

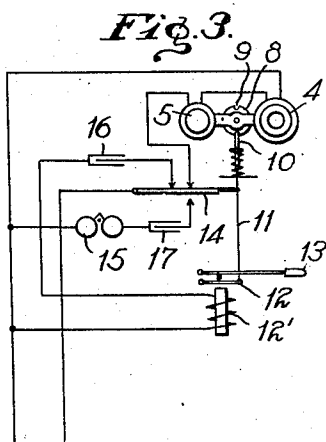
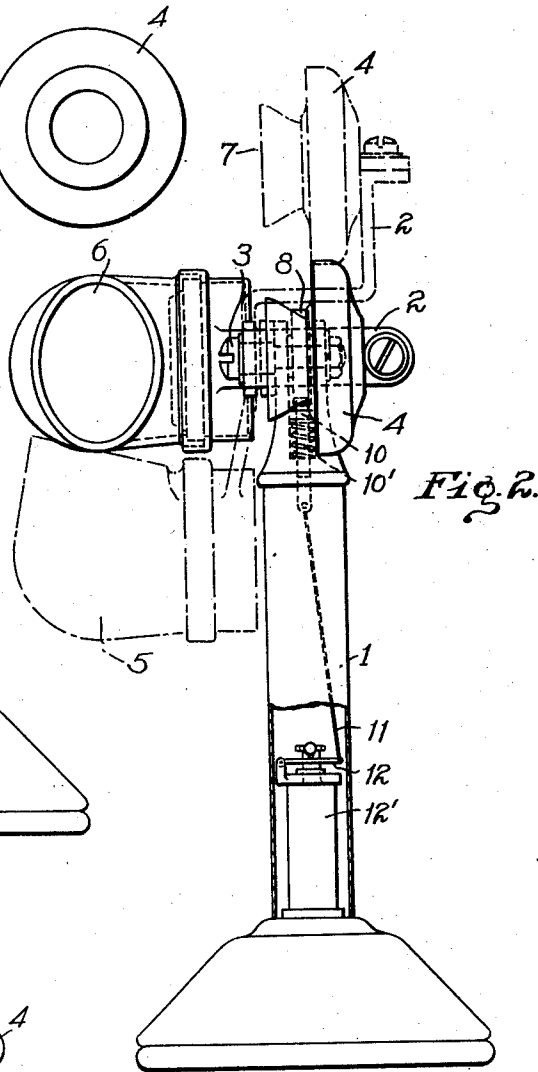
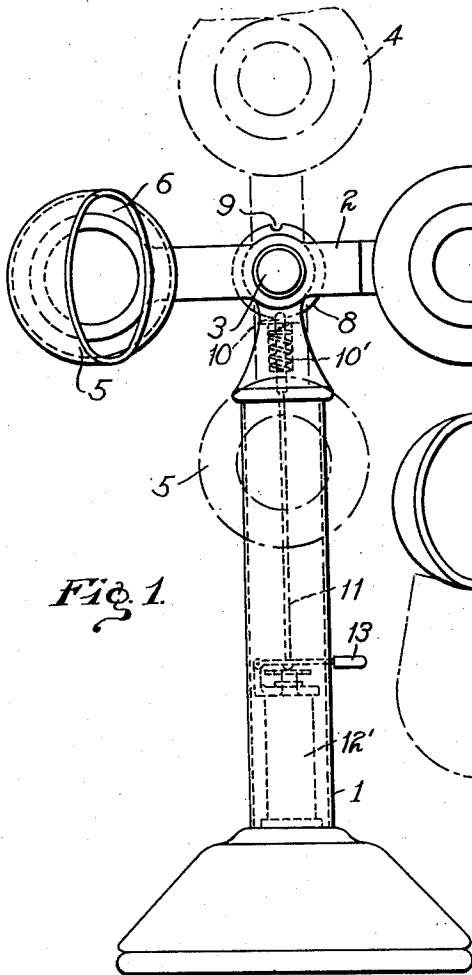
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TELEPHONE

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UNITED STATES PATENT OFFICE

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TELEPHONE

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This invention relates to telephone sets, more particularly to improvements in desk sets which particularly adapt the phone to use without requiring that the user hold the receiver element as in the well known types.

It is among the objects of this invention to provide a telephone set in which the receiver and transmitter are permanently secured to the standard or support in such manner that the receiver may be positioned for use at either the right or left hand side of the support.

Another object of the invention is the provision of means for automatically replacing the ringing circuit of the telephone after use and for placing the telephone entirely within the control of the switch board operator who can replace the telephone set in the normal condition for use if it is inadvertently left in the talking position by the user.

These and other objects will become more apparent from a consideration of the accompanying drawings in which like reference characters designate like parts and in which Fig. 1 is a front elevational view of a telephone set embodying the principles of this invention; Fig. 2 is a side elevational view thereof; and Fig. 3 a diagram illustrating the electric connections and the manner of releasing the receiver element to close the telephone circuit by the energization of the ringing circuit thereof.

