

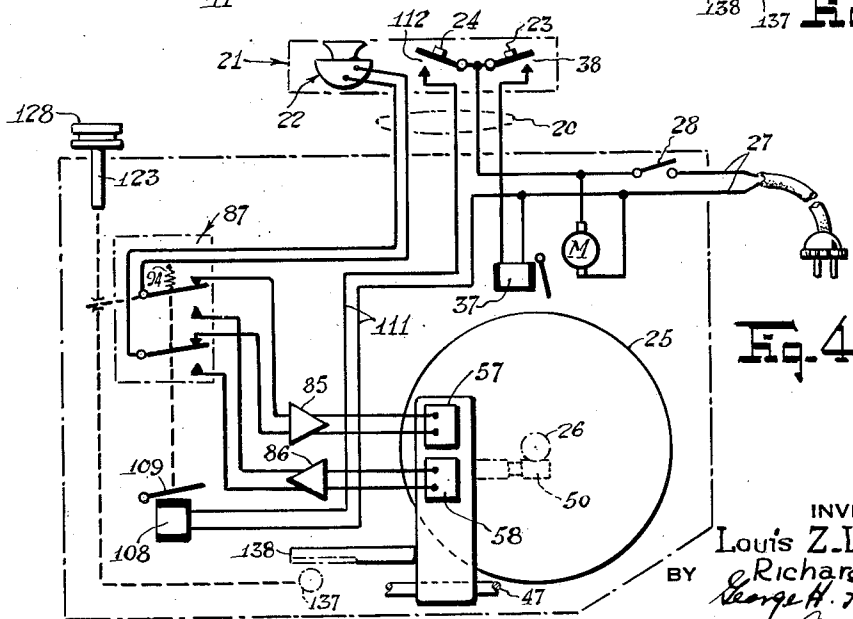
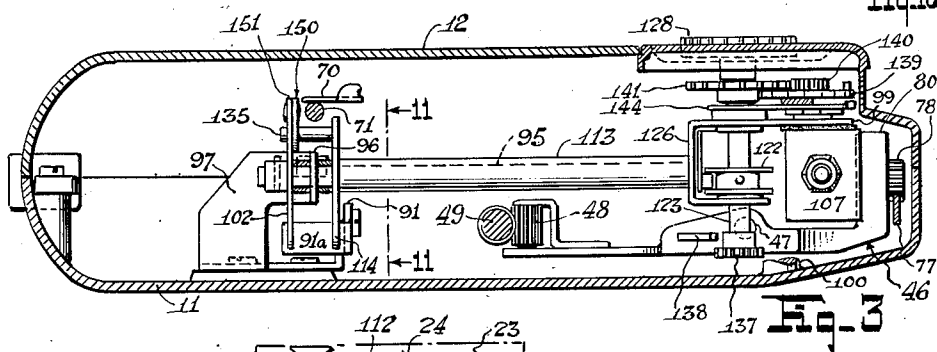
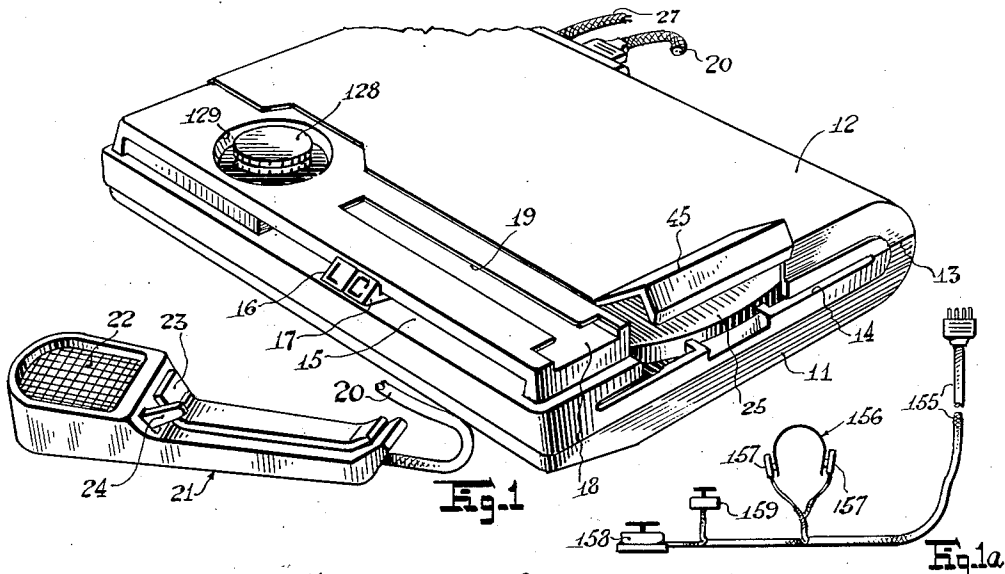
July 16, 1957

