

April 6, 1937.

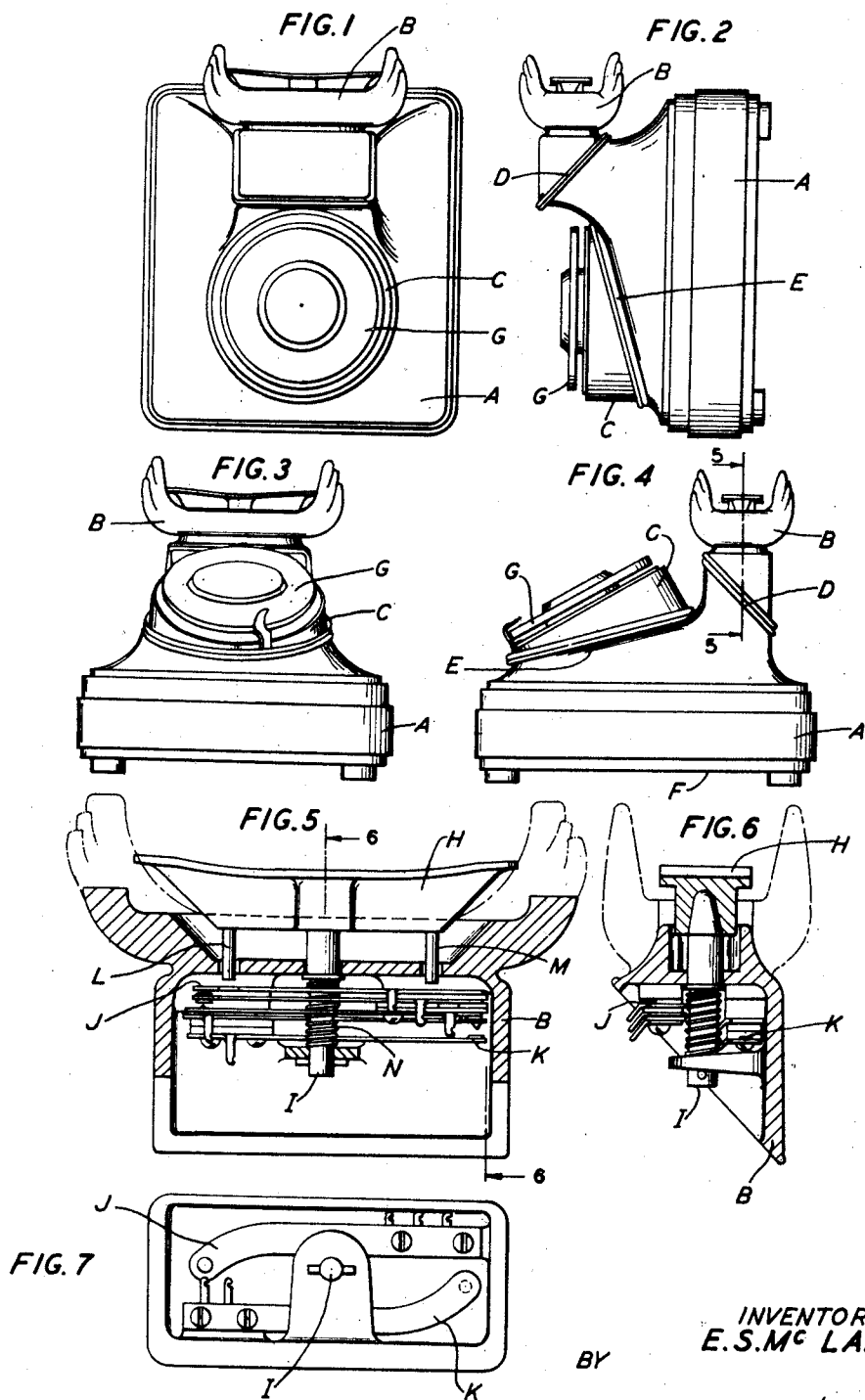
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2,076,244

