

Sept. 16, 1924.

1,508,424

G. K. THOMPSON

TELEPHONE DESK SET

Filed Dec. 28, 1922

2 Sheets-Sheet 1

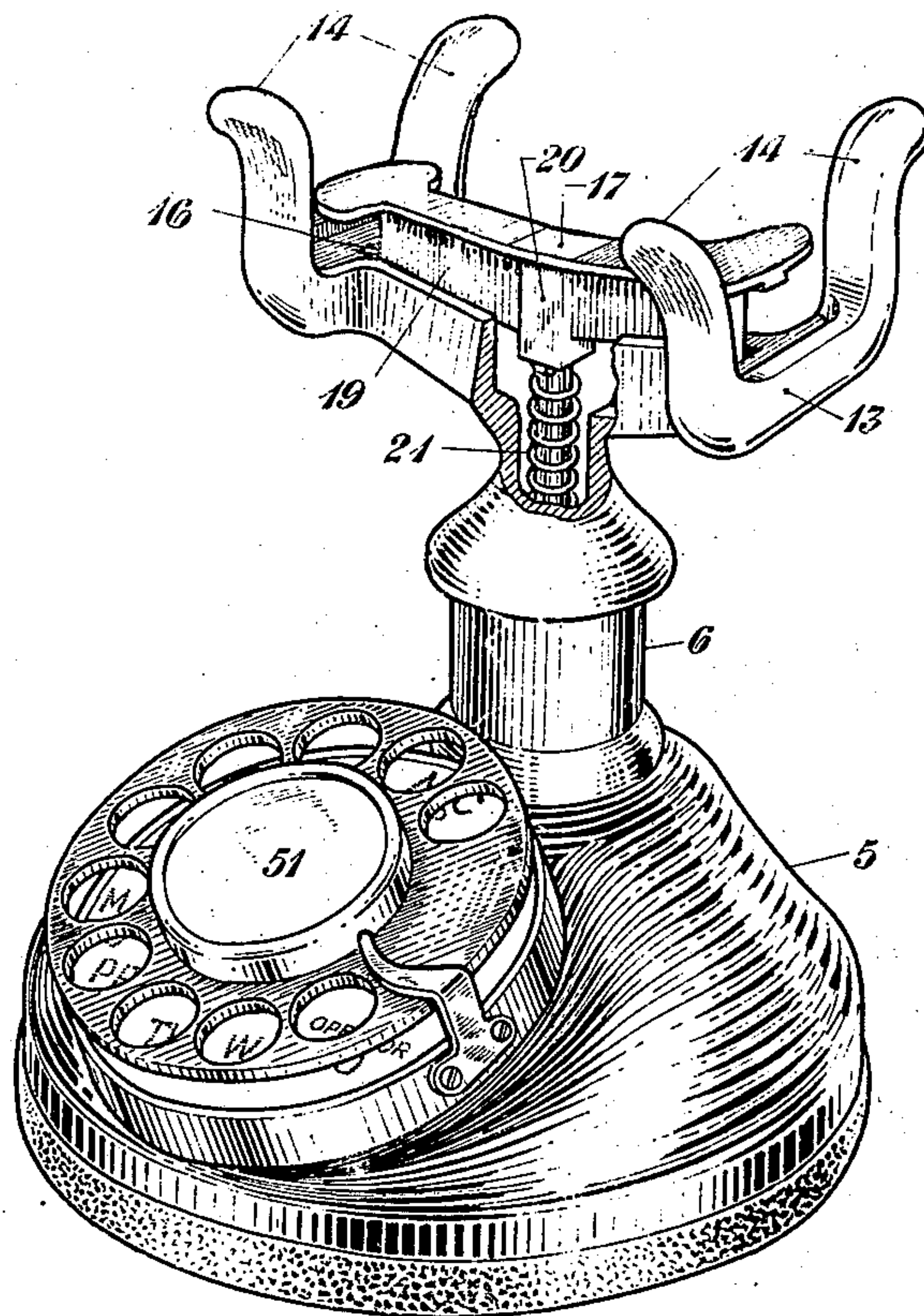


Fig. 1

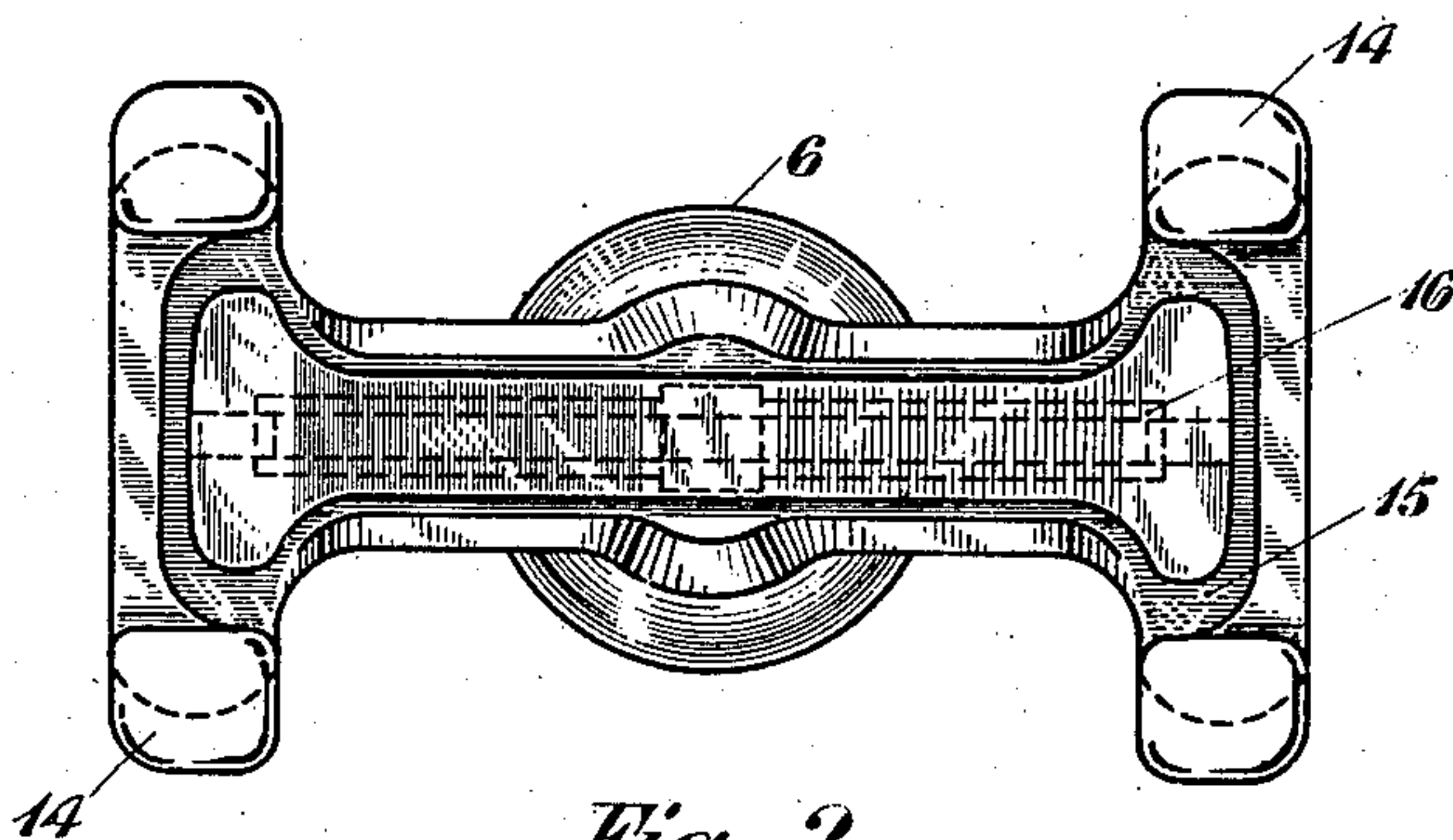