L. Z. LA FOREST ET AL
TRANSLATING MACHINES

2,799,733

Filed Oct. 26, 1953

3 Sheets-Sheet 1



INVENTORS
Louis Z. LaForest
Richard Kobler
George H. Fritzinger
Agents

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3 Sheets-Sheet 2

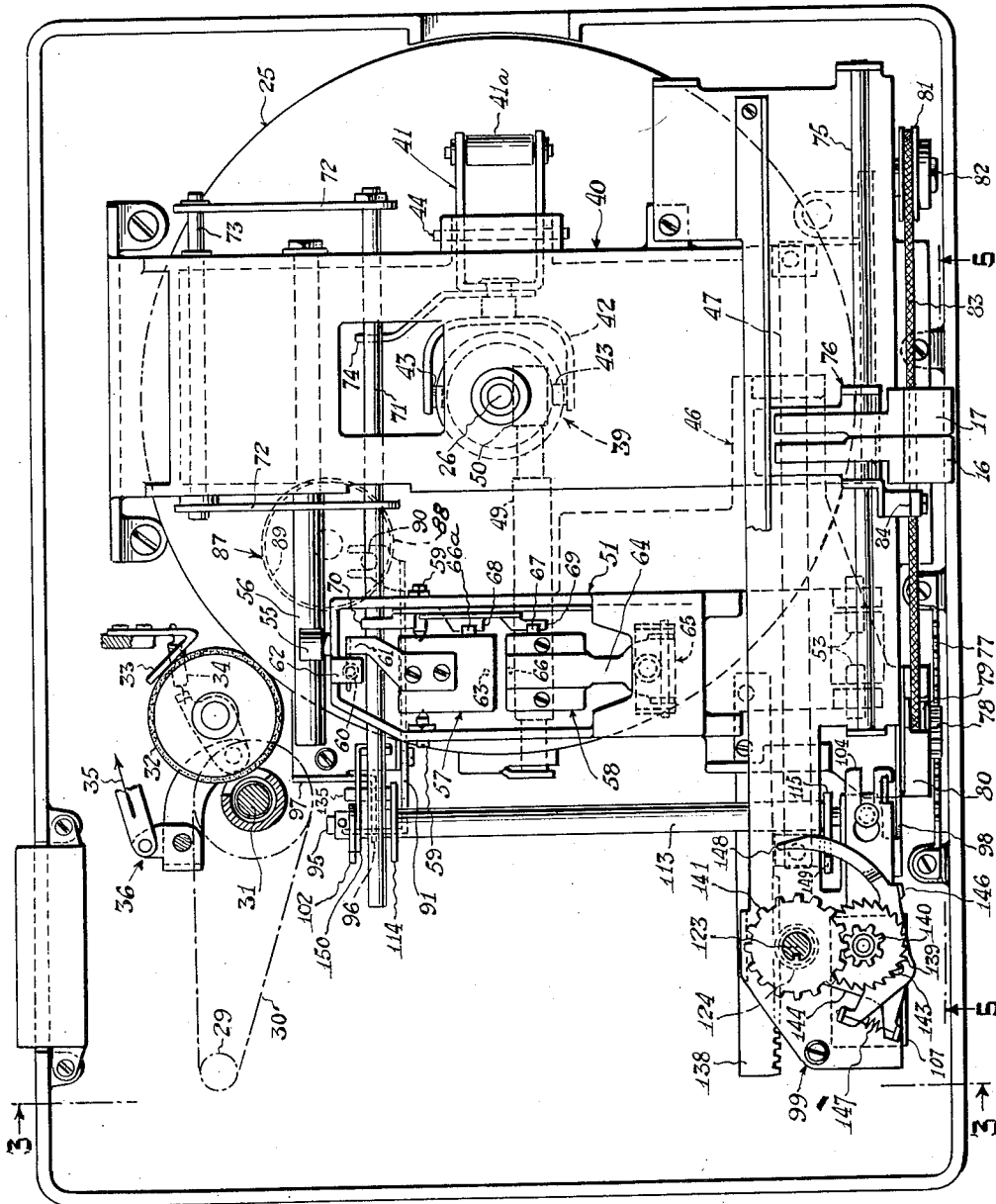


Fig. 2

INVENTORS
Louis Z. LaForest
Richard Kobler
BY George H. Fritzinger
Att.

