Sept. 11, 1951 T. M. McCARTY 2,567,570

MAGNETIC PICKUP FOR STRINGED MUSICAL INSTRUMENTS

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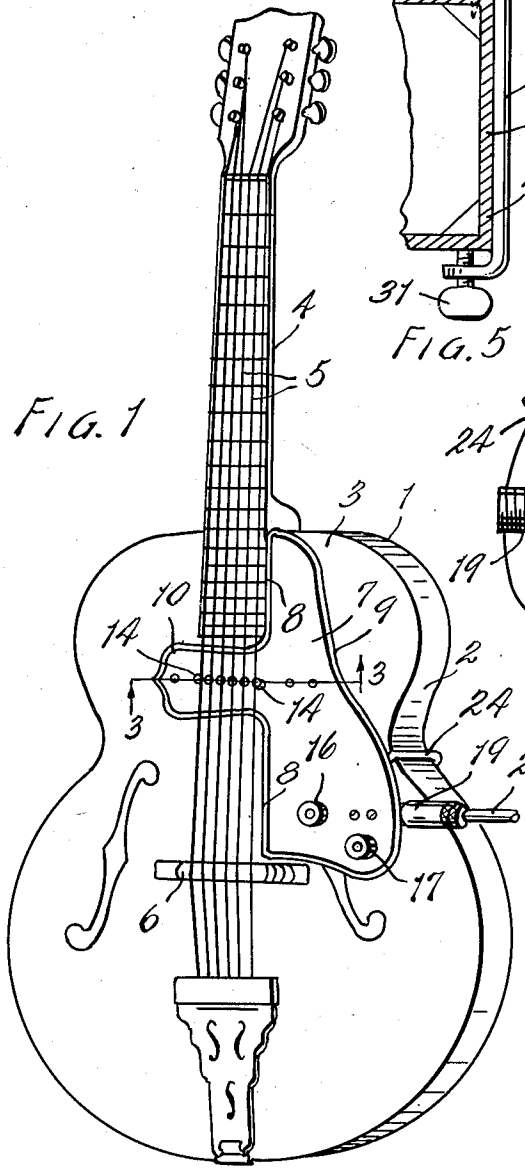

FIG. 1

FIG. 5

FIG. 2

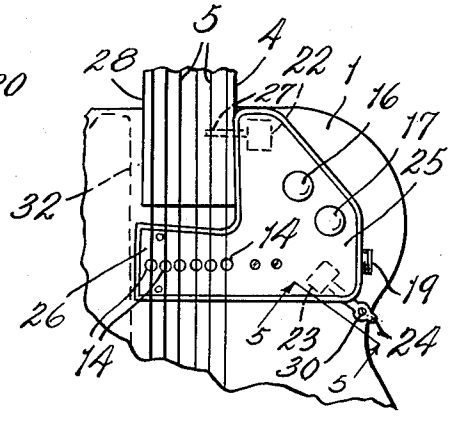

FIG. 4

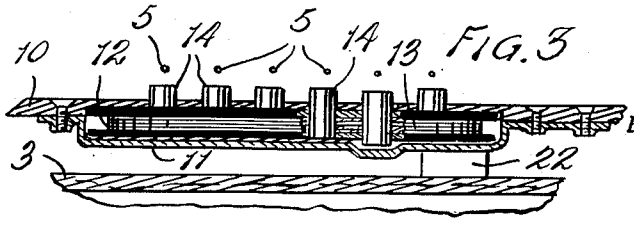

FIG. 3

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MAGNETIC PICKUP FOR STRINGED MUSICAL INSTRUMENTS

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13 Claims. (Cl. 84—1.01)

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This invention relates to improvements in magnetic pickups for stringed musical instruments.

The principal objects of this invention are:

First, to provide a combined finger rest and magnetic pickup for stringed musical instruments.

Second, to provide a mounting for a magnetic pickup for a stringed musical instrument which will not change the natural tone quality of the instrument or require alteration of the instrument in any way.

Third, to provide a combined magnetic pickup and finger rest which does not interfere with the playing of the instrument.

Fourth, to provide a magnetic pickup which can be used in connection with conventional finger rest on stringed instruments without altering the tone of the instrument.

Other objects and advantages relating to details of the pickup will be apparent from a consideration of the following description and claims.

