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Rowe

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[54] **PICKUP MOUNT FOR STRINGED MUSICAL INSTRUMENTS**

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[52] **U.S. Cl.** **84/1.16**

[51] **Int. Cl.** **G10h 3/00**

[58] **Field of Search** ..... 84/1.04, 1.14–1.16, 84/267–269, 274, 275, 284, 285, DIG. 24

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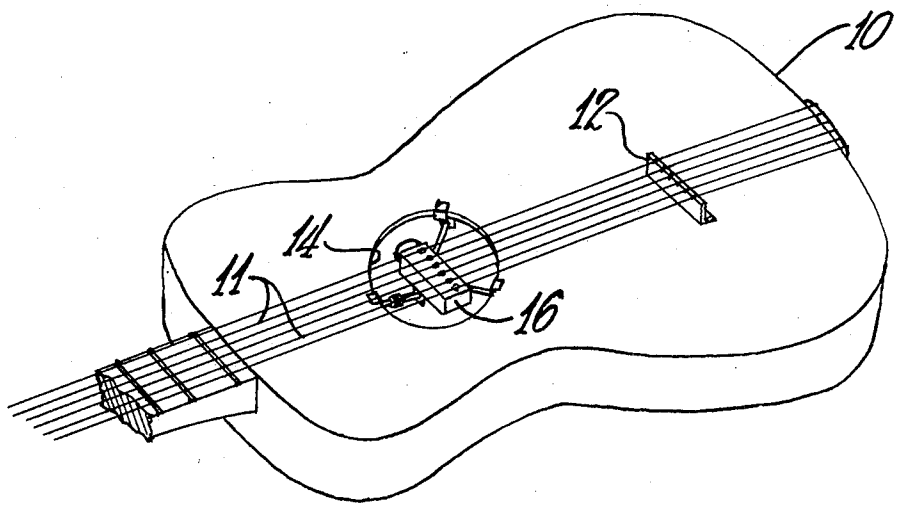
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[57] **ABSTRACT**

A multiple legged support for electrical pickup units and the like for stringed musical instruments exemplified by a tripod assembly adapted to being mounted on the marginal region of an opening to the sound chamber of the instrument and adapted to support of a pickup unit in an aligned position for pickup of the musical output of the instrument.

The tripod is adjustably positionable on the perimeter of the opening to the sound chamber of the instrument by provision of one or more legs adjustable in length permitting selective positioning of the pickup unit in an optimum position in the region of the chamber opening with little or no pressure on the sound chamber material which pressure might otherwise produce a dampening effect on the audio output of the instrument.