July 16, 1957

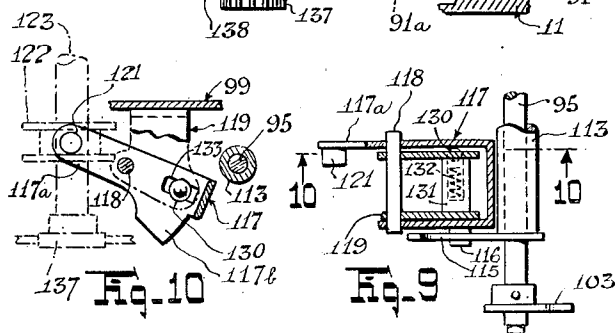
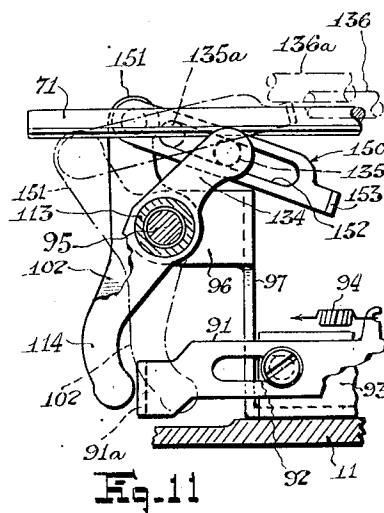
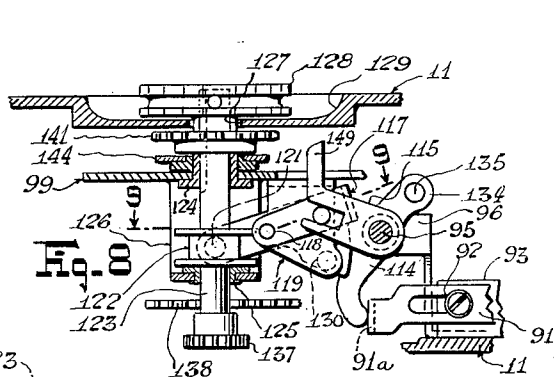
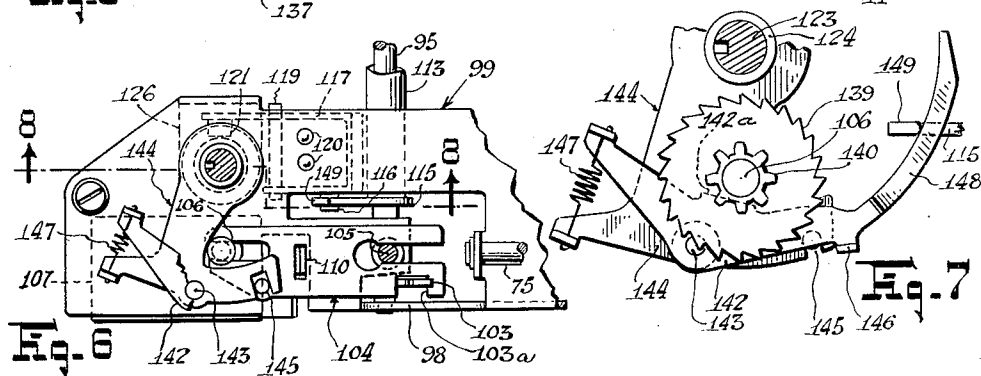
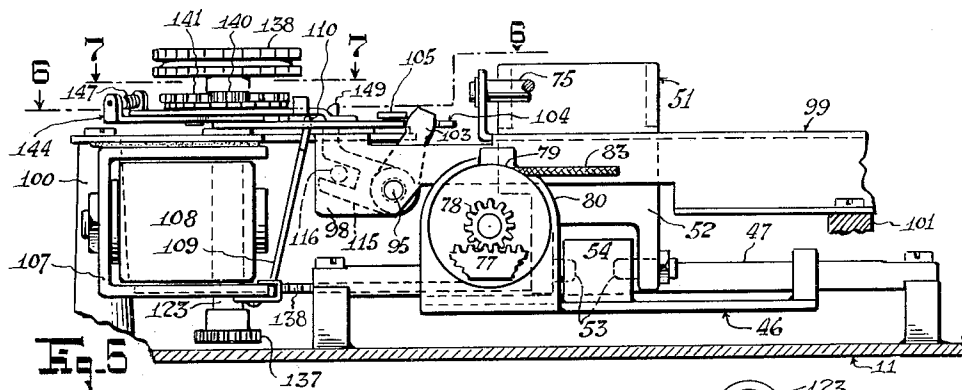
L. Z. LA FOREST ET AL

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TRANSLATING MACHINES

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3 Sheets-Sheet 3



INVENTORS
Louis Z. LaForest
BY Richard Koble:
George H. Fritzinger
Att.

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2,799,733

TRANSLATING MACHINES

Louis Z. La Forest, Parsippany, N. J., and Richard Kobler, New York, N. Y., assignors, by mesne assignments, to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Application October 26, 1953, Serial No. 388,093

13 Claims. (Cl. 179—100.4)

This invention relates to novel improvements in dictating machines and particularly to such improvements as will enable translating machines to be usable alternatively for recording dictation or transcribing dictation.

The invention is preferably incorporated in small, portable dictating machines so as to facilitate the alternative use thereof in the executive's office for recording dictation or in the secretary's office for transcribing the recorded dictation. However, the invention has merits in connection with translating machines intended purely for dictation-recording purposes, and no unnecessary limitation of certain aspects of the invention in connection with transcribing machines is therefore intended.

It is an object of our invention to provide a dictating machine with remote control for performing selected functions according to whether the machine is conditioned basically for recording or reproducing.

Another object is to provide such machine wherein the remote control is operable to enable reproduction of the last portion of one's recorded dictation while the machine is set for recording, and alternatively wherein the same remote control is operable to backspace the reproducing device by any desired amount while the machine is set for reproducing.

Another object is to provide a novel utilization of the principal elements of the machine for performance of a plurality of functions.

A specific object is to lift the reproducing device from the record as an incident prior to each backspacing thereof principally through use of elements that perform also other functions.

Another object is to provide a novel translating machine which is adapted for alternative use either as a dictating machine or as a transcribing machine, and it is a further object to realize such combined machine without involving idle control elements for either use.

