Dec. 16, 1941. B. A. SCHIFF 2,266,273

LATCHING MEANS FOR PUSH BUTTON CONTROLS

Filed March 30, 1940 2 Sheets-Sheet 1

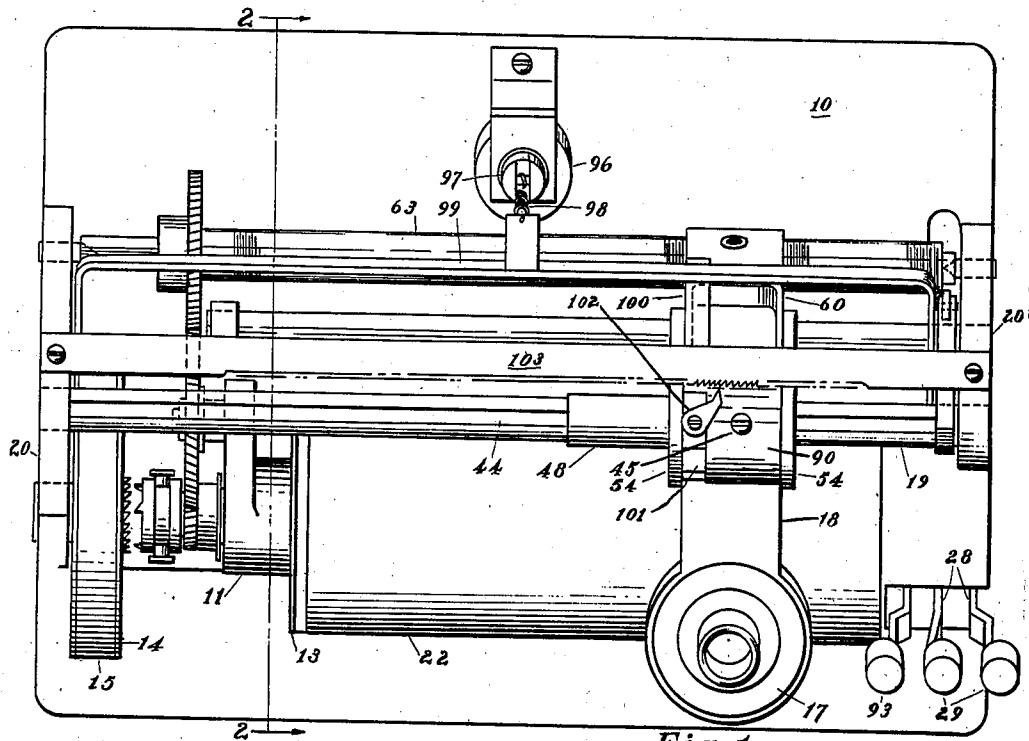


Fig. 1.

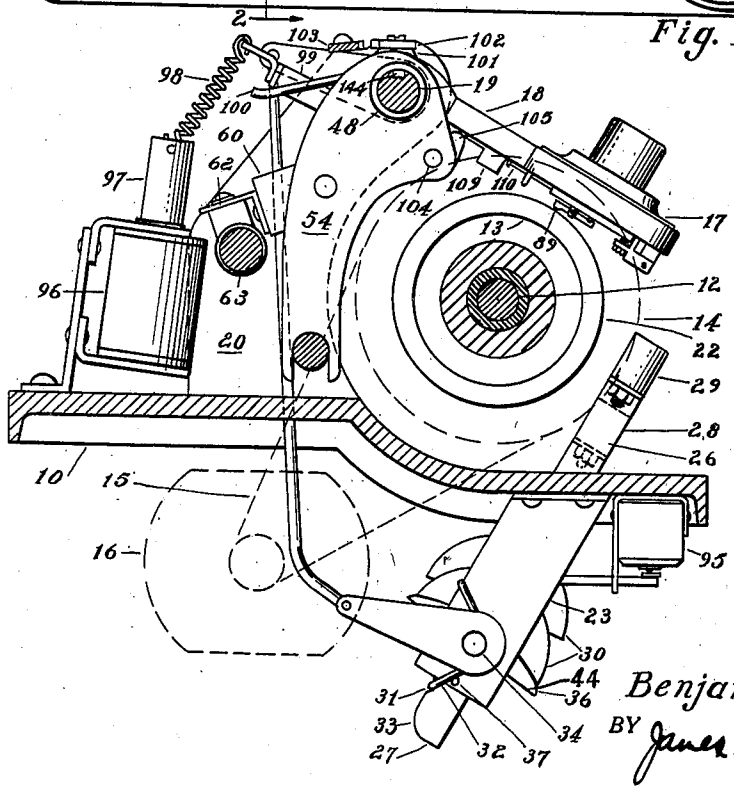


Fig. 2.