15 Claims, 6 Drawing Figures



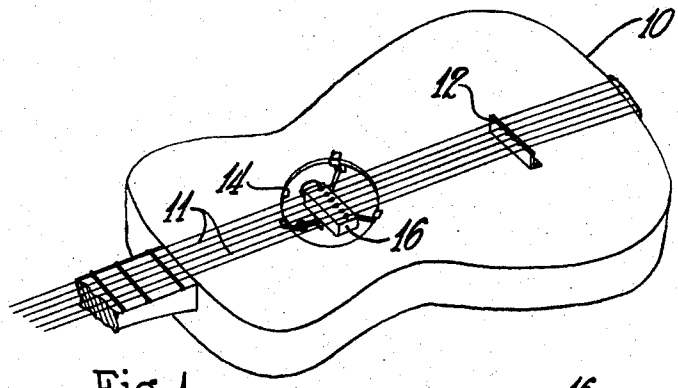


Fig. 1

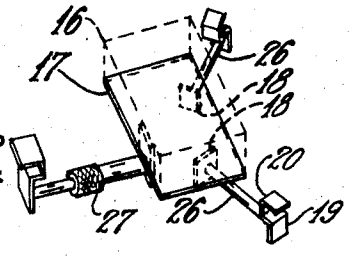


Fig. 2

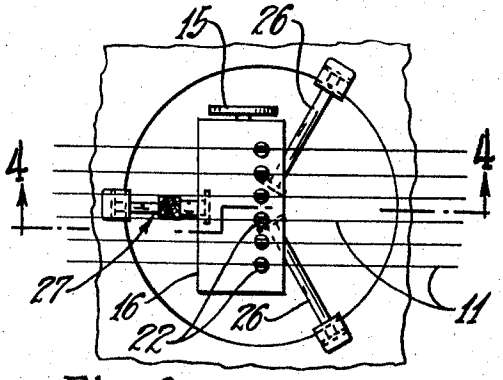


Fig. 3

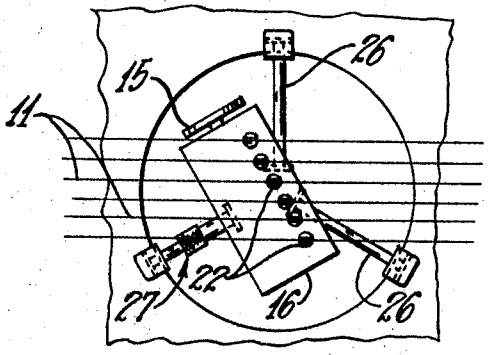


Fig. 5

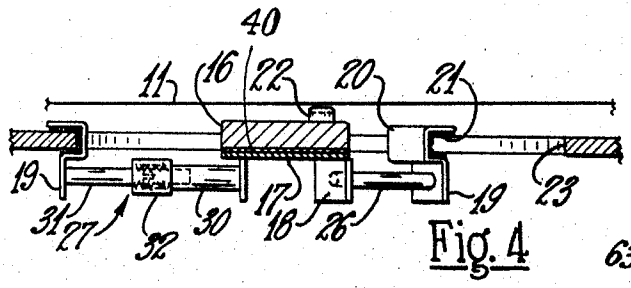


Fig. 4

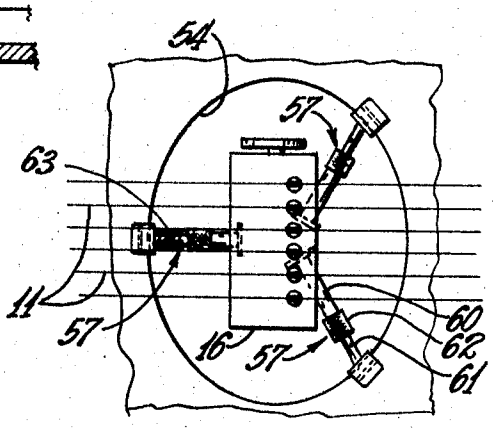


Fig. 6

PICKUP MOUNT FOR STRINGED MUSICAL INSTRUMENTS

This invention is related to a mounting assembly or unit for support of auxiliary equipment used on stringed musical instruments and particularly to a support structure for a pickup unit such as an electromagnetic pickup unit for stringed musical instruments such as guitars. In the modern trend toward electrical amplification of the musical output stringed instruments, sensitivity to subtle variations has resulted in need for greater fidelity in reproduction of the instrument output and a minimization of tendencies toward distortion. In this regard, the pickup unit for supply of signals to the amplifying components must be properly located and stably supported without obstruction to the musician's playing techniques and must be supported by the instrument in such a manner that it will have minimum or no effect on the output or tonal qualities of the instrument.

Conventional pickup mounts for electromagnetic pickup units are most frequently mounted in the region of the instrument adjacent the aperture to the sound chamber and are supported by being clamped to the perimeter of the opening either at one side thereof or in extended relation across the aperture with either a one or two point support. To assure that the pickup unit is properly aligned in relation to the strings of the instrument the clamp in such an arrangement usually must exert sufficient pressure on the instrument material to assure stable alignment both transversely and longitudinally of the strings. Pickup units of the type referred to herein are well known in the musical arts and are described in detail in prior art patents such as in U.S. NO. DeArmond et al. 2,909,092 and Abair 3,541,219 assigned to the same assignee as the present invention. Although the invention is herein described and illustrated in relation to a particular type of pickup unit it will be recognized that any of a number pickup units or auxiliary instruments components other than pickup units might be supported by the structural assembly of the present disclosure.