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

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

Figure 1 is a fractional perspective view of a dictating machine and associated control devices in which our invention is incorporated;

Figure 1a is a view of apparatus attachable to the dictating machine of Figure 1 for adapting that machine for transcribing purposes;

Figure 2 is a top plan view of the mechanism of the dictating machine as seen with the top section of the housing removed;

Figure 3 is a partial sectional view taken substantially on the line 3—3 of Figure 2;

Figure 4 is a diagrammatic view of circuits and mechanism of the present machine;

Figure 5 is a fractional front elevation of the left-hand portion of the mechanism of the machine with parts shown in section on the line 5—5 of Figure 2;

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Figure 6 is a sectional view taken substantially on the line 6—6 of Figure 5;

Figure 7 is a fractional section on the line 7—7 of Figure 5;

Figure 8 is an elevational view with parts in section as seen from the line 8—8 of Figure 6;

Figure 9 is a fractional section taken substantially on the line 9—9 of Figure 8;

Figure 10 is a fractional section taken substantially on the line 10—10 of Figure 9 but showing the lever 117 in its other operative position; and

Figure 11 is a fractional view principally in elevation as seen from the line 11—11 of Figure 3.

The present invention is described in connection with a dictating machine of the form described in detail in the pending Somers application Serial No. 347,875, filed April 10, 1953, and commonly owned with the present application, and to which reference may be had as to specific details.

This form of machine comprises relatively-flat lower and upper pan-shaped housing sections 11 and 12 which are rectangular as viewed from the top and which meet mainly on a medial plane 13 shown in Figure 1. In the right end of the machine there is a horizontal slot 14 for insertion and removal of disc records into and from the machine; in the forward right half portion there is a long horizontal opening 15 for clearing outwardly-extending indexing keys 16 and 17 which travel along the front of the machine; in the upper right-hand end wall there is a narrow rectangular opening 18 to receive an index slip (not shown); and in the top wall extending from the opening 18 there is a slot 19 for exposing a central band portion of the index slip along the length thereof.

Connected electrically to the machine by a cable 20 fractionally shown (Figure 1) is the usual handpiece 21 having an enlarged end portion housing a combination microphone-receiver 22 (see Figure 4) and a handle portion provided with a start-stop control 23 and an auxiliary control 24 according to my invention, as will appear.

The mechanism of the dictating machine comprises a turntable 25 having a central shaft 26 journaled in the lower housing section. Drive power for the turntable is taken from a motor M connected in a power line 27 including a master switch 28 (Figure 4). The motor M has a drive pulley 29 coupled by a belt 30 to a drive spindle 31 of a friction gearing comprising also an intermediate friction wheel 32. The intermediate wheel is urged constantly into engagement with the rim of the turntable and bears normally also against a brake shoe 33 in response to a spring 34 according to the pending Dietz application Serial No. 319,825, filed November 12, 1952, and having common ownership with the present application. Force applied in the direction of arrow 35 to a linkage 36, as by an electromagnet 37 shown in Figure 4, will cause the intermediate wheel to be propelled from the brake shoe into frictional engagement with the drive spindle 31. The electromagnet 37 is connected in the power line 27 through the master switch 28 and a manual start-stop switch 38 operable by the start-stop button 23 so that upon pressing this button while the master switch is closed the friction gearing is engaged to start rotation of the turntable.

A record clamp generally indicated at 39 (Figure 2) is mounted for vertical movement on a cross bridge 40 overlying the turntable, and is operable by a lever 41 coupled thereto through a fork 42 having diametrically opposite pins 43 engaging a peripherally grooved member of the clamp. The lever 41 is pivoted at 44 to the cross bridge 40. The clamp is preferably biased into record-engaging position by a spring not shown, so that upon pressing downwardly on the right end of the lever

41 the clamp is disengaged and upon releasing the lever the clamp is reengaged. Such operation of the lever 41 is effected by opening and closing a cover 45 on the upper housing section (Figure 1) through a cam (not shown) operable by the cover and engaging a roller 41a on the lever.

Below the lower lefthand portion of the turntable there is a subcarriage 46 mounted slidably for traveling movement on a pair of cross rods only the front one of which is shown at 47 (Figures 2 and 3). This subcarriage carries a circular feed nut 48 held frictionally restrained from turning about its axis and constantly engaging a rotatably supported feed screw 49. The feed screw is mounted in parallel relation to the support rod 47 and is coupled by worm gearing 50 to the shaft of the turntable 25 so that the subcarriage 46 is moved with a slow progressive movement whenever the turntable is rotated. The frictional restraint on the feed nut however allows the carriage to be moved manually in either direction by force exerted on the carriage.

Overlying the turntable to the left of the bridge 40 is a main carriage 51. This main carriage has a depending bifurcated extension 52 at its forward end carrying trunnions 53 which pivotally engage an apertured standard 54 on the subcarriage (Figures 2 and 5) to join the main carriage to the latter for unitary movement therewith. Journalled to the rearward end of the main carriage is a roller 55 (Figure 2) which rides on a horizontal support rod 56 that is mounted on the bridge 40, to support the main carriage at its rearward end for traveling crosswise movement.

