H. S. GILBERT & W. F. DRAKE.

TELEPHONE CUT-OFF.

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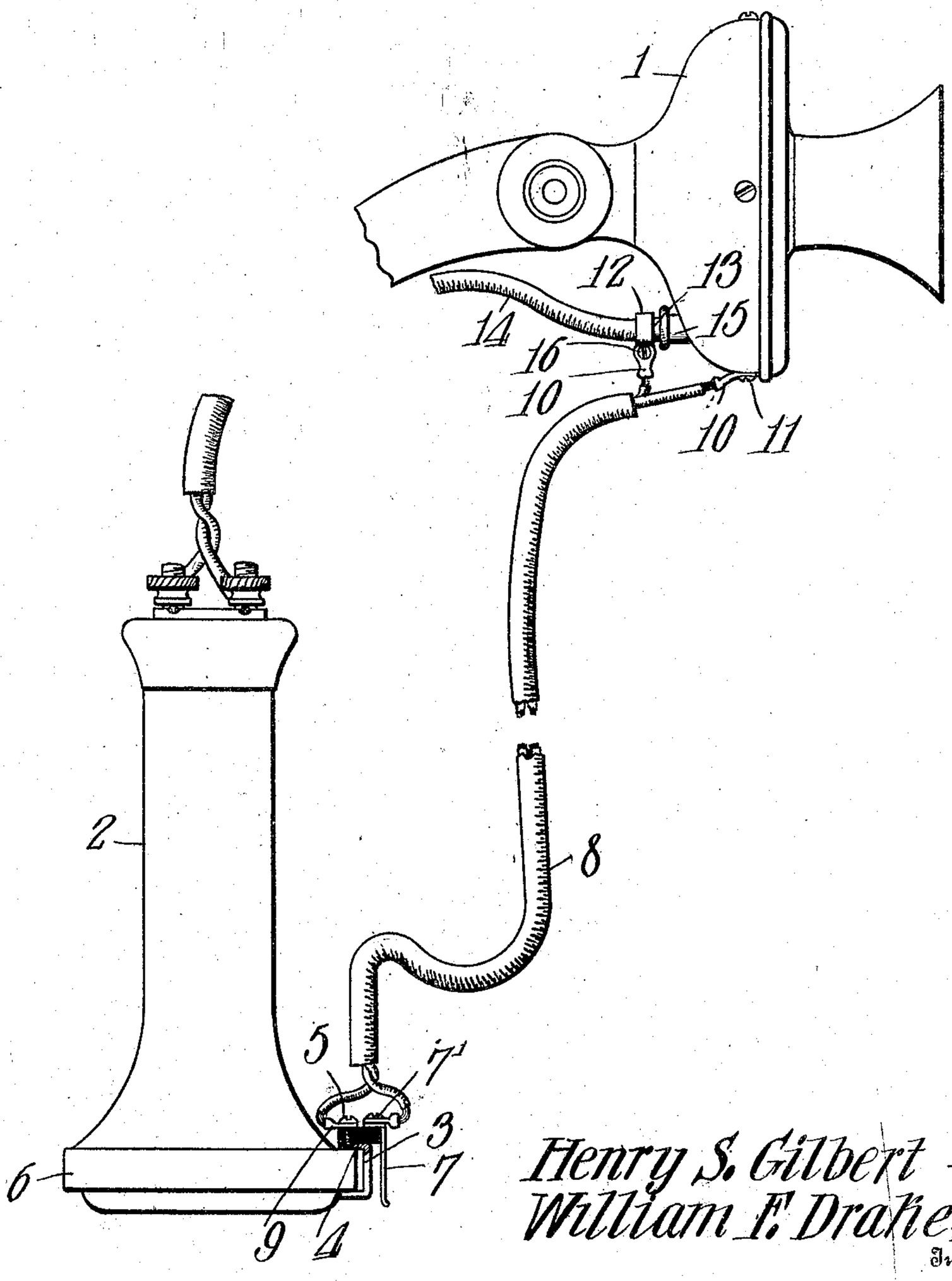
899,524. **Patented Sept. 29, 1908.**



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UNITED STATES PATENT OFFICE.

HENRY S. GILBERT AND WILLIAM F. DRAKE, OF PUEBLO, COLORADO.

TELEPHONE CUT-OFF.

No. 899,524. Specification of Letters Patent. Patented Sept. 29, 1908.

Application filed October 26, 1907. Serial No. 399,378.

To all whom it may concern:

Be it known that we, HENRY S. GILBERT and WILLIAM F. DRAKE, citizens of the United States, residing at Pueblo, in the county of Pueblo, State of Colorado, have invented a new and useful Telephone Cut-Off, of which the following is a specification.

This invention has reference to improvements in telephone cut-offs, and its object is to provide means whereby disturbing noises produced in the local receiver by the local transmitter are entirely cut-off or eliminated.

The invention comprises an attachment which may be applied to or disconnected from an ordinary telephone set without in any manner disturbing or modifying the construction of the instrument, and which may be operated at will by the hand of the user holding the receiver, leaving the other hand free.

