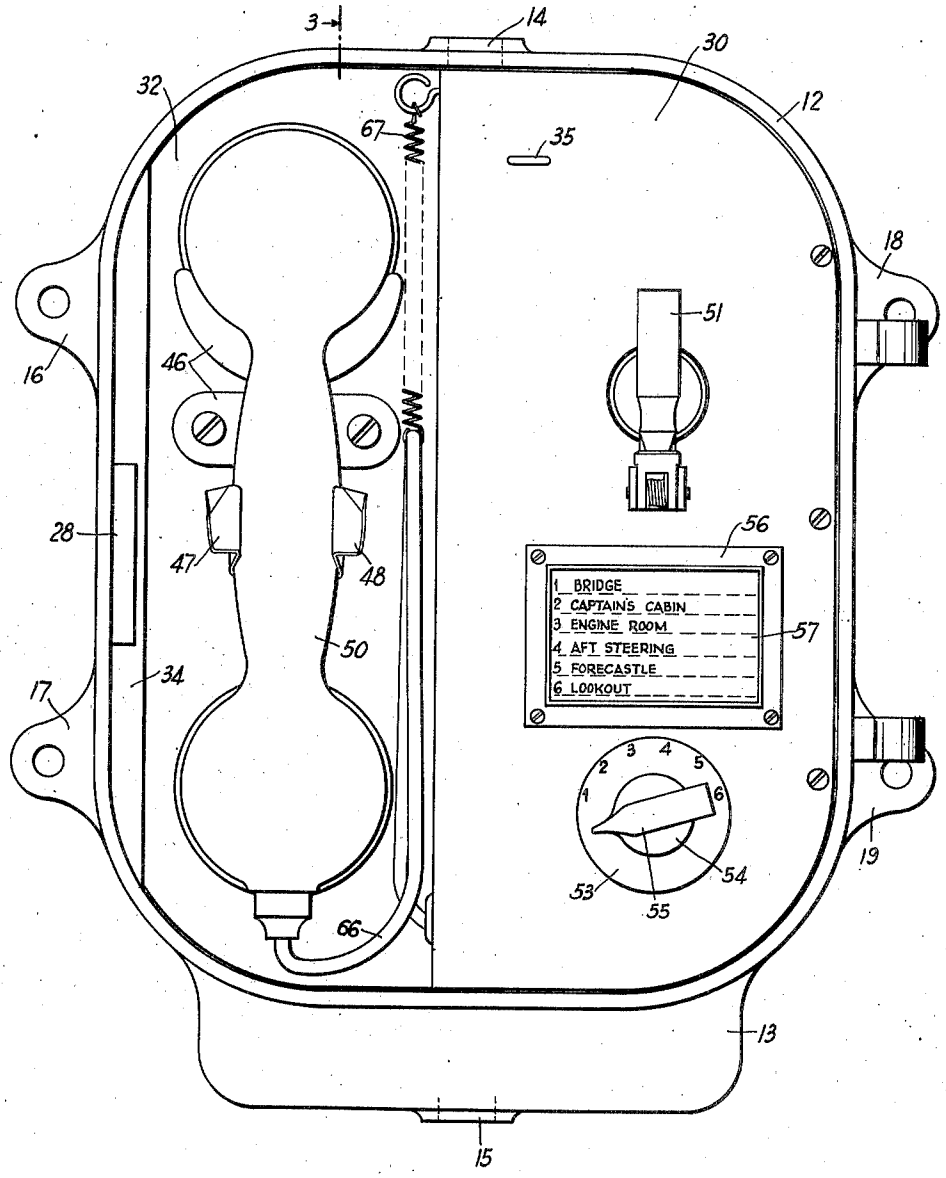
Nov. 19, 1940. F. MORTON 2,222,114

TELEPHONE SYSTEM

Filed Feb. 24, 1936 4 Sheets-Sheet 1