INVENTOR:
Benjamin A. Schiff
BY James R. McKnight
ATTORNEYS.

Dec. 16, 1941. B. A. SCHIFF 2,266,273

LATCHING MEANS FOR PUSH BUTTON CONTROLS

Filed March 30, 1940 2 Sheets-Sheet 2

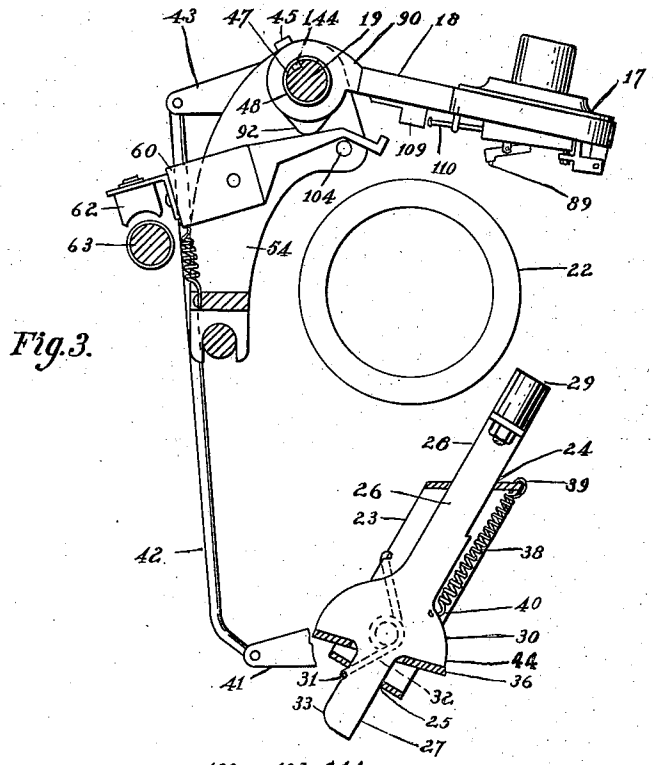


Fig. 3.

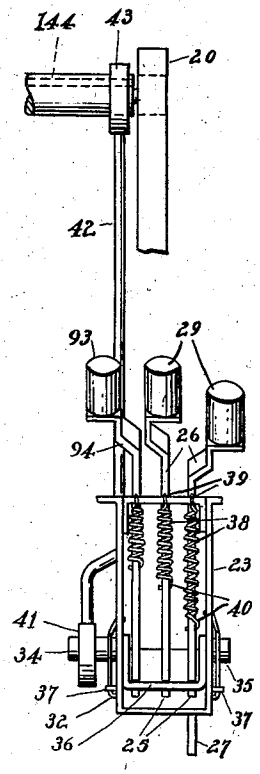


Fig. 4.

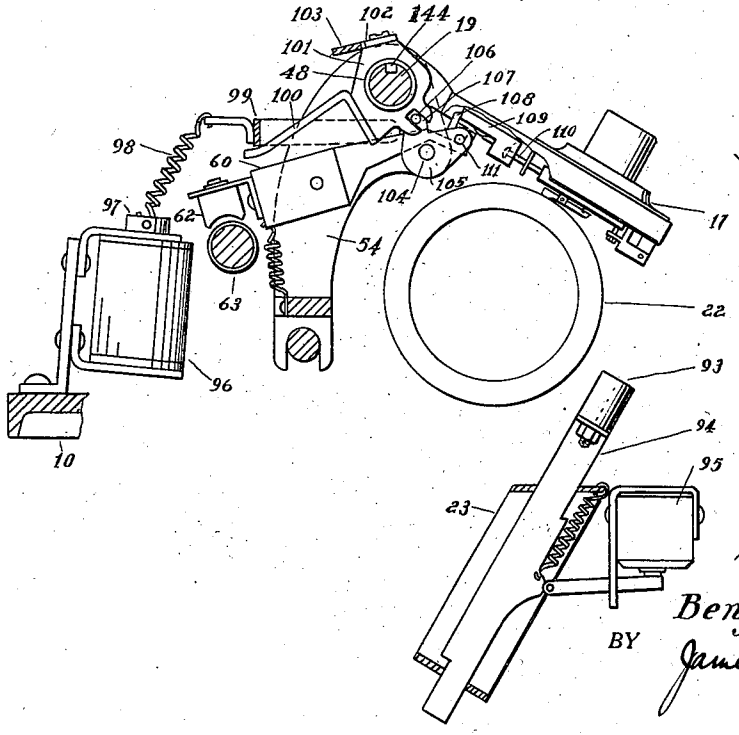


Fig. 5.