The drawings, of which there is one sheet, illustrate a preferred form of a combined finger rest and pickup and one form of a separate pickup without a finger rest.

Fig. 1 is a perspective view of a guitar with the combined finger rest and magnetic pickup operatively mounted thereon.

Fig. 2 is a plan view of the under side of the finger rest and pickup.

Fig. 3 is a fragmentary cross sectional view taken along the plane indicated by the line 3—3 in Fig. 1.

Fig. 4 is a fragmentary plan view of a guitar with a pickup mounted thereon independently of any finger rest.

Fig. 5 is a fragmentary cross sectional view taken along the plane of the line 5—5 in Fig. 4.

The drawings illustrate a guitar 1 which is conventional in all respects, being provided with the usual rim 2, top 3, neck 4 and strings 5. The strings 5 are drawn tightly across a bridge 6 and the instrument is arranged to be played in the usual fashion.

The combined finger rest and magnetic pickup, generally indicated at 7, is mounted over one side of the top panel 3 and has a longitudinally extending inner edge 8 positioned along the side of the strings. The outer edge of the finger rest is irregularly curved, as at 9, in a well known manner to provide support for the musician's fingers and to act as a pick guard. The finger rest is preferably made of synthetic plastic material but other rigid materials could be substituted therefor.

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Intermediate of the longitudinal inner edge 8 of the finger rest there is provided a lateral extension 10 which projects underneath the strings 5 in spaced relationship between the strings and the top panel 3. Secured to the under side of the extension 10 is a housing 11 of soft iron which encloses and secures a magnetic pickup mechanism 12 to the under side of the extension. The pickup mechanism consists of a coil of fine wire 13 wound around a plurality of short cylindrical magnets 14 which project upwardly through the extension and underneath each of the strings 5. The soft iron housing acts both as an enclosure for the coil and magnets and also acts as a core element in that it forms part of the circuit for the magnetic fields of the magnets. This permits the pickup to be thin enough to fit between the strings and the top of the guitar.

As is most clearly illustrated in Figs. 1 and 2 the coil 13 is electrically connected through the cable 15 to a volume control switch 16 and a tone control switch 17. A condenser associated with the tone control is indicated at 18. The cable 15 terminates in a jack 19 arranged to receive the plug and of a cord 20 for connecting the pickup to amplifying and sound producing mechanism. The magnetic pickup mechanism operates in a manner well known to persons skilled in the art and so is not described in greater detail.

The under side of the finger rest 7 is provided with reinforcing strips 21 along its longitudinal edges 8 and is further provided with a supporting foot 22 which projects downwardly from the upper end of the rest and is arranged to seat against the top 3 adjacent to the rim 2 so as not to alter the tone quality of the instrument. Toward its lower and outer edge the rest 7 is provided with an attaching boss 23 apertured to receive the upper end of a clamp 24. The clamp 24 extends along the side of the guitar to the back thereof and is adapted to clampingly support the lower end of the finger rest from the side of the guitar in spaced relationship to the top of the guitar.

Attention is particularly called to the fact that the combined pickup and finger rest is supported in spaced relationship with the top of the guitar and the strings so that the natural tone qualities of the guitar are not altered by the pickup. If desired, the cable 20 can be disconnected from the jack so that the guitar may be played in the normal fashion without amplification. The

volume and tone controls are conveniently located where they can be adjusted according to the desires of the musician when the magnetic pickup is being used. While the drawings illustrate a guitar it will be appreciated that the rest and pickup can be easily adapted for use on other stringed instruments such as mandolins, banjos, etc.

Figure 4 illustrates a modified form of the pickup which can be used either alone or in combination with a separate finger rest. The support panel 25 is smaller than the finger rest 7 terminating along the lower edge of the extension 26. The extension 26 terminates closely adjacent to the last string of the instrument but carries the magnetic pickup mechanism and magnets 14 in much the same manner as the combined pickup and finger rest. Control knobs 16 and 17 and jack 19 are mounted on the panel 25 as in the combined form of the pickup.

