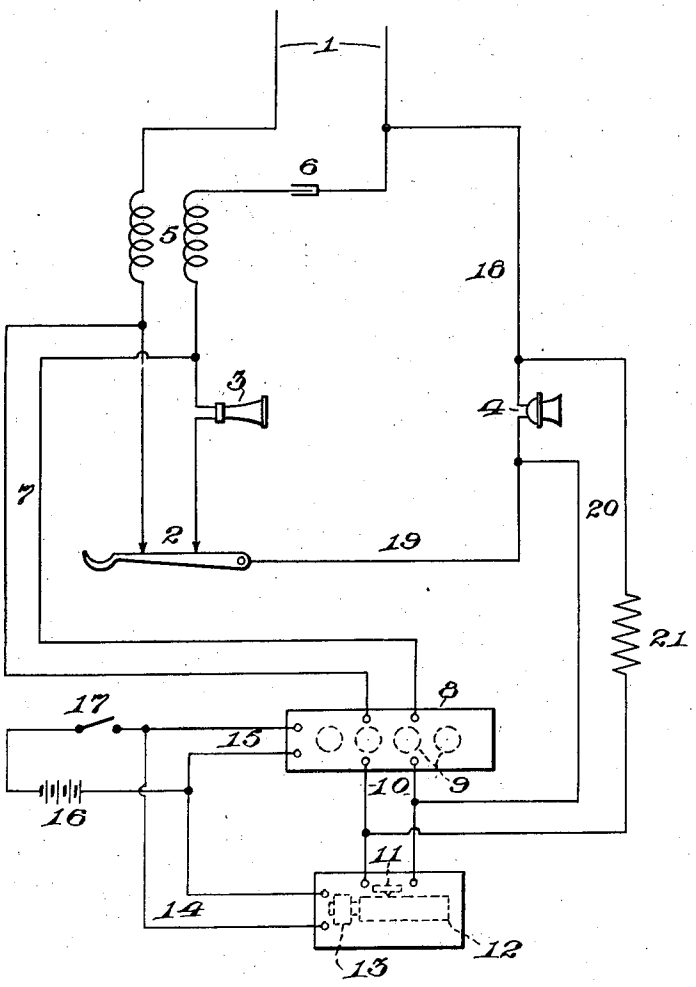
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TELEPHONE CONVERSATION RECORDING

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INVENTOR
James J. Chiardio,
BY
J. Stuart Freeman,
ATTORNEY

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TELEPHONE CONVERSATION RECORDING

James J. Chiardio, Philadelphia, Pa.

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2 Claims. (Cl. 179—6)

The object of the invention is to provide improvements in electric sound recording, but more specifically in the recording of telephone conversations, as for instance in order to make permanent records of discussions and oral agreements, contracts and the like.

In the course of business, especially between two parties previously acquainted, orders are frequently placed and various other forms of contracts entered into orally, with no written documentary evidence in case of a dispute, as the terms and conditions are not mentioned other than by word of mouth, which while understood by one party may be misunderstood or even wholly forgotten by the other party. In consequence, there are many cases in which previous friendly relationships are broken off, clients and customers lost, which would have been avoided, had the party in the wrong been able to hear his own (recorded) voice confirm the position taken and view held by the other party. Similarly, important discussions such as diplomatic and governmental exchanges by long-distance telephone, if recorded, would eliminate serious misunderstandings involving entire peoples, to mention only a few occasions for using such a device.

An object of the invention, therefore, is to provide an electrical device, operatively connected in the telephone line at will, such that the party possessing it can instantly begin the recording of any important conversation or part of the same, and can discontinue such recording as soon as desired after discontinuance of that part of the conversation which only he desires to record.

A further object is to provide a combination of elements, which will operate electrically to equalize the intensities of the voices at the opposite ends of the line, even though the recording device is much closer to the transmitter of one than it is to that of the other.

Further details of construction and operation are hereinafter brought out in the following description, when read in conjunction with the accompanying drawing, which diagrammatically represents one end of a telephone line in which is connected the usual transmitter and receiver, in combination with apparatus for electrically recording the voice from the adjacent local transmitter to substantially the same degree as it records the voice from the transmitter at the distant end of the line, which may duplicate the setup illustrated, or may comprise only the usual transmitter and receiver without a recording device.

