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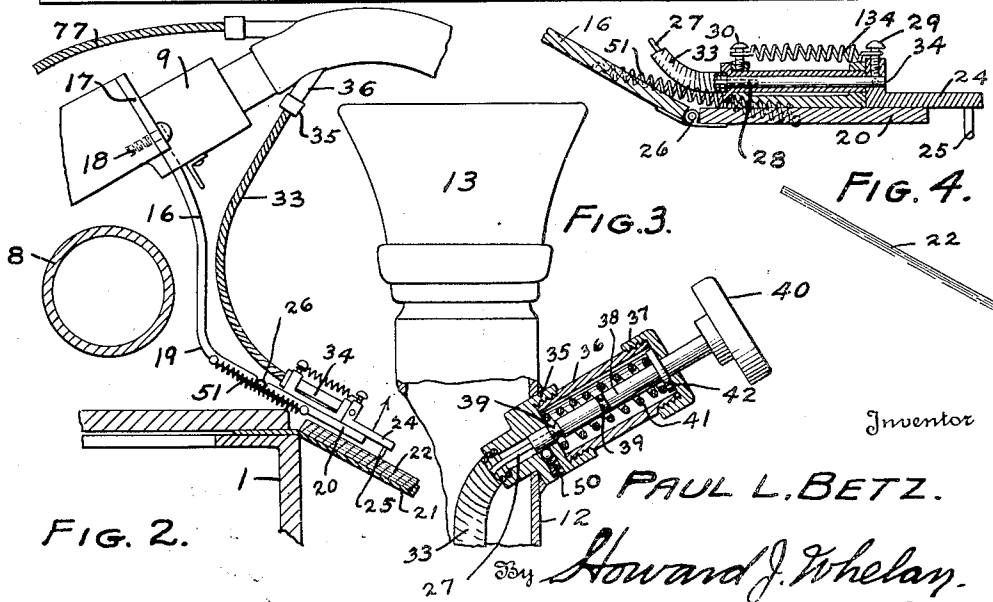
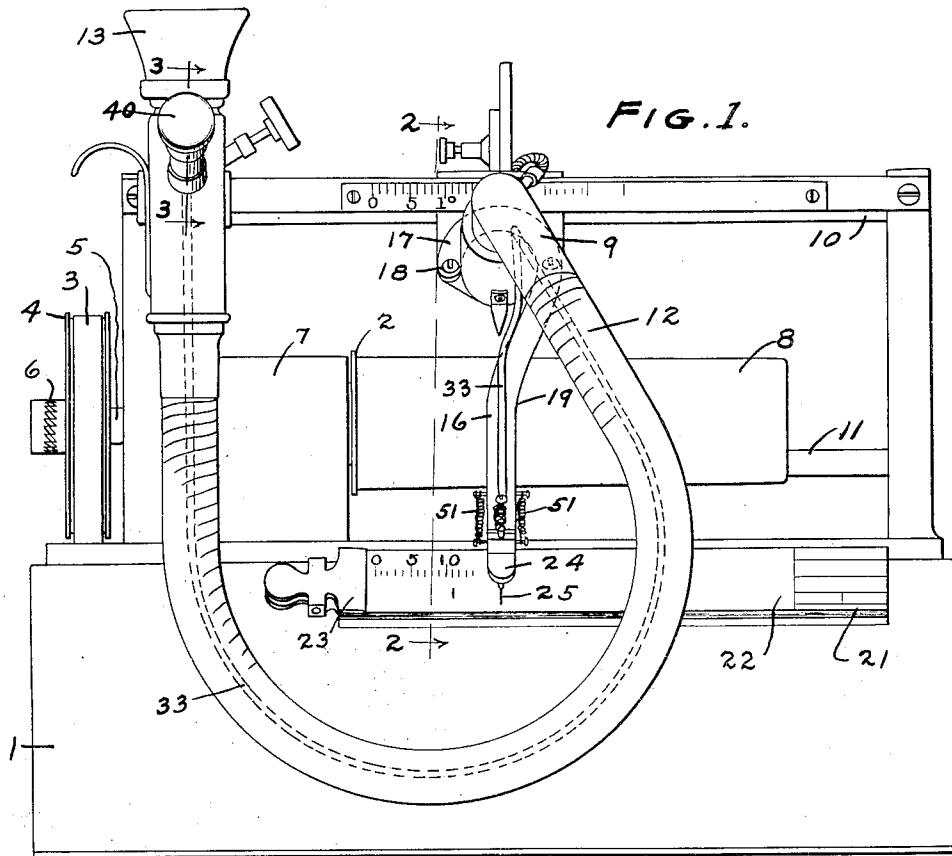
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MARKING OR CORRECTION DEVICE FOR DICTATING MACHINES

