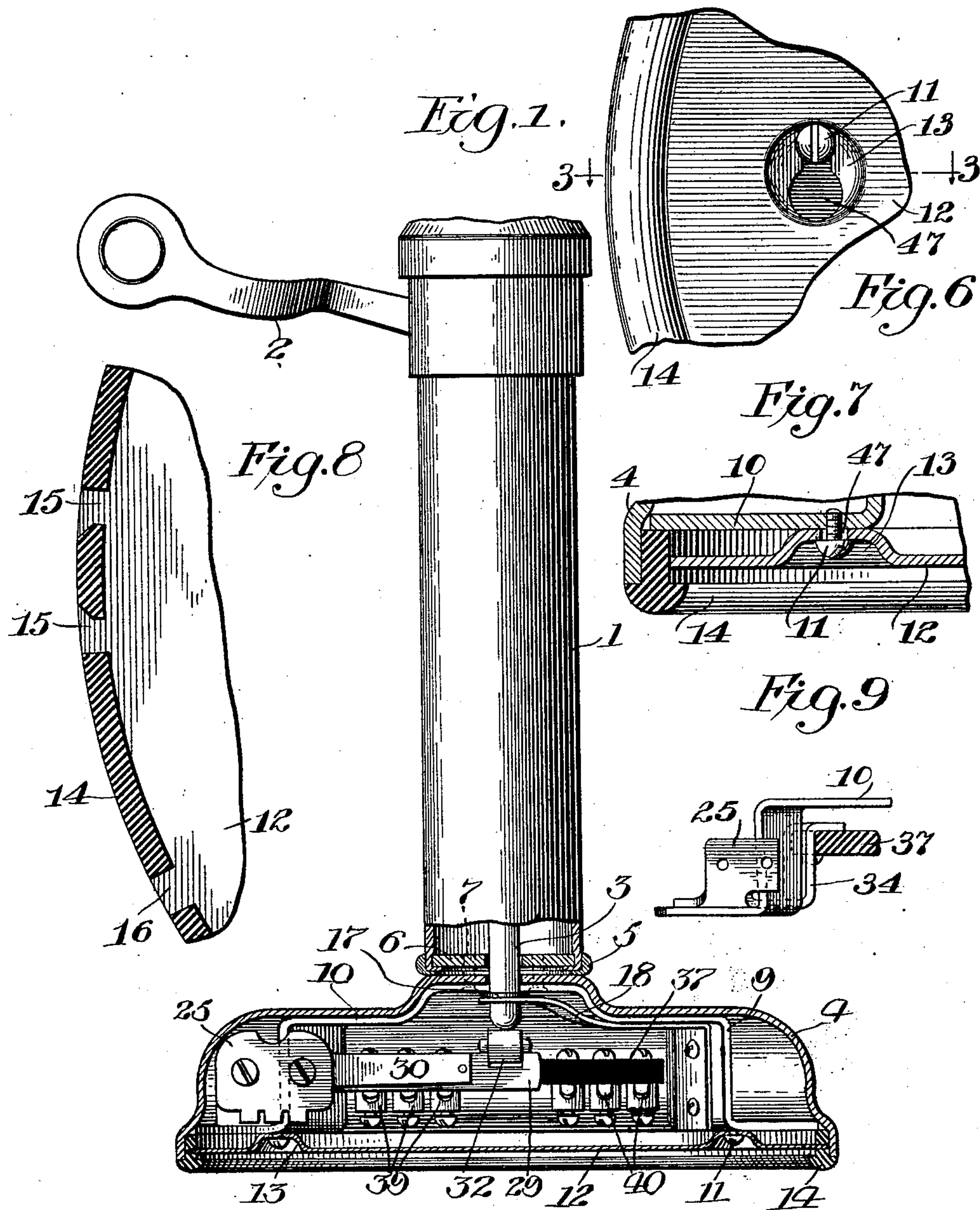


999,859.

N. PEDERSEN.  
PORTABLE TELEPHONE.  
APPLICATION FILED JUNE 4, 1909.

Patented Aug. 8, 1911.

