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[54] **OFFICE DICTATION/TRANSCRIPTION MACHINE**

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[51] **Int. Cl.** **G11b 15/10,** G11b 27/36

[58] **Field of Search** ..... 179/100.2 R, 100.1 DR, 179/100.2 MD, 100.1 VC

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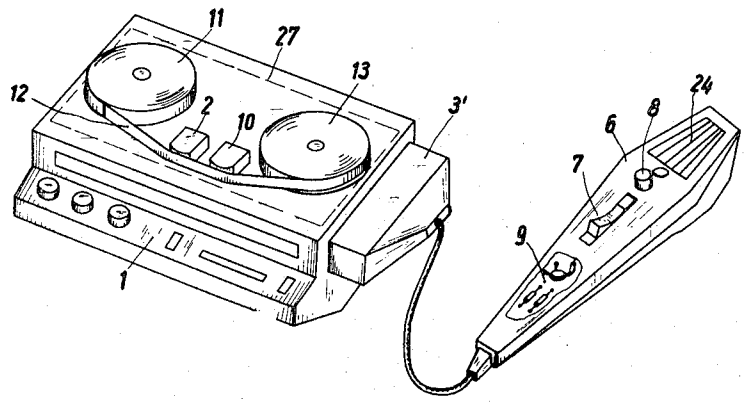
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[57] **ABSTRACT**

An office dictation/transcription machine of the type employing magnetic tape as the sound carrier. The machine has a main unit provided with erasing and playback/record heads and has a plurality of jacks electrically connected to the playback/record head and to the erasing head for the operative connection to the main unit of an accessory capable of activating the erasing head.

