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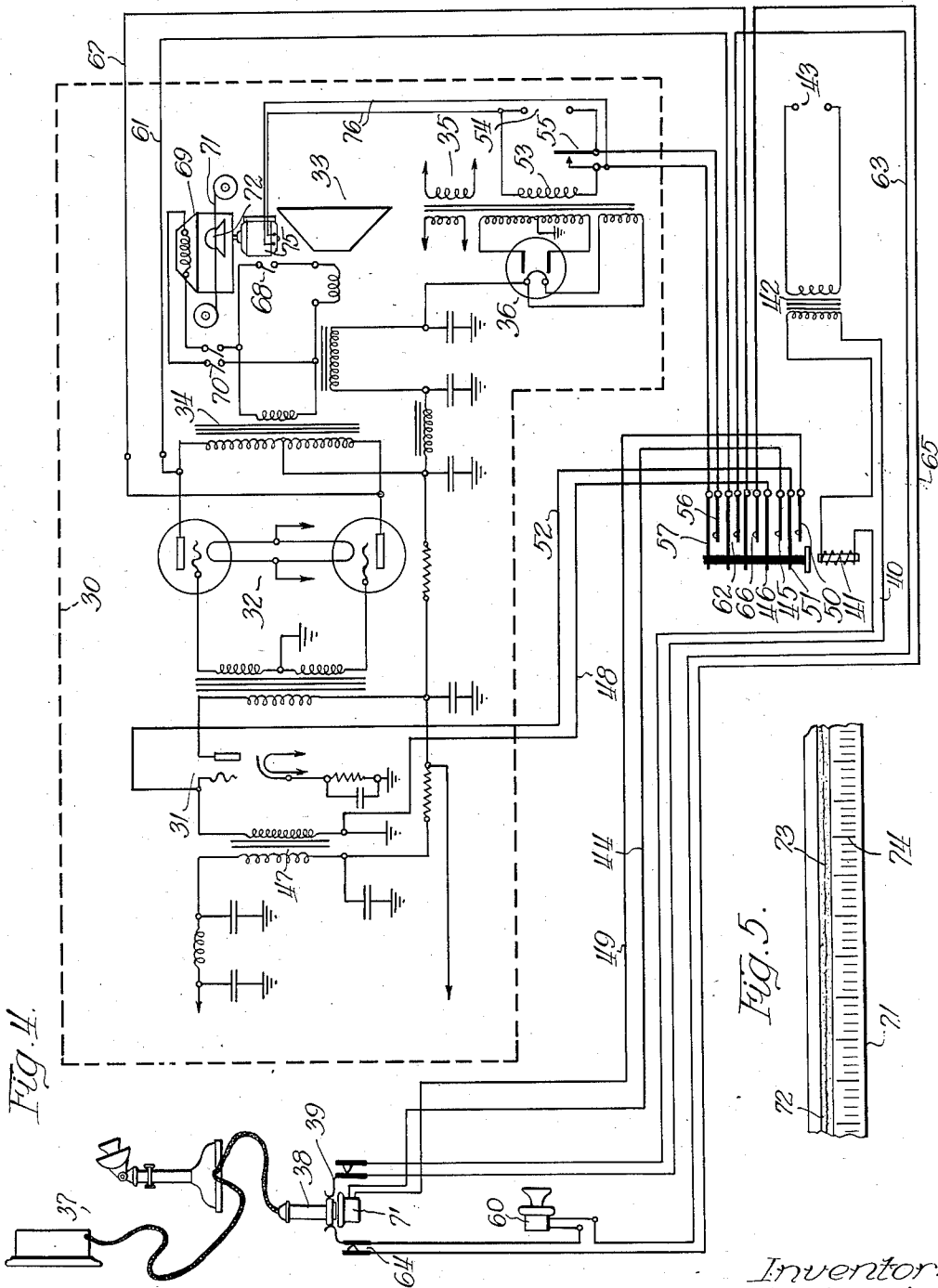
G. BABCOCK

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TELEPHONE ADAPTER

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2 Sheets-Sheet 2



Inventor:
Garrison Babcock.
By Brown, Jackson, Detcher & Wiener
Attys.