FIG. 1



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BY

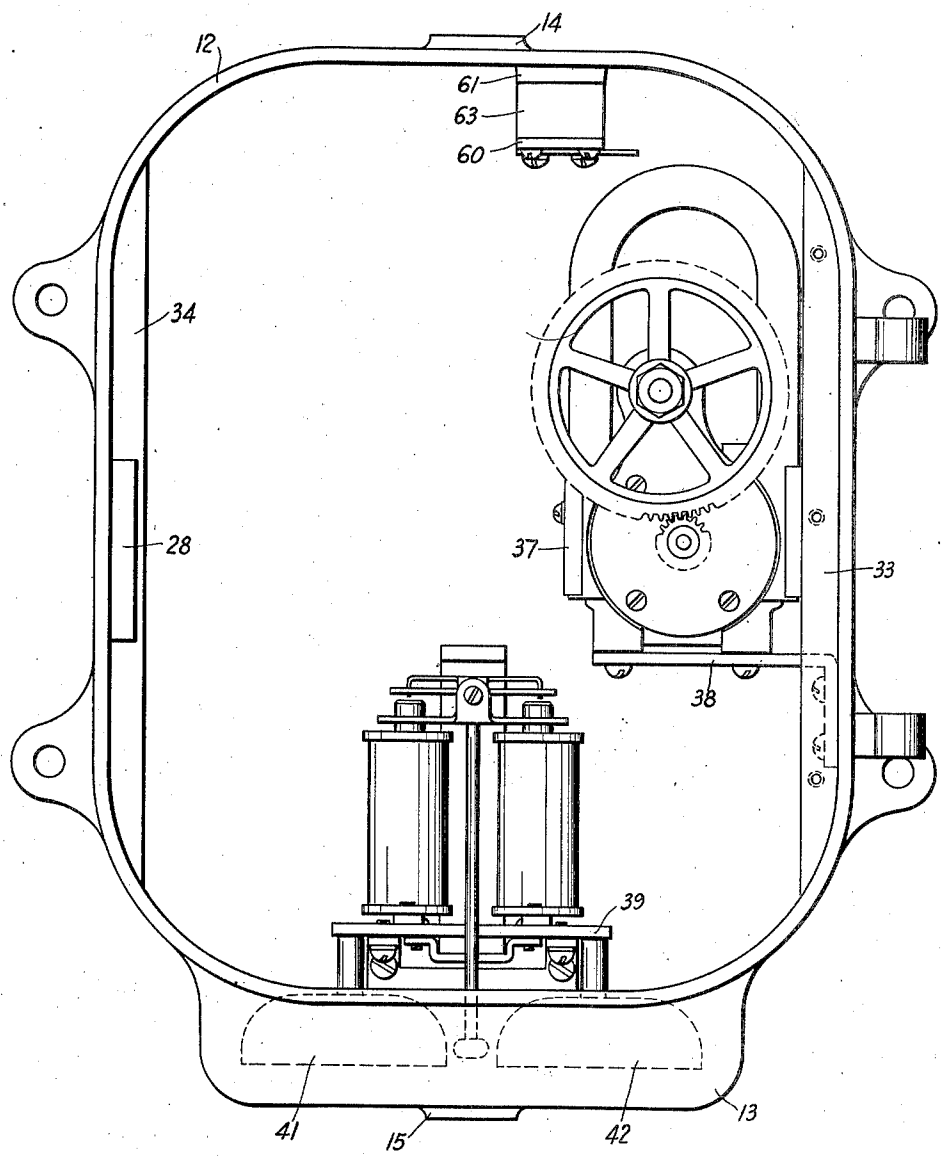
ATTORNEY.

