March 8, 1927.

J. E. RENHOLDT

1,620,230

CONTROL MECHANISM

Filed May 19, 1924

FIG. 1

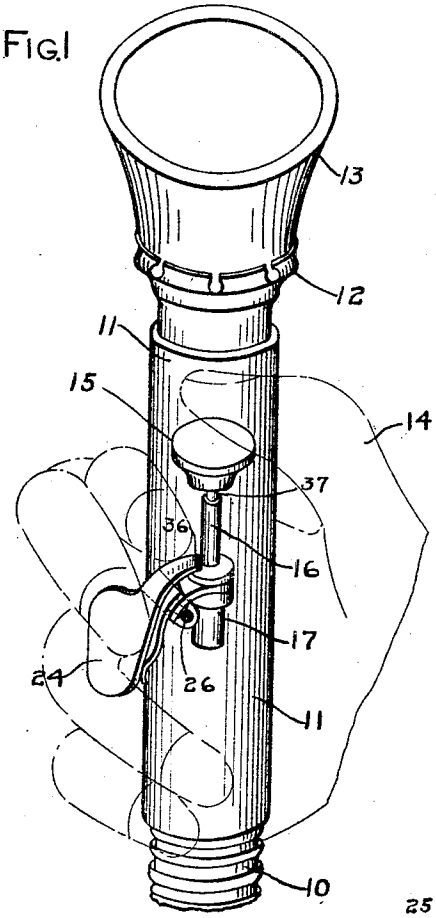


FIG. 2

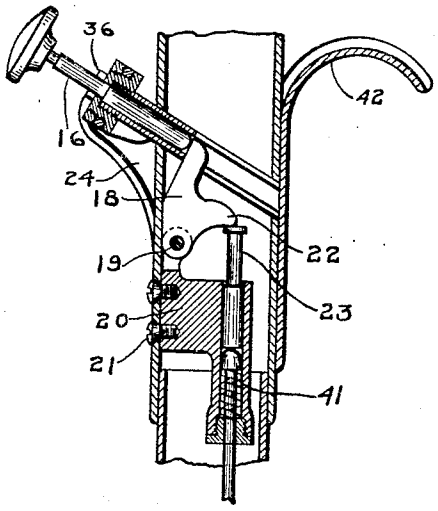


FIG. 3

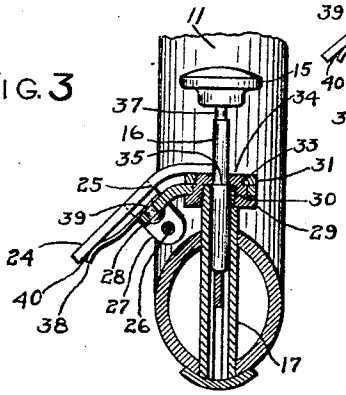


FIG. 4

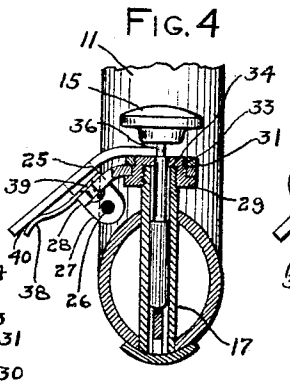
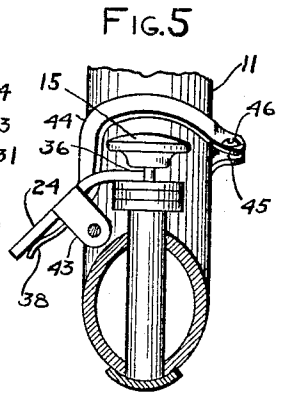


FIG. 5



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CONTROL MECHANISM.

Application filed May 19, 1924. Serial No. 714,355.

This invention relates to control mechanisms, and in the embodiment herein shown as illustrative of the invention, it is applied to the control mechanism for phonographs.

