

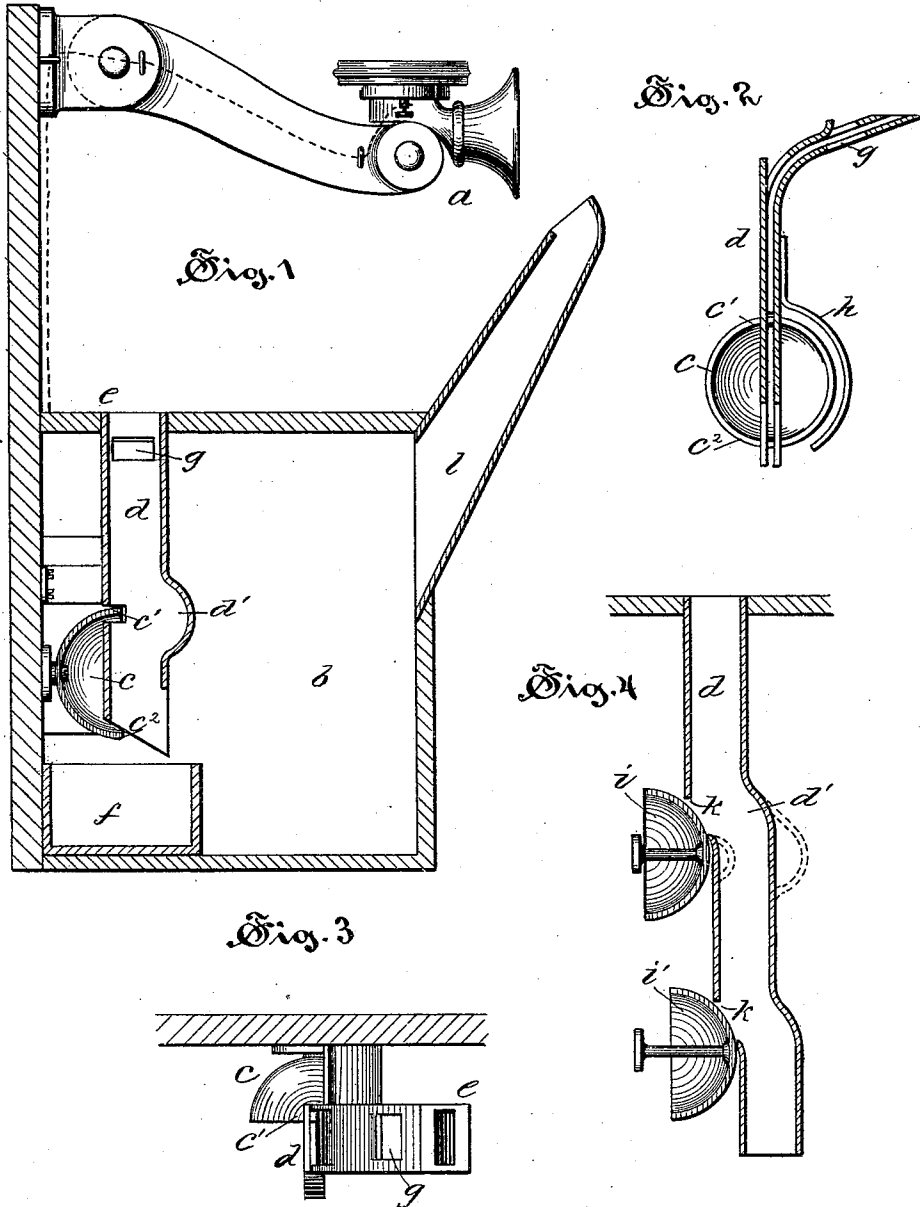
(No Model.)

W. GRAY.

SIGNAL DEVICE FOR TELEPHONE PAY STATIONS.

No. 469,649.

Patented Feb. 23, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SIGNAL DEVICE FOR TELEPHONE PAY-STATIONS.

SPECIFICATION forming part of Letters Patent No. 469,649, dated February 23, 1892.

Application filed April 16, 1890. Serial No. 348,734. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRAY, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Signal Devices for Telephone Pay-Station, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

10 The object of my invention is to provide a simple, compact, and comparatively inexpensive device by means of which the fact of the prepayment of a specified toll for the use of a telephone may be signaled automatically
15 to the central office.

To this end my invention consists in the combination of the tubular coin-channel and the bell or equivalent sounding device with a part projecting into the coin-channel; and
20 it further consists in details of the several parts making up the apparatus as a whole, and in their combination, as more particularly hereinafter described, and pointed out in the claims.

25 Referring to the drawings, Figure 1 is a view in vertical section through the signal apparatus, shown in side view and in connection with the transmitter and telephone. Fig. 2 is a detail view of a signal bell and
30 tube, with parts cut away in section to show construction. Fig. 3 is a detail view of a single signal apparatus. Fig. 4 is a detail view, in side elevation, of a signal device, illustrating it as used with a plural number of bells.

35 In prior apparatus for the collection of toll for the use of a telephone the coin of whatever size or value required has usually been made the agent for unlocking a signal device that has to be separately operated after it has
40 been unlocked. In other forms the coin is deposited on a shelf and moved into contact with the electrical devices, that by such contact operate to sound the signal. My within invention differs from such prior structures
45 in providing means whereby the coin is simply dropped into a channel and itself operates to sound the signal used without requiring anything further on the part of the one paying the toll.