INVENTOR:
Benjamin A. Schiff
BY James R. McKnight
ATTORNEYS.

Patented Dec. 16, 1941 2,266,273

UNITED STATES PATENT OFFICE

2,266,273

LATCHING MEANS FOR PUSH BUTTON CONTROLS

Benjamin A. Schiff, Chicago, Ill.

Application March 30, 1940, Serial No. 326,862

2 Claims. (Cl. 74—483)

My invention relates to latching means for push button controls on a sound reproducing machine for use primarily by secretaries in the transcribing into typewritten form dictations orally presented on wax records.

Among the objects of my invention is to provide a sound reproducing machine having push button control for setting the device in reproducing and nonoperating positions and for back spacing. The push buttons of my control members are visible at all times and the user may always know the position of the machine by seeing the position of the buttons. My device is easy to manipulate, rapid and certain in operation, economical in construction and lasting in wear. My push button construction also eliminates old, bulky and now unnecessary parts. My push button controls are compact and are located in a convenient position for operation. The control buttons are all located in a continuous line, adjacent one another, and on the very face of the machine in a most conspicuous position so that the user does not have to hunt for one control in one place and another control in another part of the machine. My invention also contemplates such other objects, advantages and capabilities as will later more fully appear and which are inherently possessed by my invention.

While I have shown in the accompanying drawings a preferred embodiment of my invention, yet I wish it understood that the same is susceptible of modification and change without departing from the spirit of my invention.

Referring more particularly to the drawings, Fig. 1 is a top plan view of my machine; Fig. 2 is a sectional view on line 2—2, Fig. 1; Fig. 3 is a detailed side elevational view showing the machine in non-sound-reproducing position; Fig. 4 is a detailed front elevational view of the control means; Fig. 5 shows a detailed sectional view of the machine in back spacing position bracketed to show its spaced relation with a sectional view of the control member and switch.

The embodiment selected to illustrate my invention comprises a frame 10 having a vertical support 11 rotatably supporting a shaft 12 upon which is mounted a rotatable mandrel 13. The shaft 12 is connected to a driving wheel 14 moved by a belt 15 driven by a suitable power such as an electric motor 16.

A sound reproducing member 17 has a carriage 18 slidable on a rod 19 attached on either end to upstanding portions 20 of frame 10. The sound member 17 has a sound stylus 89 for contacting a wax cylinder 22 when the same is in position on said mandrel 13.

Attached to the under portion of the frame 10 is a housing 23 having on opposite ends spaced upper and lower slots 24 and 25 respectively to receive upper and lower shank portions 26 and 27 respectively of a pair of control members 28. Said control members 28 have buttons 29 attached to the upper ends of their upper shank portions 26. Said buttons 29 may be marked with "Off," and "Listen," or other suitable descriptions. Each of said control members 28 has an upper shank portion 26 extending within the upper slots 24 of housing 23. Immediately below the upper shank portions 26 my control members 28 have an enlarged body portion 30, and below said body portion a lower shank portion 27, the ends of which extend through the lower slots 25 of housing 23. On each of said lower shank portions 27 is a substantially V shaped notch 31 adapted to removably receive when either of said control members is moved to a lower position, a locking bar 32. The ends of the lower shanks 27 of said control members are rounded at 33 to act as a cam surface on locking bar 32. The locking bar 32 is pivotally attached to the inner and outer rounded stubs 34 and 35 respectively of a plate 36 rotatably attached to the housing 23. A pair of stops 37 on opposite outer lower portions of the housing 23 confine the locking bar 32 to desired position. Springs 38 are attached on the upper ends 39 to housing 23 and on the lower ends 40 to control members 28 to normally hold them in nonoperating position.