Fig. 2

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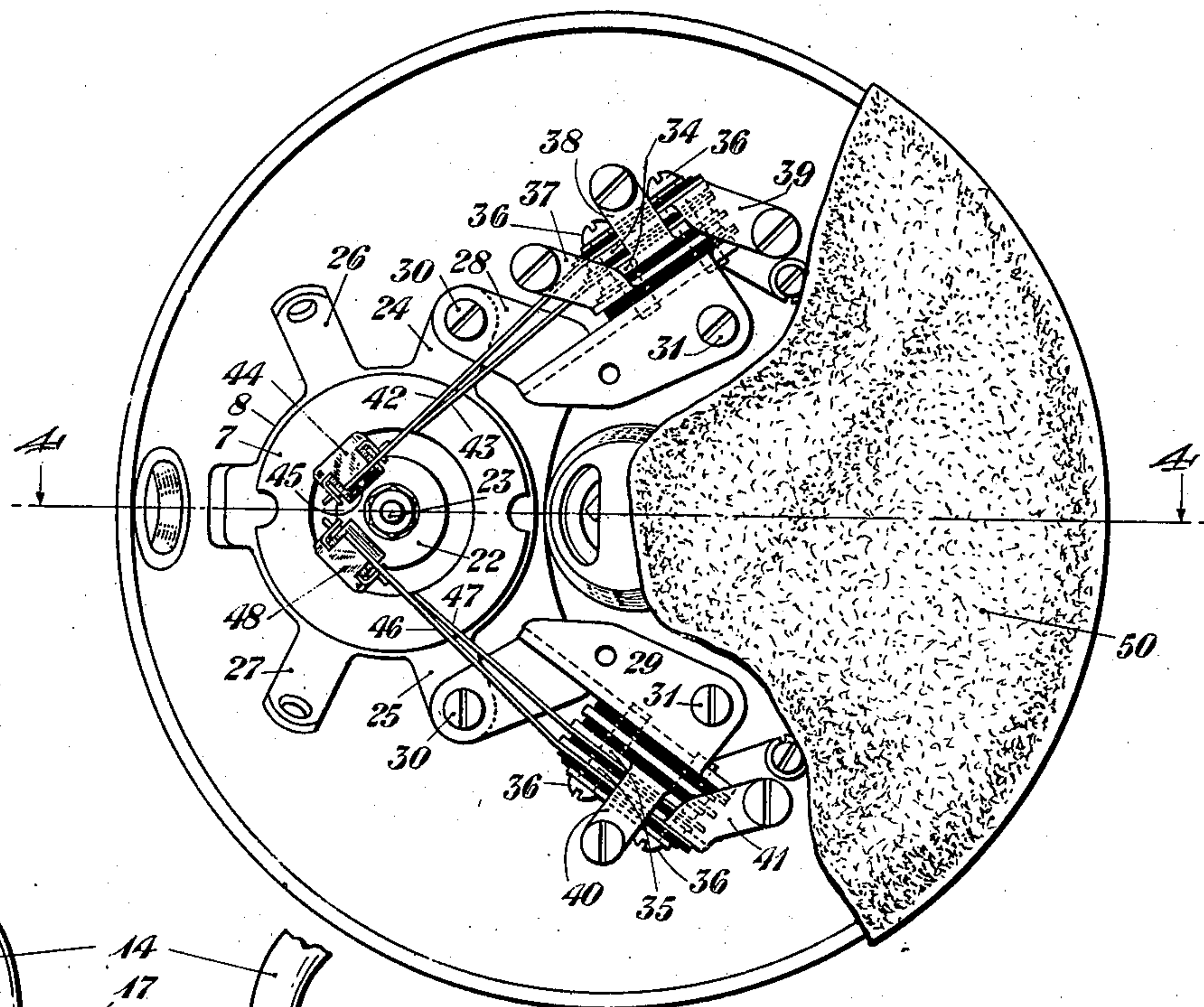


