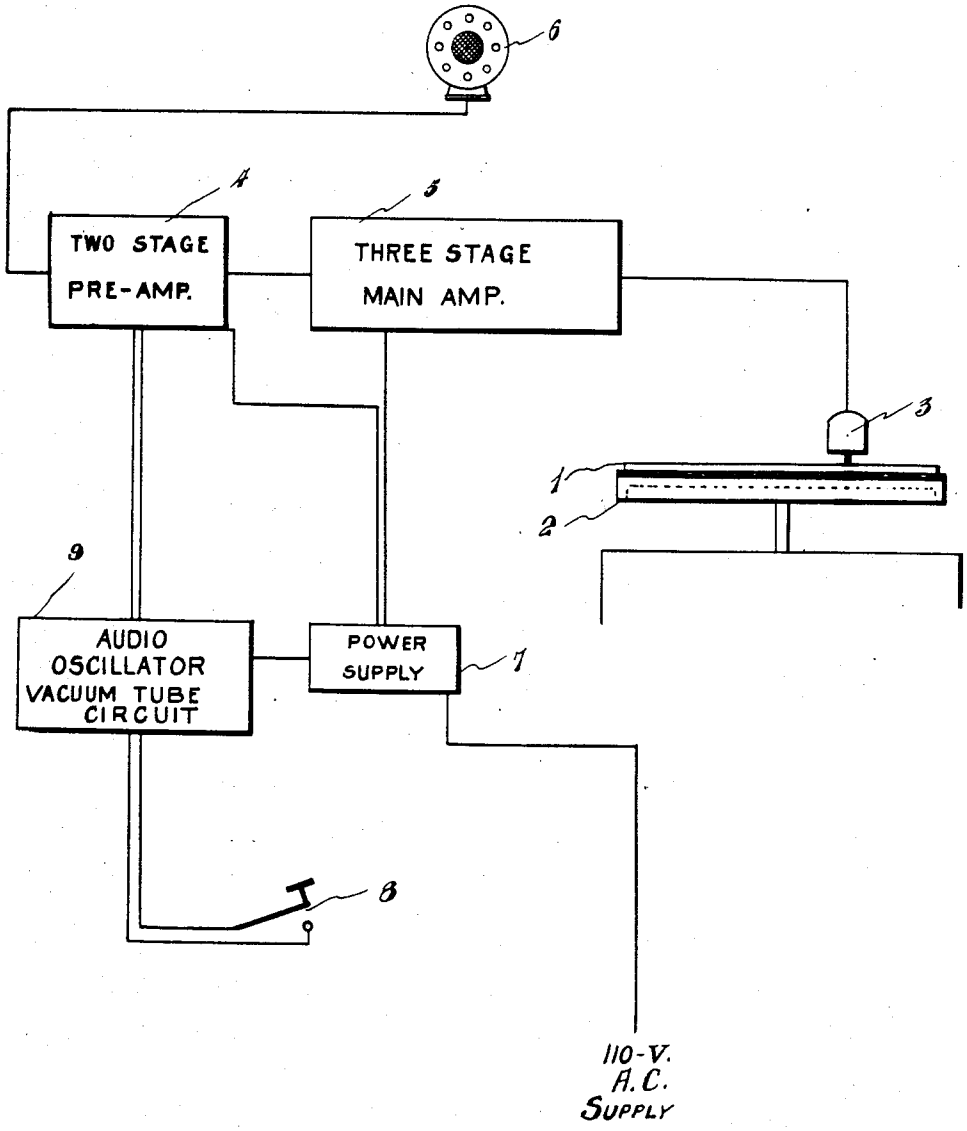
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METHOD OF RECORDING SOUND

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METHOD OF RECORDING SOUND

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6 Claims. (Cl. 274—46)

This invention relates to the recording of proceedings in courts or other assemblages, by means of electric recording devices where the spoken words are imposed upon a recording medium. This recording medium may be a disc, a cylinder, (of suitable material or coating), wire, film, paper, or other material capable of receiving and retaining the recording. The recording may be accomplished by means of electrical pickup by or through one or more microphones and electrically amplified through appropriate circuits to the necessary strength to record upon the recording medium employed for reproduction or so-called playback.

In such recordings where there are several speakers taking part in the proceedings, it is desirable that an identification of each speaker be placed upon the record simultaneously with or shortly following each remark which he makes, also that this identification, although placed upon the record simultaneously with speech being recorded thereon, does not erase or blur any of the speech; that it be audible to one who listens back or transcribes from such record; and that each of several speakers has a distinctive and different identification. Thus, a typist transcribing from such record, when he has been supplied with the distinctive identification signal for each speaker, can readily insert the name or descriptive designation before each remark made by any one of several speakers, even though the typist was not present at the hearing, and even though he be unfamiliar with the voices of the various speakers upon the record from which he is transcribing.

It is furthermore desirable that the means provided to accomplish the object sought be practically noiseless in operation in the hearing or recording room, since it is important that such proceedings be not disturbed by distracting mechanisms or sounds emanating from their operation.

