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REGISTERING DEVICE FOR TELEPHONE SYSTEMS.

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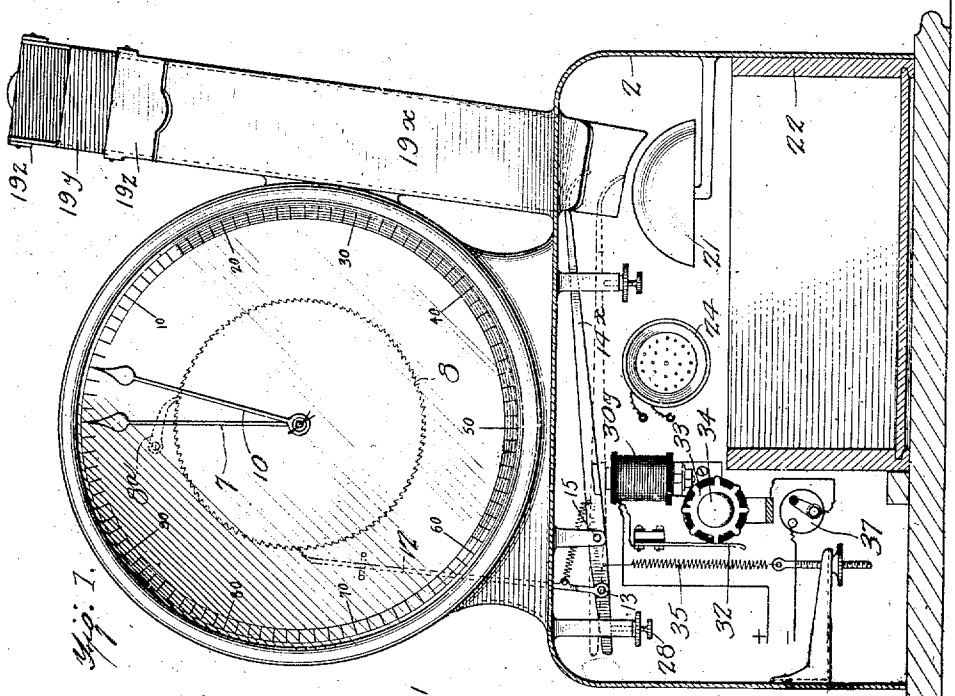

Fig. 1.

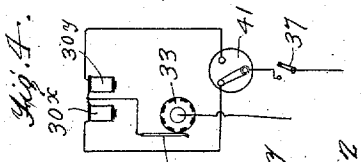

Fig. 4.

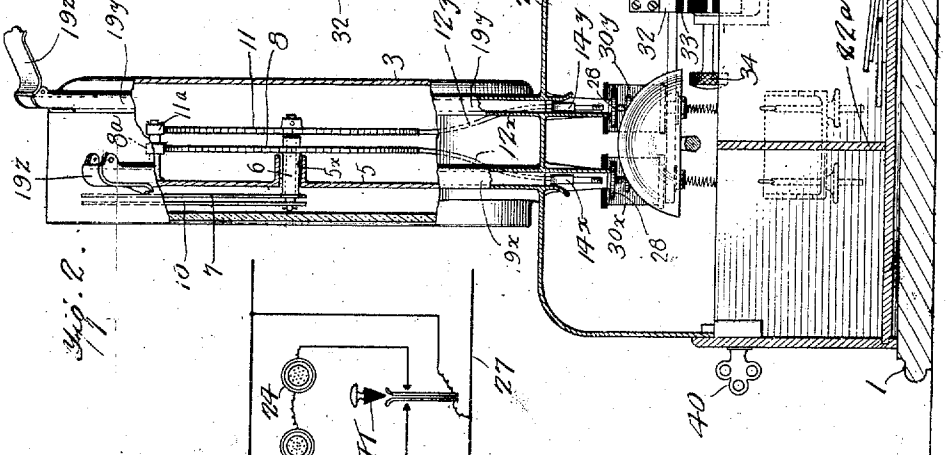

Fig. 2.

Fig. 3.

WITNESSES

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REGISTERING DEVICE FOR TELEPHONE SYSTEMS.

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To all whom it may concern:

Be it known that I, ELIJAH M. NORTHUM, a citizen of the United States, and a resident of Stephens, in the county of Ouachita and State of Arkansas, have made certain new and useful Improvements in Registering Devices for Telephone Systems, of which the following is a specification.

My invention relates to registering devices for telephone systems and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of my invention is to facilitate the posting of books and the checking up of telephone calls, especially those calls received on toll lines.

A further object of my invention is to provide a device for registering calls which is operated by disks, each of which constitutes in itself a record of the call so recorded.

A further object of my invention is to provide a registering device in which the registering of the call is not only made, but the notification of such record may be transmitted to a distant operator, such as a monitor.

A further object of my invention is to provide a device comprising a dial having two hands therefor, one of which may be in use during the day and another during the night.

Other objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claim.

My invention is illustrated in the accompanying drawings forming part of this application in which similar reference characters indicate like parts in the several views and in which—

Figure 1 is a face view of the registering device, a portion of the device being shown in section, Fig. 2 is a section through the device at right angles to Fig. 1, Fig. 3 is a diagrammatic view showing the arrangement of the auxiliary transmitter in the operator's listening circuit, and Fig. 4 is a diagrammatic view of the resetting means.