As shown in Figures 1 and 2, a standard or support 1 of the customary construction is provided with a pivotal arm 2 which is pivoted at 3 to the top of the standard and adapted for swinging movement thereon. The arm 2 is provided with a transmitter 4 and a receiver 5, the opening of the latter being angularly disposed with respect to the mouth piece 7 of the transmitter in the order of or similar to the well known type of desk phones in which the transmitter and receiver are a unit which is movably connected with the desk set or support.

Attached to the swinging arm 2 or formed integrally therewith, is a disk element 8 having indentations or notches 9 therein, the notches or indentations being disposed 180° apart and are adapted to cooperate with a

latch or plunger in the form of a spring pawl 10 by means of which the arm 2 is held in the horizontal position with the receiver element, in either the left or right hand position as may be convenient to the user. It is of course evident that a large number of shallow notches may be employed and that the spring pawl 10 can be made to operate as a slip ratchet by simply moving the arm 2 against the pressure of the spring, thereby eliminating the thumb latch 13.

The receiving element 5 embodying the usual magnet iron, will be of considerably more weight than the transmitter element 4, and if the arm 2 were released by the removal of the pawl 10, the arm with the transmitter and receiver would assume the dotted line position with the receiver 5 suspended downwardly and the transmitting element extending at the top of the base or support 1.

The pawl 10 forms an extension or an integral portion of a rod 11 which is connected to the movable armature 12 of a relay, as shown in Fig. 3, and the armature 12 is further movable by a thumb latch 13 which projects at the side of the standard 1 as shown in Fig. 1. The rod 11 is further connected with the cut-out arm 14 shown in Fig. 3, this corresponding to the receiver hook in the customary type of telephone. In the diagram, 15 designates the telephone bell and 16 and 17 a pair of condensers.

The operation of the circuit with the use of the telephone is briefly as follows:—Assuming the arm 2 to be in the vertical position shown in the dotted line construction, which position is the normally closed circuit position of the telephone, the user simply places the receiver 5 to either the left or right hand side of the support depending upon his sense of hearing, and when raised to the full horizontal position suitable for the ear, the plunger which is biased by a coil spring 10' will automatically set itself in the notch 9 with which it may be aligned. By the movement of the pawl 10 into its notch, the rod 11 rises, thereby lifting the cut-out 14 from contact with the contactor connecting to the condenser 17 of the bell ringing circuit and establishes contact across the speaking circuit in

which the condenser 16 and the transmitter 4 are connected. When the user is finished with a conversation, the thumb latch 13 may be depressed whereby contact is broken with the speaking circuit and the bell ringing circuit is re-established. If the user fails to place the phone in upright position or to depress the latch 13, the operator by energizing the bell ringing circuit, will energize the relay coil 12' which draws down the movable armature 12 to which the rod 11 is secured, thereby disconnecting the speaking circuit and establishing the ringing circuit in the same manner as though the circuit were made by placing the phone in upright position or depressing the latch 13.

In this manner the telephone operators have full control of the telephones and can re-establish the bell ringing circuits if they are inadvertently left open by the user or if by any means they should become open by accidental contact with the telephone.

Although the pivotal arm is illustrated as provided with a pair of oppositely disposed notches, it is evident that any number of notches may be employed to enable the transmitter and receiving element to be placed in any angular position in which the user may find it convenient to employ the same. The arm 12 is an off-set member as shown in Fig. 2, particularly in the dotted line construction, and by virtue of this form, it is freely movable through an arc of 180°, thus enabling the positioning of the transmitter as may be found desirable or convenient.

It is evident from the foregoing description of this invention that telephone sets embodying the principles therein set forth will give the user free use of both hands while utilizing the telephone and will enable the operator to control the telephone circuits if they are inadvertently left open.

Although one embodiment of the invention has been herein illustrated and described, it will be obvious to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim herein as my invention:

1. In a telephone, a stand or support, a pivotal arm mounted thereon, a transmitter and a receiver carried on the respective ends of said arm, said arm being mounted for angular movement and having notches concentric with its point of connection to said support, a pawl for engaging the notches of said arm, spring means to normally urge said pawl in said notches and solenoid actuated means for withdrawing said pawl.

2. In a telephone, a stand, or support, a pivot arm mounted thereon, a transmitter and receiver carried on the respective ends of said arm in such manner that the arm will be maintained with its longitudinal axis in a normally vertical position, one or more notches pro-

vided in said arm, a pawl for engaging said notches and a solenoid for actuating said pawl to release said notches whereby the arm assumes its normal position.

3. A telephone as set forth in claim 2 in which the solenoid is adapted to be energized by the phone circuit.

4. A telephone as set forth in claim 2 in which the solenoid is adapted to be energized by the bell ringing circuit of the telephone.

5. In a telephone circuit a movable contact normally closing the bell ringing circuit and adapted to establish the receiving and transmitting circuit when the phone is in position for use and a solenoid actuated plunger connected in the bell ringing circuit for breaking said last named contact and for reestablishing the bell ringing circuit.

In testimony whereof I have hereunto set my hand this 22 day of January, 1929.

HARRISON D. STERICK.