

PATENT SPECIFICATION

969,177

DRAWINGS ATTACHED.

*Date of Application and filing Complete Specification :
May 3, 1963. No. 17535/63.*

*Application made in Germany (No. St19180 VIIIa/21a²)
on May 4, 1962.*

Complete Specification Published : Sept. 9, 1964.

© Crown Copyright 1964.

Index at Acceptance :—H4 J(3C, 3D).

International Classification :—H 04 m.

COMPLETE SPECIFICATION.

Telephone Set With Sound Reflecting Wall for the Ringer.

We, STANDARD TELEPHONES AND CABLES LIMITED, a British Company, of Connaught House, 63 Aldwych, London, W.C.2, England, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to a telephone set with an arrangement for the ringer to increase its sound intensity.

It is known for slots or holes to be used as sound outlets in telephone sets, e.g. in the base or bottom plate. These slots or holes are usually at that part of the telephone set housing the ringer. They cannot be made too large for technical reasons, so that only a part of the sound from the ringer can emanate through said slots or holes, causing a certain damping of the sound intensity.

The object of the invention is to avoid the disadvantages of the design hitherto known.

According to the invention there is provided a telephone set in which the ringer has at least one gong provided with a sound reflecting wall, in which the or each said wall is within the casing of the telephone set and is between said casing and its gong, and in which the or each said wall fall encompasses its gong wholly or partially and is in plan view either circular or oval.

Embodiments of the invention will now be described with the aid of a drawing in which:—

Fig. 1 shows a part of the bottom plate of a telephone set case in longitudinal section, onto which a ringer is mounted;

Fig. 2 shows a part of the bottom plate of a telephone set case with the ringer, seen from the top; and

Fig. 3 shows an alternative arrangement.

[Price 4s. 6d.]

In Figs. 1 and 2, there is shown the bottom plate 1 of a sub-set, on the inside of which is mounted a ringer, the latter being within its gong 2. This is, of course, covered by the sub-set body when in use. Formed integrally with the bottom plate 2 is a sound-reflecting wall 3 which leans at an angle towards the gong 2, the wall being pressed, die-cast, moulded or drawn in one operation with the plate 1. It would be possible for the wall to be a separate integer, although the integral construction will normally be preferable as it facilitates production.

The wall 3 can be oval or circular, and may surround the gong wholly or partially. In the arrangement of Figs. 1 and 2, the wall 3 is part-circular so that in plan it is parallel to a circular gong, and it extends nearly halfway round the gong. It also extends a small distance outside the plate 1 as shown at 4, Fig. 1, this extension augmenting the sound reflecting action of the wall.

Slots or holes, indicated at 5, Fig. 1, are provided in the baseplate 1 between the wall and the gong for the egress of sound. With the leaning wall shown in Fig. 1, the wall thus reflects sound downwards towards the slots or holes. The wall 3 is supported by ribs 6 inside the wall, which connect it with the portion of the base plate within the wall. A metal trellis-like sheet can be placed inside the wall and over the slots or holes 5.

In the arrangement of Fig. 3, there is a hole 7 in the reflecting wall 3 and a part 8, which can be glued in, fitted over the wall 3 so that a closed cavity 9 is formed, only accessible through the hole 7, which cavity can accentuate, dependent on its size, a certain frequency of the mixture furnished by

the ringer (2), thus having the effect of a resonator.

The reflecting wall 3 may be mounted other than on the bottom plate of the telephone case, if the ringer is, e.g., not mounted on the bottom plate 1, or if the sound projection openings are not in the bottom plate but at another place of the telephone set case.

Where, as in some sub-sets there are two gongs with the ringer driving a clapper which alternately strikes the two gongs, either or both gongs can be provided with sound reflecting walls. Another possibility in this case is for a wall of roughly figure of eight shape to completely surround both gongs of such an arrangement.

WHAT WE CLAIM IS: —

1. A telephone set in which the ringer has at least one gong provided with a sound reflecting wall, in which the or each said wall is within the casing of the telephone set and is between said casing and its gong, and in which the or each said wall encompasses its gong wholly or partially and is in plan view either circular or oval.

2. A telephone set according to Claim 1, and in which the or each said sound reflecting wall protrudes outside the bottom plate of the telephone set.

3. A telephone set according to Claim 1 or 2, and in which between the or each said sound reflecting wall and its gong slots or holes are provided.

4. A telephone set as claimed in Claim 1, 2 or 3, and which has a single gong with the ringer mounted within the gong.

5. A telephone set as claimed in Claim 1, 2 or 3, and which has two gongs, the ringer driving a clapper which hits said gongs alternately.

6. A telephone set as claimed in Claim 5, and which has two sound reflecting walls each of which partly surrounds one of said gongs.

7. A telephone set as claimed in Claim 5, and which has a single sound reflecting wall which completely surrounds both of said gongs.