The central portion of the main carriage is a hollow structure of substantially rectangular shape in which there are mounted a recording device 57 and a reproducing device 58. The recording device is mounted for up and down pivotal movement on cone pivots 59 threaded through the side walls of the main carriage, and is both weight and spring biased downwardly, the spring biasing means comprising a tension spring 60 between a rearwardly-extending arm 61 on the recording device and a tab 62 on the main carriage. In response to this biasing a record-engageable element or stylus 63 of the recording device is held normally in engagement under pressure with the mounted record. The reproducing device has a forwardly-extending arm 64 secured to the main carriage through a universal coupling 65 for both up and down, and sidewise, movement of a record-engageable element or stylus 66 with the record in response to a weight biasing of the device.

Extending sidewise from the free ends of the recording and reproducing devices are pins 66a and 67 engageable by respective lift arms 68 and 69 for raising the recording and reproducing devices from the record. The lift arms are pivoted to the right wall of the main carriage and are operable by a common control member 70 in the manner shown and described in the aforementioned Somers application, this being such that upon total release of the control member 70 both the recording and reproducing devices will engage the record in response to their biasing. On raising the control member to an intermediate position the recording device is raised free from the record but the reproducing device is left in normal engagement therewith, and upon raising the control member 70 to its uppermost position both the recording and reproducing devices are raised free of the record. For so raising the control member 70 there is a horizontal lift rod 71, which is parallel to the path of travel of the carriages and which is carried for parallel up and down pivotal movement by a pair of parallel support arms 72 joined to a cross shaft 73, that is journalled in the bridge 40. This lift rod is raised selectively into different respective positions by mechanisms hereinafter described. One such mechanism is simply a side arm 74 secured to the record clamp lever 41 to cause the lift rod to be raised into its uppermost position for lifting both the recording and reproducing devices from the record as the record

clamp is released, and for allowing the lift rod to be lowered and subject to other mechanisms hereinafter described as the record clamp is engaged.

At the front portion of the machine there is a cross rod 75 on which there is pivotally and slidably mounted both "length" and "correction" indexing punch keys 16 and 17. These punch keys are confined side by side between the side arms of a U-shaped index carriage 76 itself also slidably mounted on the cross rod 75. The carriage 76 is moved along the rod 75 in accordance with traveling movement of the recording and reproducing devices across the record by a coupling which comprises a stationary rack 77 at the front lefthand portion of the machine, a pinion 78 engaging the rack and journalled to the adjacent portion of the subcarriage 46 for movement along the rack as the carriage is moved, a drum 79 secured to the rearward side of the pinion and partially surrounded by a circular housing 80, a second drum 81 journalled on a stationary stud 82 at the front right end of the machine (Figure 2), and a cord 83 trained around the two drums and secured by a clamp 84 to the indexing carriage 76. The ends of the cord are attached to the respective drums and the drum 81 is rotatably biased to serve as a take-up to cause the inter-drum reach of the cord to be moved crosswise in accordance with the travel of the carriages whereby to move the indexing keys along the index slip according to the positioning of the recording and reproducing devices relative to the record.

The audio system of the machine comprises the recording and reproducing devices 57 and 58, the microphone-receiver 22, amplifying means herein shown by way of illustration as comprising a recording amplifier 85 and a reproducing amplifier 86 (Figure 4), and an interchange switch 87 connecting the transducer 22 to the recorder through amplifier 85 or the reproducer 58 to the transducer through the amplifier 86. This switch is of the double-pole double-throw type. Preferably, the switch is of a construction comprising a cylindrical housing 88 (Figure 2) having a rotatable cover element 89 for operating the switch. The cover element has a pin and slot connection 90 to a slide 91 itself mounted by pin and slot connections, one of which is shown at 92 in Figure 11, to a standard 93 for back and forth movement to operate the switch. The slide is biased leftwardly by a tension spring 94 connected thereto, and in response to this biasing the interchange switch is held normally in record position shown in Figure 4.

Two separate control means are provided for operating the interchange switch into reproducing position through respective one-way couplings as will appear. A first of these control means comprises a front-to-back-extending shaft 95 journalled at its rearward end in a lug 96 of a standard 97 (Figures 3 and 11), and journalled at its forward end in a flange 98 (Figure 5) which depends from a long bracket plate 99 extending crosswise along the front of the machine, the bracket plate being mounted on posts 100 and 101 (fractionally shown in Figure 5) upstanding from the lower housing section. The shaft has a depending rocker arm 102 at its rearward end abutting an ear 91a on the left end of the slide member 91 and is retained by the spring 94 normally in a most clockwise position shown in Figure 11. The shaft has also an upstanding arm 103 at its forward end which pivotally engages a cross slot 103a in a slide member 104 (Figure 5), the slide member itself being mounted for reciprocative crosswise movement on the top of the lefthand portion of the bracket plate 99 by pin and slot mountings 105 and 106 (Figure 6). In response to the bias spring 94, the slide member is retained normally in a rightward position shown in Figure 6. Mounted on the under side of the bracket plate 99 is a U-shaped bracket 107 carrying an electromagnet 108 having a pivoted armature 109 coupled by a pin and slot connection 110 to the slide member 104. When the electromagnet is energized, the slide member is propelled leftwardly to turn the

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shaft 95 in a counterclockwise direction whereby to shift the interchange switch 87 into reproducing position against the action of the bias spring 94. This electromagnet is connected by a circuit 111 and a control switch 112 to the power line 27 (Figure 4). The control switch 112 is mounted in the handpiece 21 and operated by the pushbutton 24 aforementioned.

