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FOOT PEDAL ARRANGEMENT FOR CONTROLLING PHONOGRAPH TRANSCRIBER SWITCHES

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Fig. 1

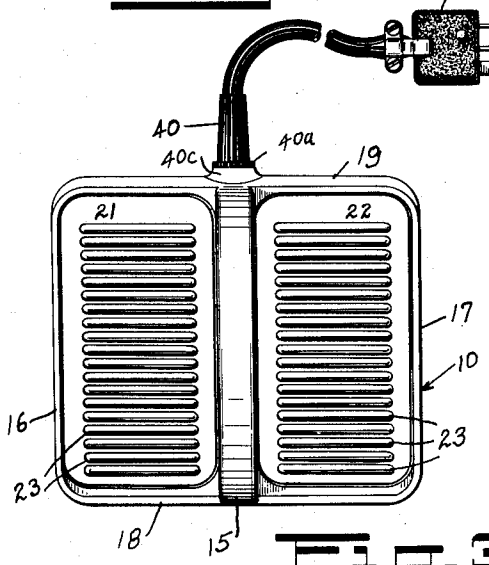

Fig. 2

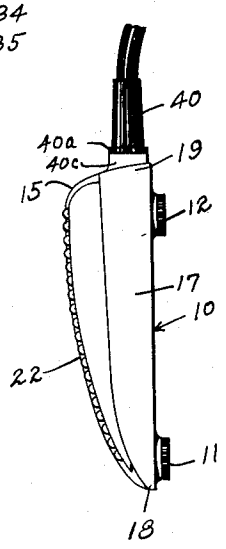

Fig. 3

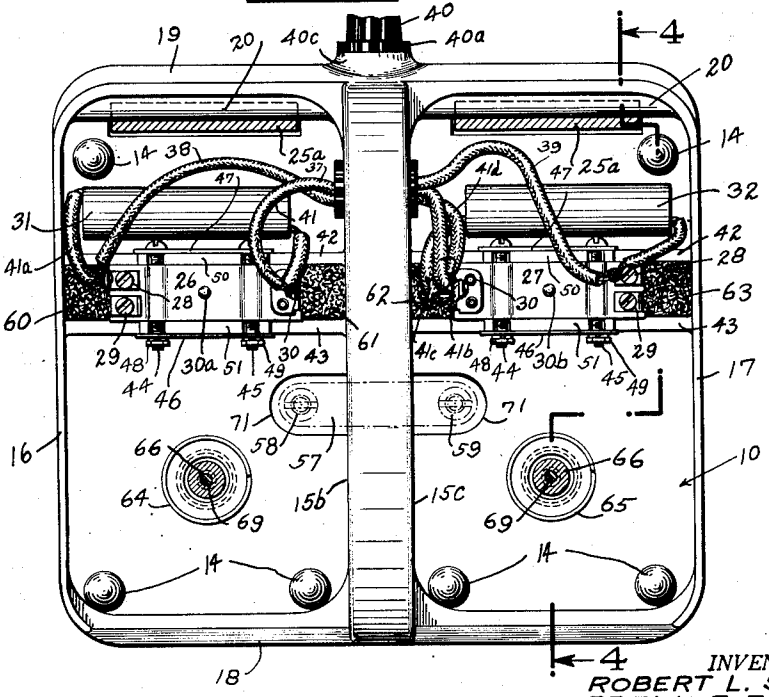

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Fig. 4

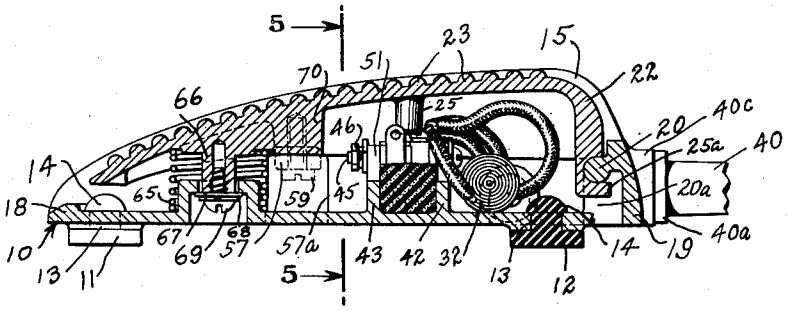


Fig. 5

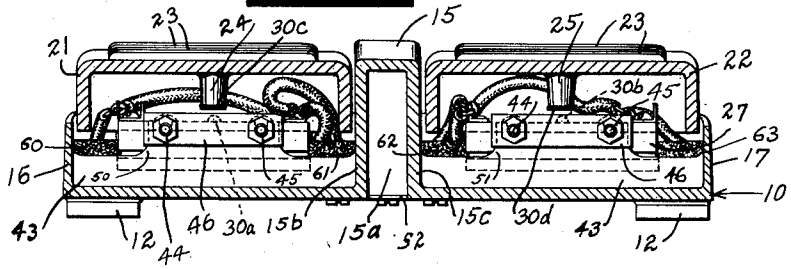


Fig. 6

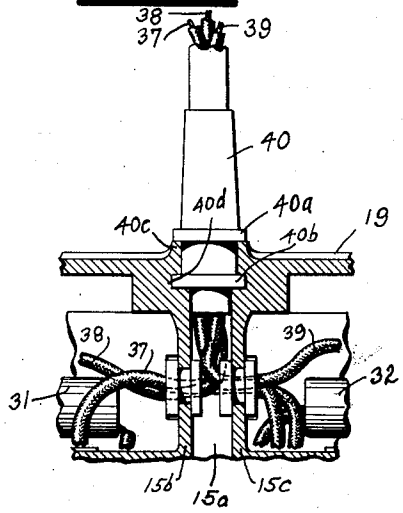
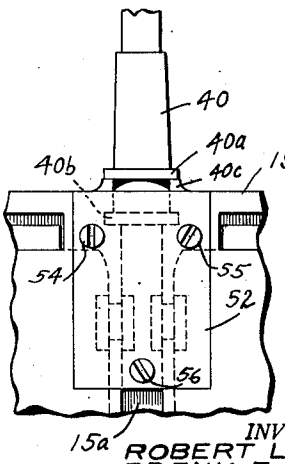


Fig. 7



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Patented Dec. 19, 1950 2,535,021

UNITED STATES PATENT OFFICE

2,535,021

FOOT PEDAL ARRANGEMENT FOR CONTROLLING PHONOGRAPH TRANSCRIBER SWITCHES

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Application October 22, 1946, Serial No. 704,956

4 Claims. (Cl. 200—86)

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This invention relates to phonographic dictating machines, and more particularly to a foot switch for use by a transcribing typist to control the starting and stopping of a rotatable record, and the backspacing of the pickup stylus with respect to the grooves thereof.

One object of the present invention is to provide a foot switch of the above nature, which will be attractive, ornamental and streamlined in appearance, simple in construction, easy to install and manipulate, inexpensive to manufacture, compact, having corrugated pedals to reduce foot slippage, which is low in height so as not to tire the operator, which will afford the maximum operating comfort to the typist, and which will be very efficient and durable in use.

With these and other objects in view, there has been illustrated on the accompanying drawing one form in which the invention may conveniently be embodied in practice.

In the drawings,

Fig. 1 represents a top plan view of the improved foot switch.

Fig. 2 is a side view of the same.

Fig. 3 is a plan view of the same, on a larger scale, the top pedals being removed to show the interior construction.

Fig. 4 is a longitudinal sectional view on the broken line 4—4 of Fig. 3, looking in the direction of the arrows.

Fig. 5 is a transverse vertical sectional view on the line 5—5 of Fig. 4.

Fig. 6 is a horizontal fragmentary sectional view of the rear portion of the apparatus showing how the electrical conductors are connected to the foot switch casing.

Fig. 7 is a fragmentary bottom plan view of the casing, showing the retaining plate for holding the conductor cable in operating position.

Previous types of foot switches for controlling phonographic transcribers and other electrical apparatus were awkward to use, and were tiring on the feet of the operator.

By means of the present invention the above and other disadvantages have been overcome. This has been accomplished by providing a foot switch of distinctive styling which is built especially so that it will not be tiring to the typist, particularly when she must work continuously for long periods.

The present foot switch is low in height and yet provided with sufficient weight to prevent sliding on its rubber feet, and is not too heavy for easy movement when lifted.