6 Claims, 4 Drawing Figures



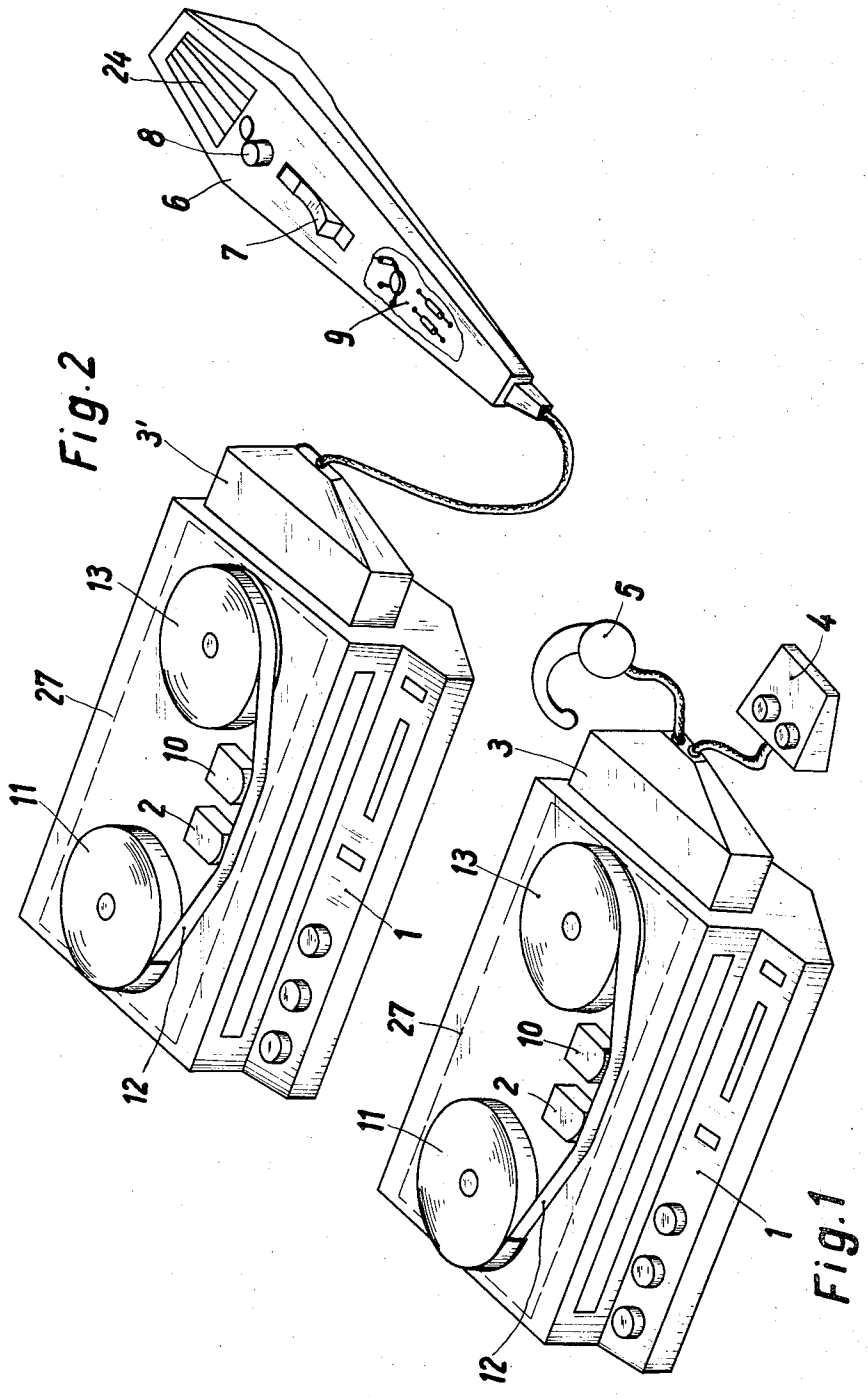


Fig.2

Fig.1

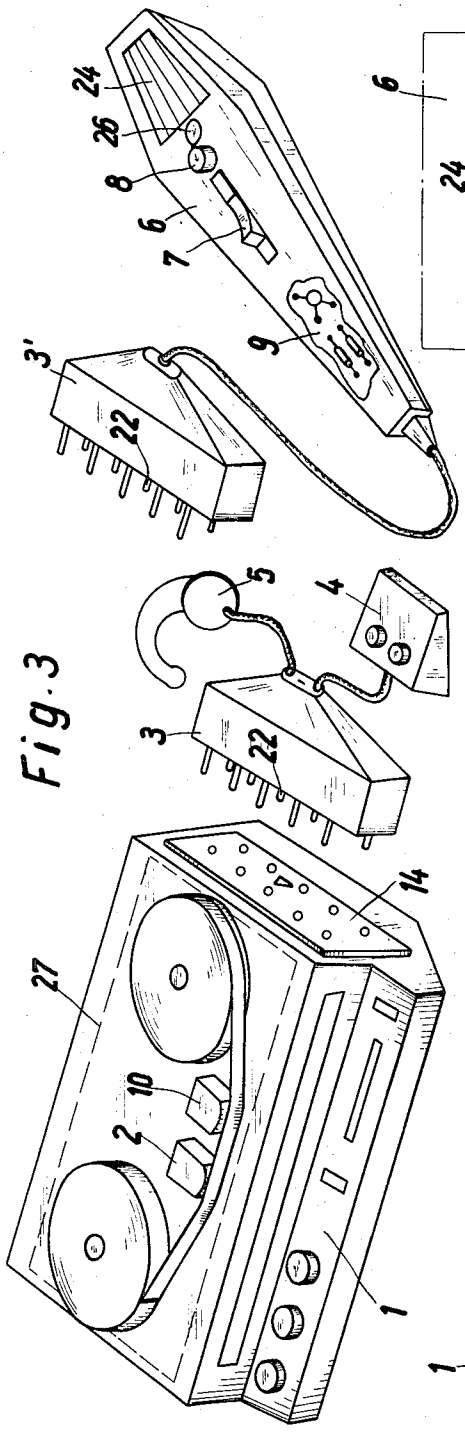


Fig. 3

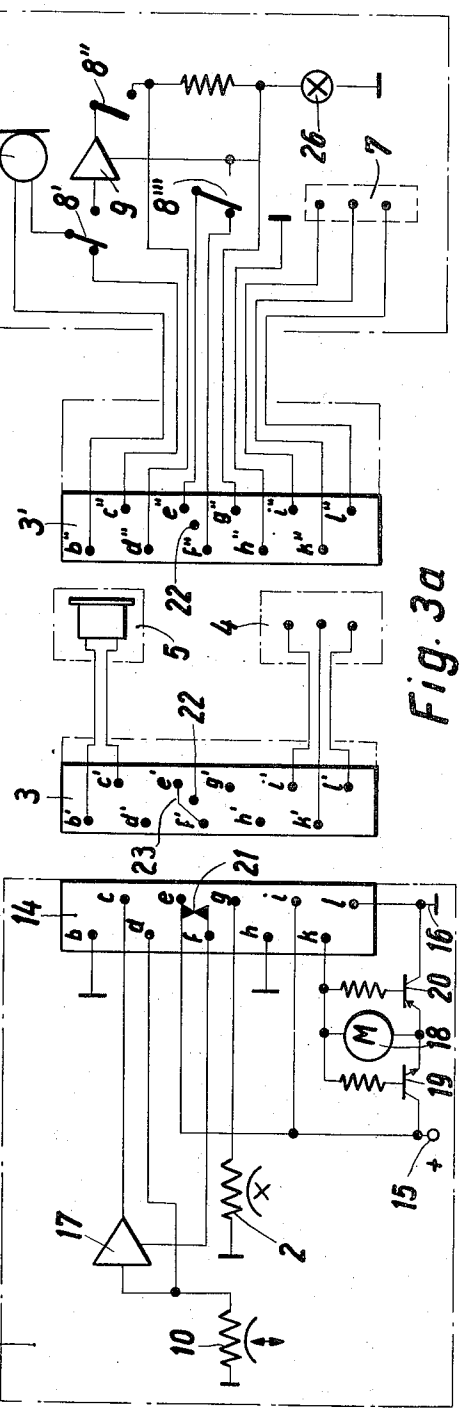


Fig. 3a

OFFICE DICTATION/TRANSCRIPTION MACHINE

The invention relates to a cassette tape recorder to which various accessories can be added, and which can operate either as a playback machine only, or as a playback/record machine, upon the addition of various plug-in attachments.

It is well known that office dictation equipment is usually so constructed that it can be used both for dictation and for transcription. However, office transcription machines are also known which are capable only of playback operation, being intended solely for use by the typist-transcriber. This latter type of machine often has no capability whatsoever for being used for dictation purposes.

The existence of these two types of office dictating/transcribing machines requires a careful evaluation of predicted needs when an office orders this kind of equipment. Usually, for example, more transcribing (playback) machines are required than dictating (record/playback) machines, because it is not uncommon for several typists to be required to transcribe the dictation of the user of a single dictating machine. Self-evidently, it is more economical to order only those machines that are actually required for the purpose of the office; that is, it is more economical to order machines capable only of playback if in fact that is the only use to which such machines will be put. Realistically, however, this kind of careful estimation of the dictating/transcribing needs of an office is somewhat difficult, and very seldom bothered with. Instead, it is more usual for an office to order only machines that can be used for both playback and recording, to avoid decision making even though the cost of the equipment is more than in fact need be spent. It is not uncommon for an office to have many dictating (playback + record) machines which are never used for anything but playback purposes during transscription.

It is the general object of the invention to provide an office dictation/transcription machine comprising a main unit which is as simple and inexpensive as possible, and which costs little or no more than a pure playback unit, but which by the addition of suitable attachments can be used either for playback purposes only or else for playback/recording purposes. Specifically, it is contemplated to provide an office tape recorder which can be used for transcription when connected with suitable attachments such as footpedal and earphones, or which can be used for dictating purposes when connected with a suitable microphone unit. Advantageously, the invention also goes beyond the provision of a detachable microphone, and additionally contemplates the provision of a microphone attachment which actually includes that portion of the electronic circuitry which would be superfluous in a machine needed only for playback purposes.