The second control means for operating the interchange switch 87 to reproduce position comprises a sleeve 113 on the shaft 95. This sleeve carries a rocker arm 114 at its rearward end which is also in abutting relation with the slide member 91 (Figure 11). Secured to the forward end of the sleeve is a rocker arm 115 (Figure 5) having a forked end portion embracing a pin 116 carried by a bail member 117. The bail member 117 is pivoted on a cross pin 118 carried by an inverted U-bracket 119 (Figures 6, 8, 9 and 10) secured to the under side of the bracket plate 99 as by rivets 120, the two depending legs of the bracket being embraced by the bail 117 (Figure 9). The bail 117 has one extending arm 117a carrying a cross pin 121 which engages a peripherally-grooved wheel 122 pinned to a vertical shaft 123. This shaft is mounted for both vertical and rotational movement in vertically-spaced bearings 124 and 125, the upper one of which is mounted in the top wall of the bracket plate 99 and the lower one of which is mounted in a narrow bracket arm 126 depending from this bracket plate. The shaft 123 extends upwardly through a clearance opening 127 in the upper housing section and has a manual control knob 128 pinned in the upper end portion thereof. As shown in Figures 1 and 8, the upper housing section has a well 129 concentric with the opening 127. The knob 128 is disposed principally in this well when in its downmost or record position, and the well is sufficiently large to provide easy access of the hand to the knob to enable the knob to be gripped and raised into a reproduce position.

When the knob is in record position (Figure 8) the bail member 117 is in a counterclockwise position and the sleeve 113 is in a most clockwise position. In this positioning of these parts, the rocker arm 114 is just free of the end of the slide 91 and the interchange switch is in record position. Upon lifting the knob 128 into reproduce position, the bail member 117 is rocked clockwise, the sleeve 113 is turned counterclockwise and the rocker arm 114 is moved against the slide 91 to move the interchange switch 87 to reproduce position. A strong detent acts on the bail member 117 to hold the knob in reproduce position against the biasing force of the spring 94. This detent, shown in Figure 9, comprises a ball 130 in a barrel 131 bridging the legs of the U-bracket 119, the ball being urged by a compression spring 132 in the barrel against the inner side of the adjacent wall of the bail member. In this adjacent wall there is an opening 133 which comes into registration with the ball when the knob 128 is raised to reproduce position (Figure 10). An extension 117b on this wall of the bail member (Figures 8 and 10) serves to retain the ball 130 in the barrel when the bail is in its most counterclockwise position shown in Figure 8.

Other control functions are performed by these first and second control means as will herein next appear. Upstanding from the hub of the rocker arm 114 is a second arm 134 carrying a cross pin 135 underlying the lift rod 71. When the control knob 128 is raised into reproduce position to shift the switch 87 into reproduce position, the pin 135 is moved upwardly to raise the lift rod into an intermediate position shown fractionally by dash-dot lines at 136 in Figure 11, whereby to lift the recorder from the record. Also, as the knob 128 is so raised, a pinion 137 on the lower end of the shaft 123 is raised into engagement with a rack 138 secured to the subcarriage 46. Thus, upon turning the knob 128 while it is detented in its reproduce position,

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the carriages are shifted to move the recording and reproducing (translating) devices across the record in either forward or backward directions, it being understood that the frictional restraint on the feed nut 48 yields to the force exerted on the carriages to allow such manual shifting of these devices.

A further function of the aforesaid first control means is to backspace the translating devices step by step with successive energization of the electromagnet 108; however, this backspacing means is operable only when the control knob 128 is raised to condition the machine for reproducing. This backspacing means comprises a ratchet wheel 139 journaled on the pin of the pin-slot mounting 106 aforementioned (Figures 6 and 7) and geared to the shaft 123 by a pinion 140 secured to the ratchet wheel and a cooperating gear 141 splined to the shaft 123, the gear 141 being confined between the top housing section and the bearing 124 (Figure 8). The ratchet wheel 139 is operable by a pawl 142 pivoted at 143 to a reciprocable support member 144 itself pivoted on the bearing 124 in coaxial relation to the shaft 124 (Figure 7). The support member 144 is coupled to the slide member 104 by means of a pin and slot connection 145 (Figure 7) to cause the pawl to move past the ratchet wheel with each energization of the electromagnet. The pawl has a single tooth 146 for engaging the ratchet wheel, and is biased by a spring 147 connected to the support member 144 to urge the pawl in the direction to engage the tooth 146 with the ratchet wheel when the electromagnet is energized. However, through the engagement of a long extending tailpiece 148 on the pawl with an upstanding finger 149 on the arm 115 (Figures 5, 7 and 8) the pawl is withheld from the ratchet wheel so long as the control knob 128 is positioned to condition the machine for recording. However, when the control knob 128 is raised to reproduce position the arm 115 is swung downwardly to move the finger 149 out of the path of the tailpiece 148. Upon then energizing the electromagnet, the tooth 146 is guided into engagement with the ratchet wheel, by cam action between a cam face 142a on the pawl 142 and the hub of the ratchet wheel 139, to cause the ratchet wheel to be advanced by the distance between two successive teeth. Such advance of the ratchet wheel is adapted to effect a backspacing of the reproducing device equal to several revolutions of the spiral track of the device on the record.