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2 Sheets-Sheet 1



Inventor

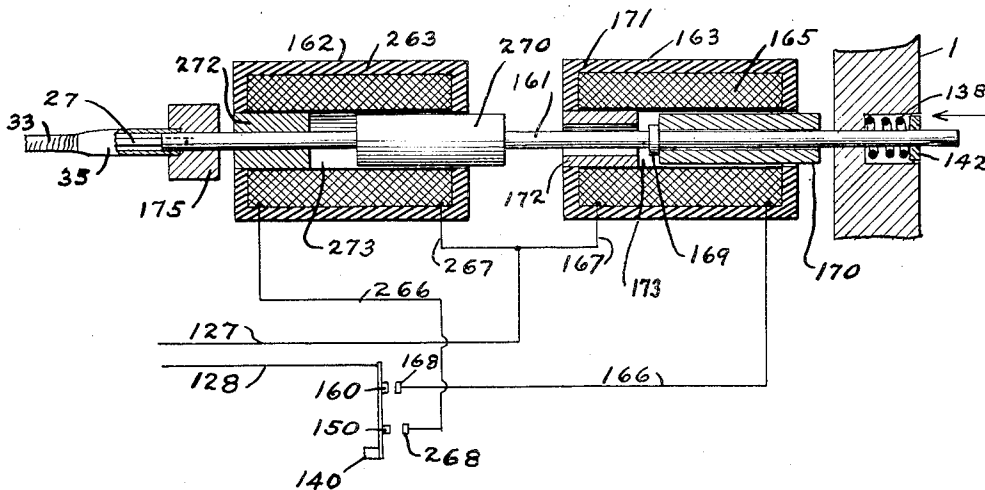
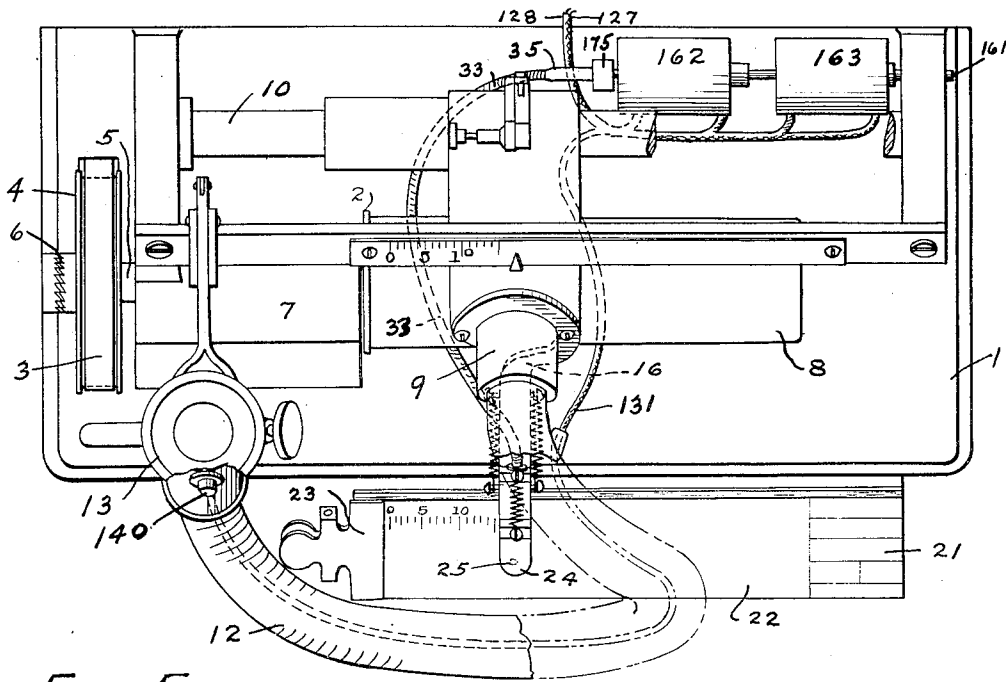
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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MARKING OR CORRECTION DEVICE FOR
DICTATING MACHINESPaul L. Betz, Baltimore, Md., assignor to Gerard
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4 Claims. (Cl. 274-17)