In the accompanying drawings:

Figure 1 is a perspective view of a speaking-tube handle for a dictation machine showing one embodiment of this invention in use, the operator's thumb being shown in position to operate the main control-device while the fingers of the same hand are in position to operate the auxiliary control-device.

Fig. 2 is a sectional view of the speaking-tube handle showing applied thereto the form of the present invention shown in Fig. 1.

Fig. 3 is a detailed view showing the main control-device in elevation, and also showing the auxiliary control-device which locks it in operative position.

Fig. 4 is a view similar to Fig. 3 showing the main control-device locked in operative position by the auxiliary control-device.

Fig. 5 is a view similar to Fig. 4 showing a modification of the present invention.

In dictating machines to which this invention is shown as applied, the speaking-tube 10 is provided with a handle 11, having a socket 12 for the reception of the mouthpiece 13. The dictator grasps the handle, as shown by the hand 14 (Fig. 1) and holds the mouthpiece 13 close to his upper-lip so that the sound emitted may be received by the mouthpiece to be transmitted to the recording mechanism of the machine by the speaking-tube 10. The speaking-tube 10 is also employed to transmit the sound from the reproducing mechanism, when it is desired to listen to what has been dictated, and in this case the mouthpiece 13 is held to the ear.

As is usual in such machines, the handle 11 is adapted to support a control-button 15, whose function is to cause the record-mandrel to rotate and the sound-box carriage to travel longitudinally for the purpose of recording or reproducing the sound when the control-button 15 is depressed.

The control-button 15 has a stem 16 slidably guided in a tube 17 (see Figs. 1 and 2) which extends into the handle 11 and which is secured thereto in any suitable manner. At its inside end, the stem 16 is adapted to engage a bell-crank 18 pivoted at 19 on a suitable block 20 held to the handle by screws 21. An arm 22 of the bell-crank engages the end of a Bowden-wire element 23, which, at its other end, engages a clutch controlling the rotation of the record-mandrel and traveling movements of the carriage. The depression of the control-button 15 causes the element 23 of the Bowden-wire to be moved longitudinally to operate the clutch against the tension of a spring acting to hold the clutch in inoperative position.

Of course, if desired, the control-button 15 may be arranged to electrically control the clutch, and in this case, the button 15 would be connected to a switch mechanism in circuit with electrical conductors passing through the speaking-tube to a suitable electro-magnet adapted to operate the clutch mechanism.

In practice, the dictator depresses the button 15 only when speaking into the machine and releases the button when he pauses to formulate his further dictation or when he is interrupted, so that the record-surface will not be wasted by operation of the machine at times when no sound is being recorded. Usually, dictation is spasmodical or intermittent and thus the dictator repeatedly depresses and releases the control-button 15. It is not generally inconvenient or uncomfortable to continue the pressure of his thumb on the control-button while dictating for the reason that the pressure is relaxed at frequent intervals during the pauses.

However, in some cases, where matter is dictated from notes, or when it is well formulated in the dictator's mind, and also when it is desired to listen to extended dictation previously recorded, it is somewhat of a strain to maintain the pressure of the thumb upon the control-button 15. To avoid this inconvenience, the present invention provides an auxiliary control-device adapted to lock the control-button 15 in depressed or operative position. This auxiliary control device comprises a finger-piece 24 having an ear 25 pivotally mounted by means of a screw or stud 26 on an

ear 27 forming part of a supporting bracket 28. The bracket 28 is mounted upon the outside of the speaking-tube handle 11 and is supported by the tube 17 through which the stem 16 of the control-button 15 passes. The stem 16, for this purpose, is provided with a collar 29 threaded upon the end 30 of the tube 17. This collar 29 has a nut 31 integral therewith by means of which it may be secured in place on the tube 17. The bracket 28 is placed upon the collar 29, as shown in Figs. 3 and 4, and is secured in place upon the collar by means of a nut 32 engaging a screw-threaded portion 33 of the collar 29. The collar 29 has a flange 34 through which the stem 16 passes and which engages a shoulder 35 provided on the stem to limit the outward movement of the stem 16.