2 SHEETS—SHEET 1.



Witnesses:  
O. M. Vermick  
Frank Elliott

Inventor  
Niels Pedersen  
by May W. Zabel  
Atty.

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2 SHEETS—SHEET 2.

Fig. 2.

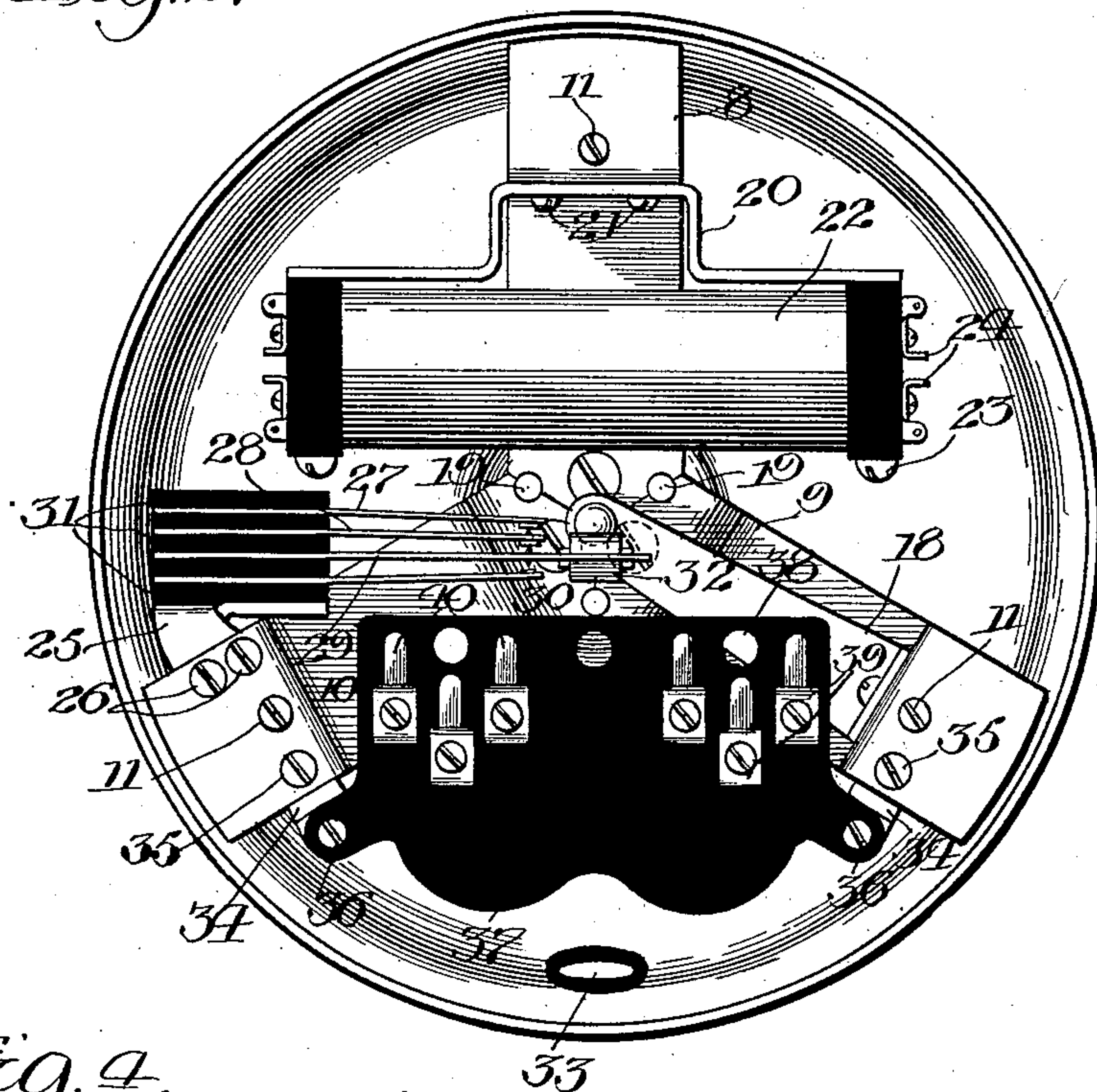


Fig. 4.