Fig. 3

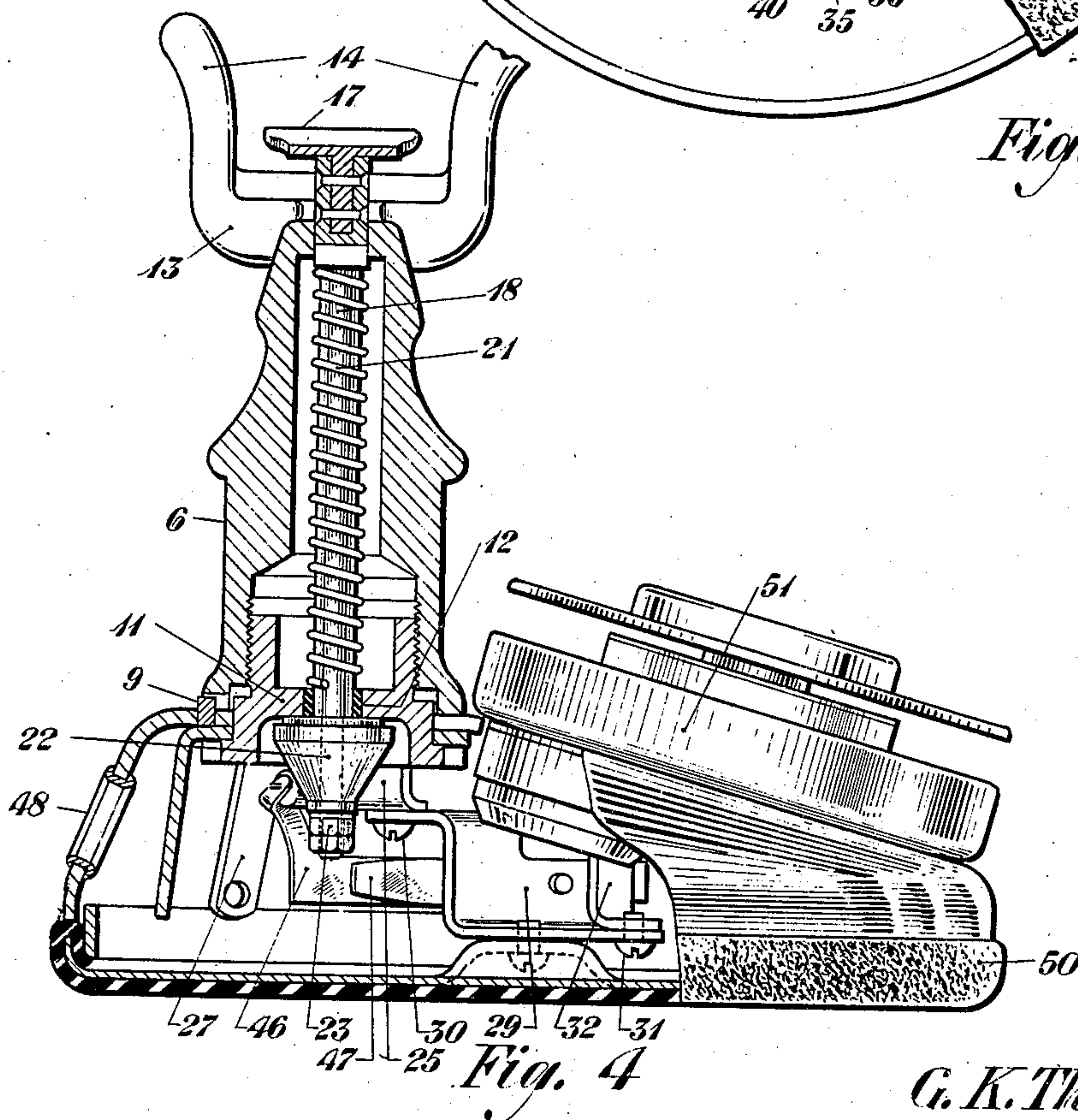


Fig. 4

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UNITED STATES PATENT OFFICE.

GEORGE K. THOMPSON, OF MAPLEWOOD, NEW JERSEY, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

TELEPHONE DESK SET.

Application filed December 28, 1922. Serial No. 609,506.

To all whom it may concern:

Be it known that I, GEORGE K. THOMPSON, residing at Maplewood, in the county of Essex and State of New Jersey, have invented certain Improvements in Telephone Desk Sets, of which the following is a specification.

This invention relates to telephone desk sets of the character adapted to hold a telephone set, and, by the weight of the set, to control contacts in the circuits thereof for cutting the set into and out of operative connection.

One of the objects of the invention is to provide a set of this nature which may be used without chance of false operation of the switching mechanism associated therewith.

Another object is to provide a set which shall be simple in its operation, economic in its construction and durable and efficient as an article of commercial use.

These and other objects of the invention will be apparent from the following description when considered in connection with the appended drawing, in which one embodiment of the improved device is illustrated.

In the drawing, Figure 1 is a perspective view of the desk set; Fig. 2 is a top plan view of the device; Fig. 3 is a bottom view thereof with the base plate removed; and Fig. 4 is a vertical section on line 4-4 of Fig. 3.

