June 10, 1930. O. EDELMANN 1,763,138

SIGNALING SYSTEM

Filed July 24, 1929

FIG. 1

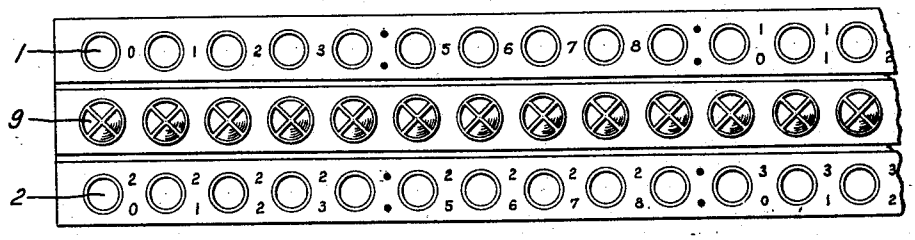
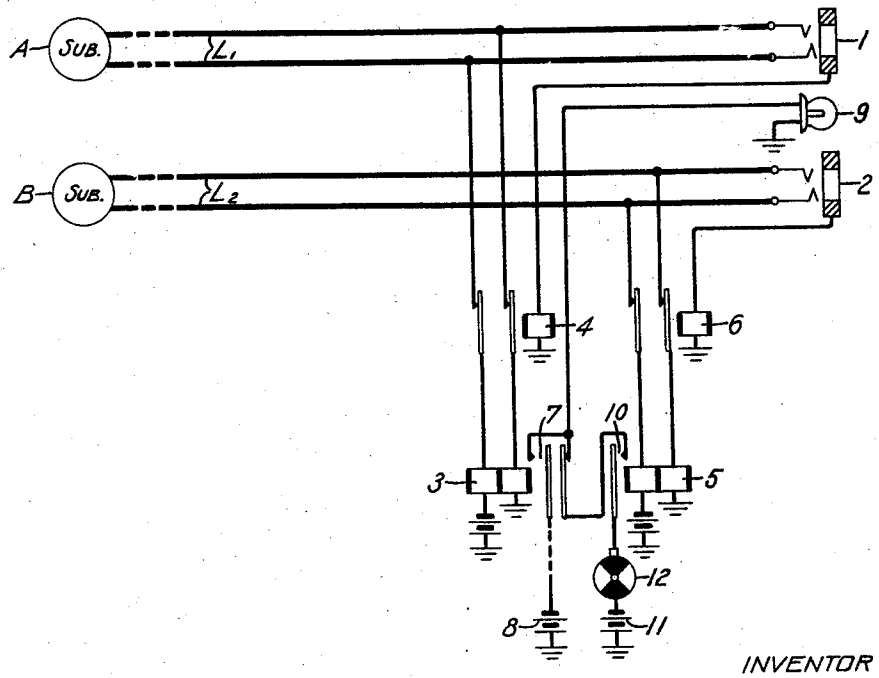


FIG. 2



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SIGNALING SYSTEM

Application filed July 24, 1929. Serial No. 380,560.

This invention relates to telephone systems and more particularly to signaling arrangements therefor.

An object of the invention is to reduce the switchboard space now occupied by line signal apparatus whereby the subscribers' line multiple of any given switchboard may be enlarged, i. e., a greater number of subscribers' line jacks may be placed within reach of each operator.

The principal feature of the invention resides in an arrangement whereby a single lamp or other signal device serves to receive line signals from a plurality of lines, means being provided to operate the device in different and distinctive manners depending upon which line is calling. More specifically, a single line lamp is caused to glow steadily when a predetermined one of two lines calls, or to flicker intermittently if the other line calls.

The invention will be understood from the following description and accompanying drawing, Fig. 1 of which represents portions of two strips of answering jacks separated by a row of line lamps, and Fig. 2 is a circuit diagram of the arrangement showing how a single lamp may serve two answering jacks or lines.

