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O. RHODES ETAL

3,194,104

PLAYING BAR FOR ELECTRIC STRINGED MUSICAL INSTRUMENTS

Filed June 29, 1964

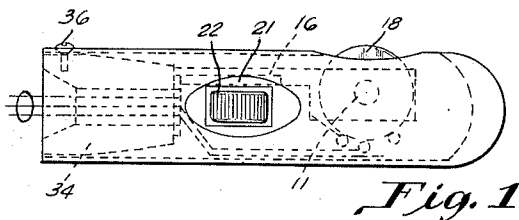


Fig. 1

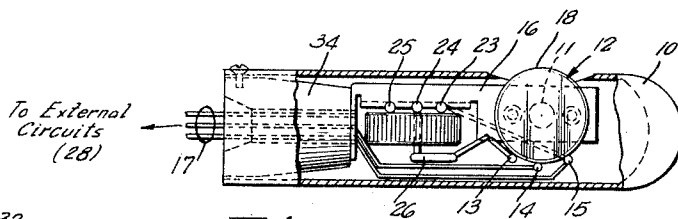


Fig. 2

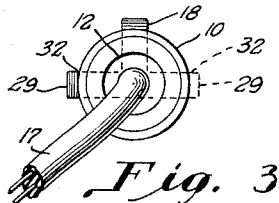


Fig. 3

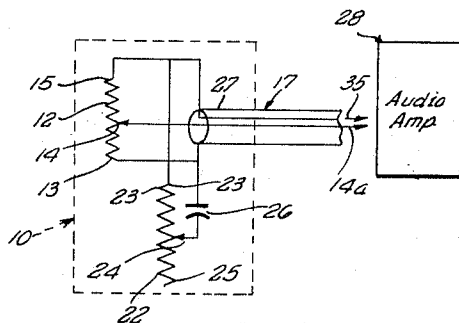


Fig. 4

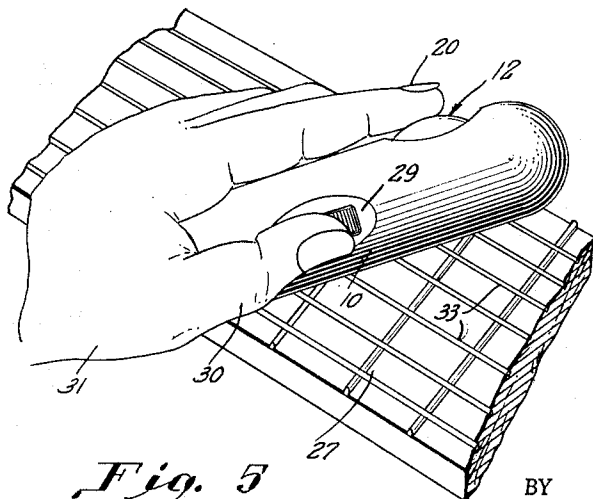


Fig. 5

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**PLAYING BAR FOR ELECTRIC STRINGED
MUSICAL INSTRUMENTS**
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7 Claims. (Cl. 84—319)

This invention relates to a guitar playing bar generally used in playing the Hawaiian guitar and more particularly to a bar for use with electric stringed musical instruments in which the bar includes manually adjustable volume and tone controls integral therewith.

In modern electric stringed musical instrument playing techniques some instruments are used in which induction or similar types of pickup devices are held in proximity to the strings. The pickup devices are connected to electronic or transistor amplifiers which in turn feed their output to loudspeakers. In the prior art volume control devices connected to the amplifiers were incorporated in the stringed instrument body and required specialized manipulative techniques to operate them taking up finger activity which could be useful in playing on the strings if not so taken up with the volume adjustments. A later prior art development provides foot pedal volume controls and tone controls which did then free the players' hands.

However, the competition among entertainers who play these electric stringed instruments led to the development of a variety of tonal color variation controls which were actuated by foot pedals and this relegated the volume and tone function controls back to the guitar body. Players who had become accustomed to the pedal tone and volume controls and who were now returning to the use of finger controls have been seeking a way to still retain the foot pedal tonal color controls without having to return the volume and tone control functions to the guitar body for manipulation with the fingers needed for plucking the strings.

We have devised a means for overcoming this difficulty by the use of the bar used in playing the stringed electric musical instrument usually, particularly the steel or Hawaiian guitar in which the sliding of the bar along the frets on the neck of the guitar produces the familiar glissando tones associated with the Hawaiian guitar.