This invention refers to dictating sound and voice recording machines and more particularly to marking devices to be used in connection with such, for identifying or characterizing certain positions of the recording platens. It has among its objects to provide a marker of this type that will operate through the use of a mechanical flexible transmission shaft operating stylus, and provide for a plurality of visual symbols capable of giving indications having suitable interpretations or instructions. Another object is to provide an arrangement that will enable the operator to tell whether the proper marking has been made, without visibly inspecting the chart. A further object is to have the device capable of operation in variable positions and locations without affecting its effectiveness, or requiring unusual skill or exceptional attention. A further object is to provide a compact electro-magnetic means for operating the stylus or marking device directly from the mouth-piece of the machine. Other objects are to locate the marking frame and chart extraneous to the sound and voice recording unit as well as the machine construction in general; to have same within easy reach of the operator for inspection, attachment, repair, or removal; to have the stylus, or marking device, adjustable into or out of operation; and to provide for convenience in use and simplicity of construction and operation.

In the existing art, difficulty has been experienced in the use of dictating sound and voice recording machines, due to the conventional crude provision made for calling attention to corrections to be made on the recording platen or cylinder at transcribing, or for emphasizing some feature which the speaking user wishes to call special attention to. Such provision consists of an ordinary lead pencil and a pad to be marked thereby, with probably poor results because of the inconvenience of this method. This existing arrangement increases the possibilities for mistakes or uncertain marks, and usually is situated in a location that interferes with the operating functions of the dictating machine. This invention consists of a recording chart or blank suitably lined for the purpose and mounted on a frame placed conveniently near moving parts of a dictating sound and voice recording machine and positioned where it may be observed by the operator. The stylus used is definitely located and makes the proper marks or symbols mechanically, in a definite and predetermined manner, and very quickly.

The stylus may be made of metal or composition instead of graphite or the like and, therefore, capable of indefinitely long wear and life. The operator, by simply pressing a button in a predetermined manner, causes the stylus to operate and mark the symbols on the chart. The

operating button is preferably attached to the mouthpiece or microphone structure of the dictating device so that it may be operated by the same hand that holds the mouth-piece. The parts work positively and the stylus may create various different strokes through the button mechanism depending on the manner in which the latter is manipulated. The mechanisms avoid the use of pedals and arrangements that require manipulation other than that of a finger or thumb of the hand holding the mouthpiece.

In the drawings which are included to show a form of this invention and illustrate its principles:

Figure 1 is a view in elevation showing a dictating machine of conventional construction with a symbol marking device embodying this invention.

Figure 2 is a sectional detail of the symbol marking device taken along line 2-2 of Figure 1.

Figure 3 is an enlarged detail of the operating button used with the marking device, partly in section, as attached to the mouth-piece, taken along the line 3-3 of Figure 1.

Figure 4 is an enlarged detail of the stylus holder and pen shown in Figure 2, in position raised off the recording chart of the device.

