Feb. 4, 1958 T. L. DINSMORE 2,822,426

DICTATING MACHINE

Filed Oct. 20, 1955 2 Sheets-Sheet 1

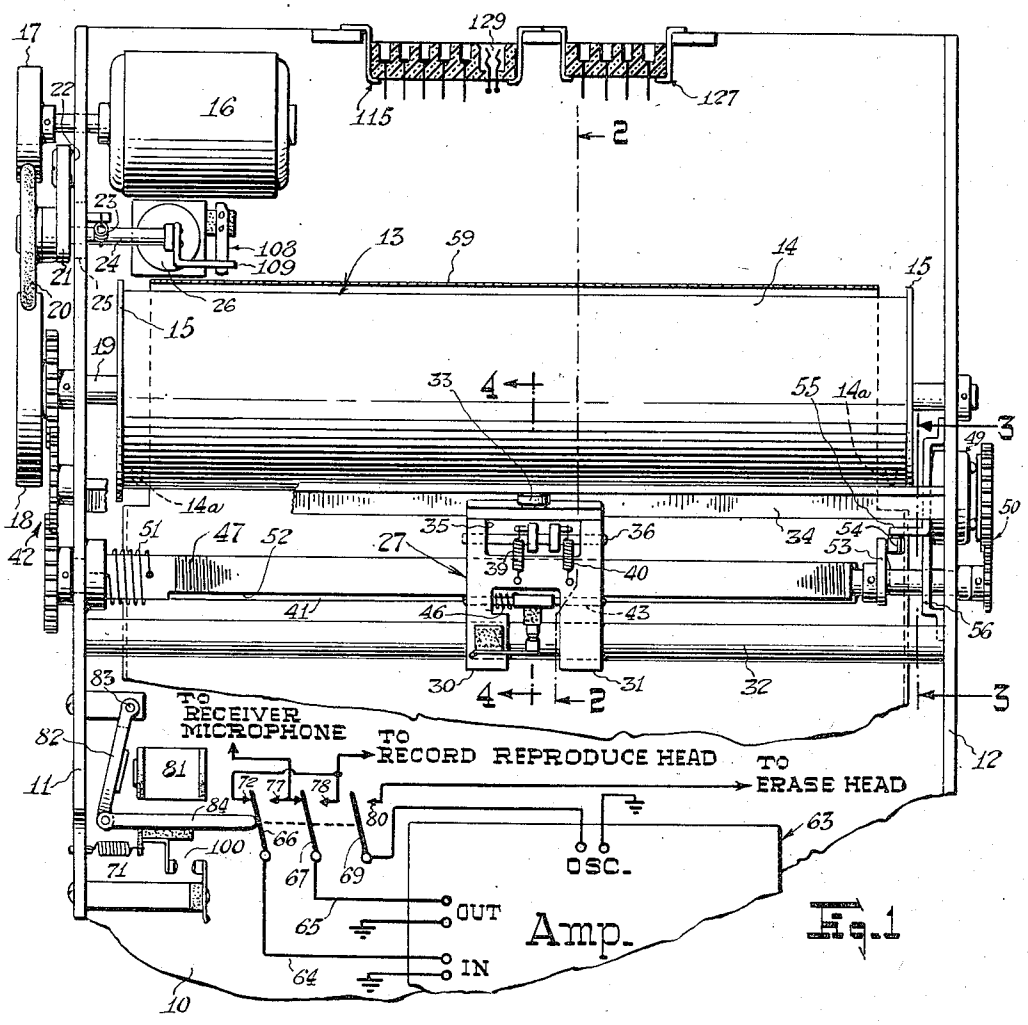


Fig. 1

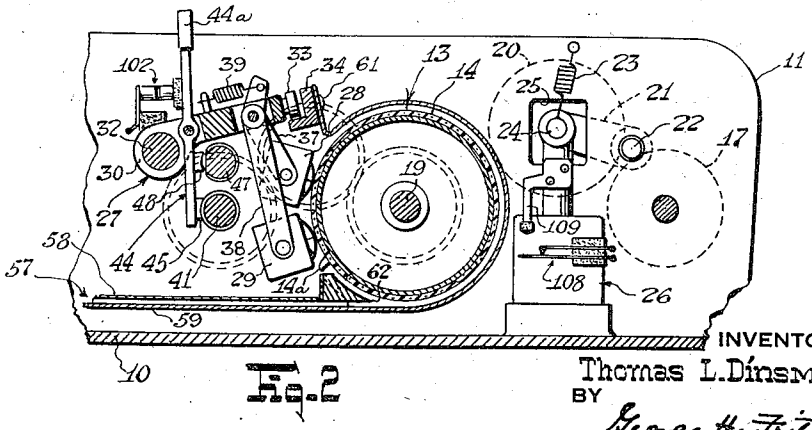


Fig. 2

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DICTATING MACHINE

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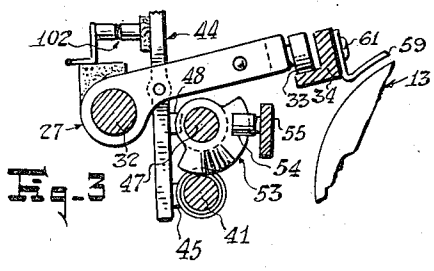