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TELEPHONE SYSTEM

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FIG. 2



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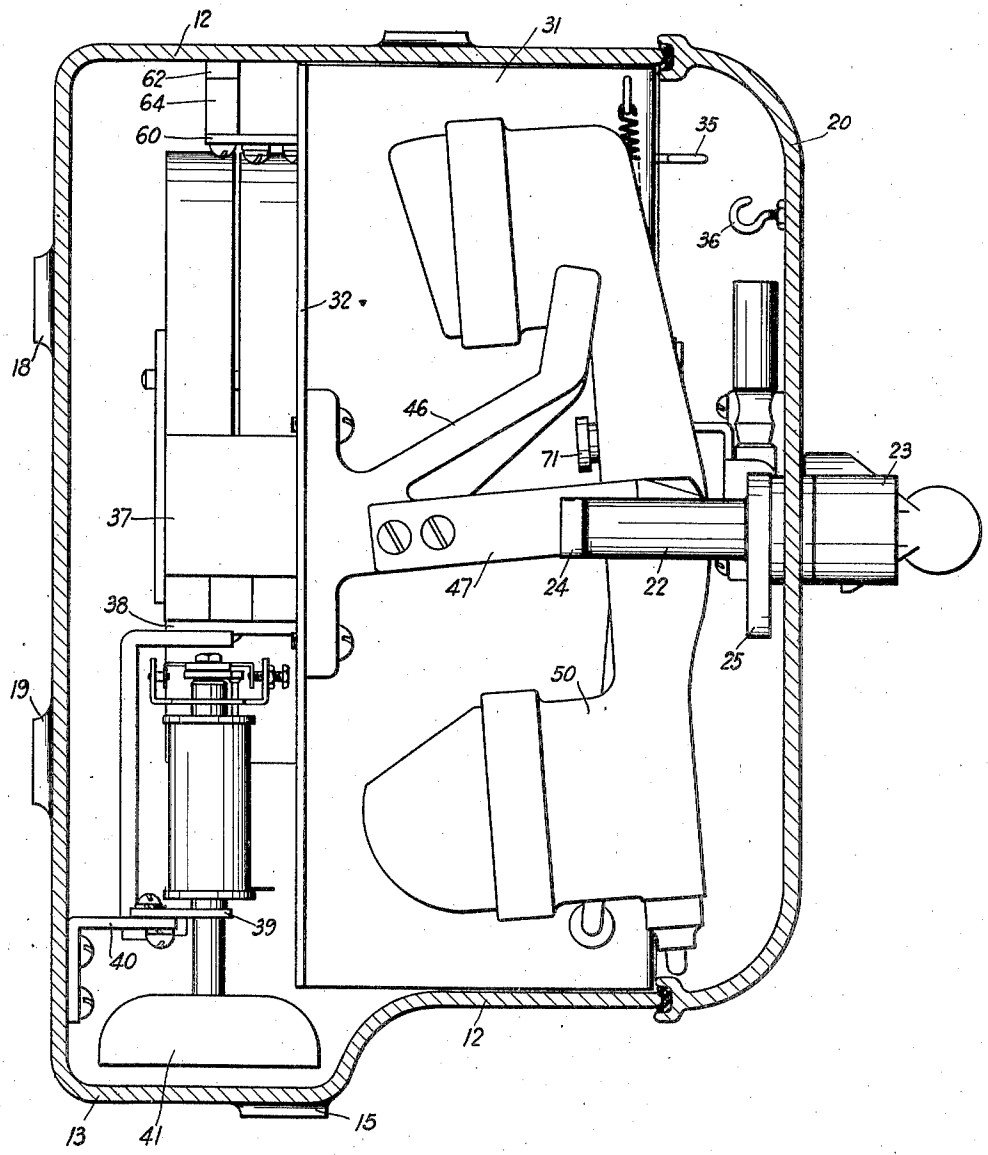
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TELEPHONE SYSTEM

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FIG. 3



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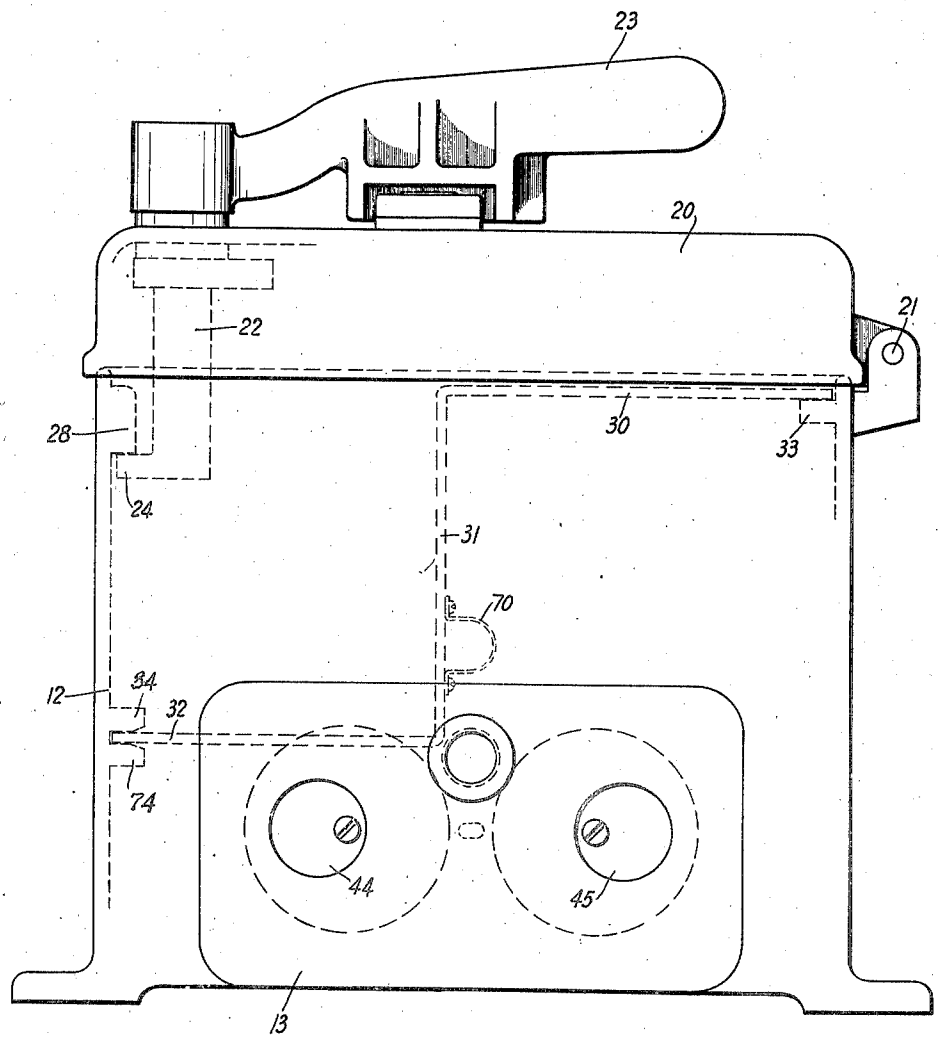
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TELEPHONE SYSTEM