Referring to the drawing, in which like characters of reference designate like parts throughout, 5 represents a pedestal or a hollow base on which a tubular standard 6 is eccentrically mounted. The standard 6 is secured to the bell portion of the base by means of a clamping ring 7 provided with a threaded surface which extends upwardly through a ring 8 and engages a thread cut on the inner surface of the standard. A pin 9 formed on the bell portion of the base extends through a hole provided in the standard and prevents it from being turned on the bell portion. The clamping ring 7 has a wall 11 which divides it into an upper and a lower chamber portion, and centrally of said wall an aperture is provided which carries a guide 12.

The standard 6 has an integral cradle member 13 formed on its upper portion which extends outwardly on either side thereof. The cradle 13 is provided with

four upwardly extending or flaring guard arms 14, the extremities of which are preferably turned outwardly, as more clearly shown in Fig. 1. A depressed surface 15 is provided on the top of the cradle 13 in the center of which is a longitudinal slot 16, and centrally of said slot is a square opening which connects with the tubular chamber in the standard 6 in vertical alignment with the central aperture of the guide 12 carried by clamping ring 7.

A T-shaped plunger comprising a flat horizontal bar 17 and a spindle 18 is adapted to move vertically in the standard 6. The bar 17 is provided with a depending flange 19 at the center of which the bifurcated head 20 of the spindle 18 is pinned or otherwise suitably secured. A spiral spring 21 encircles the spindle 18 and extends thereon from the wall 11 of the clamping ring 7 on which it is seated and engages the lower surface of the bifurcated head 20. When a hand set, which has not been illustrated in the present instance for the sake of clearness, but which may be of any well-known type, is placed on the T-shaped plunger, the weight thereof causes the depression of the spring 21. The flange 19 at such time registers in the longitudinal slot 16 and the bifurcated head 20 in the square opening in the center of said slot, while the flat bar 17 is seated in the depressed portion 15 formed in the cradle member. The guard arms 14 act to keep the hand set positioned in the cradle. When the hand set is removed from the cradle, the spring 21 causes the elevation of the T-shaped plunger, which provides for the electrical connection of the set, as will presently appear.

The lower end of the spindle 18 extends through the insulated aperture 12 of the wall 11 and is provided with a shoulder portion and a threaded portion. A cone-shaped button 22, composed of hard rubber or the like, is positioned against the shoulder portion of the spindle 18, and nuts 23 are screwed on the threaded portion for the purpose of keeping the button 22 in place. The button when thus positioned functions to limit the upward movement of the plunger under the tension of spring 21 beyond the point of contact of the upper surface of said button with the lower surface of the wall 11. A washer may be interposed between said

shoulder portion and button for the purpose of protecting the latter from wear caused by friction between the two members.

The ring 8, which is retained in position by the clamping member 7, is provided with integral lugs 24, 25 and 26, 27 which extend downwardly therefrom. The lugs 24, 25 have angular mounting brackets 28 and 29 respectively associated therewith by means of screws 30 which pass through the threaded openings provided in the lugs and at one end of the brackets. The other ends of the brackets 28 and 29 are secured by means of screws 31 which pass through threaded openings in the flanges of the arms, one of which is indicated by the numeral 32. These arms are integral with, and extend downwardly from the bell portion of the base. The brackets 28 and 29 carry a screw of conducting plates 34 and 35, respectively, which are insulated from each other and secured to said brackets by screws 36. In the present instance there is shown a certain number of these plates associated with each bracket for the purpose of illustration, it being understood that this number may be changed as desired. Each of the series of conducting plates 34 is provided with integral arms, as indicated at 37, 38 and 39. These arms are each provided with threaded openings through which screws may pass to clamp the terminal of an electrical conductor. Each of the series of conducting plates 35 likewise has integral arms 40 and 41 to which conductor terminals may be clamped. Switching mechanism is mounted in the base and controlled by the reciprocation of the plunger as will be presently described. Contact springs 42 and 43 are conductively associated with separate plates of the series 34, the spring 42 having at its end an upwardly extending arm 44 provided with flanges in which a roller 45 is journaled. A corresponding pair of contact arms 46 and 47 are associated with the series of plates 35, the spring 46 carrying a roller 48 mounted in the same manner as indicated in connection with the spring 42. The rollers 45 and 48 bear against the surface of the cone-shaped button 22, and upon the removal of the telephone hand set from the cradle which permits the upward movement of the T-shaped plunger and button 22 under the tension of the spring 21, said rollers rotate on the surface of the cone-shaped member until it rises above them. The springs 42 and 46 at this time move into contact with springs 43 and 47, respectively, and close circuits over their associated terminals and conductors in a well-known manner. When the hand set is replaced upon the cradle and T-shaped plunger, the button 22 is forced downwardly, causing the rotation of the rollers and the consequent spread of the springs 42 and 46 out of contact with