Fig. 3

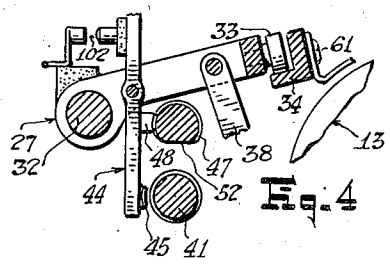


Fig. 4

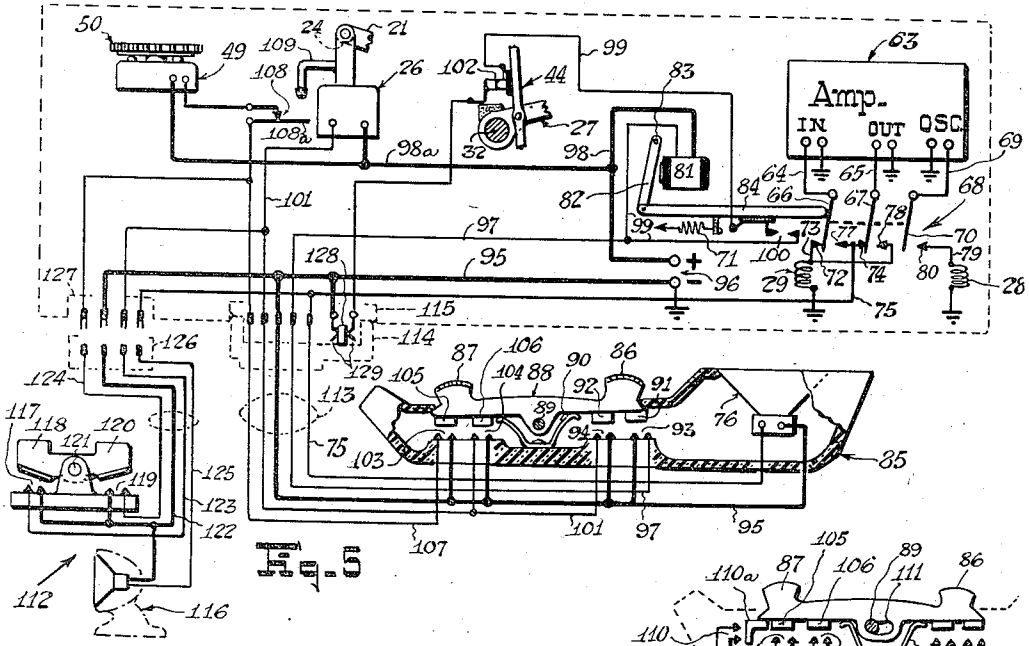


Fig. 5

Fig. 6

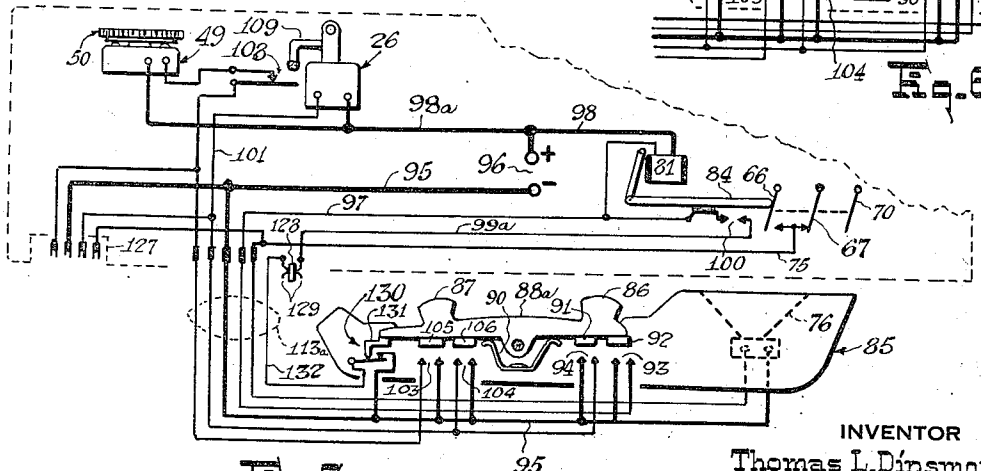


Fig. 7

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2,822,426

DICTATING MACHINE

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Application October 20, 1955, Serial No. 541,755

19 Claims. (Cl. 179—100.1)

The present invention relates to dictating machines and more particularly to a novel control system for such machines whereby the machines can be easily shifted into a condition to enable the dictator to "listen back" to any desired portion of his recorded dictation. Also, the invention contemplates improvements in such machines to enable them to be readily conditioned for transcribing purposes. The invention is particularly suitable for and is herein described in connection with a dictating machine of the type which uses a magnetic recording medium, but no unnecessary limitation of the invention to dictating machines of this type is intended.