This invention contemplates a fret bar for Hawaiian guitars and similar electric stringed musical instruments which is properly weighted and in the top surface of which there is operatively inserted a volume control which can be manipulated with the index finger of the instrument player without any diversion from the actual playing operations. In the side of this same bar is inserted another control for tone adjustment which may be manipulated with the player's thumb also without any diversion from the actual playing operations.

Accordingly, it is an object of this invention to provide a fret bar for electric stringed musical instruments wherein a volume control and tone control are made an integral part thereof and which controls can be manipulated respectively by the player's index finger and thumb.

It is a further object of this invention to provide a fret bar for electric stringed musical instruments wherein volume and tone controls are permanently installed therein for finger manipulation while sliding the bar along the frets for playing the guitar to provide independent volume and tone adjustment while utilizing other tone color pedals and the like.

It is a still further object of this invention to provide a fret bar for Hawaiian guitar playing which has a volume control so inserted therein that it may be adjusted

with the index finger and a tone control so inserted therein it may be adjusted with the thumb, both adjustments being possible independently or simultaneously while moving the bar along the frets during the playing of a musical number.

It is another object of this invention to provide finger operable volume and tone controls in a fret bar for guitars whereby the fret bar may be electrically connected by a cable to a stringed musical instrument amplifier and volume and tone of the musical performance adjusted continuously without interruption of the playing sequence and permitting greater virtuosity in playing to be displayed thereby.

These and other objects of the invention will become more clear from the specification which follows in which a single and preferable embodiment of the invention is disclosed. It is not to be construed however, as the sole implementation of the invention, in that others skilled in this art, in the light of this disclosure and the appended claims, may conceive other implementations of the invention within the ambit of the claims which follow, taken together with the accompanying drawings in which:

FIGURE 1 is a side elevational view of the article of this invention showing in phantom internal details thereof;

FIGURE 2 is a cutaway view in part of the article of this invention showing in further detail the parts indicated in FIGURE 1;

FIGURE 3 is an end view from the rear of the article;

FIGURE 4 is a representative circuit diagram of the controls such as may be used in the article shown in the preceding figures; and

FIGURE 5 is a perspective view of the article showing it in use on a guitar fret board in the hand of the player.

Referring now to FIGURES 1, 2 and 3 taken together the fret bar of this invention may be seen to consist of a housing 10 which is generally solid but is machined out in interior portions to accommodate the installation of internal elements as described below.

On a transverse axis 11 near the front of housing 10 a volume control unit 12 is mounted inside the housing 10. Volume control 12 is equipped with terminals 13, 14, 15 to which wires may be attached for connection thereof to appropriate external circuits.

The wires 17 comprising a two wire shielded cable are typical of a wire connection that may be made to the unit 12 and a thin control knob 18 of such diameter that it projects above the surface of the housing 10 as may be seen at 19 is concentrically mounted on volume control 12 and tightly affixed thereto so that when knob 18 is pushed by a finger on the outside of housing 10 as may be seen at 20 in FIGURE 5 control 12 will be rotated. It should be noted here that control 12 though small in size is a conventional type of potentiometer volume control device wherein a variable contact arm is rotated upon a resistance element to vary potential applied to an external amplifying device connected to the variable arm 14 by one of the wires 17. The potential source is a signal derived from electric instrument string pickups and is applied through wires 35 inside the shield thereof to terminal 15 of control 12. The terminal 13 is connected to the shielded portion of wire 17 forming the potential ground return.

On a vertical axis 21 in the mid portion of housing 12 a tone control 22 is mounted. Control 22 has terminals thereon at 23, 24 and 25. Terminal 23 is connected to terminal 15 of control 12. Terminal 24 of control 22 is connected to one terminal of tone capacitor 26 in an amplifier 28 connected with an electric stringed musical

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instrument such as 27, only the fret board on the neck thereof being shown in FIGURE 5.

Tone control 22 has a thin knob 29 tightly affixed thereto similar in form to knob 18 and likewise projecting through the housing 12 as shown at 32 at the side of housing 12. As shown in FIGURE 3 the projection of knob 29 is from both sides of housing 12 so that knob 29 is readily usable whether a player 31 is right- or left-handed. The player is more likely to use his left hand 31 as illustrated in FIGURE 5 to operate control knobs 18 and 29 and particularly the thumb 30 to manipulate knob 29.