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FIG. 4



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2,222,114

UNITED STATES PATENT OFFICE

2,222,114

TELEPHONE SYSTEM

Floyd Morton, Oak Park, Ill., assignor, by mesne assignments, to Associated Electric Laboratories, Inc., Chicago, Ill., a corporation of Delaware

Application February 24, 1936, Serial No. 65,302

1 Claim. (Cl. 179—100)

The present invention relates in general to telephone systems, and one object is to provide a new and improved telephone of the semi-waterproof type which is well adapted for use in exposed locations on shipboard, or in other places where adverse climatic conditions are encountered.

Another object of the invention is the provision of a suitable circuit arrangement for interconnecting a plurality of telephones of the foregoing type, in a small telephone system which may be referred to as a marine telephone system.

The invention will be described hereinafter with reference to the accompanying drawings, in which—

Fig. 1 is a front view of the complete telephone with the cover removed;

Fig. 2 is a view similar to Fig. 1 except that the inside mounting plate and parts supported thereon have been removed to expose the parts beneath;

Fig. 3 is a side view with the casing cut away on the line 3, Fig. 1; while

Fig. 4 is a view looking toward the lower end of the telephone.

Referring to the drawings, the various parts of the telephone are enclosed in a casing 12 which may be of cast aluminum and shaped as shown clearly in Figs. 1 to 4, inclusive. The casing has a bulge or projecting portion 13 to provide space for the ringer gongs. At 14 there is a threaded opening for connecting an iron pipe or conduit, and there is a similar opening at 15. At the bottom of the casing are projections 16—19 by means of which the telephone can be secured to a wall.

As seen in Fig. 4, there is a cover 20, hinged to the casing 12 at 21. The edge of the cover is grooved and is fitted with a gasket as seen in Fig. 3. Extending through the cover there is a shaft 22, to which is attached a handle 23. Inside the casing the shaft 22 carries a lug 24 adapted to engage the projection 28 on the casing when the handle is in closed position and hold the cover against the casing. To open the cover the handle is turned counter-clockwise to a vertical position which rotates shaft 22 enough to disengage the lug 24. It is desirable that a lock of the type shown in my copending application Serial No. 223,320, divided from this application and filed August 5, 1938, be provided to prevent the cover from being unlatched by unauthorized persons.

Inside the casing there is a mounting plate of sheet metal. This plate comprises a portion 30 which lies in a plane slightly below the edge of the casing, a rearwardly extending portion 31, and a portion 32 which is in a plane parallel to the plane of 30 but farther to the rear. The amount by which the planes of parts 30 and 32 are displaced, or the depth of part 31, can be seen clearly in Fig. 3, also in Fig. 4 where the mounting plate is shown in dotted lines.

The right-hand edge of part 30 rests against a ledge 33, Figs. 2 and 4, to which it is secured by screws, as shown in Fig. 1. The left-hand edge of part 32 lies between the two ledges 34 and 74, as seen in Fig. 4. The mounting plate can be easily removed by taking out the screws which hold it against ledge 33, it being assumed, of course, that the cover is open. There is a hook 35 on the mounting plate and a similar hook 36 on the inside of the cover, by means of which the mounting plate can be hung on the cover if it should be necessary to remove it to inspect or repair the parts underneath.