A dictating machine should have facility to enable the dictator to "listen back" at any time to any desired portion of his recorded dictation so that he can refresh in his mind the train of his thoughts as after some interruption such as a telephone call before he resumes the recording operation. In this connection it is desirable that the dictating machine have a minimum number of controls. It is well known to provide only one or two controls for enabling selective operation of the machine for recording or for listening back to one's recorded dictation, but as far as is known the prior art has required special manipulations of these controls in order to enable the selective control operations to be performed. Whenever any special manipulation is required, such as a selection between two directions of movement of a control or a selection of sequence of different manipulations thereof, the dictator has to educate himself in order to use the machine. In other words, the selective manipulations require prior thought. This is undesirable because any thought which the dictator must devote to the operation of the machine is a distraction from his train of thoughts on the subject matter to be recorded.

The present invention relates to a control system which comprises two control members for selective operation of the machine for recording or for reproducing selected portions of the recorded dictation. These control members are normally both in released or neutral positions. To record, the dictator need only press one of these control members, and to listen back he need only press the other. To facilitate the description, these controls may be termed the "dicate" and "listen" buttons. Since listening back to one's recorded dictation requires several control operations on the machine, the pressing of the listen button is adapted to perform the following operations: (1) the carriage for the translating head is backspaced by a selected amount from the point of farthest advance, (2) the machine is shifted from recording to reproducing condition, and (3) the machine is started to resume record rotation and advance of the carriage for the translating head. In order that the dictator may listen back to any selected portion of his recorded dictation, facility is provided to enable a varied amount of backspacing of the carriage to be accomplished simply by the number of times the listen button is pressed and released. Thus, to listen to an end portion of one's

dictation the dictator presses the listen button and holds it down until the desired portion is reproduced, and to listen farther back the dictator will press and release the dictate button several times according to the amount of backspacing desired and then continue to hold the button down until the desired portion is reproduced. When he desires to resume recordation, he simply presses again the dictate button.

The foregoing control system is claimed in its broadest aspects in the pending application of William W. Logan, Serial No. 540,370, filed October 14, 1955, and having common ownership with the present application. The present invention resides in modifications and improvements of this basic control system as well as in the combination thereof with other control apparatus to provide simpler and better over-all control systems for dictation recording equipment and for enabling such equipment to be readily converted for transcribing use.

Particular objects of the invention reside in providing an interlock between the listen and dictate controls which is adapted to enable operation of only one of the controls at a time. In this respect it is an object to provide a manually-operable rocker with coupling thereof to the listen and dictate switches such that when the rocker is tilted in one direction the machine is conditioned for recording and when tilted in the other direction the machine is put into operation for listening back to the recorded dictation, with forced release in each case of the other control switch.

Another particular object is to provide a novel electrical control system for shifting an audio selector switch (hereinafter sometimes termed the record-reproduce switch) between record and reproduce positions, to provide means by which the selector switch is shifted automatically to reproduce position by disengagement of the drive system for the aforementioned carriage both when the carriage is backspaced electromechanically and when it is backspaced manually, and to provide for sequential energization of a backspacing means and a normal drive start means with automatic deenergization of the former by the latter after each backspacing step

Another object is to provide a unitary control device which is shiftable back and forth in one mode respectively to put the machine in operating condition for recording and for listening back, and which is shiftable in another mode only to start the machine for reproducing.

Another object is to provide a dictation-recording machine having a detachable dictator's control apparatus which, when detached, automatically places the machine in reproducing condition for use only as a transcribing instrument.

These and other objects and features of my invention will be apparent from the following description and the appended claims.

In the description of my invention reference is had to the accompanying drawings, of which:

Figure 1 is a fractional plan view with parts broken away and parts in section showing a dictating machine incorporating one embodiment of my invention;

Figures 2, 3 and 4 are fractional sections taken respectively on the lines 2—2, 3—3 and 4—4 of Figure 1;

Figure 5 is a schematic diagram showing the electrical circuits of the machine of Figure 1;

Figure 6 is a fractional view showing a modification of the dictator's handpiece included in Figure 5; and

Figure 7 is a schematic diagram showing the electrical circuits according to a second embodiment of my invention.