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TELEPHONE ADAPTER

Garrison Babcock, Chicago, Ill., assignor to
A. H. B. Jordan, Everett, Wash.

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14 Claims. (Cl. 179—100.11)

This invention relates to telephone systems, more particularly to an adapter for connecting the receiver of the telephone to the audio frequency amplifier of a modern radio set.

5 The prior art of which I am aware shows various arrangements for connecting the receiver of one telephone system to the transmitter of another telephone system whereby the two systems may be acoustically connected together. It is also old in the prior art to acoustically connect the receiver of a telephone to a so-called loud speaking receiver which reproduces the telephone conversation somewhat louder than an ordinary telephone receiver in order that a person who is slightly deaf may use the telephone.

10 My invention includes acoustically coupling a telephone to the audio frequency amplifier of a modern, so-called, all-electric radio set in order that the conversations produced by the receiver of the telephone may be heard through the loud speaker of the radio. Many modern radio sets are combinations of a phonograph and a radio receiving set and include arrangements whereby the output side of the audio frequency amplifier of the radio may be connected to a recording device, so that the radio program or local audio signals or voice may be inscribed upon a phonographic record. By connecting a telephone to a combination of this kind, a record may be made of the telephone conversation, which record can be used to subsequently reproduce such conversation.

15 In certain instances it may be advantageous not only to have a record of the conversation but also to have an accurate record of its duration. To this end, a suitable tape recorder may be connected to the output side of the audio amplifier of the radio set in combination with or in lieu of the loud speaker, and the conversation recorded upon the tape of that device. The length of the tape employed to record the conversation affords an easy means for determining the exact duration of that conversation, inasmuch as the tape of such a recorder is moved at a uniform rate during the operation of the device.

20 In its preferred form, my invention comprises a microphone of the magnetic type, such as for example, a sensitive magnetic vane receiver, which is coupled to the input terminals of the audio frequency amplifier of a radio set. The receiver of the telephone is registered with this microphone to thereby acoustically couple the telephone to the radio set.

25 Preferably, contacts are arranged to be closed

by the receiver when it is mechanically registered with the microphone, these contacts serving to close the circuit of a relay, which circuit includes a source of electrical energy separate and independent of the radio set. The contacts on the relay may be employed to connect the microphone to the input terminals of the audio frequency amplifier, and to connect the primary winding of the power supply pack of the radio set and inscribing tape motor to a source of commercial alternating current.

30 Frequently the most desired location of the radio set is far removed from the telephone, and in the event that it is desired to have a loud speaker located adjacent the telephone, the relay must be provided with contacts by which the loud speaker at the telephone is connected to the output terminals of the audio frequency amplifier of the radio set.

35 My invention will be best understood by reference to the accompanying drawings, in which a preferred embodiment of it is shown by way of example, and in which:

Figure 1 is a diagrammatic view of a telephone connected to a self-contained radio set of the so-called mantel-piece type;

Figure 2 is a diagrammatic view showing a telephone connected to a phonograph-radio combination;

Figure 3 is a diagrammatic view illustrating the connection of a telephone to an amplifier and the connection of a loud speaker located at the telephone to the output of the amplifier;

Figure 4 is a schematic wiring diagram of my invention; and

Figure 5 is a diagrammatic view of the tape used in the recorder.

Referring now to the drawings in more detail, the telephone indicated generally at 1 is a wall type telephone, but it is to be understood that either the type illustrated or the well known desk type device may be employed. In either event, the telephone includes a receiver 2 which is normally hung upon a suitable hook and is detached therefrom when the telephone is brought into service.

The radio set illustrated at 3 in Figure 1 is preferably a so-called all electric set in which the entire supply for operating the device is derived from a commercial source of alternating current.

