

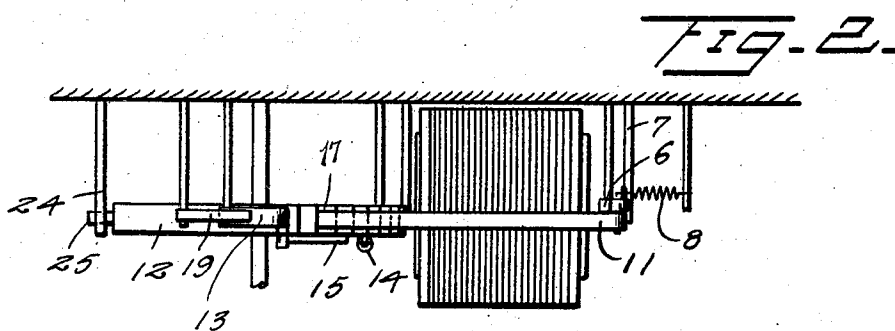
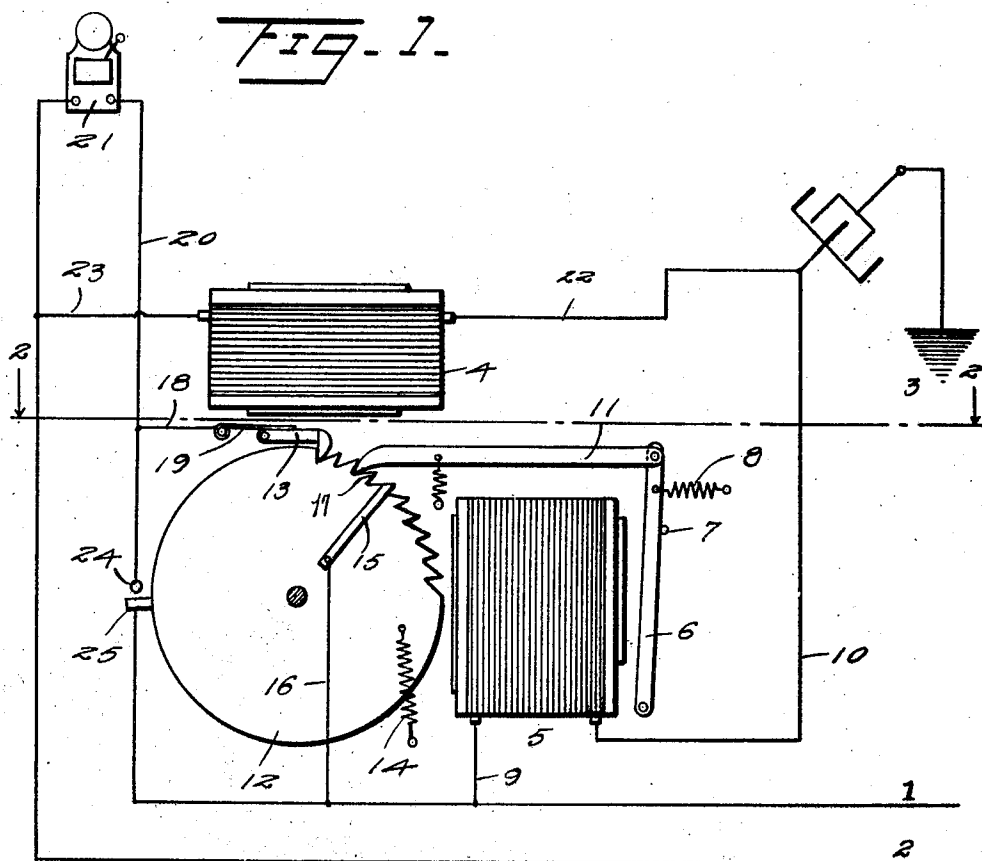
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1,577,323

C. W. LEA

PARTY LINE TELEPHONE SYSTEM

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PARTY-LINE TELEPHONE SYSTEM.

Application filed October 28, 1924. Serial No. 746,394.

To all whom it may concern:

Be it known that I, CHESTER W. LEA, a citizen of the United States, residing at Fairbury, in the county of Jefferson and State of Nebraska, have invented certain new and useful Improvements in Party-Line Telephone Systems; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a party line telephone system whereby any one of a number of subscribers on a party line system may be called by central without attracting the attention of any other subscriber and thereby securing privacy and enabling the subscribers of a party line system enjoying the advantages of a private line without incurring the expense incident to an exclusive or private wire.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the specification—

Figure 1 is a diagrammatic view of a party line set, embodying the invention, and

Figure 2 is a top plan view thereof.

Corresponding and like parts are referred to in the following description and designated in both views of the drawings by like reference characters.