A further function of the aforesaid first control means, which also is accomplished only when the control knob 128 is in reproducing position, is to lift the reproducer from the record just prior to each backspacing step. The means by which this is accomplished comprises a link 150 pivoted to an arm 151 upstanding from the hub of the arm 102. The link has a long slot 152 slidably engaging the lift pin 135 on the adjacent arm 134. Also, the link has a lug 153 at its free end underlying the lift rod 71. When the control knob 128 is in record position, the arms 114—134 and the link 150 occupy the full line positions thereof shown in Figure 11. Should the electromagnet 108 be then energized the arms 102—151 will be moved to their dash-dot-line positions, and the link will be drawn across the lift pin 135 but without producing any effect. However, if the control knob 128 is in reproduce position, the pin 135 will be in its dotted position 135a. Upon then actuating the electromagnet to shift the arm 151 into its dash-dot position, the link 150 will be slid across and pivoted on the pin 135 to cause the link to assume the dash-dot position shown in Figure 11. As the link is moved to this position, the lug 153 thereof is moved against the lift rod to raise it to its uppermost position 136a to cause the reproducer also to be lifted from the record.

The advantages of providing remote-control shifting of the audio system into reproduce condition while the machine is set at normal condition for recording dictation is that, with the reproducer being offset behind the

recorder as described, the dictator can listen back to the last portion of his dictation to pick up the line of his thoughts as after an interruption, by merely manipulating the controls on his handset. If the dictator wants to listen back over a further distance he will shift the record-reproduce control knob 128 to reproduce position and then repeatedly press the control knob 24 on the handset to backspace the reproducer to the exact point desired. Further, if he should want to listen back extensively to his recorded dictation, he may turn the knob 128 after shifting it to reproduce position to backspace the reproducing device approximately to the desired point, and he may then press the control knob 24 repeatedly for fine location of the reproducing device on the record.

The advantages afforded by the selective remote control described above are not confined to use of the machine as a dictation recorder, but are adapted particularly to realization of a combined machine suitable not only for recording dictation but also for transcribing recorded dictation. A prime requisite of a transcribing machine is that it be remotely controlled not only as to start-stop control of the drive mechanism but also as to backspacing of the reproducing device. This is necessary in order that these essential functions may be controlled by remote control members conveniently placed for maximum ease of transcribing the recorded matter. Since the present machine incorporating my invention is very small and readily portable, it is admirably adapted to serve both recording and transcribing functions. For example, when the dictator has finished recording dictation in the manner described, his secretary may detach the cable 20 and carry the machine to her office. There she would attach a second cable 155 having the same electric circuits as the cable 20 and leading to similar control and transducer elements adapted however for transcribing use. For example, as shown in Figure 1a, these elements may comprise a headset 156 with earphones 157 replacing the receiver 22, a foot switch 158 replacing the start-stop switch 38, and a hand switch 159 replacing the switch 112 and adapted for mounting at the keyboard of a typewriter. Since the secretary's use of the machine will be only one of transcribing, she will leave the record-reproduce control knob 128 in reproduce position, and therefore the hand switch 159 will serve only as a backspacing control. Thus, with our invention, there is provided a combined dictation recording and dictation transcribing machine adapted for convenient use for either purpose; moreover, in this machine all control elements are utilized at all times in providing maximum ease of use of the machine whether that use be for recording or transcribing dictation.

The embodiment of our invention herein particularly shown and described is intended to be illustrative and not necessarily limitative of our invention since the same is subject to changes and modifications without departure from the scope thereof, which we endeavor to express according to the following claims.

We claim:

1. In a dictating machine including a movable support for a record, record-cooperable recording and reproducing devices mounted for traveling movement transversely of said record support, said reproducing device being offset behind said recording device relative to the direction of advance thereof; and a receiver-microphone transducer means: the combination of an audio system including said devices and transducer means; an interchange switch in said audio system for selectively interconnecting said devices and transducer means to condition said system for recording and reproducing; means operable to backspace said reproducing device; control means for said interchange switch operable into record and reproduce positions; and a single actuatable means and operative connections thereto controlled by said control means for operating said interchange switch to re-

produce position upon said control means being in record position and for operating said backspacing means upon said control means being in reproduce position.

2. A translating machine comprising the mechanism set forth in claim 1, adapted to be used alternatively for recording and transcribing dictation, wherein said single actuatable means comprises an electromagnet mounted in said machine, and a control circuit for said electromagnet having a detachable coupling for alternative connection of a remote control switch adapted either for dictation or transcribing use.

3. A translating machine comprising the mechanism set forth in claim 1, including an electrically-operable drive for moving said record support and concurrently effecting traveling movement of said devices; a handpiece for said transducer means; a cable for connecting said handpiece to said machine; a start-stop control switch on said handpiece connected via said cable to said drive, said single actuatable means comprising an electromagnet in said machine; and a second control switch on said handpiece connected via said cable to said electromagnet for controlling the latter.

