection 25 which is provided for in a manner which will be described later.

5 Upon assembly, the supporting strip is inserted into the tube from the top, and the lower end of the locking spring 23 will slip over the top of the locking tooth 25 until said tooth enters the locking slot 24, thus

10 locking the supporting strip against vertical upward displacement. When the cap frame is now brought into position over the end of the tube and over the projecting post end of the supporting strip and the locking pin

15 22 applied, the supporting frame will be securely locked into position, and the cap frame will also be locked against vertical and rotational displacement. The upper end of the front wall 26 of the neck part 17 of

20 the cap frame has a slot 27 which registers with the channel between the side walls 15 and 16 of the supporting post. Through the side walls 15 and 16 are the openings 28, and through the side walls of the neck part 17

25 and in register with the openings 28 are the openings 29. These openings, as will be described later, are for the reception of the pivot bolt for supporting the transmitter frame, and the slot 27 offers an outlet for the

30 transmitter leads which extend into and through the cap frame and standard tube to connect with the contact plates 30 and 31 secured to the lower end of the supporting strip, being insulated therefrom and extending

35 into the base of the standard frame.

In the instrument in the patent referred to and also in other desk sets on the market, the transmitter frame is secured to the supporting base which is hinged to the cap frame,

40 but in accordance with my invention the transmitter frame, the supporting plate, and the hinged mechanism are comprised in a unitary structure stamped from sheet material. This unitary structure comprises the

45 body part 32 which forms the rear inclosing shell of the transmitter frame 33, the metal being drawn out to form the hinged frame 34. This hinged frame in its lower wall has the opening 35 for receiving the upper end

50 of the cap frame, the side walls of the hinged frame having the openings 36 for registering with openings 28 and 29, the shank of the pivot bolt 37 passing through all of these openings to secure the transmitter shell to the

55 end of the cap frame. The shank of the bolt has the flattened side 38 which is engaged by the chord edges 39 in the openings 36. Spring washers 40 are inserted between the side walls of the hinged frame, and the side walls of

60 the supporting head, so that the transmitter frame may be rotated through a vertical plane into different adjustments, the friction caused by the spring washers serving to lock the frame in any adjusted position. The

65 transmitter leads extend through the slot 27

and into the transmitter case to connect with the transmitter terminals.

Inside the base of the desk stand, a metal punching 41 is provided for supporting the mounting plate shown in Fig. 7. This punch-

70 ing is attached to the outer part 2 by rivets 42 finished flush with the outside, so as not to show when enamel or other finish is applied to the exterior of the base and tube parts of the stand. The locking tooth 25

75 before referred to forms part of this punching and extends from the upper edge 43 thereof to be engaged by the locking latch 23 when the supporting strip is inserted into the tube. Projections 44 are punched from

80 the frame 41 which projections are threaded to serve as a supporting and securing means for the mounting plate 45, shown in Fig. 7. This mounting plate supports the induction

85 coil 46, the circuit controlling springs 47 and 48, the terminal posts 49, and the induction coil terminal strips 50. The main spring 47 has the insulating strip 51 looped about its end, where it is engaged by the forked end

90 10 of the lever 7, which forked end extends through the central opening 52 in the mounting plate. The lower end of the insert frame 41 is of less diameter than the lower end of the standard base to leave the annular groove

95 53 for receiving the rubber cushion band 54 which is mounted on the supporting ring 55 having L-shaped cross-section, this ring engaging under the lower edge of the frame 41, as shown, being held in position by the screws

10 56. The rubber band projects below the lower edge of the standard base to form a cushion base for the instrument. The horizontal flange of the ring 55 serves as a support for the inclosing plate 57 which has

10 the locking tongue 58 for engaging the inner side of the flange and the movable locking tongue 59 which may be turned upon engagement of a screw-driver with the screw 60

11 to release the inclosing frame. Extending through the side walls of the standard base and the insert frame 41 is the thimble frame 61, through which passes the receiver cord.

It can readily be seen that the instrument, as described, is of very substantial, simple

11 and practical construction. The supporting strip being formed from steel plate is very strong and practically unbreakable. The standard head being also drawn from sheet

12 material is very strong and unbreakable, and its connection with the upper end of the mounting strip and the rigid connection of the mounting strip at the bottom of the tube, binds all these parts securely and rigidly together and in place. In prior instruments

12 complicated hinged mechanism and a supporting base were employed for securing the transmitter frame to the upper end of the standard, but all of these complicated parts

13 are in my instrument replaced by a single, simple punching, comprising the transmitter

inclosing shell and a hinged frame, as described. The making of the base and upright tube in one piece also does away with complicated and expensive riveting or clamping means which would be necessary if these parts were separate. There being so few parts to the instrument and these parts being of steel punchings, breakage is practically eliminated, and simple and reliable means can be used for holding the parts together. Changes, of course, can very readily be made in the construction and arrangement or assembly of the parts which would still come within the scope of my invention. I do not, therefore, wish to be limited to the particular construction and arrangement shown, but

I desire to secure by Letters Patent the following claims:

1. In a telephone desk set, a standard comprising a stamped and formed base and upright in one piece, a stamped and formed cap and hinge member in one piece, and means within the upright for securing the hinge member to the base.

2. In a telephone desk set, a standard comprising a stamped and formed base and upright in one piece, a stamped and formed cap and hinge member in one piece, and a stamped and connecting member within the upright, the ends of such connecting member being connected to the hinge member and to the base respectively.

3. In a telephone desk set, a supporting frame consisting in a first piece comprising a stamped and formed base and upright, a second piece comprising a stamped and formed cap and hinge piece, a third piece comprising a stamped and formed transmitter shell and cooperating hinge connection, and means for holding the pieces together in operative relation.

