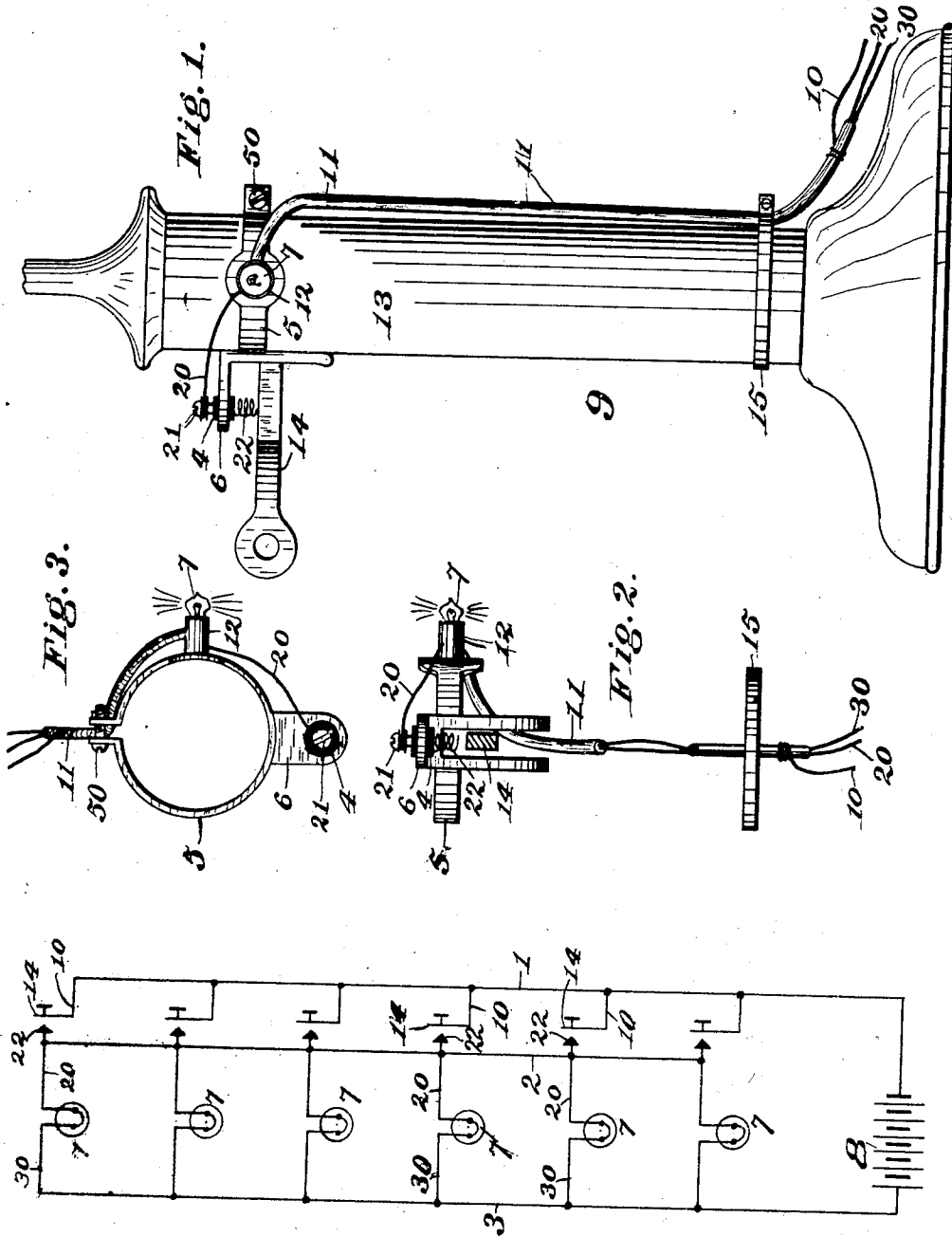


A. M. BEELER.
 BUSY SIGNAL ATTACHMENT FOR TELEPHONES.
 APPLICATION FILED JAN. 9, 1912.

1,061,589.

Patented May 13, 1913.



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UNITED STATES PATENT OFFICE.

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BUSY-SIGNAL ATTACHMENT FOR TELEPHONES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ADAM M. BEELER, a citizen of the United States, and resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Busy-Signal Attachments for Telephones, of which the following is a specification.

My invention relates to an improvement in attachments for telephones, and particularly for an attachment, the purpose of which is to show whether or not another telephone upon the same circuit is being used, thus avoiding the annoyance incident to breaking in upon a line upon which a telephone is being used.

My invention comprises the novel parts and combinations of parts which are herein shown and described for accomplishing the above results.

In the drawings I have shown my invention embodied in the form which is now preferred by me.

Figure 1 is an elevation of a telephone stand having my invention mounted thereon. Fig. 2 shows, in elevation, but viewed from a different direction than that shown in Fig. 1, the attachment separated from the telephone stand. Fig. 3 shows the upper parts of the attachment separate and in plan. Fig. 4 is a diagram showing the wiring plan for an installation of my invention in a system having a number of telephones therein.