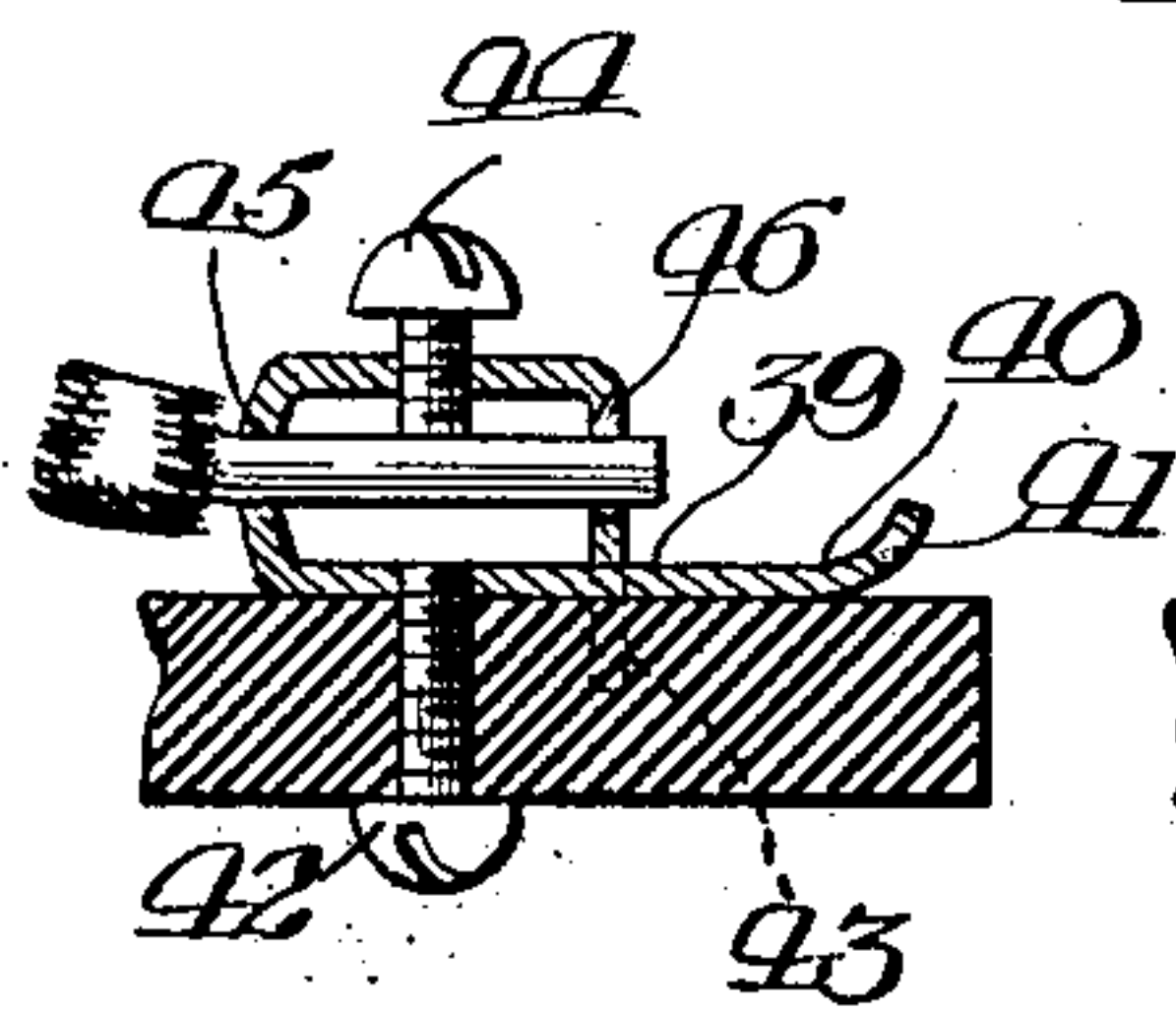


Fig. 5.