Figure 5 indicates a plan view of the dictating machine using a magnetic control to operate the symbol marker device instead of the mechanical push button method.

Figure 6 is a sectional and diagrammatic detail of the magnetic control indicated in Figure 5.

Similar reference characters refer to similar parts throughout the drawings.

In the construction shown in the drawings 1 represents the base box of a conventional form of dictating machine having a motor operating a roll spindle 2 through a belt 3, pulley 4 and the connecting shaft 5. A clutch 6 is provided for disconnecting and connecting the spindle in a conventional manner. A yoke 7 attached to the box 1 serves to support the spindle mechanism above the box, as indicated and contain the necessary mechanism incidental. A recording cylinder 8 is shown mounted over the spindle in Figures 1 and 5. The mechanism for giving the cylinder transmitter, recorder or reproducer 9 the necessary travel over the cylinder 8 is of conventional design and well known in the art, and will not be described. The sound recording and reproducing part 9 engages with the recording cylinder 8 in the usual manner and travels on an upper rail 10, and a lower rail 11, and connects through a flexible speaking tube 12 with a mouth-piece 13 in a typical manner, and by means of its rear jaw members. In this invention, a stylus holding arm 16 is provided with a ring or yoke 17 that is secured to the face of the recorder 9 by means of screws 18. The arm is

bent or offset at 19 to bring the holding arm 16 with its stylus support 20 close to box 1 and adjacent to a shelf 21 on which instruction chart 22 is placed and held by a clip 23. A stylus 24 consists of a shank 34 and a metal scratch pen 25 pointed normally at right angles to the chart. The stylus support is hinged at 26 to the arm 16 and may be bent upwardly in the direction of the arrow to bring the stylus pen 25 away from the chart sufficiently to keep it out of the way. This stylus support is arranged to guide and permit the stylus 24 and its shank 34 to move in reciprocating travel therein.

This travel is induced by the use of a flexible transmission wire 27 attached at 28 to the shank 34, in the direction downwardly on and at right angles to the length of the chart, in this modification, and upwardly when released by the wire 27 under the tension of a coil spring 134. This spring 134 is attached at one end 29 to the stylus and at its other end 30 to the support aforesaid. The tension springs 51 are attached on the arm 16 and to the support member 20 preferably as indicated. The tension of the springs 51 normally tend to urge the support 20, and incidently the pen 25 resiliently, towards the chart and its frame or shelf 21. However, the movement of the support 20 on its hinge 26 in the direction of the arrow, shown in Figure 2, will cause the ends of springs 51 to move to a position above "dead-center" wherein the support and pen are held away from the chart. The raised position of pen 25 is indicated in Figure 4. The flexible transmission wire 27 that is provided for the purpose of operating the stylus from a distance is preferably run in a flexible tubing 33 that has a coupling 35 supporting it against the mouth-piece tubing in a convenient location. The coupling 35 has a sleeve 36 and cap 37 screwed into it and the flexible transmission wire 27 is brought through same. A suitable spindle 38 is attached at this end of the wire 27 and provided with one or more grooves 39 arranged to receive spring locks 50 and lightly catch and engage with one or more balls as the spindle is pushed past same. The spindle is provided with an operating button 40 located on its end portion outside of the cap 37. A spring 41 on the spindle and in the tubing serves to give the desired resiliency to the reciprocating operation of the button 40. The bushing or washer 42 serves to provide the shoulder on the spindle for this spring to press on.

The flexible tubing 33 is of the conventional arrangement used on dictating machines for the protecting the cable that operates the clutch 6.