TELEPHONE SET

Filed July 21, 1934

2 Sheets-Sheet 1



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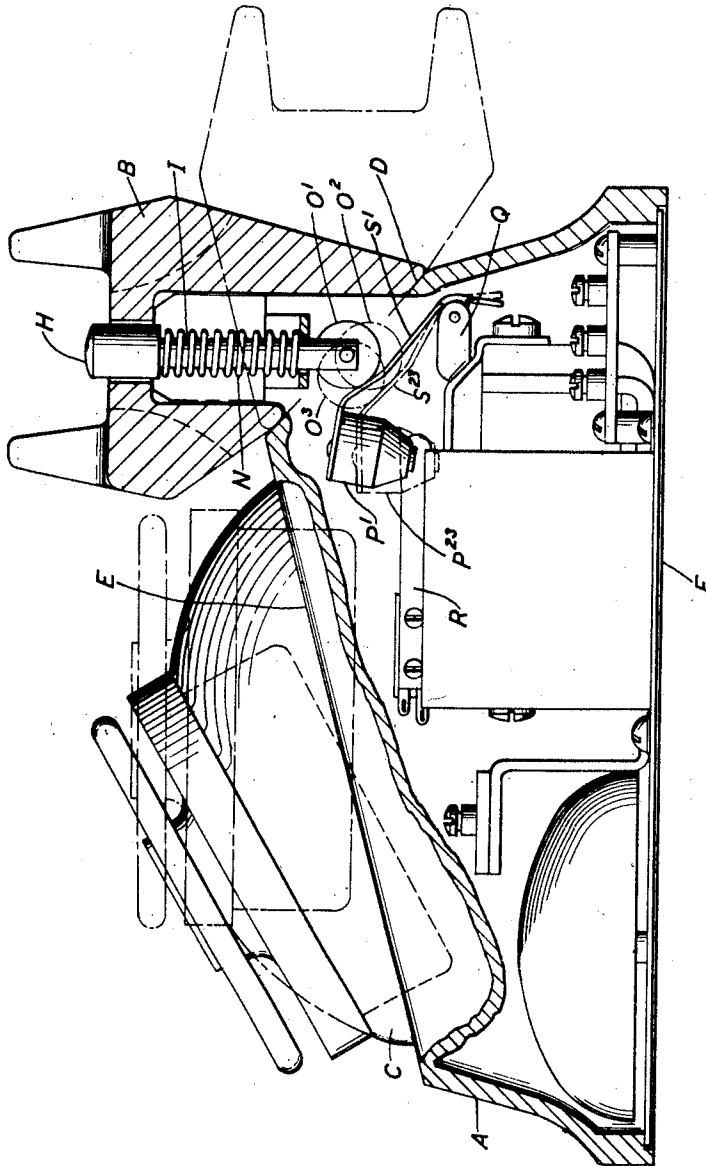
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FIG. 8



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2,076,244

TELEPHONE SET

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Application July 21, 1934, Serial No. 736,286
In France April 18, 1934

10 Claims. (Cl. 179—100)

This invention relates to telephone sets such as are installed at subscribers' stations, and more particularly to mountings for hand telephones, which are adapted to be quickly and easily modified so as to be used either as desk-sets or as wall-sets.

According to one feature of the invention the handset cradle is separate from the body of the set, and the cradle and its seating on the set are so arranged that the cradle can be fixed to the set in either of two positions, in one of which it is positioned for use when the set is standing on a horizontal surface, while in the other it is positioned for use when the base of the set is fixed to a vertical surface.

The switchhook springs and operating mechanism are preferably so arranged that no modification thereof is required when converting the set from a desk-set to a wall-set. The switchhook springs may be mounted either on the cradle or on the casing proper.

According to another feature of the invention, the dial is mounted in a detachable portion of the set which can be fixed to the set in either of two different positions, in one of which it is conveniently positioned for actuation when the set is standing on a horizontal surface, while in the other it is conveniently positioned for actuation when the set is fixed onto a vertical surface.

Another feature of the invention relates to the provision of means for varying the loudness of the sound given by the ringer of a convertible set, since it is usual to provide a wall-set with a louder ringer than a desk-set.