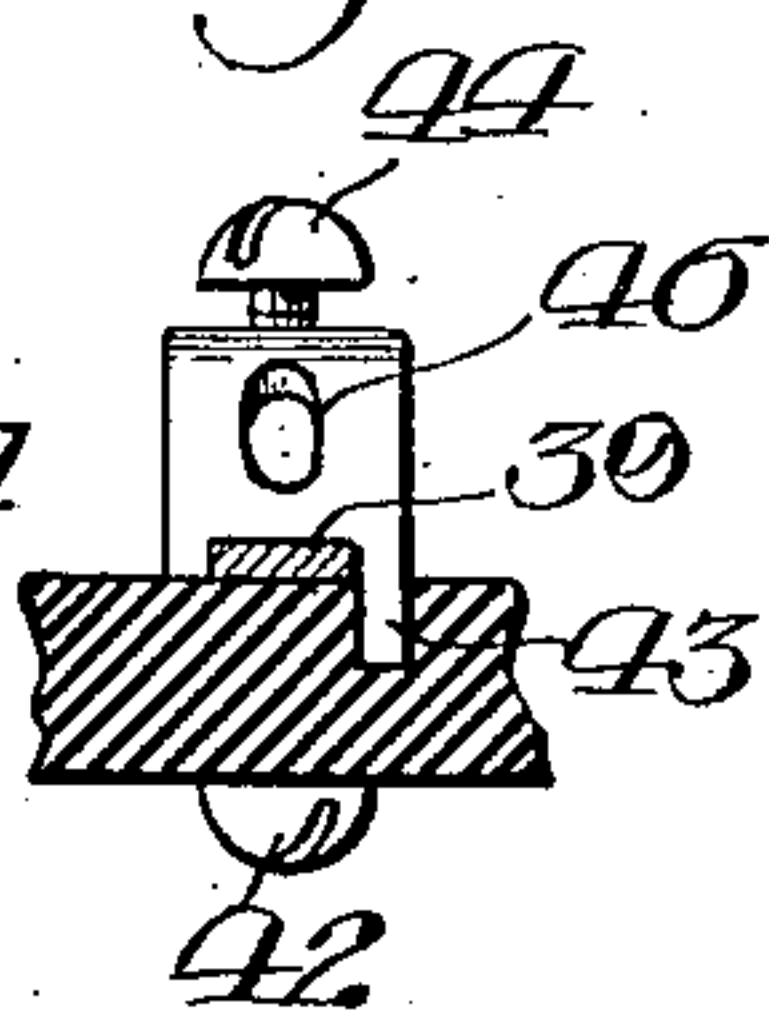
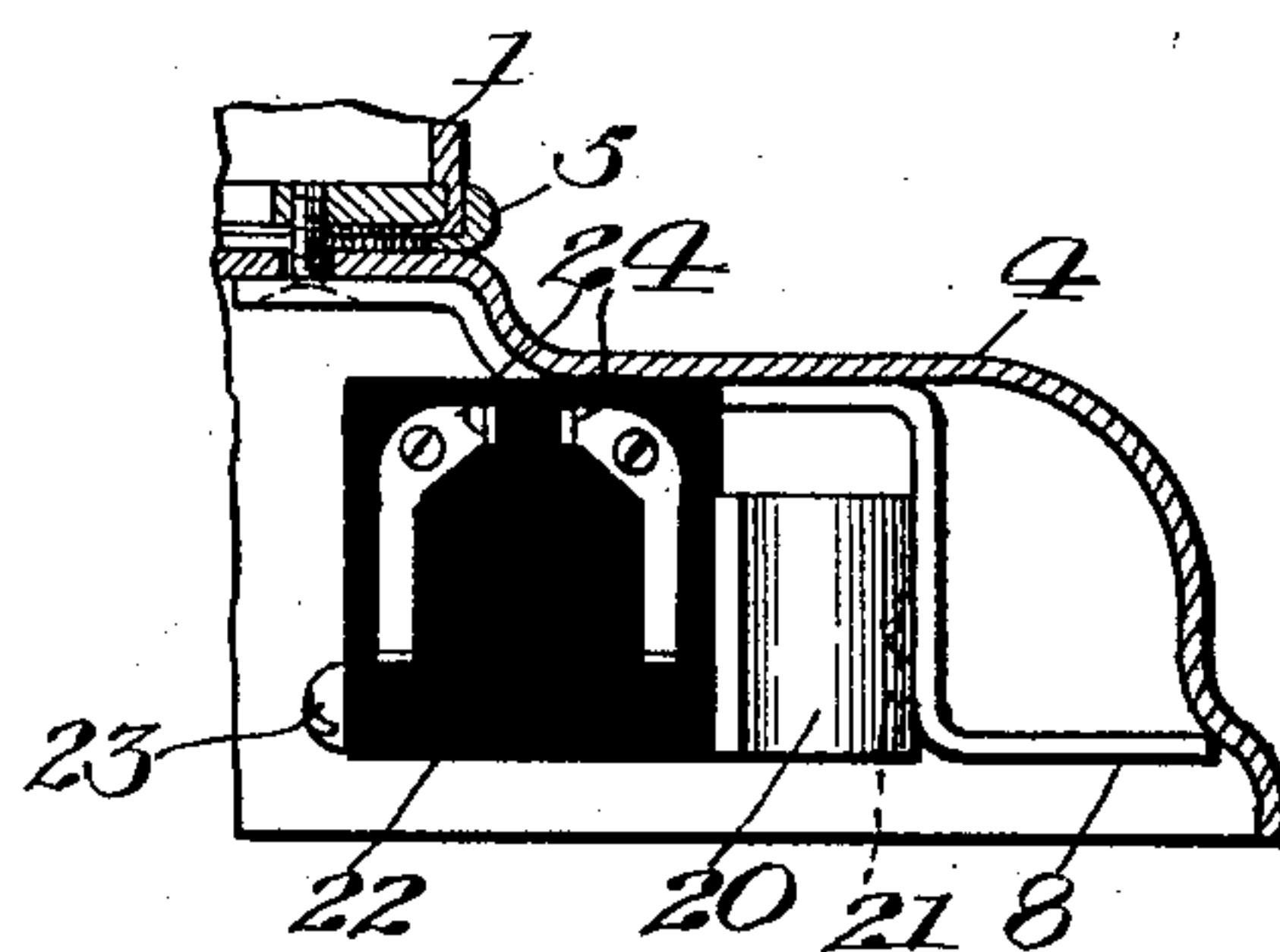