It is a frequent cause of annoyance, where a multiple telephone circuit is used, to have some one else desire to use the telephone at the time another telephone on the same circuit is in use, thus causing annoyance to the user by the breaking in of the party who also wishes to use the telephone. By my invention an indication of the fact that one of the telephones upon the circuit is given at all the telephones upon the circuit as soon as the receiver is taken down. This indication is terminated as soon as the receiver of the telephone is put back upon its carrying arm, thus announcing that the line is clear and free to be used by anyone else who may be waiting. By reason of this, much annoyance and time is saved.

In carrying out this invention I employ an indicating device in connection with each telephone. The form of indicating device which I prefer is a small lamp, which lamp is preferably as small as may be had and be

reliable. This lamp is associated with the telephone, preferably by being mounted directly thereon, so that it cannot be overlooked by any one taking up the telephone to use it, if it happens to be lighted, which would be the case only when another telephone on the line is in use. It might, however, be mounted separate from the telephone but adjacent thereto, although this is not advised or preferred.

To mount the attachment upon a telephone I have shown means which may be employed so as to attach it without having to mar or alter the telephone itself in any way, whereby it may be attached to existing telephones and by other parties than the telephone company. It is evident that the operating parts of my device may be incorporated within the telephone stand if desired.

I provide a band 5 of a size to embrace the stem of the telephone stand near the receiver carrying arm and be clamped thereon, as by a screw or bolt 50. This band carries an arm 6 which extends over the receiver carrying arm 14. The arm 6 carries a contact member, herein shown as a screw 21, which is insulated therefrom, as by thimbles and washers, 4. To the lower side of the arm 6 and carried by the insulated screw 21, is a spring 22 which constitutes the real contact member. The receiver carrying arm 14 constitutes the complementary contact member. The spring 22 is adjusted so that normally it will not contact with the arm 14 when the latter is held down by the weight of the receiver thereon, but when the arm 14 rises, as it will when the receiver is removed therefrom, the two will contact and thus close the circuit upon which the lamps are installed, thus lighting the lamps.

The band 5 carries a lamp socket 12 in which is placed a lamp 7. The electric current is conveyed to one pole of this lamp through the casing of this socket, and to this casing through a small metal tube 11 which extends down along the side of the stem or handle of the telephone. The other pole of the lamp is supplied with current through an insulated wire 30 which extends also through the tube 11, but not in electrical contact therewith. A second insulated wire 20 extends through said tube 11 and connects with the contact member 21. A wire 10 supplies the current to the tube 11.

The receiver carrying arm 14 is supplied with current from direct contact with the

tube 11, and also from contact of the band 5 or the lower band 15 with the stem or handle of the telephone.

In Fig. 4 I have shown a wiring diagram 5 for the installation of this system in connection with a number of telephones. Three wires are employed which extend between all the telephones of the system. Two of these wires, 1 and 3, are directly connected with 10 the battery 8, or other source of electric energy. The third wire 2 is connected, normally, with the battery only through the lamps. In this condition, or that indicated in Fig. 4, no current will flow through the 15 lamps and they will be dark. If one of the receiver's be taken down contact will be made between its carrying arm 14 and the contact 22, which connects the wire 2 with wire 1, thereby forming a closed circuit through the 20 lamps, lighting them up. As the lamps are connected in parallel between the wires 2 and 3, they will all light up whenever any of the receivers are taken down, thus giving a visual signal that the line is busy. As soon 25 as the use of the telephone is discontinued and the receiver hung up, the circuit is broken, thus putting out the lamps and indicating that the line is not in use, and to anyone waiting, that they may use the telephone. 30 The use of this attachment will free such a multiple telephone system of many of the petty annoyances which are unavoidably attended upon their use as usually installed. This system may be quickly installed in any 35 such system without necessitating any changes or alterations in the apparatus or lines thereof.

What I claim and desire to secure by Letters Patent is:

40 1. A "busy" signal attachment for telephones, comprising a band adapted to be secured about the stem of the telephone and carrying a contact member insulated therefrom and in a position to be engaged by 45 the receiver carrying arm when the latter rises, a lamp carried by said band and having one pole in electrical connection with the

receiver carrying arm, and three conductors connecting, one with said contact member, and the others each with its respective pole 50 of the lamp.

2. A "busy" signal attachment for telephones comprising a band adapted to be secured about the stem of the telephone stand and having an arm extending over the receiver carrying arm, a contact member insulated from and carried by said arm in position 55 above the receiver carrying arm, said band having a lamp receiving socket, a conducting tube connected with one pole of said socket and also with the receiver carrying arm and extending downward along the stem of the telephone stand, a conductor within and insulated from said tube and connecting with the other pole of the lamp 65 socket, and a second insulated wire extending through said tube and connected with the contact member.

3. A "busy" signal device for multiple telephone circuits comprising a lamp support securable upon the telephone, a lamp 70 mounted upon said support, one pole of said lamp being electrically connected with the receiver supporting arm, an arm extending outward from the lamp support over the receiver supporting arm, a spring or yielding contact member carried by said arm 75 and insulated therefrom, said contact member being in position to be engaged by the receiver supporting arm when the latter rises, a three wire circuit extending between the telephones, a source of electrical energy having two of said wires connected with its opposite poles, one of said pair of wires and the third wire having the lamps connected 80 therewith in parallel.

In testimony whereof I have hereunto affixed my signature at Seattle, Washington, this 28 day of December, 1911.

ADAM M. BEELER.

Witnesses:

HENRY L. REYNOLDS,
RICHARD J. COOK.