In carrying out my invention I provide a base 1 upon which is mounted a casing 2 for inclosing certain of the operating parts. Above the casing 2 is a circular casing 3 having a glass front 4 behind which is a dial 5 marked off in any convenient system, as for instance from 1 to 100. The dial 5 is provided with a central opening 5^x. Through this opening, a sleeve 6 extends, and upon the sleeve 6 is carried a hand 7 on the front side of the dial, while an integral ratchet wheel 8 is carried on the rear side. A shaft 9 extends through the sleeve 6 and is provided on the front side of the dial with a hand 10 and on the rear side of the dial with an integral ratchet wheel 11. The ratchet wheels are provided with their respective stops 8^a and 11^a.

Within the casing 2 are a pair of levers 14^x and 14^y. The end of these levers terminate underneath their respective chutes 19^x and 19^y, one corresponding to night calls and one corresponding to day calls. Each chute is provided at its upper end with a hinged cover like that shown at 19^z. Referring now to Fig. 1, it will be seen that a pawl 12^x is pivotally mounted at 13 on the lever 14^x which is suspended from the bracket 15. The lever 14^y has a similar pawl 12^y which is in engagement with the ratchet wheel 11. A bell 21 is disposed beneath the ends of the chutes 19^x and 19^y. Beneath the bell 21 is a receptacle 22, which is divided by a partition 22^a into two parts. This receptacle 22 is in fact a drawer, and may be withdrawn from the casing 2.

The ends of the levers 14^x and 14^y project into the ends of the chutes 19^x and 19^y in such a manner as to be engaged by disks which are deposited in the tops of these chutes. Regulating devices 28 are provided for adjusting the position of the lever 14. The means for resetting the hands of the dial consist of magnets 30^x and 30^y. These magnets are actuated by means of a make and break device consisting of a spring 32 arranged to be intermittently engaged by the conducting portions of the wheel 33. The latter is turned by means of a thumb wheel 34, which is on the inside of the casing. In order to regulate the ease with which the lever is moved, I provide a spring 35 whose tension is regulated by a screw 36.

In order to reset the hands individually, I arrange a circuit like that shown diagrammatically in Fig. 4. In this figure there is a switch 41 which will connect the make and break device 32 or 33 with the magnet 30^x or 30^y for operating its individual lever 14^x or 14^y.

Disposed adjacent the bell 21 is a transmitter 24, which is connected with a transmitter 25 of the operator's listening set, as

shown in Fig. 3. In this figure the wires 26 and 27 represent the strands of the operator's cord circuit and the set is adapted to be connected with the cord strands by means of the listening key K.

From the foregoing description of the various parts of the device the operation thereof may be readily understood.

As stated before this device is designed to assist in the proper registering of calls. Let us suppose that the device is installed at a central station, and that a call comes in from a substation. Both hands of the dial are set at zero. When the call comes in, the operator makes out the regular ticket and writes on one of the disks 20 the name of the party, the number of the phone and date. The disks are preferably made of aluminum so that the record can be erased. Connection being made with the party wanted, the disk is dropped into the open chute 19^y, this being the day chute. The disk falls down and strikes the lever 14^y, which is moved to the dotted line position shown in Fig. 1, thereby causing the pawl 12^y to move upwardly and to turn the ratchet wheel one division. The provision of the pawls 8^a and 11^a prevents the ratchet from returning. The coin strikes the bell and the sound of the bell is heard by the receiving operator at the end of the line or by the monitor, thus affording an additional check that the call has been registered. The disk now drops into the bottom of the receptacle 22 into the right hand compartment shown in Fig. 2. The above described operation is repeated every time a call comes in so that the hand will indicate accurately the number of calls received. The number of disks in the drawer must correspond with the calls as indicated on the dial, and this, of course, should correspond with the tickets. Therefore there are three permanent records besides the sound of the bell.

When the operators change, or at the end of the day, the cover 19^z of the chute 19^y is closed and the cover of the chute 19^x is opened. Calls which are now received will be registered by dropping the disks into the chute 19^x, thus actuating the lever 14^x and through the medium of the pawl 12^x the ratchet wheel 8 and the hand 7, the hand 10 being turned for the day calls as before explained. The hand 10 will thus indicate the number of day calls, while the night calls are being sent in. The disks deposited in the chute 19^y will strike the same bell 21, but will be deflected to the left hand compartment shown in Fig. 2. In order to reset the apparatus at zero, the switch 37, which, it will be observed, is on the inside of the casing, may be shifted to connect the make and break device. Now by turning the thumb wheel 34 an intermittent current will be sent through the magnet 30^x or 30^y as the case may be (see Fig. 6) and this will cause the rapid turning of the hand forward to zero. Inasmuch as this make and break feature may be made very rapidly, the hand can be brought to zero very quickly. In order to reset the device, it will be observed that it is necessary to pull out the drawer, but this may be kept locked and the key may be kept by the person in charge.

I claim:—

In a registering device for telephone systems, a casing, a dial upon said casing, a pair of hands carried by said dial, an individual ratchet wheel for each of said hands, a lever and pawl for each ratchet wheel, a pair of chutes, each of said chutes terminating above the end of its respective lever, a receptacle having a partition disposed between the lower ends of said chutes, and a common signal disposed below the chutes and arranged to be engaged by the falling disks and to deflect the disks into the receptacle.

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