4. In a dictating machine including a movable support for a record, a carriage mounted for traveling movement across said support, record-cooperable recording and reproducing devices mounted on said carriage for selective engagement with a mounted record, with the reproducing device being offset backwardly from the recording device relative to the direction of advance of said carriage, and a receiver-microphone transducer means: the combination of an audio system including said devices and said transducer means; an interchange switch in said audio system for selectively interconnecting said devices and said transducer means to condition said system for recording and reproducing; means for controlling engagement of said record-cooperable devices with a mounted record; means for backspacing said carriage; control means coupled with said interchange switch and engagement-controlling means and operable into record and reproduce positions to cause said recording device to engage the record and said audio system to be conditioned for recording when the control means is in record position and to cause said recording device to be free of the record and said audio system to be conditioned for reproducing when the control means is in reproducing position; and a single actuatable means, and operative connections thereto controlled by said control means, for shifting said audio system back and forth between record and reproduce conditions while said control means is in recording position and for operating said backspacing means while said control means is in reproducing position.

5. In a dictating machine including a movable support for a record, record-cooperable recording and reproducing devices mounted for traveling movement transversely of said record support; and a receiver-microphone transducer means: the combination of an audio system including said devices and transducer means; an interchange switch in said audio system for selectively interconnecting said devices and transducer means to condition said system for recording and reproducing; means operable to backspace said reproducing device; control means for said interchange switch operable into record and reproduce positions; and actuatable means and an operative connection thereto controlled by said control means and effective to cause operation of said backspacing means by said actuatable means only when said control means is in reproducing position.

6. In a dictating machine including a movable support for a record, record-cooperable recording and reproducing devices biased to engage a mounted record and mounted for traveling movement transversely thereof and a receiver-microphone transducer means: the combination of an audio system including said devices and transducer means; a switch in said audio system operable to interconnect said devices and said transducer

means to condition said system selectively for recording and reproducing; a first control means for shifting said switch to reproduce position; a manually-operable second control means having record and reproduce positions and effective when moved to reproduce position for shifting said switch to reproduce position and means, rendered operative by said second control means as the same is moved to reproduce position, for backspacing said devices by said first control means.

7. The combination set forth in claim 6 including means for lifting said reproducing device from the record with each operation of said first control means; and means for rendering said last-stated lifting means operative and inoperative respectively as said second control means is moved to reproduce and record positions.

8. In a dictating machine including a movable support for a record, record-cooperable recording and reproducing devices mounted for traveling movement transversely of said support, and a receiver-microphone transducer means: the combination of an audio system including said devices and said transducer means; a switch in said audio system for selectively interconnecting said devices and transducer means to condition said system for recording and reproducing; means biasing said switch into recording position; a manual control means on said machine operable into record and reproduce positions; a plurality of control connections to said control means, one of said control connections comprising a one-way coupling to said switch for moving the latter to reproduce position as the manual control means is moved to reproduce position and for allowing return of said switch to record position by said biasing means as said manual means is returned to record position; and remotely-controlled electrical actuating means having a one-way coupling with said switch for operating the same to reproduce position while said manual control means is in record position.

9. In a dictating machine including a movable support for a record, record-cooperable recording and reproducing devices mounted for traveling movement transversely to said record support and for independent movement towards and away from said support into and out of engagement with a mounted record, and a receiver-microphone transducer means: the combination of an audio system including said devices and transducer means; a switch in said audio system for selectively interconnecting said devices and transducer means to condition said system for recording and reproducing; first and second control means, said second control means being movable between reproduce and other positions; means operatively connected to said second control means for moving said

switch to reproduce position and for concurrently lifting said recorder from the record as said second control means is moved to reproduce position; means operatively connected to said first control means and operable independently of said second control means for lifting also said reproducing device from the record while said second control means is in reproduce position.

10. The combination set forth in claim 9 including reciprocable means for intermittently backspacing said devices across the record support; and means for causing actuation of said backspacing means by said first control means as the latter is actuated to lift said reproducer from the record.

11. In a dictating machine including a movable support for a record, record-cooperable recording and reproducing devices mounted for traveling movement transversely to said record support and for independent movement towards and away from said support into and out of engagement with a mounted record, and a receiver-microphone transducer means: the combination of an audio system including said devices and transducer means; a switch in said audio system for selectively interconnecting said devices and transducer means to condition said system for recording and reproducing; a first control means for moving said switch to reproduce position; a second control means for moving said switch to reproduce position and for lifting said recording device from the record; and means controlled by said second control means for rendering said first control means operative to lift said reproducing device from the record.

12. The combination set forth in claim 11 including intermittent backspacing means for said devices rendered operable and inoperable by said second control means respectively as said second control means is moved to condition said system for reproducing and recording; and means for successively operating said backspacing means by said first control means as an incident following each lifting of said reproducing device from the record.

13. The combination set forth in claim 12 comprising a manual control member on said machine for operating said second control means; an electromagnet for operating said first control means; and a remote switch connected to said electromagnet for selectively controlling the latter.

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