These objects, and others which will become more understandable below, can be met according to one embodiment of the invention, by providing an office dictation/transcription machine of the type employing magnetic tape as sound carrier. Advantageously, the machine comprises a main unit provided with erasing and playback/record heads and having a plurality of jacks electrically connected to the playback/record and erasing heads for the operative connection to the main unit of an accessory capable of activating the erasing head.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawing.

FIG. 1 is a perspective view of a dictating/transcribing machine according to the invention, showing the main unit and an attachment connected to the main unit to convert the machine into a playback machine adapted for office transcription purposes;

FIG. 2 is a perspective view of the dictating/transcribing machine of FIG. 1, but showing a different attachment connected to the main unit for converting the machine into an office dictating machine capable of both recording and playback;

FIG. 3 is a perspective view of the main machine unit shown in FIGS. 1 and 2, and also showing the attachments shown in FIGS. 1 and 2, but disconnected from the main machine unit; and

FIG. 3*a* is a circuit diagram of some of the circuitry of the main unit and the attachments, and also showing the manner in which electrical connections are made between the main unit and its attachments.

A preferred embodiment of the invention will now be described.

FIG. 1 shows the dictating/transcribing machine of the invention when used for playback-transcription purposes only. The machine includes a main unit 1 including a conventional erase head 2. Connected to the main unit 1 by means of a multiple-plug unit 3 are a foot-pedal attachment 4 and an earphone attachment 5.

FIG. 2 shows the dictating/transcribing machine of the invention when used for purposes of dictation. The main unit 1 shown in FIG. 1 is also used in FIG. 2. However, in FIG. 2 a dictating microphone 6 is connected to main unit by means of another multiple-plug unit 3'. The dictating microphone 6 is provided with a remote-control switch 7, a switch for selecting playback and record operations, and the conventional pick-up transducer 24. In the illustrated embodiment, the dictating microphone unit 6 furthermore includes the actual amplifying circuitry for the pick-up transducer, namely that circuitry which is ordinarily not included in the microphone unit but rather in the main body of the tape recorder.

The main unit 1 shown in FIGS. 1 and 2 additionally includes a record/playback head 10 and a tape supply reel 11 carrying magnetic tape 12, as well as a take-up reel 13. The tape and spools can, in conventional manner, be packaged together in casette form, as indicated by the provision of dotted lines 27 in FIGS. 1 and 2.

FIG. 3 shows the main unit 1, and also shows the attachments shown in FIGS. 1 and 2, but disconnected from main unit 1. It will be noted that each of multiple-plug units 3 and 3' are provided with a plurality of plugs which are received in corresponding jacks of a plugging panel 14 on the main unit. Also, each multiple-plug unit 3 and 3' includes a separating pin 22, seen in FIG. 3, whose purpose will become clearer in the discussion of FIG. 3*a*.

FIG. 3*a* shows some of the circuitry of the main unit 1, and the microphone unit 6, as well as the manner of

connection of the various attachments to main unit **1.**

A non-illustrated source of electrical energy, for instance a battery, is connected across ground terminal **16** and terminal **15** of main unit **1.** Numeral **17** designates the playback amplifying circuitry of the main unit **1.** Numeral **18** designates a D.C. motor employed to drive the magnetic tape, and current flows through motor **18** in one or the other direction through a respective one of transistors **19** and **20,** which are of opposite conductivity type. Associated with the plugging panel **14** of the main unit **1** is a pair of contacts **21,** which are normally biased into electrical contact with each other and which, when they contact, connect playback amplifier **17** to the biasing voltage.