The invention will be more clearly understood from the following description of two embodiments which are shown in the accompanying drawings in which:

Figs. 1 and 2 show front and side elevations of a set arranged for use on a vertical surface;

Figs. 3 and 4 show front and side elevations of the same set arranged for use on a horizontal surface;

Fig. 5 shows the cradle in front elevation, mainly in section;

Fig. 6 shows the cradle in side elevation, mainly in section;

Fig. 7 shows a plan view of the switchhook spring arrangement in the cradle base taken from below, Fig. 5; and

Fig. 8 shows a sectional elevation of a modified set, the two positions of the cradle and the

dial casing being indicated by full lines and chain-dotted lines.

The telephone set casing is manufactured in three separate portions A, B, C. Portion A is the casing proper formed with two flat surfaces D, E, one substantially rectangular and the other circular, on which the cradle B and the dial casing C are fixed respectively.

The seating D is at an angle of forty-five degrees to the base F of the casing proper A, while the surface of the cradle which engages the seating D is at an angle of forty-five degrees to the vertical axis of the cradle so that, as will be clear by comparing Figs. 2 and 4, the cradle B can be fixed to casing A in two different positions, one of which is obtained by rotating the cradle through one hundred and eighty degrees on its seating from the other position.

The seating E is at an angle of about fifteen degrees to the base F while the surface of the dial casing C which engages the seating E is at an angle of about fifteen degrees to the fingerhold plate G. When placed on its seating in the manner shown in Figs. 1 and 2 the fingerhold plate G is parallel with the base F of the casing proper A. The dial is now in a convenient position for actuation when the set is fixed on a vertical surface.

When the dial casing C is rotated through one hundred and eighty degrees on its seating the fingerhold plate is at an angle of about thirty degrees to the base F and is in a convenient position for actuation when the set is standing on a horizontal surface. The engaging surfaces of the numbers A, C may, of course, be arranged to give any other convenient alternative dial positions. If the set is to be used for manual systems, the dial casing C will be replaced by a cover plate in well known manner.

The casing members are preferably molded from thermoplastic substances such as the phenol resins and the ureas which after molding and curing are chemically inert and thus not affected by climatic conditions.

The contacting surfaces of the members A, B, C may, of course, be of any desired shape and configuration.

The three members A, B, C may be formed in any other manner which will allow them to be connected together either as a desk-set or as a wall-set, for instance, the cradle B may have a stepped mounting surface.

The member A contains the conventional telephone set equipment, namely, condenser, induc-

tion coil, ringer, terminal strip and wiring in normal manner. The switchhook springs may be mounted on the cradle B, or in the member A, in which case, it is desirable to arrange the spring operating devices so that they will function equally well with the cradle in either position. In the arrangement shown in Figs. 5, 6, and 7, the springs are mounted on the cradle. The cradle B contains a switchhook H which is carried by a spindle I journaled in the cradle and is adapted to be depressed by the handset against a spring N. Spring sets J, K are mounted in the base of the cradle, on different levels for inspection purposes, and are adapted to be operated by plungers L, M on the switchhook H. The springs are connected to the terminals in the casing proper A by a flexible conductor.

Convertible telephone sets of the novel kind described have definite advantages over sets designed specifically as desk-sets only or as wall-sets only. The first cost may be slightly more, but there are intangible cost savings due to the manufacturer being able to limit his stocks of parts and completed sets to the one design. From an operating standpoint, the advantages are even greater, stocks and records are greatly simplified, and repairmen need carry only one type of set and repair parts.

In the set shown in Fig. 8 the switchhook springs R are parallel with and mounted on the base plate assembly of the set. The springs R are operated by a plunger P carried by a spring arm S mounted on the base plate assembly at Q. The cradle B carries a switch pin H which is adapted to be depressed by a handset placed on the cradle B against the pressure of a spring N. The spindle I of the switch pin H carries a roller O which engages with the spring arm S. The arm S is normally at an angle of about forty-five degrees to the base F and is substantially parallel to the seating D for the cradle B. When the switch pin H is depressed by the handset, the plunger P carried by spring arm S operates the springs R irrespective of the position in which cradle B is fixed to the casing A. O', S', P' indicate the positions of the roller, spring arm and plunger when the switch pin H is raised; O² and O³ show the positions of the roller with the switch pin H depressed, when the cradle is fixed for use as a desk-set and wall-set respectively. S²³ and P²³ indicate the operated positions of the spring arm and plunger when the set is arranged for use either as a desk-set or a wall-set. No modification of the switchhook mechanism is required when converting the set from a desk-set to a wall-set.