Attached to the inner rounded stub 34 is a lower arm 41 which is connected by a link 42 to an upper arm 43 which is attached to rod 19.

After using the machine let us assume that the user desires to turn the machine to nontranscribing position. The user pushes the button 29 marked "Off." When pressure is applied to said button 29 the control member 28 moves downwardly until the front surface of body portion 30 contacts the plate 36. The front surface has been cut upon such a desired angle as to pivot the plate 36 to the same angle and thus turn the stub 34 and through arms 41 and 43 and linkage 42 the rod 19.

The rod 19 has a key way 144 in which travels a roller key 45. The roller key 45 is attached to a support 90 and extends through a groove 47 in bushing 48. As the rod 19 is moved as heretofore described the roller key 45 is also moved and lifts the support 90 so that the recording stylus 89 is above contact with a record 22 on mandrel 13.

A support 60 is pivotally attached to opposite sides 54 of carriage 18. Attached to said support 60 is a half nut 62 adapted to engage the screw threads of shaft 63 which is rotatably attached to the upstanding portions 20 of frame 10. A cam 92 is located on the support 90 so that upon the lifting of support 90 the cam 92 will contact the support 60 and lift half nut 62 above the screw threads of shaft 63.

When the "Listen" button 29 is pressed by the

user, the control member 28 attached to said pressed button 29 moves downwardly until the front surface of its body portion 30 contacts the plate 36 to the same angle as said front surface. The stub 34 is then moved and through arms 41 and 43 and linkage 42, rod 19 is moved. Roller key 45 then moves support 90 downwardly so that sound stylus 89 contacts the record 22 for transcribing purposes. The cam 92 moves out of contact with support 60 so that half nut 62 is dropped into contact with the screw threads of shaft 63 to permit carriage 18 to travel on record 22.

The third control button 93 has a shank 94 normally spaced from, but adapted upon being pressed to contact a switch 95 which electrically controls a solenoid 96. Attached to the core 97 of the solenoid 96 is a resilient member 98 which is attached to a rocker arm 99. Said rocker arm 99 is pivotally attached to the opposite upstanding portion 20 of the frame 10.

When the "Back space" button is pressed by the user the shank 94 contacts switch 95 and actuates solenoid 96. This pivots rocker arm 99 so as to engage extension 100 attached to support 101, and permits pawl 102 pivotally mounted on support 101 to engage ratchet rack 103.

A rod 104 is attached to opposite sides 54 of the carriage 18. A holding member 105 is pivotally attached to the rod 104. A pin 106 attached to holding member 105 is positioned within a recess 107 in support 101 and upon movement of support 101 pin 106 pivots holding member 105 on rod 104. Upon movement of holding member 105, a projection 108 thereof bears against slidable member 109 in the support 90 and engages arm extension 110 of the mechanism of the sound stylus 89 so as to prevent side motion of the sound stylus.

On the side opposite to pin 106, holding member 105 has another pin 111 which upon movement of holding member 105 engages an extension of the support 60 and lifts the half nut 62 above contact with the screw threads of shaft 63.

Having thus described my invention, I claim:

1. In push button control means, a housing having a plurality of slots in its upper and lower ends, a plurality of control members slidably mounted on said housing, said control members having upper and lower shank portions extending through the slots in the upper and lower ends respectively of said housing, buttons bearing control signals attached to the upper ends of said control members, a plate rotatably attached to said housing, the lower shank portions of said control members having a notch and below said notch a rounded cam surface on their lower ends, a locking bar pivotally attached to said plate, each of said control members adapted upon pressure on its button to contact said plate, and to receive and hold said locking bar in its notch, said locking bar movable by the rounded cam of another operated control member to release the locking bar from the notch, and a plurality of springs attached on one end to said control members and on their other ends to said housing to return the control members upon being released to normal non-operating position.

2. In push button control means, a housing, a plurality of control members slidably mounted on said housing, said control members having lower shank portions, buttons bearing control signals attached to said control members, a plate rotatably attached to said housing, the lower shank portions of said control members having a notch and below said notch a rounded cam surface on their lower ends, a locking bar pivotally attached to said plate, each of said control members adapted upon pressure on its button to receive and hold said locking bar in its notch, said locking bar movable by the rounded cam of another operated control member to release the locking bar from the notch, and a plurality of springs attached on one end to said control members and on their other ends to said housing to return the control members upon being released to normal non-operating position.

BENJAMIN A. SCHIFF.