The numerals 1 and 2 designate the leads which extend from central and connect the several subscribers of a party line telephone system and 3 denotes the ground. The numerals 4 and 5 designate electromagnets, an armature 6 coacting with the electromagnet 5 and limited in its outward movement by means of a stop 7 and yieldably held against said stop by means of a spring 8. A wire 9 connects the winding of the electromagnet 5 with the lead 1 and a wire 10 connects said winding with the ground 3. When a call is sent out on the lead 1, the electromagnet 5 is energized and attracts its armature 6 and through a pawl 11 operates a wheel 12, said wheel being retained in the advanced posi-

tion by means of a detent 13. The wheel 12 is advanced against the tension of a spring 14, and is provided with a contact 15 which is connected by means of a wire 16 with the lead 1. The wheel 12 which is preferably of insulating material has an edge portion toothed as indicated at 17 and is advanced one tooth each time the electromagnet 5 is energized and attracts its armature 6. A wire 18 connects a flat spring 19 with a wire 20 and the wire 20 is electrically connected with a call bell 21 in a manner well understood, the lead 2 also connecting with the call bell whereby the latter is sounded after the wheel 12 has been advanced the predetermined distance to bring the contact 15 in electrical engagement with the detent 13 so that when central rings out upon leads 1 and 2 the call bell 21 is operated. The position of the contact 15 determines the number of times the electromagnet 5 is required to be energized in order to establish connection between the contact 15 and detent 13 so that the call bell may be sounded when central rings out on both leads 1 and 2. Each subscriber is provided with a mechanism substantially as shown in the accompanying drawings and the contact 15 of each mechanism is differently positioned so that any subscriber may be called without attracting the attention of any other subscriber on the line. The toothed wheel 12, the electromagnet 5 and the coacting part constitute a selective mechanism whereby the call bell of any subscriber on a party line may be operated from central without operating the call bell of any other subscriber on the line.

After the call bell has been sounded the parts are restored to normal position by means of a resetting mechanism which includes the electromagnet 4 which is disposed so that the detent 13 and pawl 11 constitute armatures which are attracted when the electromagnet 4 is energized thereby releasing the toothed wheel 12 which is returned to normal position by the action of the spring 14. A wire 22 connects the winding of the electromagnet 4 with the ground 3 and a wire 23 connects the winding of the electromagnet 4 with the lead 2, hence when central rings out upon leads 2 and ground the electromagnet 4 is energized and attracting the elements 11 and 13 releases the wheel 12 which is automatically reset in the manner stated. Cooperating stops 24 and 25

limit the movement of the wheel 12 when returned to normal position, the stop 24 being fixed and having the wire 20 connected thereto and the stop 25 being attached to and carried by the wheel 12 and having the lead 1 connected thereto. When the wheel 12 is in normal position, the lead 1 and wire 20 are electrically connected and as a result central may ring out upon both leads 1 and 2 and sound the call bell with the result that all subscribers on a party line may have their call bells rung at the same time should central desire.

The device shown in the drawing is so wired that the device can be put in the circuit of party telephones now in use, so that the telephone company using the device can use the same kind of electrical current now in use in ringing the call bells also using the same call bells, which in most cases now use low frequency alternating current. Then use alternating current of high frequency and stronger voltage to set the device and release it.

The device can be wired to operate with most any character of electrical current using different kinds of current to ring the call bell than is used to operate the device or using the same character of current for both.

What is claimed is:—

1. A party line telephone including a call bell for each subscriber, a selective mechanism adapted to be operated by central for closing the circuit of the call bell whereby the latter may be operated by central without operating the call bell of any other subscriber, and a resetting mechanism adapted

to be operated by central for restoring the parts to normal position after the call bell has been operated having a detent serving as a conductor in said selective mechanism.

2. In a party line telephone system, a selective mechanism for closing the call bell circuit of any subscriber, the same comprising a toothed wheel, circuit closing elements one of which is carried by the toothed wheel, an electromagnet, means for operating the toothed wheel, a tooth at a time and including an electromagnet, a detent for holding the toothed wheel when advanced, said detent being a conductor to function as one of said circuit closing elements, and a resetting mechanism including an electromagnet disposed to attract the detent and toothed wheel operating element to admit of the toothed wheel automatically returning to normal position.

3. In a party line telephone system, a toothed wheel provided with a contact, an electromagnet, an armature and pawl associated with said electromagnet and toothed wheel for operating the latter a tooth at a time, a detent for holding the toothed wheel when advanced, said detent being a conductor and engageable by said contact, an electromagnet for attracting the said detent and pawl whereby to release the toothed wheel which automatically returns to normal position, and cooperating stops, the one fixed and the other carried by said toothed wheel and both stops included in the circuit of the call bell, whereby the latter may be operated independently of the selective mechanism.

In testimony whereof I affix my signature.

CHESTER W. LEA.