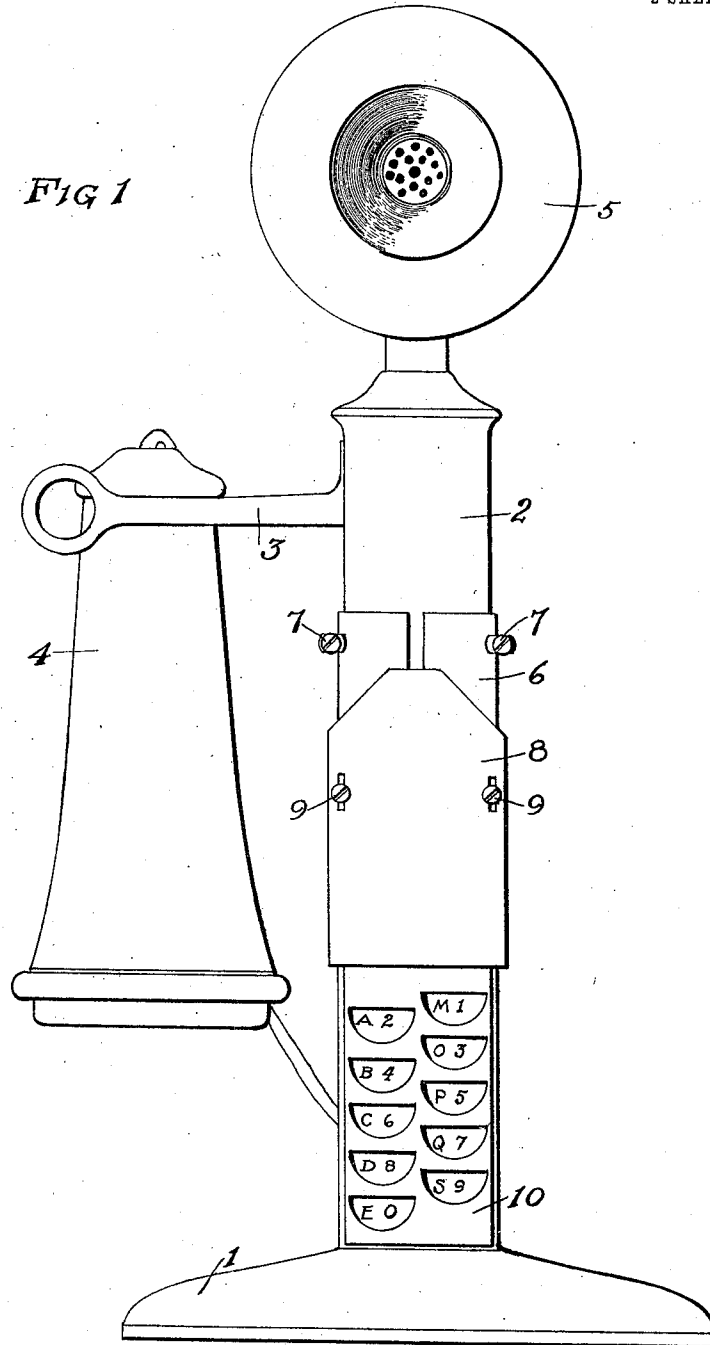


R. C. NEVIN.
ELECTRIC SIGNALING DEVICE.
APPLICATION FILED DEC. 29, 1910.

1,040,389.

Patented Oct. 8, 1912.

2 SHEETS—SHEET 1.



WITNESSES

H. E. Stone
C. R. Blake

INVENTOR

ROY C. NEVIN.