A pick-up is located adjacent to the telephone and comprises a base 4 mounted upon a suitable support and contains a bracket 5 through which a mounting rod 6 is projected. A radio receiver 7 is supported upon the lower end of the rod 6

switch 70 in multiple with the loud speaker 33 of the radio set. The conversation received by the receiver 38 and amplified by the audio frequency amplifier 32 will be impressed upon and recorded upon the tape 71 thereof as that tape is moved at uniform speed past the recording device 72. The time consumed in the conversation so recorded can easily be determined by measuring the length of tape which has been employed to record the same. The arrangement therefore may be used advantageously to time conversations of importance. The message so recorded upon the tape can be reproduced by the well known devices for reproducing phonograph records, and since the devices form no part of the present invention, a detailed description of them is not necessary. The remote operation of the recorder 69 is monitored by the loud speaker 60 at the telephone.

In Figure 5 I have shown a portion of the tape 71 drawn to a larger scale. This tape, which may be paper, contains a ribbon of wax-like material which forms a sound track capable of recording a sound wave. I have shown such a record at 72. If desired, time markings 74 may be printed upon the tape 71 alongside the sound track to facilitate measuring the length of a conversation. The markings on the tape 71 and the movement of the tape are related to standard time units, as distinguished from synchronization.

The telephones now most commonly used are so-called "side tone" telephones, that is to say, the current undulations produced in the transmitter of a particular telephone, 37 for example, are transmitted to the receiver 38 of that particular telephone, as well as over the line leading from the telephone. The record on the tape 71 will contain the entire conversation, that is, the conversation received by the telephone 37 and the conversation sent from the telephone 37.

From the foregoing it will be seen that I have provided an arrangement for connecting a telephone receiver to a radio set, and have further provided an arrangement whereby the radio set can be automatically rendered operative, responsive to the connecting of the telephone with it.

What I consider new and desire to have protected by Letters Patent is pointed out in the appended claims.

What is claimed is:

1. The combination of a radio receiving set having an audio frequency amplifier and a loud speaker, a telephone, and means for connecting said telephone to said receiving set, said means comprising a microphone connected to the input side of said audio frequency amplifier, and means for holding the receiver of said sub-set in registration with said microphone.

2. The combination of a radio receiving set having an audio frequency amplifier and a loud speaker, a telephone, and means for connecting said telephone to said receiving set, said means comprising an electromagnetic microphone connected to the input side of said audio frequency amplifier, and means for holding the receiver of said sub-set in registration with said microphone.

3. The combination of a radio receiving set having an audio frequency amplifier and a loud speaker, a telephone, and means for connecting said telephone to said receiving set, said means comprising a microphone connected to the input side of said audio frequency amplifier, and means for holding the receiver of said sub-set in registration with said microphone, said means comprising a pair of hooks for holding said receiver, a bracket for holding said microphone and a

spring engaging said bracket and microphone for pressing the microphone into engagement with the receiver.

4. A combined phonograph and radio set of the type containing means for recording phonographic records of programs received by the radio set, a telephone having a receiver, and means for connecting said telephone receiver to the radio set whereby the conversations received by the telephone may be recorded upon a phonographic record.

5. The combination with a telephone substation, and an alternating current radio set containing audio frequency amplifier and reproducing apparatus and a power supply pack adapted to be connected to a source of commercial alternating current, of a coupling device for connecting said telephone to the audio frequency equipment in said radio set comprising, a microphone with which the receiver of said telephone is adapted to be registered, a relay, a source of current therefor, contacts operated by said receiver when in registration with said microphone for closing a circuit through said relay and source of current over which circuit said relay is energized, contacts closed by the energization of said relay, circuit means completed through certain ones of said relay contacts for connecting said microphone to the input side of said audio frequency equipment, and circuit means completed through other ones of said relay contacts for connecting said power supply pack to said source of alternating current.