Fig. 3.



Witnesses  
O. M. Vermeil  
Jean Elliott

Inventor  
Niels Pedersen  
by Max W. Zabel  
Atty



# UNITED STATES PATENT OFFICE.

NIELS PEDERSEN, OF GENOA, ILLINOIS, ASSIGNOR TO CRACRAFT-LEICH ELECTRIC COMPANY, OF GENOA, ILLINOIS, A CORPORATION OF ILLINOIS.

## PORTABLE TELEPHONE.

999,859.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed June 4, 1909. Serial No. 500,049.

*To all whom it may concern:*

Be it known that I, NIELS PEDERSEN, citizen of the United States, residing at Genoa, in the county of Dekalb and State of Illinois, have invented a certain new and useful Improvement in Portable Telephones, 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 portable telephones, and has for its object the provision of improved constructional features involved in the manufacture of a portable telephone, and is designed to provide a novel means for mounting the various instrumentalities required in the operation of a portable or desk telephone,—likewise the provision of new and novel means for constructing the various portions of the desk telephone itself.

I will describe my invention in detail by reference to the accompanying drawings, which illustrate one manner of carrying out my invention, and in which—

Figure 1 is a partial sectional view of a desk telephone constructed in accordance with my invention; Fig. 2 is a bottom view thereof; Fig. 3 is a detail view showing the manner of mounting the induction coil; Figs. 4 and 5 are sectional and end views, respectively, of my improved circuit-connecting arrangements; Figs. 6 and 7 are detail views of the closure for the base of the telephone; Fig. 8 is a detail view showing the means of mounting the protecting rubber or leather for the base of the desk telephone; and Fig. 9 is a detail view of the mountings for the circuit-changing springs in the base of the desk telephone.