The dictating machine shown in Figures 1 to 4 comprises a base 10 having left and right side standards 11 and 12. Between these standards there is a drum 13 hav-

ing a periphery 14 of resilient material for carrying a rectangular magnetic sheet record in wrap-around relation thereto as in the manner disclosed in Roberts Patent 2,653,819, dated September 29, 1953. Such a sheet record has apertures in the leading corner portions thereof engageable by respective hooks 14*a* near the ends of the drum to propel the sheet record around the drum from its leading edge as the drum is advanced. Also, the drum has peripheral end flanges 15 or other sutable means for locating the sheet record lengthwise of the drum. The drum is driven by a motor 16 through a drive train comprising a wheel 17 on the shaft of the motor, a wheel 18 on a shaft 19 of the drum journaled in the side standards, and an intermediate rubber-tired wheel 20 for intercoupling the wheels 17 and 18. The intermediate drive wheel is journaled on an arm 21 which is itself pivoted at 22 to the side standard 11 to permit disengagement and reengagement of the drive train for starting and stopping the drum rotation. The intermediate drive wheel is normally held disengaged by a tension spring 23 connected between a lug on the standard 11 and a rod 24 on the arm 21 projecting inwardly through a clearance opening 25 in the standard. A solenoid 26 has an armature connected to this rod for propelling the intermediate wheel downwardly against the force of the spring 23 to engage the drive train.

At the front of the drum there is a carriage 27 for erase and record-reproduce heads of the machine. This carriage is in the form of a heavy bifurcated plate having two spaced bearings 30 and 31 slidably mounted on a rod 32 supported at its ends by the side standards and extending lengthwise of the drum. The carriage is inclined from the rod 32 towards the drum and at the end thereof adjacent to the drum there is a stud on which is journalled a wheel 33. This wheel rides on an angle iron 34 mounted at its ends on the side standards and extending lengthwise of the drum. The carriage has a side opening 35 in its central portion traversed by a support rod 36. Pivoted on this rod are levers 37 and 38 which depend below the carriage. Mounted on the lower ends of these rods respectively in vertically-aligned relation to each other are an erase head 28 and a record-reproduce head 29. The levers have short arms projecting above the carriage to which are connected respective springs 39 and 40 for biasing the heads against the drum. The carriage is progressively advanced along the drum, concurrently as the drum is rotated, by means of a feed screw 41 paralleling the support rod 32 and journaled at its end portions in the side standards. This feed screw is rotated in fixed relation with the drum by means of a gear train 42 connecting it to the shaft 19. Pivoted at 43 to the forepart of the carriage is a lever 44 carrying a feed nut 45 which is held normally in engagement with the feed screw 41 under influence of a torsion spring 46 connected between the lever and the carriage. Whenever it is desired to shift the carriage by hand, the lever 44 is first turned manually to disengage the feed nut 45; for this reason the lever has an upwardly-extending fingerpiece 44*a*.

Provision is made for backspacing the carriage step by step by remote control. This backspacing means comprises a backspacing screw 47 rotatably mounted at its end portions in the side standards, and a cooperating feed nut 48 mounted on the lever 44. The backspacing screw is rotated during a fraction of one turn during each backspacing step. This rotation is effected by means of a rotary solenoid 49 connected to the backspacing screw by gearing 50. Upon each deenergization of the solenoid 49 the backspacing screw is returned to its initial position by a torsion spacing 51.

The backspacing screw has a flat 52 throughout its length which faces the feed nut 48 at a clearance spacing therefrom when the backspacing screw is in its initial position (Figure 2). In view of this clearance the backspacing screw 47 and feed nut 48 are normally disengaged so as not to interfere with the normal forward drive of the carriage. When the backspacing screw is turned by the solenoid, an edge portion of the flat 52 first engages the nut 48 to cam the lever 44 to disengage the normal drive elements 41 and 45; and thereupon the thread of the backspacing screw engages the nut 48 (Figure 4). During the continuing rotation of the backspacing screw by the solenoid while the screw is in threaded engagement with the feed nut 48, the backspacing screw is shifted longitudinally by means of an arcuate cam plate 53 pinned to the right end portion thereof and coacting with a roller 54 journalled on a fixed arm 55 of a bracket 56 secured to the right side standard (Figures 1 and 3). Pressure of the cam 53 against the roller 54 is maintained by force of the spring 51 acting also on the backspacing screw as a compression spring. As the solenoid 49 is deenergized, the backspacing screw 47 is returned until the feed nut 48 comes again into registration with the flat 52 and allows the return of the lever 44 for reengagement of the feed nut with the normal drive screw 41. Thus, repeated activation of the rotary solenoid 49 will backspace the carriage by successive steps.

The mounting of a sheet record onto the drum may be expedited by providing the machine with a loading slot 57 at the under side of the drum as in the manner described in the pending application of Dinsmore et al., Serial No. 468,442, filed November 12, 1954. This slot is formed by two vertically-spaced upper and lower plates 58 and 59 the lower one of which continues partially around the drum in spaced relation thereto to provide an extension of the loading slot. This lower guide plate terminates at the angle iron 34, and is connected thereto by screws 61, so as to provide access to the magnetic sheet record on the drum for the translating heads 28 and 29. The upper guide plate 58 is substantially tangential with the drum but terminates in a stripping edge 62 at a short distance therefrom. This stripping edge serves to pick up the trailing edge of the sheet record to strip the record from the drum and to direct it through the loading slot to the front of the machine as the drum is reversely rotated.