In general, the object of the present invention is to provide a stable structure for support of music pickup units such as electromagnetic and ceramic vibration sensing pickups or audio signal pickups for stringed instruments wherein the support structure can be stably mounted on the perimeter of the opening to the sound chamber of the stringed instrument with a minimum of pressure being exerted on the instrument which would otherwise tend to dampen the audio output and tonal qualities of the instrument.

Still another object of the present invention is to provide a mounting structure which is easily installed and accurately positionable with a degree of adjustment to assure that the pickup unit mounted thereon can be properly placed in relation to the strings of the instrument for maximum musical quality with a minimum of effort.

It is still another object of the present invention to provide a tripod pickup mount which is rugged in construction, easily adjustable and selectively placeable in position in relation to the aperture to the sound chamber and at the same time present a minimum of obstruction to the musician and the output of the sound chamber.

In brief, the objectives of the present invention are accomplished by provision of a pickup mount in the form of a tripod which can be mounted on the periphery of an aperture to the sound chamber of a stringed instrument. The tripod has three legs, one or more of which may be adjustable to desired lengths to permit securement of the legs to the perimeter of the aperture with a minimum or not clamping pressure on the instrument base. Adjustability can be accomplished by making at least one leg telescopic in the tripod arrangement but if desired all lengths of the structure can be made telescopic as well. Perimeter engaging elements provided at the end of the legs permit engaging association with the perimeter of the sound aperture of the instrument. By extending the legs to the proper length, the mount may be sturdily supported in both planar and vertical alignment with the strings with a minimum of pressure on the instrument.

Features of the invention lie in the ease of installation and the stableness of the support as well as the precision in adjustable alignment permitted thereby.

Still further features lie in the ruggedness of the construction with a minimum of mass as well as elimination of the need for exertion of clamp-like pressure on the instrument structure. These features are accomplished by distribution of the mounting function over a number of support regions thereby promoting stability with only a small load being borne by any one of the regions.

Although exemplified in the present arrangement by a tripod structure it will be recognized that a number of legs more than three might be incorporated in a mounting assembly according to the principles of the present invention. In the tripod structure, however, a minimum number of legs provides the desired features and results.

Other objects and features which I believe to be characteristic of my invention are set forth with particularity in the appended claims. My invention, however, both in organization and manner of construction together with further objects and advantages thereof may be best understood by reference to the following description taken in connection with the accompanying drawings in which:

FIG. 1 is a perspective view of a body portion of a guitar with an electrical pick-up unit mounted below the strings of the instrument on a pickup mount of the present invention.

FIG. 2 is an enlarged view of the pickup mount assembly installed in the instrument illustrated in FIG. 1 showing in dotted lines the location where the signal pickup unit may be mounted on the platform of the mount assembly;

FIG. 3 is an enlarged plan view of the pickup mount of FIGS. 1 and 2 showing in greater detail the manner in which the assembly is supported on the perimeter of the opening to the sound chamber of the stringed instrument;

FIG. 4 is a still further enlarged view of the pickup mount assembly showing the manner in which the leg members of the assembly engage the perimeter of the opening to the sound chamber of the stringed instrument;

FIG. 5 is another plan view of the pickup mount assembly shown oriented in slated transverse relation to the parallel aligned strings to illustrate how the assembly may be readily aligned with the strings where the

strings are closer together than the spacing of the poles of the pickup unit; and

FIG. **6** is a plan view of another embodiment of the present invention wherein the legs of the pickup mount are each adjustable to permit ready association of the mount assembly with a non-circular opening to the sound chamber of a stringed instrument.