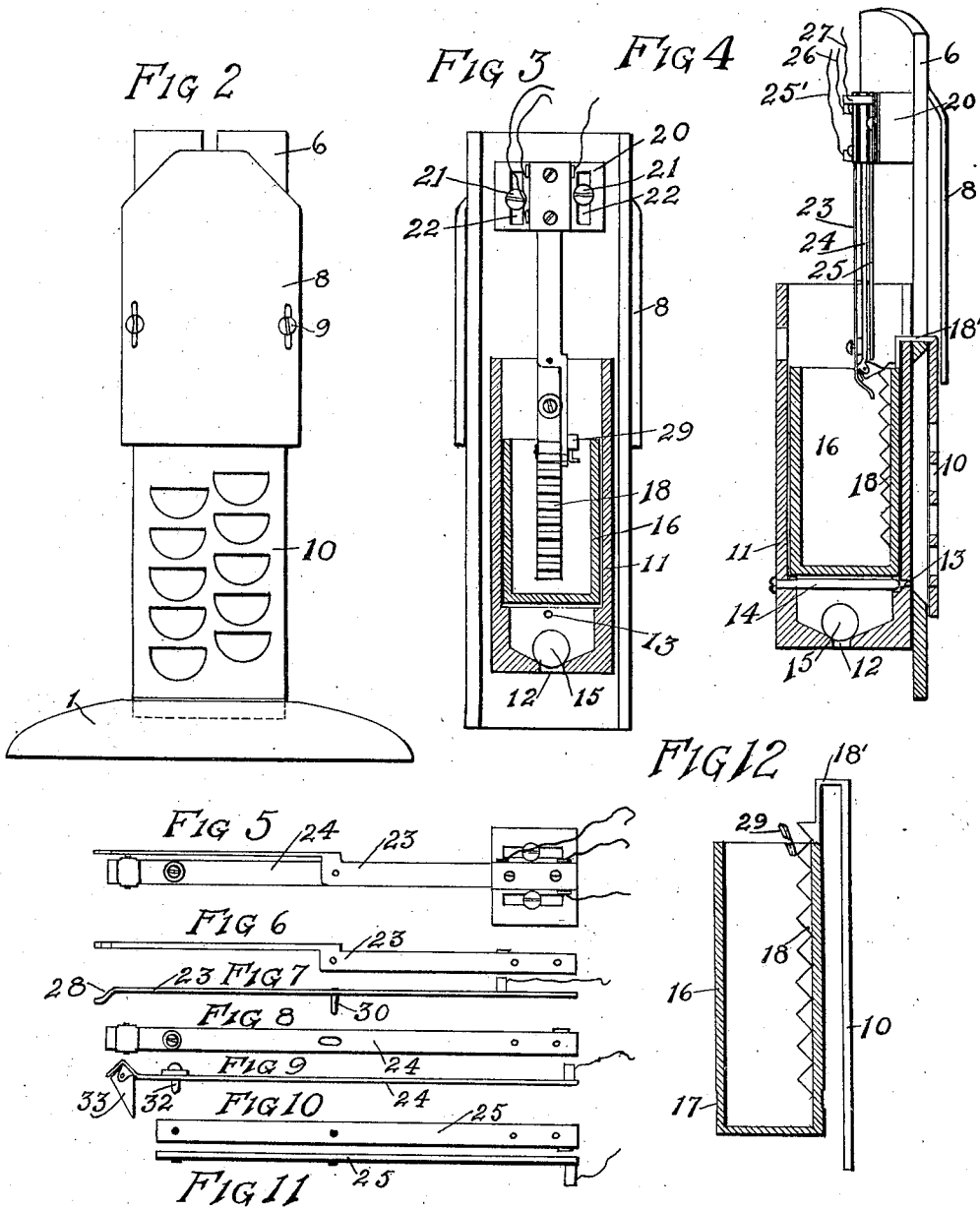
BY *Carlos P. Griffin* ATTY.

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INVENTOR

ROY C. NEVIN.

BY *Charles P. Griffin* ATTY.

UNITED STATES PATENT OFFICE.

ROY C. NEVIN, OF BERKELEY, CALIFORNIA.

ELECTRIC SIGNALING DEVICE.

1,040,389.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed December 29, 1910. Serial No. 599,943.

To all whom it may concern:

Be it known that I, ROY C. NEVIN, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented a new and useful Electric Signaling Device, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

This invention relates to a signaling device for sending electrical impulses, and its particular object is to provide a device which will be easily applied to the ordinary telephone for use with the so called automatic telephone systems, and also for fire alarm signaling.

A further object of the invention is to provide a calling device which will be easily installed in the desk telephone without in any way interfering with the general shape thereof.

Another object of the invention is to provide means whereby the timing of the impulses in the circuit may be regulated, an air cushion being used for the purpose of regulating the descent of the circuit breaker.

While the signaling apparatus shown herein is shown applied to a desk telephone, it will be clear to those skilled in art that it may equally well be applied to any other form of telephone or to any electrical signal sending apparatus.

In the drawings in which the same numeral of reference is applied to the same portion throughout the several views, Figure 1 is a front elevation of a desk telephone equipped with this invention, applied to what is known as a two wire system. Fig. 2 is a front elevation of the telephone base and the removable front to which the calling mechanism is secured. Fig. 3 is a view of the removable front illustrated in Fig. 2 with the piston cylinder and piston shown in section. Fig. 4 is a view in section through the parts shown in Fig. 3, the plane of section being at right angles to the plane of Fig. 3. Fig. 5 is a view of the circuit breaking springs assembled. Fig. 6 is a view of one of the circuit breaking springs. Fig. 7 is a view in side elevation of the short circuiting spring. Fig. 8 is a back view in elevation of the circuit breaking spring. Fig. 9 is a side elevation of the circuit breaking spring. Fig. 10 is an elevation of the back contact bar;

Fig. 11 is a side elevation of the contact bar, and Fig. 12 is a view partly in section of the circuit breaking piston.