The audio system of the machine comprises a combined record-reproduce amplifier and oscillator 63 diagrammatically shown in Figures 1 and 5. For simplification purposes, the audio circuits are shown single-line with one side thereof being grounded. The signal input and output circuits of the amplifier are connected by lead lines 64 and 65 to respective poles 66 and 67 of a multiple changeover switch 68, and the oscillator output is connected by a lead line 69 to a pole 70 of this same switch. All poles are tied mechanically together for concurrent operation. A spring 71 connected to the pole serves to bias the changeover switch into reproduce position. In this position the pole 66 makes with a contact 72 to connect the amplifier input through a lead wire 73 to the recorder-reproducer head 29 now operating as a reproducer, and the pole 67 connects to the contact 74 to connect the amplifier output through a lead wire 75 to a receiver-microphone 76 now operating as a receiver. When the changeover switch is shifted to record position it connects the receiver-microphone, acting as a microphone, to the amplifier input through a contact 77 and the pole 66, it connects the recorder-reproducer, acting as a recorder, to the amplifier output through a contact 78 and the pole 67, and it connects the erase head 28 to the oscillator output through a lead wire 79, and a contact 80 and pole 70 of the changeover switch.

The changeover switch is operated into record position by a solenoid 81 having an armature 82 pivoted to the frame at 83 (Figure 1) and coupled to the changeover switch by a link 84. The changeover solenoid 81, the start-stop solenoid 26 and the backspace solenoid 49 are all controlled by manually-operable switches on a handpiece 85 having a head portion housing the receiver-microphone 76 and a handle portion housing the aforementioned dictate and listen controls. These controls comprise two

manually-depressible buttons 86 and 87. According to a feature of the invention, these controls are interconnected as by a rocker 88 pivoted to the handpiece at its center 89 so that operation of one control will force release of the other, and vice versa. The rocker is however biased into a neutral position by means of a two-pronged spring as shown in Figure 5.

When the dictate button is depressed it moves two bridging elements 91 and 92 sequentially into engagement with respective contact pairs 93 and 94. One of the contacts of each of these pairs is connected by a lead wire 95 to the negative side of a power source 96 for the machine, which source is indicated by plus and minus terminals. The other contact of the pair 93 is connected by a lead wire 97 to one side of the changeover solenoid 81. The other side of this solenoid is connected by a lead wire 98 to the positive side of the source 96. Thus, an initial control function performed by depressing the dictate button is to close the circuit of the changeover solenoid 81 to shift the audio system from reproduce to record condition. As an incident to the operation of the solenoid 81, a holding circuit 99 therefor is completed across the source 96 to retain the solenoid in operated position. This holding circuit comprises a pair of contacts 100 which are closed as by the link 84 as the solenoid is operated.

In the closing of the contact pair 94 following the closing of the contact pair 93, the negative side of the source 96 is connected to a lead wire 101 which connects to one side of the start-stop solenoid 26. The other side of this solenoid is connected by lead wires 98*a* and 98 to the positive side of the source 96. Accordingly, the solenoid 26 is operated to start the operating mechanism of the machine immediately following the shifting of the audio system into record condition.

In accordance with the invention, a novel and simple means is provided for automatically shifting the audio system back into reproduce condition whenever the carriage is shifted manually or backspaced by whatever means. This is accomplished by inserting a switch 102 in the holding circuit 99 controlled by the feed nut lever 44. For instance, this switch may comprise one contact mounted insulatedly on the lever 44 and an associated contact mounted insulatedly on the carriage 29 such that these contacts are opened whenever the lever 44 is rocked to disengage the normal forward drive for the carriage (Figure 4). Thus, whether this lever be shifted by hand or by the backspacing solenoid 49 as above described, the holding circuit is opened to assure release of the solenoid 81 for return of the changeover switch 68 to reproduce position by the bias spring 71. As will later appear, this release occurs positively because of the interlock between the dictate and listen buttons.

When the listen button is depressed, contact pairs 103 and 104 are closed sequentially by respective bridging elements 105 and 106 on the rocker 88. As with the previous-mentioned contact pairs, one contact of each is connected to the lead wire 95 running to the negative side of the power source 96. The other contact of pair 103 is connected by a lead wire 107 to one side of the backspacing solenoid 49, the other side of which is connected by the lead wires 98*a* and 98 to the positive side of the power source 96. Thus, as an initial incident of depressing the listen button, the backspacing solenoid is energized to backspace the carriage by one step. Since the holding circuit 99 is broken as an incident of operating the backspacing means, as hereinbefore described, the audio system will also be shifted into reproducing condition, if it is not already in that condition, whenever the listen button is depressed. The other contact of the contact pair 104 is connected to the lead wire 101 running to one side of the start-stop solenoid 26 to cause this solenoid to be operated to start the machine as an incident following the operation of the backspacing solenoid, whenever the listen button is depressed. Thus, on depressing the listen button by the full distance, three functions are normally performed in sequence: the carriage is backspaced, the machine is shifted into reproduce condition, and the drive mechanism is started. Of course, if the machine is already in reproduce condition when the listen button is depressed only the first and third of the stated functions are performed. Since the backspacing means must be deenergized after each backspacing step in order to reengage the normal drive elements 45 and 41, a switch 108 is connected serially in the circuit of the backspacing solenoid and is caused to be opened as the start-stop solenoid is operated. This switch is normally closed and has a pole member 108*a* projecting into the path of an arm 109 on the armature of the start-stop solenoid (Figures 2 and 5). Since the backspacing circuit is closed before the start-stop solenoid circuit is closed as the listen button is depressed, the backspacing solenoid will have been operated to have backspaced the carriage by one step before the start-stop solenoid is operated to start rotation of the drum and of the feed screw 41. Further, since the backspacing means is caused to be released immediately by the terminal movement of the start-stop solenoid to start position, the normal drive elements 41 and 45 will be reengaged by the time the drive mechanism is started. Should the dictator depress the listen button repeatedly, he will successively step back the carriage, and whenever after such repeated operation of the listen button he should continue to hold it depressed, the machine will be immediately in reproducing condition.