The panel 25 extends to the upper end of the body of the guitar and is provided with a supporting block 22. A pin 27 extends from the foot into the side of a portion of the guitar rigidly connected to the finger board 28 to hold the panel in spaced relationship to the top of the guitar. The lower portion of the under side of the panel carries a block 23 which connects to the clamp 24. As is most clearly shown in Fig. 5 the clamp 24 comprises a U-shaped rod-like member having an offset or shoulder 29 in the upper leg thereof. The shoulder 29 seats against the rim of the guitar and may have a screw 30 passed therethrough if the pickup is to be attached more or less permanently to the guitar. A thumb screw 21 threaded through the lower leg of the clamp permits the clamp to be tightened on guitars of different thickness. The panel is thus supported clear of the top panel of the guitar so as not to alter the natural tone of the guitar.

Either of the pickups shown can of course be made for right or left handed musicians and it will be noted that the pickup shown in Fig. 4 can be used in conjunction with an ordinary finger rest such as is indicated by the dotted lines at 32. As thus arranged, the guitar would normally be played by a left handed musician.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In combination with a guitar, a combined finger rest and magnetic pickup comprising, a rest panel having a longitudinal edge positioned adjacent to the strings of the guitar, an extension projecting from an intermediate portion of said edge between said strings and the top of said guitar, magnetic pickup mechanism secured to the under side of said extension and having individual magnets projecting upwardly therethrough underneath the strings of the guitar, said mechanism including a lower casing of soft iron forming a return path for the fields of said magnets, volume and tone control switches mounted on said panel and electrically connected to said mechanism, a jack mounted on the under side of said panel, a supporting foot on the under side of said panel adjacent to the upper end thereof, an attaching boss secured to the under side of said panel toward the lower end thereof and a U-shaped clamp having an offset in its upper leg received in said boss, said clamp clampingly supporting said panel on the rim of said guitar.

2. In combination with a stringed musical instrument having a sounding body, a combined finger rest and magnetic pickup comprising, a rest panel having a longitudinal edge positioned adjacent to the strings of the instrument, an extension projecting from said edge between said strings and the top of said instrument, magnetic pickup mechanism secured to the under side of said extension and having magnets projecting upwardly therethrough underneath the strings of the instrument, a control switch mounted on said panel and electrically connected to said mechanism, a jack mounted on said panel, a supporting foot on the under side of said panel adjacent to the upper end thereof, an attaching boss secured to the under side of said panel toward the lower end thereof, and a clamp having one end attached to said boss and clampingly supporting said panel above the rim of said instrument.

3. A combined finger rest and magnetic pickup for a stringed musical instrument comprising, a rest panel having a longitudinal edge arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said edge to extend between said strings and the top of said instrument, magnetic pickup mechanism secured to the under side of said extension and having pole pieces projecting upwardly therethrough underneath the strings of the instrument, volume and tone control switches mounted on said panel and electrically connected to said mechanism, a jack mounted on the under side of said panel, a supporting foot on the under side of said panel adjacent to the upper end thereof, and an attaching boss secured to the under side of said panel toward the lower end thereof and adapted to receive one end of a clamp for clampingly supporting said panel on the rim of said instrument.

4. A combined finger rest and magnetic pickup for a stringed musical instrument comprising, a rest panel having a longitudinal edge arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said edge to extend between said strings and the top of said instrument, magnetic pickup mechanism secured to the under side of said extension and having pole pieces projecting upwardly underneath the strings of the instrument, a control switch mounted on said panel and electrically connected to said mechanism, a jack mounted on said panel, a supporting member on the under side of said panel adjacent to the upper end thereof, and an attaching boss secured to the under side of said panel toward the lower end thereof and adapted to receive one end of a clamp for clampingly supporting said panel on the rim of said instrument.

5. A combined finger rest and magnetic pickup for a stringed musical instrument comprising, a rest panel having a longitudinal edge arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said edge to extend between said strings and the top of said instrument, magnetic pickup mechanism secured to the under side of said extension and having pole pieces projecting upwardly therethrough, a control switch mounted on said panel and electrically connected to said mechanism, a jack mounted on said panel, a supporting member on the under side of said panel adjacent to the upper end adapted to engage and be supported by a non-vibratory portion of the instrument thereof, and an arm connected to the under side of said panel toward the lower end thereof

and adapted to be attached to the rim of the instrument to support said panel on the rim of said instrument.