The numeral 1 is applied to the telephone base above which extends the standard 2 having the usual receiver fork 3 upon which the receiver 4 may be hung. The telephone standard 2 carries a transmitter 5 secured thereto in any desired manner. The telephone standard 2 is hollow and the front thereof has a removable portion 6, said removable portion being secured to the standard 2 by means of screws 7.

In order to give the suitable grip on the telephone and to prevent interference with the operation of the calling device, a removable plate 8 is secured to the part 6 by means of screws 9. The plate 8 is spaced far enough away from the member 6 to permit the finger plate 10 to slide up and down between said plates 6 and 8. The finger plate is provided with any desired series of notches as indicated on Fig. 1, and the plate 8 determines the height to which the plate 10 may be lifted.

Within the member 6 there is secured a cylinder 11 of slightly smaller diameter than the inside of the standard, and said cylinder has an opening in the bottom thereof. On the side of the cylinder 11 there is a very small hole 13 in which the end of a screw 14 seats, said screw affording the means whereby the escape of air from the cylinder 11 is regulated, a ball 15 entirely closing the hole 12 upon the down stroke of the piston 16. The piston 16 is provided with a groove 17 around its outside near the bottom thereof, and a groove leads therefrom to the top thereof to facilitate the escape of air from the cylinder 11, and it is provided with a notched rack 18 within the same, said rack extending downwardly from the top a suitable distance to make the desired number of calls. The piston 16 is connected by means of a bar 18' with the finger plate 10.

Connected to the plate 6 near the top thereof, there is an insulation block 20, said block being secured to the plate 6 by means of screws 21 and being adjusted in its position by the movement of said block with respect to said screws 21, slots 22 being provided for this purpose. Secured to this block 20 and insulated each from the other, are three springs 23, 24 and 25, said springs depending from said block 20 to the top of

the cylinder 16. Each of these springs is provided with a suitable connection 25, 26 and 27 to the proper parts of the telephone. The spring 23 lies on the outside and has a bent end 28 which is adapted to be pushed outwardly by means of the insulated block 29 secured on the top of the cylinder 16, and this spring has a contact point 30 secured thereto; the object of which is to short circuit out the receiver and transmitter of the telephone when the circuit is being made and broken by the rack 18, said point 30 being permitted to come into contact with the spring 25 whenever the cylinder 16 is raised. The spring 24 depends from the block 20 adjacent the spring 23 and it has a contact point 32 and a pawl 33, the latter permitting the rack to rise without disturbing the circuit, while it causes the contact point 32 to move away from the bar 25 upon the descent of the cylinder 16, said contact breaking the circuit once for each point of the rack 18 passed over.

Since it may be desirable to change the speed at which the piston 16 will fall, it can be accomplished by pushing the screw 14 nearer to or farther away from the hole 13 as may be desired.

The operation of the apparatus is as follows:—When it is desired to call a number, the plate 10 is lifted by inserting the finger in the proper opening and lifting the plate until the finger comes into contact with the plate 8, whereupon the piston is permitted to fall. Immediately upon lifting the piston the foot 28 will pass out of contact with the block 29 and the receiver and transmitter will be short circuited out of the line, thus making all of the calls independent of the receiving and transmitting mechanism.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is as follows:—

1. In an electric signaling device the combination of a telephone standard, an electric circuit, a cylinder within the telephone standard, a piston slidable therein, means connected with said piston to break said circuit a given number of times, means to permit the free upward movement of said piston, and means to regulate the speed of the

downward movement of said piston, substantially as described.

2. In an electric signaling device the combination of a telephone standard, an electric circuit; a cylinder within the telephone standard, a piston therein, means connected with said piston to break said circuit a given number of times, a finger plate to raise said piston, means to permit the free upward movement of said piston, and means to regulate the downward movement thereof, substantially as described.

3. In an electric signaling device the combination of a telephone standard, an electric circuit, contact points connected with said electric circuit, a cylinder within the telephone standard, a piston slidable in said cylinder, means connected with said piston to separate said contact points a given number of times, means connected with the piston to raise the same, means to permit the free upward movement of said piston, and means to regulate the downward movement thereof, substantially as described.

4. In a telephone signaling device, a telephone standard, electric circuit wires contained therein, a cylinder within said standard, a piston within said cylinder, means carried by said piston to make and break an electric circuit, and a finger plate on the outside of said standard and adapted to be raised to break and make said electric circuit a given number of times, substantially as described.

5. In a telephone signaling device, a telephone having a base, and a standard, electric circuit wires within said standard, a cylinder within the standard, a piston within the cylinder, circuit breaking means connected with said piston, a calling plate slidable on the outside of said standard, and means to regulate the downward movement of said piston, substantially as described.

In testimony whereof I have hereunto set my hand this 14th day of December A. D. 1910, in the presence of the two subscribing witnesses.

ROY C. NEVIN.

Witnesses:

C. P. GRIFFIN,
SCOTT GRIFFIN.