Referring more particularly to Fig. 1, I show a desk telephone partially in section, without the transmitter and without the receiver, but having a standard 1, provided with the necessary switch-hook 2, which switch-hook operates the circuit-changing plunger 3, as more clearly described in my co-pending application Serial No. 500,048 filed of even date herewith.

I construct my improved telephone casing of the base 4, preferably of punched material, which is secured to the circular standard 1, through the interposition of a disk or washer 6, all of which are held together by means of screws 7, 7, which screws at the

same time pass through and hold in position radial arms 8, 9 and 10. A ring 5 is placed around the outer lower portion of said standard 1. These radial arms, as will be more clearly apparent from Figs. 1 and 2, are designed to support the entire operating apparatus used in the manipulation of the desk telephone. The radial arms 8, 9 and 10 are provided with screws 11, which screws are adapted to engage a closure 12, which closure has indentations 13, through which are openings 47, which, at one extremity thereof, are large enough to pass over the heads of the screws 11, but which are narrower at the other extremity, so that when the closure is mounted in position and rotated, the smaller portions of these openings are under the heads of the screws 11, which screws may be tightened up to maintain the closure in place. This is more clearly shown in Figs. 6 and 7.

Around the periphery of the closure 12 is mounted a rubber gasket 14, which is semi-circular at its base, and which is held in place by prongs 15, 15, which have inwardly projecting ends, thereby to maintain the adjoining end portions of the gasket 14 in position, as more clearly indicated in Fig. 8. Additional radial prongs 16 are provided to maintain the gasket in position around the periphery of the closure 12.

The plunger 3, which actuates the circuit-changing springs, has a collar 17, against which a leaf spring 18, which is fastened to the arm 9, acts to maintain said plunger normally in its vertical position. Openings 19, 19 are provided through the radial arms 8, 9 and 10 and the washer 6, so that the connecting cords from the base of the desk set may pass upwardly through the standard 1. The three radial arms, 8, 9 and 10, as stated, support the various instrumentalities which are mounted in the base of the desk set. The arm 8, for instance, has a U-shaped bar 20, which is secured thereto by means of screws 21, and which holds in position the induction coil 22, through the agency of the screws 23. The induction coil is provided with necessary terminal clips 24 for making the necessary interconnections. The radial arm 10 supports the circuit-changing springs, as more clearly indicated in Fig. 9, and to this end has secured to it a base plate 25, held thereto by means of screws 26, and upon which the reciprocating



changing springs 27, 28, 29 and 30 are mounted through the interposition of insulating washers 31. The spring 29 being the master spring to control the operations of the remaining springs, and which is to be actuated by the plunger 3, is provided with a roller 32, which is mounted on a shaft which is secured to the spring 29. This roller is in close proximity to the plunger 3, and when said plunger is raised or lowered, the circuit condition of the springs 27, 28, 29 and 30 are changed. An opening 33 in the base 4 permits the entrance of the cords thereto. The radial arms 9 and 10 are likewise provided with projecting supporting parts 34, secured thereto by means of screws 35, which supporting parts 34 hold, by means of the screws 36, a cross-connecting or terminal strip 37. The terminal strip 37 is of the construction shown best in Fig. 2, and is provided with openings 38, adjacent to the various connecting clips to be described hereafter, through which openings the conductors may pass, which conductors then go through the various instrumentalities mounted in the base of the desk telephone. The connecting clips 39, six in number, which are mounted on this cross-connecting plate, are mounted adjacent to the openings 38, and are provided with means for securing the terminals of the flexible cord, which is designed to enter the base of the desk set through the opening 33. These connecting clips 39 are shown more clearly in Figs. 4 and 5, and consist of a metal punching practically closed upon itself, and having an extension 40, provided with an opening 41 for attaching the conductor thereto, and are also provided with screw-threaded openings where a screw 42 may secure them upon the plate 37. A further projection 43 embeds itself in the plate 37, and is designed to prevent rotation of the connecting plate. A connecting screw 44 passes through the upper portion of the connecting clip, and secures the tip of the cord in position, which tip passes through the openings 45 and 46, provided in said connecting clip. It will be seen that as the tip of the cord passes through two openings, that tightening of the screw 44 does not disarrange the position or connection of said connecting clip.