If the main unit **1** is to be used only for transcription purposes, then the attachments which should be connected to unit **1** are the foot-pedal unit **4** and the earphone unit **5,** which are in fact connected by way of multiple-plug unit **3.** In the Figure, a single multiple-plug unit **3** is shown for connecting both the foot-pedal unit **4** and the earphone unit **5.** However, it is also contemplated according to the invention to provide two distinct multiple-plug units, one for the foot-pedal unit **4** only, and the other for the earphone unit **5** only, for purposes of greater flexibility in use.

It will be noted from FIG. **3***a* that both multiple-plug units **3** and **3'** are provided with a separating pin **22** of electrically insulating material. When either of units **3** and **3'** is plugged into plugging panel **14,** the separating pin **22** will enter between electrical contacts **21** and physically and electrically separate them. An electrical connection in multiple-plug unit **3** electrically connects the plugs *e'* and *f'* shown in FIG. **3***a*, for closing the current circuit for the playback amplifier **17.** The plugs *b'*, *c'* connect the earphone unit **5** to main unit **1,** while the plugs *i'*, *k'* and *l'* connect the foot-pedal unit **4** to the unit **1.** Remote control by means of foot-pedal unit **4** is effected in known manner upon closing and opening of the electrical contacts contained in the foot-pedal unit. In conventional manner, the foot-pedal unit **4** is capable of initiating stop, start, and rewind operations, for example, by the simple expedient of disconnecting, reconnecting or reversing the current supply to the motor **18.**

If the unit **1** is to be used for dictation purposes, which require a machine capable of both recording and playback, the microphone attachment **6** will be connected to unit **1** by means of multiple-plug unit **3'.** The microphone unit **6** contains a pick-up transducer **24,** amplifying circuitry for amplifying the signal generated by the transducer, a remotecontrol switch **7,** and a record/playback mode-selection switch **8** which simultaneously operates switching contacts **8', 8''** and **8'''.** An indicator lamp **26** is provided on the microphone **6** and provides a visual indication of the setting of mode-selection switch **8.** When multiple-plug unit **3'** is plugged into the jacks of plugging panel **14,** separating pin **22** separates the electrical contacts **21.** The playback amplifier **17** of main unit **1** is connected with switching contact **8'''** by means of plugs *e''* and *f''*switching contact **8'''** being activated by playback-/record mode-selection switch **8.** As just mentioned, switching contacts **8'** and **8''** are activated simultaneously with contact **8'''**The switching positions of contacts **8', 8''** and **8'''** shown in FIG. **3***a* correspond to the playback setting of mode-selection switch **8.** In this position contact **8'** via plugs *b''* and *c''* connects transducer **24** with the amplifier **17** of the main unit **1.** Furthermore, contact **8'''** connects the plugs *e''* and *f''* and thereby assures a supply of current for the playback amplifier **17,** so that the machine is operative for playback. Remote control switch **7** on microphone **6** is connected with main unit **1** via plugs *i''*, *k''* and *l''* and controls the start, stop and rewind operations in conventional manner.

If mode-selection switch **8** is used to select the record mode, then by means of switching contact **8'** of the microphone transducer **24** will be connected to the transducer amplifier **9** which, by reason of the small size of modern-day electronic circuitry, can be readily incorporated for instance in the stem of the microphone. Simultaneously, via contact **8'''** the current supply to playback amplifier **17** will be interrupted, whereas current will instead be furnished to the transducer amplifier **9** and the control lamp **26.** Furthermore, by means of switching contact **8''**, the record/playback head **10** via plug *d''* and erasing head **2** via plug *g''* will be connected to the pick-up amplifier **9** and the current supply. Remote control of the recorder via switch **7** is possible in the record mode, and in the same manner as with the foot-pedal unit **4** the remote control switch **7** can effect start, stop and rewind operations.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of construction differing from the types described above.