6. The combination with a telephone substation, and an alternating current radio set containing audio frequency amplifier and reproducing apparatus and a power supply pack adapted to be connected to a source of commercial alternating current, of a coupling device for connecting said telephone to the audio frequency equipment in said radio set comprising, a microphone with which the receiver of said telephone is adapted to be registered, a relay, a source of current therefor, contacts operated by said receiver when in registration with said microphone for closing a circuit through said relay and source of current over which circuit said relay is energized, contacts closed by the energization of said relay, circuit means completed through certain ones of said relay contacts for connecting said microphone to the input side of said audio frequency equipment, circuit means completed through other ones of said relay contacts for connecting said power supply pack to said source of alternating current, a loud speaker, and circuit means completed through other ones of said relay contacts for connecting said loud speaker to the output side of said audio frequency amplifier.

7. The combination with a telephone substation, and an alternating current radio set containing audio frequency amplifier and reproducing apparatus and a power supply pack adapted to be connected to a source of commercial alternating current, of a coupling device for connecting said telephone to the audio frequency equipment in said radio set comprising, a microphone with which the receiver of said telephone is adapted to be registered, a relay, a source of current therefor, contacts operated by said receiver when in registration with said microphone for closing a circuit through said relay and source of current over which circuit said relay is energized, contacts closed by the energization of said relay, circuit means completed through cer-

tain ones of said relay contacts for connecting said microphone to the input side of said audio frequency equipment, circuit means completed through other ones of said relay contacts for connecting said power supply pack to said source of alternating current, a speech recorder, means for connecting said recorder to the output side of said audio frequency amplifier, and circuit means completed through other ones of said relay contacts for connecting said power supply pack to said source of alternating current.

8. The combination with a telephone substation, and an alternating current radio set containing audio frequency amplifier and reproducing apparatus and a power supply pack adapted to be connected to a source of commercial alternating current, of a coupling device for connecting said telephone to the audio frequency equipment in said radio set comprising, a microphone with which the receiver of said telephone is adapted to be registered, a relay, a source of current therefor, contacts operated by said receiver when in registration with said microphone for closing a circuit through said relay and source of current over which circuit said relay is energized, contacts closed by the energization of said relay, circuit means completed through certain ones of said relay contacts for connecting said microphone to the input side of said audio frequency equipment, circuit means completed through other ones of said relay contacts for connecting said power supply pack to said source of alternating current, a tape recorder for recording and measuring the length of a telephone conversation, means for connecting said recorder to the output side of said audio frequency amplifier, and circuit means completed through other ones of said relay contacts for connecting said power supply pack to said source of alternating current.

9. In combination with a telephone, an amplifier, means for acoustically coupling said telephone to said amplifier, a recorder having a tape, a motor for driving said tape, a source of current, and means automatically operated by said coupling, means for connecting said amplifier and motor to said source of current, said amplifier being thereby energized to amplify the conversation received by the telephone and the motor being driven at uniform speed to move the tape and thereby record and time the conversation.

10. In combination with an audio amplifier, a

sound recorder connected to the output side of said amplifier, a motor for driving said recorder, a relay located apart from said amplifier, a telephone located apart from said amplifier and apart from said relay, means at the telephone for operating said relay, and means operated by said relay for connecting the telephone to said amplifier and for starting the motor.

11. The combination with a telephone of an amplifier and recorder, a pick-up device for said amplifier operated by the receiver of said telephone, and substitute means for said receiver operated by said amplifier to monitor said recorder.

12. The method of timing telephone conversations which comprises recording the telephone conversation upon a record receiving element capable of recording a phonographic sound track and adapted to be used for phonographic reproduction, moving the record receiving element at uniform speed during the recording of the telephone conversation thereon, and measuring the length of the record receiving element employed to record the telephone conversation to determine the time consumed in the conversation so recorded.

13. In combination, a radio receiving set having an audio frequency amplifier and a loud speaker, a telephone having a receiver, and means for acoustically connecting the receiver of the telephone to said radio receiving set and for disconnecting the same therefrom whereby the conversations produced by the receiver of the telephone and radio programs may be heard selectively through the loud speaker of said radio receiving set.