It will now appear that since the return of the audio system to reproduce condition is effected by opening the holding circuit 99 at the contacts 102 as the listen button is depressed and since the solenoid 81 is energized by the circuit 97 as the dictate button is depressed, a dictator would prevent the audio system from being shifted into reproduce condition as the listen button is depressed were he able concurrently to hold the dictate button depressed. However, the interlock between these two buttons enforces release of the dictate button as the listen button is depressed to prevent such possible misoperation.

Since the pressing of the listen button by the full distance closes the contact pairs 103 and 104 in sequence to backspace the carriage and then to start the machine, it follows that a dictator may backspace without starting the machine by merely pressing the listen button part way and then releasing the same. However, if such selective backspacing is not required, the start-stop solenoid 26 may be a slow-acting one relative to the backspacing solenoid 49, and the contact pairs 103 and 104 may be closed simultaneously as the listen button is depressed, while still preserving the desired sequential operation of the backspacing and starting solenoids.

In the modification shown in Figure 6, the dictator may start and stop the machine without backspacing the carriage. To this end there is provided an additional pair of contacts 110 and an associated bridging member 110*a* is provided on the rocker. Additionally, the rocker is provided with a slot 111 at the pivot 89 to permit the rocker to be shifted lengthwise by pressing lengthwise of the handpiece on the listen button 87. Upon so shifting the rocker the bridging element 110*a* closes the contacts 110 without closing any of the other contacts. The contacts 110 are in parallel with the contact pair 104 to perform the starting function. The advantage of this modification is readily apparent. For instance, after the carriage has been backspaced by pressing and releasing the listen button a number of times, the dictator will hold the listen button 87 down to reproduce the selected portion of his recorded dictation. If he should be interrupted as by a telephone call while so listening back to his recorded dictation, he will want to resume listening where he last left off after the call is completed. This he may do by shifting the rocker

88 lengthwise in the manner aforementioned to close only the contacts 110. Even if the contacts 103 are closed after the contacts 110 have been closed, the backspace solenoid will not be activated since the contacts 108 and 108*a* have been broken by the action of the starting solenoid 26. When the listen button is released the rocker is returned lengthwise of the handpiece to normal position by one prong of the spring 90 acting against the hub of the rocker.

The present machine is arranged so that it can be converted from one primarily adapted for recording dictation to one primarily adapted for transcribing dictation. To this end the dictator's remote equipment comprised in the handpiece 85 is readily detachable from the machine and a transcriber's remote equipment 112 is provided which is both readily attachable and detachable to and from the machine as needed. All of the lead wires 75, 97, 95, 101 and 107 running from the dictator's handpiece are comprised in one cable 113 which terminates in a connector plug 114 (dottedly shown in Figure 5). This plug is adapted for detachable connection with a respective jack 115 shown in Figures 1 and 5. The transcriber's equipment comprises a receiver which may be in the form of a headphone or a desk speaker 116, as shown, a start-stop switch 117 closable by a foot pedal 118, and a backspace switch 119 closable by an independently-operable foot pedal 120, both foot pedals being however pivoted on one pivot rod 121. The start-stop switch 117 is connected by lead wires 122 and 123 respectively to the ground wire 95 and the lead wire 101 aforementioned, and the backspacing switch 119 is connected by the lead wires 122 and 124 respectively to the aforementioned ground wire 95 and the lead wire 107. As will appear, the start-stop switch 117 and the backspacing switch 119 of the transcriber's equipment are connectable in parallel with the respectively corresponding switches 104 and 103 of the dictator's equipment. Similarly, the transcriber's speaker 116 is connectable by the lead wire 122 and a wire 125 across the ground wire 95 and the lead wire 75 in parallel to the microphone-receiver of the dictator's equipment. All of the four leads, 122, 123, 124 and 125, leading from the transcriber's equipment are comprised in a single cable terminating in a plug 126 arranged for detachable connection with a connector 127 of the machine.