The foot switch casing is surmounted by a pair of "back space" and "start-stop" pedals which are separated by a central barrier rib just high enough to provide a definite separation between said pedals. Each of the pedals is wedge-shaped and provided with a convex upper surface so that it may be actuated by contact of the foot on any part of said surface.

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The pointed front tip of each pedal is located very close to the floor, so that only a small pressure is required at that point to operate the switch, and even the movement of the toe within the shoe will give sufficient pressure to actuate it. A greater operating pressure will be required if the user wishes to rest her foot farther back on the switch pedal.

The cross corrugations on the pedals prevent the foot from slipping, and yet provide enough contact area to prevent rapid wear thereof.

The switch elements employed in the improved foot switch are of the so-called "micro" type, in which the contacts will be engaged with the minimum of effort by the operator. The switch elements have simple adjustments and are provided with positive stop protection against overtravel, and also to avoid damage even if the whole switch is accidentally stepped upon. The switch casing and operating pedals consist of heavy die castings of non-magnetic metal and the entire switch comprises a simple unique trouble-free assembly with the minimum of movable parts.

A molded rubber grommet mounting is provided for securely anchoring the control wire cable in operating position within the rear of the casing.

An important feature of the present invention is that, if desired, both pedals may be mechanically connected together by a tie-strap passing through the central barrier rib so that pressure upon either of the pedals of the switch will operate both of them simultaneously. This construction will prove useful when the foot switch is employed for the remote control of dictation recording or other apparatus.

The ornamental shape and appearance of the present application is covered by Design Patent No. 148,589, issued February 3, 1948.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a hollow base casing of the foot switch having two pairs of front rubber feet 11, and a single pair of rear rubber feet 12.

All of the rubber feet 11, 12 are provided with reduced intermediate necks 13 which are mounted in apertures in the base 10 and have rounded

upper ends 14. The ends 14 of the feet 11 serve as buffers for the front edges of the pedals 21, 22, to be described later.

The base 10 is provided with a convex hollow U-shaped central barrier rib 15 having an under channel 15a, and a pair of vertical walls 15b, 15c. The base also has a pair of side walls 16, 17 and is provided with a low front edge 18 and a higher rear wall 19 which has a pair of horizontal pivot ribs 20, 20 of rounded construction formed integral therewith. A pair of open slots 20a, 20a are formed in the base 10 below the ribs 20, 20 to permit free swinging of the rear ends of the pedals.

In order to operate the foot switch, provision is made of a pair of narrow wedge-shaped pedals 21, 22, each of which has a curved convex upper surface provided with a plurality of parallel transverse rounded friction ribs 23.

Provision is also made on the bottom of the pedals 21, 22 of a pair of intermediate depending switch-engaging bosses 24, 25, and the rear of the pedals are provided with a pair of aligned horizontal depending cross sockets 25a, one on each side of the central barrier rib 15, for fitting about the pivot ribs 20, previously mentioned; the bottoms of said sockets extending through the slots 20a, 20a.

The "micro" switch units employed in the present invention are indicated by the numerals 26, 27, and are rectangular in construction—each having terminals 28, 29, 30, as shown, and actuating buttons 30a, 30b, respectively.

Preferably rubber disks 30c, 30d will be cemented to the bottom ends of the bosses 24, 25, respectively, to provide resilient cushions between said bosses and the micro-switch actuating buttons. This will avoid any possibility of injury to the micro-switches in case of improper assembly of the parts of the device.

In order to prevent sparking at the micro-switch contacts, provision is made of a pair of condensers 31, 32, suitably connected in parallel with said contacts.

Moreover, the foot switch is adapted to be connected to a transcriber or other electrical apparatus (not shown), by means of a plug 33 (Fig. 1), which may be inserted in a suitable socket in said apparatus. The plug 33 preferably has three prongs 34, 35, 36, which are connected to the conductors (37, 38, 39) of a 3-wire cable leading to the rear of the foot switch casing 10.

The 3-wire cable (37, 38, 39) is mounted in a flexible rubber strain-relief member 40 having a pair of enlarged spaced grommet flanges 40a, 40b, which are adapted to detachably engage an outside hub 40c and in a recess 40d in the rear section of the base 10, respectively.