The operation of the marking device of the invention is as follows: The operator, at the desired moment presses on the button 40 and forces the flexible transmission wire 27 through its tubing 33 to push the stylus with its pen down across the chart. This scratches the desired mark or symbols on the treated chart. When the operator pushes the button down a short distance, its spindle moves until the first groove 39 passes the ball and spring lock 50. The latter clicks and signals the position of the spindle at this point of its travel. If the spindle travels further, as it can, (because the slight resistance of the ball and spring may be overcome by more pressure,) it will assume another position in its travel, and another similar groove 39 is brought into alignment. This process may be continued for as many times as grooves are provided. Thus the stylus at the end of the transmission wire will make its mark on the chart in proportion to the

amount of travel of the button and its spindle. The length of the mark in this modification of the invention, provides the symbol mark for disclosing the intention of the operator in regard to the transcribing of the cylinder on the machine. The position of the stylus over the chart, as it travels across the machine, indicates the particular portion of the recording cylinder that is to be transcribed, or changed in some particular manner at that particular point or position of its length and recording.

The stylus pen may be removed and kept out of contact with the instruction or correction chart 22 by manually lifting the holder 20 and swinging it on its hinge 26 upwardly. When the holder is swung over enough to make the coil springs cross the dead-center line, the tension of these springs pulls the holder over further and then holds it securely there. The holder, with its pen, is returned to the "marking" position by pressing on the holder until it crosses the dead-center line and comes under the tension of the springs 51 in the opposite manner and causes the pen 25 to press on the chart.

The construction indicated in Figure 5 is similar to that shown in the previous figures, but has the additional feature of providing a magnetic pressure device for pushing and moving the flexible transmission wire 27 instead of the mechanical spindle arrangement described. The button 140 is similar in appearance but instead of moving the spindle 38 simply closes electrical circuits encased in cable 131 that operate various electro magnets to give the desired propulsion effects to the transmission wire 27. The button is indicated with two contacts 150 and 160 to close circuit wires 127 and 128 as indicated on the drawings. The circuit wires are supplied from any conventional source of electrical current. The coupling 35 attaches to a propulsion rod 161 that passes through a series of suitable electro magnets 162, 163 and as many others as may be suitable or desirable.

The electro-magnet 163 is provided in this example with a suitable winding 165 supplied with connecting wires 166 and 167 which lead to a contact 168 aligned with the contact 160 and to the wire 127 respectively. Contact 160 is connected to wire 128. The non-magnetic propulsion rod 161 passes through this electro-magnet and is provided with a non-magnetic collar 169 against which a core member 170 loosely mounted on the shaft, strikes when operating in the direction of the arrow, to propel the flexible shaft. The outer casing 171 is made of magnetic material and is provided with a magnetic stop 172 projecting into the central passage 173 of the electromagnet and limits the stroke of the core member 170 in its propelling travel. The hole in the magnetic stop 172 is large enough to permit the collar 169 to pass through it, but not large enough to allow the core member 170 to pass. A spring 138 is provided to retract the propulsion rod back to its normal position when the electro magnets are deenergized. A collar 142 attached to rod 161 contacts the spring 138 and the casing 1 adjacent is provided with a recess for holding same in proper relation for the purpose.

The second electro-magnet 162 is provided with a casing or magnetic circuit 263 having a central passage 273 and magnetic stop 272 similar to those in electro-magnet 163. A core member 270 of iron or other magnetic material is rigidly attached to the shaft 161 and is placed within the electro-magnet 162. A suitable guide 175 serves

to guide the shaft at any suitable location. The casings of the electro magnets are preferably attached to the frame of the machine casing 1 and away from the operator. The electro-magnet 162 is energized by the circuit wires 267 and 266, the latter being attached to a contact 268 that is closed by the electric pushbutton after the previous one has been closed. The circuit wire 127 connects with the wire 267 as indicated. The propulsion rod 161 moves in the direction of the arrow when either or both of the electro magnets are energized, while the spring 138 tends to move the propulsion rod in the opposite direction, when the electro magnets are de-energized.

When the electric pushbutton is operated, it causes the contact 168 to close and the electro-magnet 163 to be energized. This induces the magnetic core 170 and rod 161 to move in the direction of magnetic stop 172. This movement is transmitted by the propulsion rod 161 to the flexible transmission wire 27, which in turn, operates the stylus in the manner already described in the mechanical method. The marking made is determined by the amount of travel of the flexible transmission wire 27, which in this case, is reached when the core member 170 reaches the magnetic stop 172.