In order to assure that the machine will be shifted into reproduce condition when the dictator detaches his remote equipment, the connector plug 114 includes a contact bridging member 128 which interconnects a pair of contacts 129 in the holding circuit 99 when the plug is connected and which breaks this connection to open the holding circuit when the plug is disconnected. Since the transcriber's equipment includes no connection to the holding circuit of the changeover solenoid, the transcriber's use of the machine is confined to reproducing purposes.

In the alternative embodiment of Figure 7 there is employed a switch 130 in the handpiece 85 corresponding to the switch 102 operated by the lever 44 in the foregoing embodiment. The switch 130 is normally closed and is openable by an extension arm 131 on a listen-dictate rocker 88*a* corresponding in all other respects to the rocker 88 of the previous embodiment. The switch 130 is connected in a holding circuit 99*a* of the changeover solenoid 81, which holding circuit differs from the foregoing circuit 99 in that it does not include any switch operated by the backspacing mechanism but includes instead the switch 130 at the dictator's handpiece and an additional lead wire 132 of a cable 113*a* corresponding to the previous cable 113, it being understood that only the additional lead wire is necessary because the return circuit of the switch 130 is via the lead wire 95 connecting to the ground side of the source 96. Whenever the listen button 87 of the rocker 88*a* is depressed, the holding circuit 99*a* is opened by the switch 130 to assure that the audio system is shifted back to reproducing condition. This shifting back to reproducing condition as the listen button is depressed occurs coincidentally with backspacing the carriage and starting the machine, the same as in the previous embodiment.

The present embodiments of my invention are herein described in detail to illustrate the principles of my invention but without intending any unnecessary limitation of my invention thereto, since these embodiments are subject to changes and modifications without departure from the scope of my invention which I endeavor to express according to the following claims.

I claim:

1. In a dictating machine including a support for a record, record-cooperable recorder-reproducer means, and drive means for producing a relative progressive movement between the record and said recorder-reproducer means: the combination of an audio system connected to said recorder-reproducer means and including a selector switch means biased into reproduce position for normally conditioning said system for reproducing; a solenoid for operating said selector switch to record position; a holding circuit closed by operation of said solenoid for retaining said selector switch in record position when once moved thereto; means for backspacing said recorder-reproducer means; and a control switch in said holding circuit operatively related to said backspacing means for opening said holding circuit to cause said audio system to be restored to reproduce condition as an incident to backspacing said recorder-reproducer means.

2. The dictating machine set forth in claim 1 including a main circuit for said solenoid having therein a control switch closable to supply energizing current to the solenoid; and interlocking means between said two mentioned control switches for enabling operation of only one switch at a time.

3. The dictating machine set forth in claim 2 wherein said interlocking means comprises a manually-operable member shiftable back and forth and coupled to said control switches to operate one of said switches when shifted in one direction and the other of said switches when shifted in the other direction.

4. In a dictating machine including a rotatable support for a record, and a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said carriage comprising cooperating drive-coupling elements disengageable to free said carriage from said drive means; an audio system connected to said recorder-reproducer means and including a selector switch means operable into record and reproduce conditions to condition said system for recording and reproducing respectively; means for releasably holding said selector switch in record position; means for returning said switch means to reproduce position upon release of said holding means; and means operable by said coupling elements upon disengagement thereof for effecting release of said holding means.

5. In a dictating machine including a rotatable support for a record, and a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said carriage comprising cooperating drive-coupling elements disengageable to free said carriage from said drive means; and audio system connected to said recorder-reproducer means and including a selector switch means operable into record and reproduce conditions to condition said system for recording and reproducing respectively; means for disengaging said coupling elements; means biasing said selector switch means into reproduce position; releasable means for retaining said switch means in record positioning; and means for releasing said releasable means by movement of one of said

coupling elements in the disengagement thereof from the other of said coupling elements.

6. In a dictating machine including a rotatable support for a record, and a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said carriage comprising cooperating drive-coupling elements disengageable to free said carriage from said drive means; an audio system connected to said recorder-reproducer means and including a selector switch means operable into record and reproduce condition to condition said system for recording and reproducing respectively; means biasing said selector switch means into one of said positions; a solenoid for moving said selector switch into the other of said positions; a main circuit including a first control switch for operating said solenoid; a holding circuit for said solenoid operated closed by the solenoid for retaining the solenoid in operated position; a second control switch for said solenoid connected in said holding circuit; and means for operating one of said control switches by said disengageable coupling elements as said carriage is freed from said drive means.

7. The machine set forth in claim 6 including a backspacing mechanism for said carriage coupled to said disengageable coupling element to cause the same to be disengaged as an incident prior to effecting a backspacing movement of said carriage.

8. The machine set forth in claim 7 including a start-stop switch for said drive means; a backspacing switch repeatedly operable for recurrently operating said backspacing mechanism; and a manually-operable rocker including means at opposite ends thereof for operating said backspacing and start-stop switches whereby to permit operation of only one of said switches at a time.