From what has been said, it will be apparent that the various instrumentalities in the base of the desk set are mounted in a central manner upon the radial arms, so that any one article can be completely removed without disturbing any other article; thus, for instance, either the induction coil or the springs or the cross-connecting plate may be removed without removing any other portion.

While I have herein shown and particularly described the preferred embodiment of my invention, I do not limit myself to the

precise construction and arrangement as herein set forth, but

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

1. In a portable desk telephone, the combination with a stem, of a retaining wall provided transversely in the lower portion of said stem, and a ring around the outer lower portion of said stem.

2. In a portable desk telephone, the combination with a stem, of a retaining wall provided transversely in an enlarged portion of the internal bore of the lower portion of said stem, and a ring around the outer lower portion of said stem.

3. In a portable desk telephone, the combination with a stem, of a bell shaped base secured to said stem, and a plurality of independent radial arms for supporting telephone apparatus provided in said base and secured to said stem.

4. In a portable desk telephone, the combination with a stem, of a bell-shaped base secured to said stem, and a plurality of independent radial arms for supporting telephone apparatus provided in said base and secured to said stem, and screws for thus securing the arms, base and stem together.

5. In a portable desk telephone, the combination with a stem, of a transversely mounted retaining wall fixedly secured in the lower portion of said stem, a bell-shaped base secured to said stem, and a plurality of independent radial arms for supporting telephone apparatus provided in said base and secured to said stem.

6. In a portable desk telephone, the combination with a stem, of a bell-shaped base secured to said stem, a switch-hook lever in said stem, a plunger in said stem responsive to movement of said lever, a radial arm in said base secured to said base and stem, and a spring secured to said radial arm and pressing against said plunger.

7. In a portable desk telephone, the combination with a stem, of a bell-shaped base secured to said stem, a switch-hook lever in said stem, a plunger in said stem responsive to movement of said lever and projecting into said base, a radial arm in said base secured to said base and stem, and a spring secured to said radial arm and pressing against said plunger.

8. In a portable desk telephone, the combination with a stem, of a bell-shaped base secured to said stem, a switch-hook lever in said stem, a plunger in said stem responsive to movement of said lever, means provided upon said plunger to independently of the switch-hook lever limit its upward movement, a radial arm in said base secured to said base and stem, and a spring secured to said radial arm and pressing against said plunger.



9. In a portable desk telephone, the combination with a stem, of a bell-shaped base secured to said stem, a plurality of independent radial arms for supporting telephone apparatus provided in said base and secured to said stem, and registering holes in said base and arms to provide a passageway between the interior of said base and said stem.

10. In a portable telephone, the combination with a stem and base, of a plurality of radial arms secured to said stem and base, and a closure for said base consisting of a plate having means whereby when said plate is rotated in its closing position it is locked in position.

11. In a portable telephone, the combination with a stem and base, of a plurality of radial arms secured to said stem and base, a closure for said base consisting of a plate having means whereby when said plate is rotated in its closing position it is locked therein, and means fastened to said closure and extending from between said closure and said base below said closure or base, to prevent the metallic parts of said telephone from coming into contact with the surface upon which said telephone is placed.

12. In a portable desk telephone, the combination with a base, of a plurality of inde-

pendent radial arms secured to said base, an induction coil, and a bracket for securing said induction coil to one of said radial arms.

13. In a portable desk telephone, the combination with a base of a plurality of independent radial arms secured to said base, switching springs provided in said base insulated from one another at their mounting place, and a bracket for mounting said springs upon one of said radial arms.

14. In a portable desk telephone, the combination with a base, of a plurality of independent radial arms secured to said base, a terminal plate provided in said base, and a bracket for securing said plate to one of the radial arms aforesaid.

15. In a portable desk telephone, the combination with a base, of a plurality of independent radial arms secured to said base, a terminal plate provided in said base and brackets for securing said plate to a plurality of radial arms aforesaid.

In witness whereof, I hereunto subscribe my name this 6th day of May A. D., 1909.

NIELS PEDERSEN.

Witnesses:

O. M. LEICH,  
J. H. WAGONER.