While the invention has been illustrated and described as embodied in an office dictation/transcription machine, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic of specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended

1. An office dictation/transcription machine of the type employing magnetic tape as sound carrier, comprising, in combination, a main unit including erasing and playback/record head means, transporting means for transporting a tape past said erasing and playback-/record head means and including drive means for driving said transporting means, playback amplifier means having an input electrically connected to said playback/record head means, current source means connected to said drive means and to said playback amplifier means, and a single socket arrangement comprised of a plurality of electrical terminals connected to the aforesaid means; a dictation attachment unit including microphone means, remote control means for the remote control of said drive means and a single respective first plug arrangement comprised of a plurality of terminals spatially disposed in correspondence to the spatial disposition of at least some of the terminals of said socket arrangement and configurated to be detachably connected as a whole to said single socket ar-

rangement in plug-in fashion, and respective first electric circuit means connecting the terminals of said first plug arrangement with said microphone means and with said remote control means to establish operative electrical connections between said means of said dictation attachment unit and said means of said main unit when said first plug arrangement is connected to said socket arrangement in plug-in fashion; and a transcriber's attachment unit including an earphone arrangement comprised of sound-reproducing means, remote-control footpedal means for controlling the operation of said drive means, and a respective second single plug arrangement comprised of a plurality of terminals spatially disposed in correspondence to the spatial disposition of at least some of the terminals of said socket arrangement and configurated to be detachably connected as a whole to said single socket arrangement in plug-in fashion, and respective sound electric circuit means connecting the terminals of said second plug arrangement with said sound-reproducing means of said transcriber's attachment unit and with said remote-control footpedal means of said transcriber's attachment unit to establish operative electrical connections between said means of said transcriber's attachment unit and said means of said main unit when said second plug arrangement is connected to said socket arrangement in plug-in fashion, whereby said socket arrangement of said main unit can cooperate with either said first plug arrangement or said second plug arrangement for use of said main unit alternatively for dictation or transcription purposes.

2. The machine defined in claim **1**, wherein said main unit further includes a pair of electrical contacts connecting said playback amplifier means to said current source means, said pair of electrical contacts being normally biased into engagement with each other and being positioned behind said socket arrangement accessible through an opening in said socket arrangement, and wherein one of said attachment units includes a separating prong which spreads apart said pair of electrical contacts to interrupt the connection between said playback amplifier means and said current source means when the plug arrangement of the respective one of said attachment units is plugged into said socket arrangement, and wherein such respective one of said attachment units is provided with a switch having two terminals which become connected to respective ones of said pair of contacts when the respective plug arrangement is plugged into said socket arrangement, said switch being operative for establishing or interrupting the connection of said playback amplifier means to said current source means.

3. The machine defined in claim **1**, wherein said drive means is capable of stop, start and rewind operations, and wherein the remote-control means of at least one of said attachment units comprises means operative when the plug arrangement of the respective attachment unit is plugged into said socket arrangement for initiating stop, start and rewind operations of said drive means.

4. The machine defined in claim **1**, wherein remote-control means of said dictation attachment unit further includes mode-selecting switch means operative when said first plug arrangement is plugged into said socket arrangement for alternatively selecting playback and record modes of operation for said office dictation/-transcription machine.

5. The machine defined in claim **1**, wherein said microphone means of said dictation attachment unit includes a microphone transducer and microphone amplifying circuit means having an electrical input connected to said microphone transducer and having an electrical output connected to said playback/record head means when said first plug arrangement is plugged into said socket arrangement for energizing said playback/record head means.

6. The machine defined in claim **1**, wherein said remote control means of said dictation attachment unit comprises means operative when said first plug arrangement is plugged into said socket arrangement for alternatively selecting playback and record modes of operation of said office dictation/transcription machine and means operative when said first plug arrangement is plugged into said socket arrangement for alternatively causing said drive means to transport tape in either a first or an opposite second direction, and wherein said microphone means of said dictation attachment comprises a microphone transducer and microphone amplifier means having an input connected to said microphone transducer and having an output which becomes connected to said playback/record head means when said first plug arrangement is plugged into said socket arrangement.

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