When the electric pushbutton is operated to close the circuit through the next contact 268, it causes the electro-magnet 162 to attract its core member 270. As the latter is rigidly attached to the rod 161, it moves the latter with it, starting from the point in the travel where the previous electro magnet action had stopped it. The core member 170, being free to slide on rod 161 permits further motion of rod 161 under the influence of electro-magnet 162 after core member 170 has reached the end of its travel. This makes the stroke of the propulsion rod continue and produce a different marking or symbol from that made before. When the electro magnets are de-energized the spring 138 returns the shaft to normal position.

The pen described is generally referred to as a scratch pen, but may also include various types of symbols without further description or change in the drawings, which are intended to cover such. The number of movements caused by pushbuttons is only limited by practical considerations. The drawings have not been extended indefinitely to show such, as it appears obvious that the drawings cover a plural number of movements, and are intended to cover this phase of the invention adequately. The use of the magnetic control offers an additional facility in case electrical propulsion is desirable and does so without affecting the principles of the mechanical method which is still used indirectly, and is a form of the same invention.

While but one general form of the invention is indicated in the drawings it is not desired to limit this application for patent to the particular construction indicated in the drawings, as it is appreciated that other forms of construction could be made that would use the same principles and come within the scope of the appended claims.

Having thus described the invention, what is claimed is:

1. In combination with a dictating machine, an instruction marking device comprising, an arm member carried by the recorder carriage of the dictating machine, a stylus or marker mem-

ber holder mounted on the arm, and hinged thereto, a stylus or marker supported on the said holder and flexibly attached thereto, a flexible transmission propelling means for variably moving the stylus or marker member from a distance, means for controlling the said propelling means, a chart for receiving characters from said marker, and a plurality of spring means for controlling the hinging movement of the said holder and the stylus or marker thereon, and the position of same in relation to the chart.

2. In combination with a dictating machine, an instruction marking device comprising, an arm member carried by the recorder carriage of the dictating machine, a stylus or marker member holder mounted on the arm, and hinged thereto, a stylus or marker supported on the said holder, and flexibly attached thereto, a flexible transmission propelling means for variably moving the stylus or marker member from a distance, means for controlling the said propelling means, a chart for receiving characters from said marker, and a plurality of spring means for controlling the hinging movement of the said holder and the stylus or marker thereon, and the position of same in relation to the chart, a plurality of electro magnetic means for propelling the flexible transmission means in a plurality of predetermined positions, and means for controlling the said electrical magnetic means.

3. A device of the class described comprising in combination, an arm adapted for fastening on a dictating machine, said arm being offset to straddle portions thereon, a holder for supporting a stylus, a hinge for connecting the holder with the arm, a plurality of resilient members for tensioning the holder on dead-center and off dead-center on both sides thereof, a stylus movably mounted on the holder and guided thereby, resilient means for tensioning the stylus in one direction, and connected to the holder and stylus, a propelling transmission member secured to the stylus and adapted to operate same in conjunction with the tensioning by said resilient means, a hand control for operating the last mentioned member, and means operated by the stylus for indicating instructions relating to the dictating machine.

4. A device of the class described comprising in combination, an arm adapted for fastening on a dictating machine or the like, said arm being offset to straddle portions thereon, a holder for supporting a stylus, a hinge for connecting the holder with the arm, a plurality of resilient members for tensioning the holder on dead-center and off dead-center on both sides thereof, a stylus movably mounted on the holder and guided thereby, resilient means for tensioning the stylus in one direction, and connected to the holder and stylus, a propelling transmission member secured to the stylus and adapted to operate same in conjunction with the tensioning by said resilient means, a hand control for operating the last mentioned member, and means operated by the stylus for indicating instructions relating to the dictating machine, and a plurality of electrical members for controlling the operation of the transmission member operated by the said hand control, and mounted on the voice transmitter of the said machine.

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