Illustrative of recording a typical proceeding with the identification requirements with which this invention concerns itself is an ordinary court trial. The usual minimum number of constant active participants therein is four,—the presiding justice, plaintiff's counsel, defendant's counsel, and witness upon the stand. It is essential that each such participant have his statements wherever they occur upon the recording medium, unmistakably identified as emanating from him. Possible similarities of voice qualities make it impractical to rely solely upon the recorded voices for the identifications. The same holds true of additional possible participants, such as jurymen, and so forth. As is well-known, the typewritten transcript of such a trial, in order to be intelligible, must contain not only the words spoken by each participant, but also his name, "Mr. Jones", "Mr. Smith", etc., or a designation, such as "The Court", "Plaintiff's counsel", "The witness", "Juror No. 6", etc.

This invention provides a positive yet simple method or means whereby such identification is audibly placed upon the record during recordings of this kind in such manner that it does not erase or blur anything else upon the record. Its operation is practically instantaneous, so that the recorder can apply the identification even to short remarks, rulings or interjections, which however, it may be of greatest importance to have properly identified. Furthermore, as will be apparent from the means employed, the operation is practically noiseless.

The now-favored way of carrying out the invention will be understood from the following: It is well known that the normal extreme range of the speaking voice is limited in its cycle range, and that infinite changes in this range are continuously occurring in any given sounds due to the infinite variations of frequency occasioned by the great variety in the vowels and consonants uttered, and their combinations, to form words and sentences. We have found in practice that a signal (that is, one or more short or relatively longer notes or tones, sometimes called "dot and dash") of a constant frequency, and preferably although not necessarily at a pitch higher than the normal speaking voice, may be simultaneously imposed upon the recording medium together with the speech without erasing, blurring, or in anywise interfering with or resulting in whole or partial extinguishment of either. By using different combinations of such constant frequency signal in the familiar dot and dash telegraph method, for each of the several voices or speakers upon the record, a positive identification of each is provided. The identification signal of constant frequency is distinctly audible at the identical spot in the record that speech (which is of varying frequency) is likewise audible. The ear hears both distinctly just as the eye sees two objects at different levels.

To impose the simultaneous signal upon the record, we preferably provide an audio oscillator vacuum tube circuit, electrically connected to the common power supply of the recording apparatus. The oscillator functions only when a

key provided for that purpose is depressed, thus closing the oscillator circuit.

Other means than the tube oscillator for generating these audio signals may be employed, such as, for instance a buzzer placed in a sound proof box and operated by battery and a key.

The invention will be more clearly understood from the following description of a now preferred embodiment of apparatus to carry out the same as illustrated in the accompanying drawing which is essentially a schematic layout of the apparatus.

Referring to the said drawing in detail, the carrier for the sound record, which is here assumed to be a disc 1, with the customary spiral sound groove, is shown to be carried by the rotating table 2. The recording head or cutter is indicated at 3, the sounds being recorded as well understood in the electrical recording art, by the preamplifier 4 and the main amplifier 5, as picked up by the microphone or microphones 6. The power supply for these amplifiers is indicated at 7. At 8 is shown an ordinary telegraph key by means of which the circuit can be closed by pressing the same, and thus producing the desired signals upon the record 1 by the audio oscillator circuit 9 loosely coupled to the amplifiers. The operation of key 8 is practically inaudible to those present, but the signal passing through the oscillator circuit through the amplifier to the recording head or unit, imposes the audible signal upon the record, according to the invention.

A simple illustration of a code for identifying the active participants in a trial as hereinabove referred to would be to have one dot for the presiding justice, two dots for plaintiff's counsel, and dot and dash for defendant's counsel, etc.

The recording operator gives to the listening or transcribing typist his dot and dash code with the name of the appropriate speaker against his dot, dash or dot-and-dash combination, and the listener or transcriber is thereby enabled positively and unmistakably to attribute each remark to the proper person when typing the transcript from the record.

We claim:

1. The method of identifying respective statements of a plurality of speakers simultaneously with recording of their voices upon a reproducible sound record, which consists in imposing upon said record by means of an oscillator during the recording, signals of varying duration and of constant frequency, each of said signals serving as an identification for a particular speaker.

2. The method defined in claim 1 wherein said signals are of higher pitch than the voices recorded.

3. The method defined in claim 1, wherein said signals are of higher than normal speech frequencies.

4. The method of identifying sound originating from a plurality of sources which consists in recording the sounds upon a sound record, and in recording upon said sound record simultaneously therewith, a signal to distinguish one of said sources from another.

5. The method of identifying sound originating from a plurality of sources which consists in recording the sounds upon a sound record, and in recording upon said sound record, an audible signal to identify each of said sources.

6. The method consisting in recording sound originating from a plurality of sources upon a sound record, in recording upon the sound record a signal to identify each of said sources, and in reproducing the sound from the record and identifying the plurality of sources by said signals.

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