In FIGURE 4 a typical schematic connection is shown of the two controls 12 and 22 (numbered exactly as in the illustrations of FIGURES 1 and 2 and showing the electrical symbols for the potentiometers used for tone 22 and volume 12 control and their connection by wires 17 to amplifier 28. Tone control 22 in series with capacitor 26 connect effectively in parallel with volume control 12. Tone control 22 is connected as a rheostat. In this way only two wires, 14a, 35 and a shield 37 making cable 17 are necessary to connect article 10 to an instrument 27.

From the preceding description and particularly from the illustration shown in FIGURE 5 the operation and construction of the volume and tone control bearing fret bar 10 of this invention can readily be seen.

When using the bar 10 which is generally a solid housing milled out to accommodate the controls 12 and 22 and knobs 18 and 29, the player moves the fret bar along strings 33 on fret board 27 of a guitar adjusting volume with his forefinger or index finger 20 by rotating knob 18 back and forth and adjusting tone with his thumb 30 by rotating knob 29 back and forth as the musical requirements of the performance or player's preference dictates.

What is claimed as new is:

1. A fret bar for playing an electric stringed musical instrument comprising:

- a housing having milled out areas;
- a volume control potentiometer mounted in one of said milled out areas;
- a tone control potentiometer mounted in another of said milled out areas;
- electrical connecting wires connected with said volume and said tone control potentiometers and exiting from said housing to be connected with external devices;
- a first control knob on said volume control potentiometer mounted fixedly thereon for rotation of said potentiometer, said control knob projecting from said housing so as to be manipulable with one finger of a player holding the fret bar in his hand; and
- a second control knob on said tone control potentiometer, said second control knob fixedly mounted on said tone control potentiometer for rotation thereof and projecting from said housing so as to be manipulable by another finger of the player holding the bar in his hand, whereby while playing the guitar and sliding the fret bar along the strings on the fret board thereof the tone and volume may be adjusted by merely rotating said first and said second control knobs.

2. A fret bar for playing a stringed electric musical instrument, said bar comprising:

- a housing means that can be held in the hand of an individual;
- a volume control means disposed within said housing

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means so as to have a movable control element thereof extending out of the top of said housing where it may be manipulated with the finger of said hand; and

- a tone control means disposed within said housing means in a position perpendicular to the orientation of said volume control means in said housing means so as to have a movable control element thereof extending out of a side of said housing means where it may be manipulated with another of the fingers of said hand,

whereby said individual may apply said fret bar to the strings of said musical instrument during the playing of the instrument and simultaneously manipulate either or both said volume and tone control means in said housing means.

3. A fret bar for playing a stringed musical instrument, said bar comprising:

- a generally cylindrical housing means holdable in a player's hand;

said means having a first opening therein to receive a volume control and a second opening therein to receive a tone control;

- a volume control means disposed in said first opening; and

a tone control means disposed in said second opening, whereby said controls may be manipulated by the fingers of the player while applying said housing against the strings of an instrument being played.

4. The fret bar defined in claim 3 wherein said tone control means is electrically connected in parallel with said volume control means.

5. The fret bar defined in claim 3 wherein said tone control means includes a rheostat connected variable resistor and a capacitor in series therewith.

6. In an electric stringed musical instrument a fret bar comprising:

- a housing means configured to be holdable in a player's hand;

a volume control means disposed in said housing means and having a first control knob attached to said volume control means, said first control knob projecting from said housing to be manipulable with one of the fingers of said player's hand; and

- a tone control means disposed in said housing means in an orientation perpendicular to said volume control means and having a second control knob attached to said tone control means, said second control knob projecting from said housing to be manipulable with another of the fingers of said player's hand.

7. The fret bar in an electric stringed musical instrument defined in claim 6 wherein said volume control means and said tone control means are electrically connected in parallel and wherein electrical wire connections are made between said volume and said tone control means to external devices.

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LEO SMILOW, Primary Examiner.

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,194,104

July 13, 1965

Orville Rhodes et al.

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

In the sheet of drawings, lower right-hand portion, strike out "ATTORNEY".

Signed and sealed this 15th day of March 1966.

(SEAL)

Attest:

ERNEST W. SWIDER

Attesting Officer

EDWARD J. BRENNER

Commissioner of Patents