Referring to Fig. 2, two lines L^1 and L^2 serving subscribers A and B respectively, terminate in answering jacks 1 and 2 respectively. Bridged across line L^1 is a line relay 3, the circuit of which includes contacts of a cut-off relay 4. A similar arrangement for line L^2 consists of a line relay 5 and a cut-off relay 6.

In case subscriber A calls by lifting his receiver from the hook an obvious circuit is completed for the energization of line relay 3 which in closing its contact 7 completes an obvious circuit for battery 8 to steadily light the line lamp 9. When the operator inserts the answering plug of her cord circuit (not shown) in jack 1, cut-off relay 4 operates to open the circuit relay 3 which in releasing opens its contacts 7 and extinguishes the line lamp.

If subscriber B removes his receiver for the purpose of initiating a call, line relay 5 operates which closes its contacts 10 and completes a circuit for flashing the lamp 9 which circuit includes battery 11 and interrupter 12. Insertion of the answering plug in jack J^2 operates relay 6 to release relay 5 which opens the lamp circuit.

It will, of course, be understood that the steady battery 8 and the interrupted battery 11 may be reversed with respect to lines L^1 and L^2 in order to give a flashing signal when the upper (L^1) line calls and a steady signal when the lower (L^2) line calls.

It will be noted that in the case both lines call at once the upper, or line L^1, takes precedence over the lower, or line L^2, for the reason that when relay 3 operates it opens its outer contacts thereby preventing the interrupter being connected to the lamp 9 in case relay 5 should operate. This, however, is not an important objection as the lamp will immediately start to flash, if a call is waiting on the lower L^2 line, when the operator inserts her answering plug in the upper line jack.

The foregoing arrangement could, of course, be reversed and the lower line (L^2) take precedence over the upper line (L^1) by an obviously simple wiring change.

What is claimed is:

1. In a telephone system, a plurality of lines, a calling signal common to said lines, and means associated with each of said lines for operating said signal in a different characteristic manner.

2. In a telephone system, a calling signal, a first line, means associated with said first line for operating said signal in one manner, a second line, and means associated therewith for operating said signal in another manner.

3. In a telephone system, a line signal device, a plurality of lines adapted to actuate said device when calling, and means associated with each of said lines and responsive to the initiation of a call thereover to actuate said device in a predetermined characteristic manner peculiar to the line calling.

4. In a telephone system, an operator's position, a plurality of lines terminating thereat in answering terminals, a common calling

signal device therefor, said answering terminals and said signal device being grouped adjacent to each other, and means responsive to the initiation of a call over any one of said lines for operating said signal device in a predetermined distinctive manner peculiar to the line calling.

5. In a telephone system, a line, a line lamp, means responsive to the initiation of a call over said line for causing said lamp to glow steadily, a second line, and means responsive to the initiation of a call thereover to cause said lamp to flicker intermittently.

6. In a telephone system, a line and an associated line relay, a line lamp, a source of current for illuminating said lamp, means responsive to the operation of said line relay to connect said source of current to said lamp, a second line and an associated line relay therefor, an interrupter mechanism, and means responsive to the operation of the second line relay to connect said source of current to said lamp in series with said interrupter mechanism.

7. In a telephone system, a line, a line lamp, means responsive to the initiation of a call over said line for causing said lamp to glow in a distinctive manner, a second line, and means responsive to the initiation of a call thereover to cause said lamp to glow in a manner characteristically different from said first manner.

8. In a telephone system an exchange, lines terminating thereat, a calling signal device at said exchange common to a plurality of said lines, and means controlled by each of said plurality of lines, when calling, to operate said signal device in a predetermined distinctive manner peculiar to the calling line.

9. In a telephone system, an exchange, lines terminating thereat, a line lamp common to and associated with a plurality of said lines, and means for causing said lamp to glow in one manner in response to the initiation of a call over one of said lines or to glow in a different manner in response to a call over another of said lines.

In witness whereof, I hereunto subscribe my name this 20th day of July 1929.

OTTO EDELMANN.