9. In a dictating machine including a rotatable support for a record, and a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said carriage comprising cooperating drive-coupling elements disengageable to free said carriage from said drive means; an audio system connected to said recorder-reproducer means and including a selector switch means operable into record and reproduce conditions to condition said system for recording and reproducing respectively; means biasing said selector switch means into reproduce position; a solenoid for operating said selector switch means to record position; a holding circuit rendered closed by operation of said solenoid for retaining the solenoid in operated position; and a switch in said holding circuit operatively related to said disengageable elements for causing the same to be moved to open position to release said solenoid as said carriage is freed from said drive means.

10. In a dictating machine: the combination of a rotatable support for a magnetic record; a carriage mounted for normal scanning movement and for backspacing movement relative to a record on said support; drive means for said carriage including disengageable drive elements to free the carriage for backspacing; a scanning electromagnetic translating device on said carriage; circuit means for feeding oscillations to said translating device including a switch; and unitary means operable for disengaging said drive elements and for operating said switch.

11. In a dictating machine including a rotatable support for a record, a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said record support and said carriage; backspacing means for said carriage; a unitary control means operable to energize said backspacing means and to start said drive means in the sequence here named; and means responsive to said control means as an incident prior to the starting of said drive means for deenergizing said backspacing means.

12. The combination set forth in claim 11 including a recorder-reproducer means engaging a record on said support; an audio circuit including a selector switch means for conditioning said circuit for recording and reproducing; and means controlled by said backspacing means for shifting said selector switch means to condition said audio circuit for reproducing.

13. In a dictating machine including a rotatable support for a record, and a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said record support and carriage; a start-stop switch for said drive means; a backspacing means for said carriage effective upon each energization thereof to backspace said carriage by one step; a circuit for said backspacing means; and means responsive to operation of said start-stop switch to start position for opening the circuit of said backspacing means.

14. In a dictating machine including a rotatable support for a record, and a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said record support and carriage, the drive means for said carriage including disengageable drive elements to free the carriage for manual movement; a carriage-backspacing means operable to disengage said drive elements and backspace the carriage by one step; start-stop means for said drive means normally in stop position; means operable to energize said backspacing means and to operate said start-stop means to start position in sequence; and means operable by said start-stop means in the movement thereof to start position for deenergizing said backspacing means.

15. In a dictating machine including a rotatable support for a record, and a record-cooperable recorder-reproducer and movable carriage therefor: the combination of drive means for said record support and carriage; an audio system connected to said recorder-reproducer and including a selector switch means shiftable to condition said system respectively for recording and reproducing; a solenoid for shifting said selector switch means in one direction; a backspacing means for said carriage; a manually-operable control member; means mounting said control member for pivotal movement about an intermediate transverse axis and for sliding movement on said axis; two pushbuttons on said control member at opposite sides of said axis; switch means actuated by said control member when one of said pushbuttons is depressed for starting said drive means and for shifting said selector switch into record position; switch means operable by said control button when said other pushbutton is depressed for producing a one-step actuation of said backspacing means, shifting said selector switch means to reproducing position and thereupon starting said drive means; and switch means operable on pressing one of said pushbuttons to shift said control member on said axis for starting only said drive means.

16. In a dictating and transcribing machine including a revolvable record-supporting device, a record-cooperable recorder-reproducer device, and means mounting one of said devices for traveling movement relative to the other: the combination of an audio system connected to said recorder-reproducer device and including a selector switch for conditioning the system for recording and reproducing respectively; drive means for rotating said supporting device and for producing traveling movement of said one device; a detachable dictator's equipment including a dictator's microphone and start-stop switch for said drive means; a detachable transcriber's equipment including a receiver and a start-stop switch for said drive means; and means responsive to detachment of said dictator's equipment for placing said audio system in reproducing condition.

17. The combination set forth in claim 16 including means for releasably holding said selector switch in record position; means for returning said selector switch to reproduce position upon release of said holding means; and means responsive to detachment of said dictator's equipment for releasing said holding means.

18. In a dictating and transcribing machine including a record-supporting device, a record-cooperable record-reproduce device, and means mounting one of said devices for traveling movement relative to the other: the combination of means for selectively conditioning said machine for dictating or transcribing including a dictator's control apparatus, a transcriber's control apparatus, and means for detachably connecting either of said control apparatus to the machine; and control means associated with said connecting means for causing said machine to be operable only as a transcribing instrument when said dictator's apparatus is disconnected from said machine and said transcriber's apparatus is connected to said machine.

19. In a dictating machine including a rotatable support for a record, a record-cooperable recorder-reproducer means and a movable carriage therefor: the combination of drive means for said record support and said carriage; backspacing means for said carriage; a solenoid for operating said backspacing means; a relatively slow-acting start-stop solenoid for said drive means; manual switch means closable to supply activating current to said solenoids; and switch means operable by said start-stop solenoid as the same is moved to start position for breaking the circuit of said backspacing solenoid whereby the latter is pulse-operated each time said manual switch means is operated.

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