50 In order to avoid a description of a more or less complicated device, my invention is shown

as embodied in its simplest forms in the accompanying drawings, wherein—

The letter *a* denotes the transmitter of a telephone that commonly makes one of the
55 set of instruments usually found on the back-board or cabinet in common use in the telephone service. The several devices are connected up in the usual manner, the transmitter *a* being of any usual and convenient form.
60

The letter *b* denotes the signal-box, that is preferably secured near the transmitter, so that the sound of the signal may be readily conveyed to it. Within the box is a bell or
65 like signal-sounding device, that may give a musical note when struck or any other sound that can be heard and conveyed through the transmitter. The bell, in the form of device
70 illustrated in Figs. 1, 2, and 3, is secured within the signal-box with the sounding-shell turned outward, so that its edges project into the tubular coin-channel *d* in case it is intended to have
75 the signal consist of two blows upon the bell. In case but a single blow is intended to be struck the position of the bell can be reversed or the position of the coin-channel changed so as to
80 carry the coin away from the lower edge of the bell after it has struck the top edge.

The coin-channel *d* is a flat tube having a slot and projecting at *e* through the cover of
85 the box and having an offset part *d'*, into which a coin after it has struck the edge *c'* of the bell rebounds and falls toward the money-drawer *f*, or into the bottom of the signal-box. In case a second signal is to be sounded the
85 shape of the coin-channel is so arranged that the coin, after rebounding from the edge *c'*, falls onto the edge *c''* and from there drops to the bottom of the box.

In order to prevent a coin of any except
90 the proper denomination required being used, the under side of the coin-channel is cut away at *g*, the opening being of such a size that any other coin except the right one will fall through the bottom wall of the tube. In order to make
95 sure that this coin that is not of the proper denomination shall not strike the signal, the guard *h* is provided, extending in such position as to prevent the coin by any accident from being thrown against the bell as it drops
100 into the bottom of the box.

In case several signals are to be sounded in

succession, either of different tones or different in kind, the tubular channel is so shaped, as shown in Fig. 4, that the coin, after striking the upper signal *i*, rebounds therefrom into the channel *d* and continues to fall until it encounters the signal devices *i'*. It is obvious that any desired number of these signals may be used in succession. The side wall of the tubular channel is cut away in such instance at *k*, so as to allow the bell or other signal-sounding device to either project into the channel or cause a coin in falling to certainly strike against the signal. The coin-channel is preferably made of thin metal easily cut and formed to shape, and the whole forms an extremely simple and inexpensive signal device, a coin acting directly as the hammer or signal-striking mechanism without requiring any other mechanism whatever.

There is preferably provided a deflector *l*, mounted opposite the signal and terminating nearly opposite the usual position of the transmitter, so that the sound of the signal will be surely thrown against the diaphragm of the transmitter and that the operator at the central office can readily hear the signal caused by the dropping in of the coin.

All parts of the telephone apparatus are left in their usual condition—that is, unlocked and free of access—so that a person can call the central office, ascertain whether the desired connection can be made with the station desired to be communicated with, and can then at the direction of the operator at the central office drop a coin of the denomination required to pay the toll for local or for out-of-town service into the proper place. The operator at the central office can distinctly hear the sound caused by the striking of the coin against the bell and can then put the person in telephonic communication with the desired place.

In case it is desired to have the interval between the strokes graduated as to time it can be done by providing a pocket in the wall of the tube just opposite and below the first signal device, as illustrated in dotted outline in Fig. 4, and so sloping the lower wall of the pocket that the coin will take a certain time in rolling out before it continues its fall in the coin-channel. It is preferred that the coin shall in each instance strike the signal device with its edge, and the coin-channel is formed of a size and outline with that object in view.

It is obvious that my within invention is

not limited to any special and particular shape and outline or method of constructing the tubular coin-channel, nor is it limited to any kind or form of bell or signal device, as various forms of coin-channels and of bells may be used in various combinations as to number and arranged as to size and tone without the exercise of invention.

I claim as my invention—

1. In combination with the sound receiving and transmitting part of a telephone apparatus, a coin channel and guide and a signal-sounding device having a part located in the path of movement of the falling coin, all substantially as described.

2. In combination with the sound receiving and transmitting part of a telephone apparatus, the signal device consisting of a coin-guide with one wall cut away adjacent to the several signal devices, and the plural number of signal devices each having a sounding part located in the path of movement of a falling coin, all substantially as described.

3. In combination with a transmitter for telephone service, a coin channel or guide having a part of one wall cut away adjacent to the bell, and the bell with a part located in the path of movement of the coin, all substantially as described.

4. In combination with a transmitter for telephone service, a tubular coin-channel having an opening through the wall of the channel for the passage of a coin smaller than the one normally adapted for the channel, and a bell having a part located in the path of movement of a coin, all substantially as described.

5. In combination with a transmitter for telephone service, a tubular coin-channel having an opening through the wall of the channel for the passage of a coin smaller than the one normally adapted for the channel, a bell having a part located in the path of movement of a coin, and the guard protecting the signal device, all substantially as described.

6. In combination with a transmitter for telephone service, the tubular coin-channel having openings on one side and offset portions forming sockets on the opposite side, and a plural number of sounding devices, each having a part located in the path of movement of the coin, all substantially as described.

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Witnesses:

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