It is usual to provide a louder ringer on a wall-set than on a desk-set. In order to retain this facility with a convertible set, it is proposed to provide means for modifying the bell so that it can be made to ring relatively loudly or relatively softly as desired. Two preferred arrangements are described below:

(a) A small spring can be so arranged in proximity to each of the gongs that it can be adjusted from the outside of the casing so as to contact with the gong. When used as a wall-set, the springs would not be in contact with the gongs which would give their normal ring. When used as a desk-set, the springs would be adjusted to contact with the gongs which would be muffled thereby, and would give out a sound much less strong than the normal sound of the ring.

(b) The base of a wall or desk-set is normally provided with holes to allow passage of the sound

waves from the ringer. The second method of muffling the ringer of a convertible set is to mount on the inside of the base plate of the set two rotatable discs provided with holes. The discs would be adjustable from outside the base plate either to close or open corresponding holes in the base plate.

When used as a wall-set, the discs would be adjusted to open the holes in the base plate; when used as a desk-set, the holes would be closed to muffle the sound from the ringer.

What is claimed is:

1. A telephone mounting comprising a casing having a sloping surface and a cradle having a base portion with a sloping surface, the slopes of said surfaces being such that by turning the cradle through an angle of one hundred and eighty degrees, the cradle will support a hand telephone in a horizontal position whether the casing is mounted on a vertical or a horizontal surface.

2. A telephone mounting comprising a cradle and a dial each having base members therefor, switching members associated with said cradle, and a casing, said casing and base members having cooperating surfaces of a configuration such that by angularly displacing the base members about an axis thereof and with respect to the casing, the dial and switching members are in operable condition irrespective of whether the casing is mounted on a vertical or horizontal surface.

3. A mounting for hand telephones, comprising a casing and a cradle member separate from said casing, said casing and said cradle member having cooperating seating surfaces disposed obliquely to axes of said casing and said cradle member.

4. A mounting for hand telephones, comprising a casing having a portion disposed obliquely to the base thereof, and a cradle member separate from said casing having a portion disposed obliquely to an axis thereof and seated upon said first portion.

5. A mounting for hand telephones, comprising a casing having a wall portion disposed at an angle of substantially forty-five degrees to the base thereof and a cradle member having a seating portion disposed at an angle of substantially forty-five degrees to the vertical axis thereof and seated upon said first wall portion.

6. A telephone set comprising a casing and a dial assembly adapted to be mounted on said casing, said casing and said assembly having cooperating surfaces disposed obliquely to corresponding axes of said casing and said assembly.

7. A telephone set comprising a casing having a wall disposed obliquely to the base thereof, and a dial assembly adapted to be mounted on said wall, said assembly including a mounting portion sloping at an acute angle to the axis thereof.

8. A mounting for hand telephones, comprising a casing, a cradle member separate from said casing, a reciprocable plunger carried by said cradle member, and circuit controlling members within said cradle member and actuable by said plunger, said casing and said cradle member having cooperating seating surfaces disposed at an acute angle to axes of said casing and said cradle member.

9. A mounting for hand telephones, comprising a casing, circuit controlling members within said casing, a cradle member separate from said casing, and a reciprocable plunger carried by said cradle member and adapted to actuate said cir-

cuit controlling members, said casing having a portion disposed obliquely to the base thereof, and said cradle member having a portion disposed obliquely to the direction of motion of said plunger and seated upon said first portion.

5 10. A mounting for hand telephones, comprising a casing having an apertured wall disposed at an angle of substantially forty-five degrees to the base thereof, circuit controlling members
10 in said casing, a pivoted member for engaging

one of said circuit controlling members, a cradle member separate from said casing, and a reciprocable plunger carried by said cradle member and adapted to engage said pivoted member, said cradle member having a seating portion disposed
5 at an angle of substantially forty-five degrees to the direction of motion of said plunger and seated upon said apertured wall.

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