Referring to the drawing, the incoming line wires 1 are closed in the usual manner by means of a switch 2, which may comprise the customary hook or similar element that is released when the receiver 3 and/or the transmitter 4 is removed from it. Said receiver is in series with the line and also with one or more preferably independent induction coils 5 and a condenser 6, if desired.

In parallel with but independent of said receiver, a shunt line 7 extends to an amplifier 8 of any suitable construction, but preferably of that type which comprises vacuum tubes 9, such as are widely employed in radio receiving sets. From the said tubes or the like, wires 10 conduct the amplified current to the diaphragm-actuated stylus 11, operatively associated with a recording cylinder 12 or its equivalent, which is driven by a motor 13. This motor is connected to one branch 14, while the heating elements of the amplifier tubes are connected to another branch 15 of a battery circuit, comprising a battery 16 and a switch 17, said switch being either manually operable independently of the switch 2, or in such conformity therewith as to drive the motor 13 and energize the tubes 9 automatically, during and as long as the receiver and transmitter are in use. The said transmitter is connected in the primary telephone line in parallel with said receiver by wires 18 and 19, while a shunt line 20 across said transmitter includes either a fixed or variable resistance 21, said shunt being connected to the amplifier current line 10 leading from the amplifier 8 to the stylus 11.

In the operation of this device, relatively weak electric impulses coming through the line wires 1 but clearly audible in the receiver 3, are amplified by the tubes 9 upon their being energized by closing the switch 17, thereby causing the sounds to be recorded upon the cylinder 12 or equivalent recording element, the motor of which is also energized and caused to function by and upon the closing of the same switch. At this point it should probably be explained that while incoming electric impulses and resulting diaphragm vibrations in the receiver 3 are entirely sufficient for all audible purposes, they are insufficient to produce the necessary amplification or amplitude of diaphragm vibrations required to physically cut satisfactory undulatory sound waves in the surface of a disc or cylinder, such as are used in phonographs and dictating machines of various sorts. Such incoming electric impulses must therefore be amplified without, however, affecting the intensity of sound heard in the receiver 3.

On the other hand, the intensity of vibrations set up by the operator's voice in the transmitter 4 are much more positive or effective, so that they can be either transmitted direct to the recording stylus 11, or can even be tempered by the resistance 21, especially if a variable resistance is employed at this point. In reading the accompanying drawing, it will be understood that the source of electric current in the line 1 is not shown, as the same is conventional, but never the less is essential to the recording of sound both from the line and from the nearer transmitter.

It will be evident from an understanding of this invention, that the telephone operator having the receiver 3 and transmitter 4 is able to carry on a conversation with a distant station in the usual manner, that is, without recording the voice of either person. However, when the operator desires to record any part or all of such a conversation, he merely closes the switch 17, thereby setting in motion the motor 13 and simultaneously energizing the tubes 9, immediately placing the apparatus in condition for recording both conversations without further attention, said last-mentioned switch being again opened when such recording is no longer desired.

Having thus described my invention, what I claim and desire to protect by Letters Patent of the United States is:

1. In a telephone circuit, a local station comprising the combination of a receiver, with a current-amplifying element in parallel with said receiver and receiving its input current from the line, a transmitter in parallel with said receiver, a sound recording device comprising an electromagneticly actuated element, the output from said amplifying element being connected to said last-named element, a resistance, an auxiliary circuit including said transmitter and said resistance also connected to said electromagneticly actuated element, a source of current, a motor to drive said recording device, and parallel circuits including said current source in common and respectively energizing said amplifying element and said motor.

2. In a telephone circuit, a local station comprising the combination of a receiver, with a current amplifying element in parallel with said receiver and receiving its input current directly from the line, a transmitter in parallel with said receiver, a sound recording device comprising an electromagneticly actuated element in operative relation to a rotatable impression-receiving element, the output from said amplifying element being connected to said electromagneticly actuated element, a variable resistance, an auxiliary shunt circuit including said transmitter and said resistance also connected to said electromagneticly actuated element, a source of current, a motor to drive said impression-receiving element, and parallel circuits including said current source in common and respectively energizing said amplifying element and said motor.

JAMES J. CHIARDIO.