their respective springs 43 and 47 and the restoration of the electrical circuits to normal.

The depending integral lugs 26 and 27 of the ring 8 have openings in their ends to permit the tying of tape thereto, said tape being also secured to electrical conductors the terminals of which are clamped to the arms 37, 38, 39, 40, 41. The conductors when thus tied prevent their terminal connections from becoming loosened when any undue strain is exerted on the cord of which they are a part, said cord being introduced in the base through a bushing 48 on the bell portions.

A bottom plate 50, which is covered with felt or like material, is fastened by means of screws which extend upwardly through indentations in the plate 50 and engage threaded openings provided in the mounting brackets 28 and 29, as indicated more clearly in Fig. 4. A dial or other disc-plate 51 may be attached to the sloping surface of the bell portion of the base in any well established manner.

From the foregoing it is thought that the construction, operation and many advantages of the herein described and delineated invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the device.

What is claimed is:

1. A portable desk set comprising a base and standard therefor, a cradle member integral with said standard and adapted to support a hand telephone, a T-shaped plunger including a head portion and a spindle adapted to reciprocate in said standard, switching mechanism mounted in said base, and means associated with the said plunger and actuated upon the reciprocation thereof for operating said switching mechanism upon the association and dissociation of the hand telephone with the cradle member.

2. A portable desk set comprising a base, a standard mounted thereon, a cradle member integral with the standard for supporting a telephone hand set, switching mechanism mounted in said base, a plunger comprising a horizontal bar and a spindle member, said bar cooperating with the cradle member in supporting the hand set and said plunger member reciprocating in the standard to operate said switching mechanism.

3. A portable desk set comprising a base, a tubular standard mounted thereon, a cradle member integral with said standard having a depressed portion and a longitudinal slot formed therein, a plunger comprising a spindle and a horizontal bar having a depending flange, said spindle being

adapted to reciprocate in the standard and said horizontal bar and depending flange being adapted to register respectively with the depressed portion and longitudinal slot in the cradle member, and switching mechanism mounted in said base controlled by the reciprocation of said plunger.

4. The combination with a hand telephone, of a supporting standard therefor comprising a base, a tubular standard eccentrically mounted on said base, a cradle member integral with said standard for seating the hand telephone, switching mechanism mounted in said base, and a plunger comprising a horizontal bar and a spindle, said bar being positioned longitudinally of the cradle member and cooperating therewith in the seating of the hand telephone and said spindle being adapted to reciprocate in the standard for operating said switching mechanism upon the association and dissociation of the hand telephone with said cradle and horizontal bar.

5. In a portable desk set, a base having a standard eccentrically mounted thereon, a cradle member integral with and extending laterally of the standard, said cradle member having upwardly flaring arms, a hori-

zontal bar extending longitudinally of said cradle member and cooperating therewith in holding a hand telephone, a spindle positioned centrally of said bar and adapted to reciprocate in said standard upon the association and dissociation of the hand telephone with the cradle and horizontal bar, and switching mechanism in said base operated upon the reciprocation of said plunger.

6. In a portable desk set, a base having a standard eccentrically mounted thereon, a cradle member integral with and extending laterally of the standard, said cradle member having upwardly flaring arms, a T-shaped plunger comprising a flat horizontal bar extending longitudinally of said cradle, and a spindle adapted to reciprocate in said standard, said horizontal bar cooperating with said cradle in holding a hand telephone, switching mechanism mounted in said base, and a cone-shaped member mounted on said spindle for operating said switching mechanism upon the association and dissociation of the hand telephone.

In testimony whereof, I have signed my name to this specification this 23rd day of December, 1922.

GEORGE K. THOMPSON.