8. A telephone set according to Claim 1, 2 or 3, 4, 5, 6 or 7, and in which the each said reflecting wall is pressed, diecast, moulded or drawn in one work operation process with the bottom plate or another part of the telephone set case.

9. A telephone set according to any one of Claims 1 to 8, and in which the or each said sound reflecting wall is supported by ribs.

10. A telephone set according to Claim 2 or any claim subordinate thereto, and in which a metal-sheet trellis is mounted over the slots and within the or each said wall.

11. A telephone set according to any one of Claims 1 to 10, and in which the or each said sound reflecting wall has a drill hole, and in which an enclosure is fitted over the or each wall, so as to form a cavity which, in conjunction with the hole, and the reflecting wall has the effect of a resonator.

12. A telephone set in which the ringer has two gongs mounted near to each other and a clapper which when driven, strikes said two gongs alternately, and in which a sound reflecting wall is provided which, in plan, is of generally figure-of-eight shape and surrounds both gongs, said wall leaning inward towards said gongs and being closely adjacent thereto.

13. A telephone set in which the ringer has a single gong with the ringer mounted within the gong, said ringer and gong being mounted on the bottom plate of the set, in which a sound reflecting wall formed integrally with said base plate is provided adjacent to said gong, which wall leans towards said gong, in which slots or holes are provided between the wall and the gong, and in which a portion of the wall protrudes below the outer face of said bottom plate.

14. A telephone set substantially as described with reference to Figs. 1 and 2 or Fig. 3 of the accompanying drawings.

S. R. CAPSEY,
Chartered Patent Agent.
For the Applicants.

the ringer (2), thus having the effect of a resonator.

The reflecting wall 3 may be mounted other than on the bottom plate of the telephone case, if the ringer is, e.g., not mounted on the bottom plate 1, or if the sound projection openings are not in the bottom plate but at another place of the telephone set case.

Where, as in some sub-sets there are two gongs with the ringer driving a clapper which alternately strikes the two gongs, either or both gongs can be provided with sound reflecting walls. Another possibility in this case is for a wall of roughly figure of eight shape to completely surround both gongs of such an arrangement.

WHAT WE CLAIM IS: —

1. A telephone set in which the ringer has at least one gong provided with a sound reflecting wall, in which the or each said wall is within the casing of the telephone set and is between said casing and its gong, and in which the or each said wall encompasses its gong wholly or partially and is in plan view either circular or oval.

2. A telephone set according to Claim 1, and in which the or each said sound reflecting wall protrudes outside the bottom plate of the telephone set.

3. A telephone set according to Claim 1 or 2, and in which between the or each said sound reflecting wall and its gong slots or holes are provided.

4. A telephone set as claimed in Claim 1, 2 or 3, and which has a single gong with the ringer mounted within the gong.

5. A telephone set as claimed in Claim 1, 2 or 3, and which has two gongs, the ringer driving a clapper which hits said gongs alternately.

6. A telephone set as claimed in Claim 5, and which has two sound reflecting walls each of which partly surrounds one of said gongs.

7. A telephone set as claimed in Claim 5, and which has a single sound reflecting wall which completely surrounds both of said gongs.

8. A telephone set according to Claim 1, 2 or 3, 4, 5, 6 or 7, and in which the each said reflecting wall is pressed, diecast, moulded or drawn in one work operation process with the bottom plate or another part of the telephone set case.

9. A telephone set according to any one of Claims 1 to 8, and in which the or each said sound reflecting wall is supported by ribs.

10. A telephone set according to Claim 2 or any claim subordinate thereto, and in which a metal-sheet trellis is mounted over the slots and within the or each said wall.

11. A telephone set according to any one of Claims 1 to 10, and in which the or each said sound reflecting wall has a drill hole, and in which an enclosure is fitted over the or each wall, so as to form a cavity which, in conjunction with the hole, and the reflecting wall has the effect of a resonator.

12. A telephone set in which the ringer has two gongs mounted near to each other and a clapper which when driven, strikes said two gongs alternately, and in which a sound reflecting wall is provided which, in plan, is of generally figure-of-eight shape and surrounds both gongs, said wall leaning inward towards said gongs and being closely adjacent thereto.

13. A telephone set in which the ringer has a single gong with the ringer mounted within the gong, said ringer and gong being mounted on the bottom plate of the set, in which a sound reflecting wall formed integrally with said base plate is provided adjacent to said gong, which wall leans towards said gong, in which slots or holes are provided between the wall and the gong, and in which a portion of the wall protrudes below the outer face of said bottom plate.

14. A telephone set substantially as described with reference to Figs. 1 and 2 or Fig. 3 of the accompanying drawings.

S. R. CAPSEY,
Chartered Patent Agent.
For the Applicants. E.B.