6. A combined finger rest and magnetic pickup for a stringed musical instrument comprising, a rest panel having a longitudinal edge arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said edge to extend between said strings and the top of said instrument, magnetic pickup mechanism secured to said extension and having pole pieces projecting upwardly, a control switch mounted on said panel and electrically connected to said mechanism, a jack mounted on said panel, a supporting foot on the under side of said panel adjacent to the upper end thereof, and a clamp connected to said panel toward the lower end thereof and adapted to clampingly support said panel on the rim of said instrument.

7. A combined finger rest and magnetic pickup for a stringed musical instrument comprising, a rest panel having a longitudinal edge arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said edge to extend across said strings, magnetic pickup mechanism secured to said extension and having a pole piece projecting toward the strings of the instrument, a control switch mounted on said panel and electrically connected to said mechanism, a jack mounted on said panel, a supporting foot on the under side of said panel adjacent to one end thereof, and a clamp connected to said panel toward the other end thereof and adapted to clampingly support said panel on the rim of said instrument.

8. A combined finger rest and magnetic pickup for a stringed musical instrument comprising, a rest panel having a longitudinal edge arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said edge to extend across said strings, magnetic pickup mechanism secured to said extension and having a pole piece projecting toward the strings of the instrument, a supporting foot on the under side of said panel adjacent to one end thereof, and a clamp connected to said panel toward the other end thereof and adapted to clampingly support said panel on the rim of said instrument.

9. A combined finger rest and magnetic pickup for a stringed musical instrument having a hollow resonant body comprising, a rest panel arranged to be positioned adjacent to the strings of the instrument, said panel having an integral lateral extension projectnig therefrom to extend across the strings of the instrument, magnetic pickup mechanism removably mounted on said extension to be operatively associated with the strings of the instrument when said rest is mounted on said instrument, and a bracket connected to said panel and having an arm adapted to support said panel and mechanism from the rim of said instrument in spaced relationship with continuous air gaps between the mechanism and the body and strings of said instrument.

10. A magnetic pickup for a stringed musical instrument comprising, a panel arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said panel to extend between said strings and the top of said instrument, magnetic pickup mechanism secured to the underside of said extension and having pole pieces projecting upwardly therethrough underneath the strings of the instrument, volume and tone control switches mounted on said panel and electrically connected to said mechanism, a jack mounted on the under side of said panel, a supporting foot on the under side of said panel adjacent to the upper end thereof, and an attaching boss on the under side of said panel toward the lower end thereof and adapted to receive one end of a clamp for clampingly supporting said panel above the rim of said instrument.

11. A magnetic pickup for a stringed musical instrument comprising, a panel arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said panel to extend between said strings and the top of said instrument, magnetic pickup mechanism secured to the under side of said extension and having pole pieces projecting upwardly underneath the strings of the instrument, a control switch mounted on said panel and electrically connected to said mechanism, a jack mounted on said panel, a supporting foot on the under side of said panel adjacent to the upper end thereof, and an attaching boss on the under side of said panel toward the lower end thereof and adapted to receive one end of a clamp for clampingly supporting said panel above the rim of said instrument with the outer end of said projection closely adjacent the outer string of said instrument.

12. A magnetic pickup for a stringed musical instrument comprising, a panel arranged to be positioned adjacent to the strings of the instrument, an extension projecting from said panel to extend between said strings and the top of said instrument, magnetic pickup mechanism secured to the under side of said extension and having pole pieces projecting upwardly therethrough, a control switch mounted on said panel and electrically connected to said mechanism, a jack mounted on said panel, a supporting member on the under side of said panel adjacent to the upper end thereof and adapted to engage a pin projecting from a non-vibratory portion of the instrument rigidly connected to the neck of the instrument, and a bracket connected to the under side of said panel toward the lower end thereof and having an arm adapted to be connected to the rim of the instrument to support said panel above the rim of said instrument.

13. A magnetic pickup for a stringed musical instrument comprising, a panel arranged to be positioned adjacent to the strings of the instrument having a hollow resonant body, said panel having an integral lateral extension projecting therefrom to extend across the strings of the instrument, magnetic pickup mechanism removably mounted on said extension to be operatively associated with the strings of the instrument when said panel is mounted on said instrument, and a bracket connected to said panel and having an arm adapted to be attached to the rim of the instrument to support said panel and mechanism from the rim of said instrument in spaced relationship with continuous air gaps between the mechanism and the body and strings of said instrument.

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