Referring to the drawings in greater detail, FIG. **1** shows a body and a portion of a neck of a guitar **10**, the strings **11** extending across the bridge **12** and over the opening **14** to the sound chamber of the instrument. A pickup unit **16** is mounted below the strings **11** in aligned transverse relation to the parallel orientation of the strings passing over the opening. The pickup **16** is mounted on a tripod type mount assembly of the present invention shown in greater detail in FIG. **2** wherein the base which may also be termed a pedestal of platform **17** for the pickup **16** (shown in dotted lines) is supported by legs **26** and **27**. The legs each extend from the surface of an attachment member such as members **18** projecting from the bottom of the base **17**. As indicated the attachment members **18** may be separate tabs suitably secured to the base such as by being welded thereto or might be cut of the base material and bent over to an angle thereto for securement of the legs. The attachment members are located at suitable regions of the platform and at levels to permit convenient extension of the legs therefrom for stable support of the pickup unit mounted thereon. The base **17** may be an integral portion of the pickup unit or alternately the pickup might be a separate unit from the platform and arranged to be affixed in mounted relation.

As shown in FIG. **3**, two of the legs **26** of the mount assembly may be fixed in length while the third leg **27** is adjustable in length. A single adjustable extensible leg permits ready and easy installation of the assembly in proper orientation with the strings of an instrument where the opening to the sound chamber is circular. The arrangement thus lends itself to convenient location of controls such as a control **15** in a position for ready adjustment of variables such as volume and tone during playing of a musical composition. Where the opening to the sound chamber, however, is non-circular, and as in some constructions not symmetrical, still another arrangement such as that shown in FIG. **6** may be preferred or required wherein the legs are each extensible to desired lengths to adapt the mount to the instrument.

The extended end portions of the legs each are provided with suitable members for engagement with the instrument material at the margin of the opening of the instrument with which the assembly is to be associated. In this regard, guitars made of wood are usually constructed with bracing and rib members on the interior in the region surrounding the opening of the instrument to assure a strength and rigidity against external pressures such as might be confronted in normal use. It is preferable, however, that such forces be maintained at a minimum, well below the limits of the thin body portion bounding the opening to promote a minimum dampening of the musical output of the instrument.

Support of a pickup unit according to the present invention does not require application of forces of the clamp to to the wood portions surrounding the opening to the sound chamber. Rather the pickup is supported by engagement of the ends of the legs of the assembly in a manner such that only the weight of the assembly and pickup bears on the perimeter of the opening and then only in distributed relation depending upon the number of legs utilized to support the platform and pickup or other auxiliary equipment mounted thereon.

As shown more clearly in FIG. **4**, non-clamping engagement of the ends of the legs **26** and **27** with the perimeter of the instrument opening is accomplished by provision of what might be termed a C-shaped member **20** on a securing tab **19** at the end of each of the legs. The C-shaped members **20** can be lined with cushioning material **21** such as felt or plastic foam material to effect a more even distribution of the load forces of the assembly. By use of such cushioning material, thickness variations of the portions of the instrument forming the perimeter of the opening can be readily accommodated to.

The securing tabs **19** at the ends of the legs may be oriented to position the C-shaped perimeter-engaging members **20** at a level such that the platform is located at a level to position the poles **22** of the pickup for proper operating alignment under the strings **11** of the instrument. In this regard the upper surface of the platform **17** can be located at any number of levels in relation to the perimeter of the opening, dependent upon the manner in which the legs are secured to the platform itself and the dimensions of the securing tabs supporting the perimeter engaging members at the end of the legs. As shown, the mounting assembly is proportioned for engagement with the perimeter of the guitar such that the top of the platform **17** is mounted or located at a level generally matching the level of the face of the instrument. The level of the pickup unit **17** below the strings may be varied such as by use of adjustment screws or by use of shims **40** to establish the desired level of the pickup with relation to the strings. The tops of poles of conventional type pickups can usually be additional adjusted individually to some degree for still more exacting relation with the strings for desired signal pickup and output from the instrument.