The invention comprises, essentially, a switch mechanism which may be applied directly to the hearing end of the receiver in position to be operated by one of the fingers of the hand holding the receiver, and from this switch mechanism a pair of conductors are led to the transmitter where one of the conductors is supplied with a suitable terminal for fitting under one of the casing screws while the other end is provided with a similar terminal and a clip which may be applied to the end of the conductor leading into the casing of the transmitter through the usual insulating sleeve. By this means, the switch, when closed, bridges the microphonic element and so eliminates its effect upon the line, so that when a person is listening at the receiver there are no disturbing noises due to the action of the local transmitter, which noises are particularly obtrusive in situations where there are considerable extraneous noises.

The invention will be best understood by the consideration of the following detail description, taken in connection with the accompanying drawings forming part of this specification, in which drawings,

The figure shows so much of a telephone set as is necessary for the understanding of the invention, with the attachment constituting the invention applied thereto and having parts shown in section.

Referring to the drawing, there is shown a transmitter 1 of a type commonly employed at subscribers' stations, and also a receiver 2 of the usual type, it being understood that these parts are to remain as installed originally without change or modification of any kind. With such an installation, especially where there is much noise around about, as, for instance, in the case of a factory or a foundry, or in some offices and even residences, there is usually a continuous buzzing disturbance in the receiver, on long distance telephone circuits, which is distracting to many people and interferes with the reception of the message. Our attachment is designed to overcome this objectionable feature of the telephone system by cutting out the microphone element when the user of the telephone is receiving a message and thereby eliminating all the extraneous noises impressed upon the line through the local transmitter, so that the receiving of the message is clarified and the line becomes as quiet as in the quietest office or booth, even when the telephone is located in a factory where the noise is very great.

Our invention comprises a U-shaped metal clip 3 fastened by one of its legs to a block 4 of insulating material by means of screws 5 which pass through the insulating material and then through the leg of the metal clip and ultimately bear against one side of the square bead 6 surrounding the ear piece of the receiver. The other leg of the clip 3 engages the other side of the square bead 6 so that when the screws 5 are properly set, the clip 3 is made fast to the hearing end of the receiver. The block 4 extends beyond the bridge piece of the clip and there carries one end of an elastic plate 7 by means of screws 7′, which latter, however, simply extend into but not through the block 4. The plate 7 is sufficiently elastic, so that by pressing upon its free end it may be brought into contact with the clip 3. There is provided a conducting cord 8, preferably of the duplex type, which may, if desired, consist of two insulated conductors twisted together. The ends of the conductors at one end of the cord have secured to them notched terminal plates 9 by means of which the conductors are readily connected to one each of the screws 5 and 7′. The other end of the cord 8 has its conductors provided with like terminal plates 10, one of which is connected to the case of the transmitter by one of the screws 11 used to fasten the parts together,

while the other terminal is connected to a clip 12 embracing the usual metallic ferrule 13 formed on the end of the conductor 14 coming from the microphone element, and which ferrule is protected by an insulating sleeve 15 from contact with the casing of the transmitter. A screw 16 is provided for clamping the clip 12 upon the ferrule 13 and likewise securing the corresponding terminal 10 to said clip.

The block 4 insulates the spring plate 7 from the clip 3, but when the plate 7 is moved into contact with the clip 3, then there is a circuit established around the microphone element by means of the conductors in the cord 8, this circuit being of practically negligible resistance, so that the action of the microphone element is choked off and lost. Now, let it be supposed that a telephone set is in a noisy location and that a user is endeavoring to receive a message. The receiver is held to the ear in the usual manner, but, when the message is being received, a finger of the hand holding the receiver is pressed upon the plate 7 until it makes contact with the clip 3. The microphone element thus being cut out of the circuit is, of course, inactive, and all noises ordinarily produced thereby upon the line are eliminated, so that the received message is free from all buzzing, from the causes stated, and all disturbance is thereby obliterated. When the user desires to speak into the transmitter, then the finger is lifted from the plate 7 and its resiliency carries it away from the clip 3.

It will be seen that this attachment may be secured to existing forms of telephone sets without in any manner changing or modifying their structure or requiring the removal or replacing, or dismantling of, either the receiver or transmitter. Furthermore, the switch is most conveniently placed within easy reach of one of the fingers holding the receiver, so that but one hand is needed to both hold the receiver and to operate the switch, this leaving the other hand free.

We claim:—

1. A telephone attachment comprising a switch, means for attaching the same to the hearing end of a telephone receiver, a pair of conductors connected at one end to the switch terminals, and means at the other ends of said conductors for attaching them to the terminals of the microphone element of the transmitter.

2. A telephone attachment comprising a clip adapted to embrace the bead at the hearing end of a telephone receiver, an insulating block carried by said clip, a spring plate carried by said insulating block and movable into and out of electrical contact with the clip, a pair of conductors connected at one end to the clip and plate respectively and at the other end being adapted to be connected to the terminals of the microphone element of the transmitter.

3. A telephone attachment comprising a clip adapted to embrace the bead at the hearing end of a telephone receiver, an insulating block carried by said clip, a spring plate carried by said insulating block and movable into and out of electrical contact with the clip, a pair of conductors connected at one end to the clip and plate respectively, a terminal plate at the end of one of the conductors adapted to be engaged by a screw electrically connected to one terminal of the microphone element, and a plate and clip at the end of the other conductor adapted to engage a part in electrical connection with the other terminal of the microphonic element.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

HENRY S. GILBERT.
WILLIAM F. DRAKE.

Witnesses:
FRANK A. WEBER,
LESLIE C. VANARSDALE.