4. In a telephone desk set, a supporting frame consisting in a first piece comprising a stamped and formed base and upright, a second piece comprising a stamped and formed cap and hinge piece, a third piece comprising a stamped and formed transmitter shell and cooperating hinge connection, and a stamped and formed member for holding the hinge members to the base.

5. In a telephone desk set, a supporting frame consisting in a first piece comprising a stamped and formed base and upright, a second piece comprising a stamped and formed connecting cap and hinge piece, a third piece comprising a stamped and formed transmitter shell and cooperating hinge connection, and a member secured to the hinge at one end and engaging the base at the other by means of a spring catch when the parts are in operative relation.

6. In a telephone desk set, the combination of a supporting frame comprising a base part and an upright tubular part, a supporting strip within the tubular part, the upper

end of the supporting strip extending beyond the tubular part, a cap frame receiving and inclosing the projecting end of the supporting strip and sleeving over the end of the tubular part, means for securing the projecting end and cap frame together, means for securing the lower end of the supporting strip within the supporting frame, and a transmitter frame part pivotally secured to the upper end of the cap frame and supporting strip projection.

7. In a telephone desk set, the combination of a supporting frame comprising a base part and an upright tubular part, a supporting strip of U-shaped cross-section within the tubular part, the upper end of the strip being reduced in cross section and extending beyond the tubular part, a cap frame having a cylindrical body part for sleeving over the upper end of the tubular part and having a rectangular neck part for sleeving over the projecting end of the supporting strip, means for securing the cap frame to the projecting end of the supporting strip, means for securing the lower end of the supporting strip within the tubular part, and a transmitter, the rear inclosing shell of the transmitter being hinged directly to the end of the cap frame.

8. In a telephone desk set, the combination of a supporting frame comprising a base part and an upright tubular part extending therefrom, a cap frame engaging the upper end of the tubular part, a transmitter, a rear inclosing shell for the transmitter, and a hinge member formed integral with the inclosing shell, said hinge member engaging over the end of the cap frame and pivoted thereto.

9. In a telephone desk set, the combination of the supporting standard, a transmitter, an inclosing shell for the transmitter, a hinged cap or shell, said hinged cap and inclosing shell being stamped from a single piece of sheet material, said hinged shell being pivoted directly to the top end of the instrument supporting standard.

10. In a telephone desk set, the combination of the supporting standard comprising a base part and an upright tubular part, a cap frame engaging the top of the tubular part, a transmitter, an inclosing shell for the transmitter, and a hinged cap formed integral with the inclosing shell from a single piece of sheet material, said shell receiving the upper end of the cap frame and adjustably pivoted thereto.

11. In a telephone desk set, the combination of the supporting standard comprising a base part and an upright tubular part, a cap frame for the tubular part, a transmitter, an inclosing shell for the transmitter, and an opening in said inclosing shell for receiving the end of the cap frame, said inclosing shell being pivoted to the cap frame.

12. In an instrument of the class described, the combination of a supporting standard comprising a base part and an upright tubular part, a supporting strip of sheet metal within the tubular part and extending beyond the upper end thereof, a cap frame fitting over the projecting end of the supporting strip and sleeving over the end of the tubular part, a transmitter, an inclosing shell for the transmitter, and a projection from the inclosing shell forming a hinged shell for engaging over the end of the cap frame and the supporting strip and pivoted thereto, said inclosing shell and projection therefrom being formed from a single piece of sheet material.

13. In an instrument of the class described, the combination with a supporting standard, of a transmitter, and a one piece inclosing and supporting shell for the transmitter, said inclosing shell having an opening and the upper end of the standard extending into said opening to be pivoted to the inclosing shell.

14. In an instrument of the class described, the combination with a supporting standard comprising a base part and an upright tubular part, a cap frame engaging the end of the tubular part, a supporting strip within the tubular part extending into the cap frame, said supporting strip being at its upper end secured to the cap frame and being secured at its lower end to the supporting frame whereby said cap frame and supporting strip are rigidly held together, a transmitter, and an inclosing shell for the transmitter having an opening into which the upper end of the cap frame extends, said inclosing shell being pivoted to the cap frame end.

15. In a telephone desk set, the combination with the standard frame comprising a base part and a vertical part formed of sheet material, a secondary supporting frame in-

serted in the base part and secured thereto, the vertical walls of the base part and insert frame forming an annular groove, and a soft rubber band clamped in said groove and projecting beyond the edges thereof to form a cushion base for the instrument.

16. In an instrument of the class described, the combination of the supporting standard comprising a bell-shaped base and an upright tubular part, both of sheet material, a secondary supporting frame of sheet material inserted in the base part and secured thereto, the vertical walls of the base part and insert frame being separated to leave an annular groove, a supporting ring secured about the lower edge of the insert frame, and a soft rubber band mounted on the supporting ring and engaging in the annular groove with its end projecting beyond the lower edge of the base part to form a cushion for the instrument.

17. In an instrument of the class described, the combination of the supporting standard having a bell-shaped base part, a secondary supporting frame within the base part and secured thereto, the vertical walls of the base part and the supporting frame being separated to leave an annular groove, a ring of L-shape cross-section secured about the lower edge of the insert frame with its horizontal flange extending inwardly, a rubber band mounted on the ring and engaging in the groove when the ring is applied to the insert frame, the lower edge of the band projecting beyond the base frame to form a cushion for the instrument, and an inclosing cover engaging with and locked to the horizontal flange of the ring.

In witness whereof, I hereunto subscribe my name this 25th day of July A. D., 1907.

RAY H. MANSON.

Witnesses:

F. A. CORNELL,  
A. J. ROBERTS.