14. In combination, telephone apparatus for receiving and transmitting telephone conversations, a record receiving element capable of recording a phonographic sound track and adapted to be used for phonographic reproduction, means for recording the telephone conversation upon said record receiving element, means for moving the record receiving element at uniform speed during the recording of the telephone conversation thereon, and means on said record for measuring the length of the telephone conversation to determine the time consumed in the recorded conversation.

GARRISON BABCOCK. 50

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H. M. BARBER

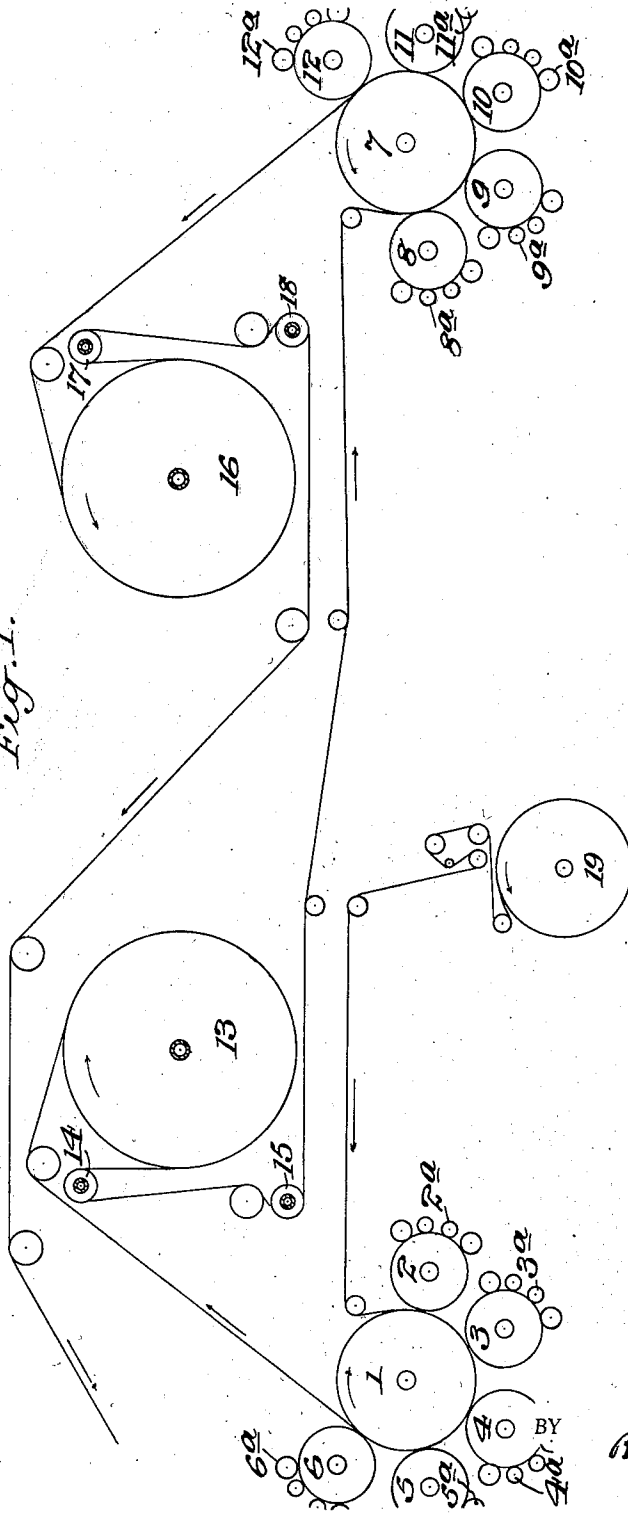
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WEB PERFECTING ROTARY PRESS

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7 Sheets-Sheet 1

Fig. 1.



INVENTOR.

Howard M. Barber.

Brown & Newland
ATTORNEYS