In the space behind the mounting plate there is a magneto generator 37, mounted on a bracket 38, secured to the inside of the casing as seen in Fig. 2. This generator is of well known construction.

There is also a ringer 39 of well known construction, mounted on a bracket 40, as seen in Fig. 3. The gongs 41 and 42 lie inside the projecting part 13 of the casing. In order that the ringer may be heard, two sound holes 44 and 45 are provided as shown in Fig 4. The gongs of the ringers are positioned above these sound holes and serve to prevent water from splashing up through them to the inside of the casing.

On the front part 32 of the mounting plate there is secured a heavy hook or support 46, on which is supported a hand phone 50. This hand phone may be of the sound power type, as disclosed in the application of Sengebusch, S. N. 738,186, filed August 3, 1934. The support 46 carries two spring clips 47 and 48 which prevent the hand phone from being dislodged.

The part 30 of the mounting plate has an opening through which the driving shaft of the generator 37 protrudes to the front. On this shaft there is attached a crank 51. The crank is of the folding type so as not to interfere with closing the cover.

Near the lower end of part 30 there is mounted a multi-position switch which may be of the type commonly used in radio sets, comprising a series of contacts arranged in the arc of a circle with a rotatable contactor mounted on a shaft. This switch is arranged for panel mount-

ing and is mounted behind the part **30** of the mounting plate similar to the way such a switch is mounted on a radio panel. That is, the switch has a threaded stud surrounding the shaft which extends through a hole in **30**. A nut screwed down on this stud holds the switch in place. There is a dial **53** held on the face of **30** under the nut. To the projecting shaft of the switch there is secured a knob **54**, carrying a pointer **55**. The dial is marked with the station numbers.

Above the dial there is an escutcheon **56**, which serves to hold a directory card **57**, bearing the numbers and names or locations of the different stations.

To facilitate wiring of the telephone and connecting it to the line there is provided a terminal strip **60**, shown in Fig. 2 and partly in Fig. 3. The terminal strip may be a strip of fibre having nine terminals equipped with soldering lugs and screw binding posts. Near the front edge of the casing there is an abutment **61**, Fig. 2, and in line with this and to the rear there is a second abutment **62**, Fig. 3. The terminal strip **60** is secured to these abutments by means of screws, space blocks such as **63** and **64** being inserted to space the terminal strip away from the upper wall of the casing.

The cord **66** of the hand phone **50** extends upward from the lower end of the hand phone and passes through a hook on the end of take-up spring **67**, as seen in Fig. 1, thence downward to a bushed opening in the part **31** of the mounting plate. After passing through **31**, the cord extends upward again on the right side of **31** and underneath **30** to the terminal block. The six conductors from the six stationary switch contacts may be laced together and extend along below **30** to the terminal strip.

The stations may be interconnected by means of a cable, run in conduit. Each telephone is provided with two threaded openings for conduit connections as previously stated, although it will be obvious that both openings will not be required at all stations. Thus, where the stations are laid out in serial relationship only one opening will be required at the first and last stations. A plug is furnished with each telehone, therefore, to close one opening and is used when necessary. Both openings may conveniently be used at the intermediate stations.

It will be understood also that all stations need not be equipped with the special telephone herein described, which is intended for use in exposed locations. If one or more stations are at interior points where they are protected from the weather a conventional type of telephone box may be used for housing the ringer and generator. The switch may be mounted in the front cover of the box in the position usually occupied by the calling device of an automatic telephone, and a cradle may be provided on top of the box for the hand phone.

The invention having been described that which is considered to be new and for which the protection of Letters Patent is desired will be pointed out in the appended claims.

What is claimed is:

In a telephone set, a casing having a cover, a Z-shaped mounting plate comprising a portion extending part way across the casing from right to left, a portion extending from the left-hand edge of said first portion toward the rear, and a portion extending from the rear edge of said second portion to the left side of the casing, said portions forming a Z-shaped partition across the entire opening in the casing and dividing it into front and rear compartments, a generator and a ringer mounted in the rear compartment, said generator having a crank shaft extending through the first portion of said mounting plate into the front compartment, a switch mounted on said plate in the rear of said first portion and having a shaft extending through the same, a crank and an operating knob mounted on said shafts, respectively, a hand telephone supported on said plate in the recess formed by the second and third portions of the mounting plate and the left wall of the casing, a slot formed in the left wall of said casing to receive the left edge of said plate, an abutment formed in the right wall of said casing to support the right edge of said plate, and means including said slot and abutment for rigidly clamping said mounting plate in said casing.

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