In applying the auxiliary control to the handle 11, a cap, supplied as part of the regular equipment which guides the stem 16 and which is threaded upon the tube 17, is removed and the collar 29 is substituted therefor. That is, of course, when the auxiliary control is applied to existing machines. In applying the auxiliary control to new machines, the collar 29 is mounted upon the tube 17 and the other parts are secured in place at the factory before the machine is shipped.

The finger-piece 24 of the auxiliary control is provided with a tooth or catch 36 adapted to engage a circumferential groove 37 provided in the stem 16 when the stem is fully depressed as shown in Fig. 4.

This engagement of the tooth 36 with the groove 37 is automatically produced by the action of a spring 38 riveted to the bracket 28 at 39 and engaging the underside of the finger-piece 24 at 40. To release the control-button 15 after it has been locked down as shown in Fig. 4 by the finger-piece 24, it is merely necessary for the operator to depress the finger-piece 24 to withdraw the catch 36 from the groove 37. This allows the stem 16 and the button 15 to rise under the influence of a spring 41 in the Bowden-wire element and a spring, not shown, provided in the clutch mechanism operated by the Bowden-wire.

The finger-piece 24 is so located that the fingers of the operator's hand holding the speaking-tube, while the thumb is in position above the button 15, may depress the finger-piece 24 to move it to released position, thus making it unnecessary for the operator to move his thumb.

By thus providing the finger-piece 24 at the side of the handle 11, where it can be controlled by the fingers of the operator's hand holding the handle 11, the finger-piece 24 and its catch 36 may be held out of operative position by these fingers when the operator desires to dictate intermittently. The spring 38 for holding the finger-piece 24 in its operative position is so light that it requires very little pressure to maintain the finger-piece 24 depressed and the auxiliary control in inoperative position for the purpose above stated.

When it is desired to have the auxiliary control come into operation, the dictator grips the handle 11 as shown in Fig. 1 by all but one finger of the hand, that finger being located above the auxiliary-control 24 where it can instantly engage the finger-piece 24 and release the catch 36 when desired. The guard 42 provided on the opposite side of the handle 11 properly locates the dictator's hand and facilitates the holding of the handle.

It should be noted that since the auxiliary control is mounted upon the tube 17 and needs to be secured to no other part, it may be applied to existing machines with very little labor.

In Fig. 5 a modification of the present invention is shown. In this form of device, the auxiliary control 24 is mounted upon an ear 43 upstanding from a band 44 adapted to embrace the handle 11. The band 44 is split at 45 and has its ends secured together by a bolt 46.

Variations and modifications may be resorted to within the scope of this invention and portions of the improvements may be used without others.

Having now described this invention, what is claimed as new, and for which it is desired to obtain Letters Patent, is:

1. In a device of the character described, a tubular handle; a manually operable rod movable in said handle; a tube secured to said handle and adapted to guide movement of said rod; a manually operable latch adapted to lock said rod in one of its positions; a bracket for said manually operable latch; and means for securing said bracket to said tube.

2. In a dictating machine, a speaking-tube handle; a thumb-operated button mounted on and protruding from the side of the handle adapted to control part of the dictating machine; a latch for holding the thumb-operated button in operative position; and means connected to said latch to be operated by the fingers of the hand holding the handle.

3. In combination, a handle; a thumb-operated button on one side of the handle; a guard at the other side of the handle adapted to engage the hand holding the handle; means for locking the thumb-operated device in operative position; and means for releasing said locking means located on the handle between the thumb control device and said guard.

4. A remote control device for manually controlled machines comprising a handle; a

manually operable button mounted on and protruding from the side of the handle and adapted when operated to control mechanism of a machine from a point remote from the machine; a guide for the manually operable button; a bracket mounted on said guide; and a finger-piece mounted on said bracket adapted to lock said button in operative position.

Signed at Bridgeport, in the county of Fairfield, and State of Connecticut, this 17th day of May, 1924.

JOHN E. RENHOLDT.