The 3-wire cable (37, 38, 39) is joined to the micro-switches 26, 27, by means of a plurality of hookup wires 41, 41a, 41b, 41c, 41d (Fig. 3), which serve to connect the circuits of the transcriber with the microswitches 26, 27 and the condensers 31, 32 in any suitable manner (not necessary to be herein shown).

The base 10 is provided with two pairs of integral upstanding low cross ribs 42, 43, for embracing the microswitch units 26, 27. The cross ribs 42, 43 have higher central sections 50, 51, which are connected by means of bolts 44, 45, passing through the casings of the micro-switches 26, 27, and secured in place by a pair of washer plates 46, 47, and nuts 48, 49.

By means of this construction it will be easy to adjust the positions of the actuating buttons 30a, 30b of the microswitches 26, 27 with respect to the bosses 24, 25 on the pedals 21, 22 to insure the proper operation of said microswitches.

On the bottom of the base 10 is a rear retaining plate 52 which serves to hold the strain-relief mounting 40 and the 3-wire cable (37, 38, 39), in operating position. The plate 52 is held upon the base by means of three screws 54, 55, 56, as clearly shown in Fig. 7 of the drawing.

In order to provide means for connecting the two pedals together for simultaneous operation, whenever desired, provision is made of a tie strap 57, as clearly shown in dotted lines in Figs. 3 and 4, and which passes through a pair of slots 57a in the sides 15b, 15c of the hollow rib 15. The tie strap 57 is adapted to be connected to the pedals by means of screws 58, 59, which engage in tapped recesses in a pair of bosses 70, located under said pedals 21, 22. A pair of opposed slots 71 are provided in said base at the sides of the channel 15a to permit the easy insertion of the strap into the operating position.

In order to exclude dust from the open ends of the microswitches 26, 27, provision is made of four rectangular sponge rubber dust shields 60, 61, 62, 63.

Provision is also made of a pair of pedal-raising springs 64, 65, of coiled wire which fit around a pair of depending hollow studs 66 cast integrally with the pedals—said hollow studs being tapped to receive headed adjustable limit screws 69. Fiber washers 67 and metal lock washers 68 are located between the studs 66 and the heads of the limit screws 69, as clearly shown in Fig. 4 of the drawing.

Operation

In operation, when it is desired to start the transcriber, the right hand pedal 22 will be depressed against the action of the spring 65. When the operator desires to "stepback" the pickup over a portion of a record, it will be merely necessary to shift her foot to the back-spacing pedal 21 and depress it.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure, but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully disclosed the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a foot switch for controlling an electrical apparatus, a base having upstanding sides and a central upstanding rib, a pair of tapered switch-actuating pedals pivotally secured to the rear of said base and located in the two spaces defined by said sides and said rib for operating a pair of "microswitches" adapted to be located on said base beneath said pedals, and a pair of pedal-engaging springs resting on said base for normally holding said pedals in raised position, said rib being hollow and laterally apertured to provide a conduit for wires connected to said switches.

2. In a foot switch for controlling an electrical apparatus, a base having upstanding sides and a central upstanding rib, a pair of tapered switch-actuating pedals pivotally secured to the rear of said base and located in the two spaces defined by said sides and said rib for operating a pair of

"microswitches" adapted to be located on said base beneath said pedals, and a pair of pedal-engaging springs resting on said base for normally holding said pedals in raised position, each of said pedals being provided with an adjustable headed screw to limit the upward movement of said pedal.

3. In a foot switch for controlling an electrical apparatus, a base having upstanding sides and a central upstanding rib, a pair of tapered switch-actuating pedals pivotally secured to the rear of said base and located in the two spaces defined by said sides and said rib for operating a pair of "microswitches" adapted to be located on said base beneath said pedals, and a pair of pedal-engaging springs resting on said base for normally holding said pedals in raised position, said central rib being provided with an aperture below said pedals for receiving a tie strap for connecting the pedals together whenever it is desired to operate them as a unit for simultaneously controlling one or more electrical apparatuses.

4. The invention defined in claim 2, in which said pedals are longitudinally coextensive with said rib, and have their smaller ends at the front and in proximity to said base.

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