The adjustable leg **27** illustrated more clearly in FIG. **4** is made extensible in length by provision of a hollow or tubular portion **30** having an extension rod portion **31** which is telescopically slideable therein to permit change in length of the leg. A chuck **32** is threadably engaged with the end of the tubular portion **30**. The end of the tubular portion **30** is provided with one or more short lengthwise slits to permit a squeezing or clamping of the end portion of the tube about the body of the extended rod **31** to establish a locked relation in any of a number of positions of extension of the rod from the end of the tubular portion **30**. This arrangement of a chuck **32** with the end of the tube **30** and the extension rod **31** has proven quite effective in providing a leg of variable length.

A feature of the mounting arrangement lies in the fact that no clamping of the mounting assembly need occur on any portion of the instrument. By the particular arrangement described only the weight of the assembly and the pickup component bears on the perimeter of the opening. The weight can be distributed evenly between the three regions of engagement of the leg members with the perimeter and if desired additional legs may be provided where design criteria indicate that the load on the contacted regions on the instrument may otherwise be excessive. Any lateral forces which might be exerted against the perimeter of the instrument can be cushioned by the insert material

21 and may be adjusted so that little or no pressure is exerted against the perimeter. By provision of such cushioning material in association with the C-shaped engaging members **20,** any jarring of the pickup unit or the mount assembly thus will have a minimal effect on the musical output of the instrument during playing.

FIG. **5** illustrates the manner in which the pickup unit **16** and the mount assembly can be angularly oriented in its transverse relation to the parallel side-by-side orientation of the strings across the opening **14** of the instrument. By this arrangement where the strings are closer to each other than the spacing of the poles of the pickup **16,** a cocked or slanted relation can be established such that the spacing of the poles and the strings can be matched. Proper lateral alignment of the poles with the strings can thus be assured regardless of deviation in construction of an instrument or pickup unit from norm.

Still another arrangement of the present invention is illustrated in FIG. **6** wherein each of the legs of the mount assembly; namely, legs **57** are each provided with a hollow or tubular body portion **60** with extension rod **61** slideable therein which in combination with a chuck **62** permits locking of the legs **57** to any desired length within its range of extension from the body **60.**

By provision of more than one such adjustable leg, the assemblage can be associated with instruments having non-circular openings to the sound chamber. The opening may be elliptical as illustrated, and the legs may be extended to the desired length to locate the pickup unit in any of a number of positions in alignment with the opening to the sound chamber. The assembly can thus be adjusted to locate a pickup unit in a number of positions along the length of the strings within the range of extension of the legs and may thereby be oriented both angularly and lengthwise of the instrument to promote attainment of the maximum in quality of output. For such quality it is also preferred that any metallic portions of the assembly be of non-ferrous metal to assure that magnetic influences are not exerted on operation of electrical units. Additionally, the pedestal for the pickup can be provided with an overlayer of cushioning material such as felt to further avoid extraneous disturbances of the output as well as to offer protection against jarring of the pickup unit.

As a possible variation for convenience in some applications, the adjustable legs of the structure lend themselves to being spring loaded interiorly or exteriorly such as by a spring **63** shown about one of the legs **57** in the arrangement of FIG. **6** to permit self-extension with a spring biasing force against the sides of the sound chamber opening on which it is supported. Such an arrangement is advantageous from the standpoint of facilitating quick installation and ease of release such as for replacement, but in some instances might be deemed less preferable because of the spring forces exerted on the perimeter of the opening to the instrument chamber. Still further, the legs and the C-shaped edge engaging members might be made swivelable for ready readjustment in different directions.

A number of additional variations in use of the present invention are possible and in this regard it will be recognized that the arrangement as shown is adaptable to positioning of a pickup or control component at any of a number of levels above or below the strings by angularly aligning the legs in a vertical direction with relation to the platform **17.** That is, the legs might be angled upward and aligned so that the pickup unit is disposed closer to or above the strings, or might be angled downwardly so that the pickup can be mounted interiorly such as in the central regions of the sound chamber. By such an arrangement, the pickup might be a unit such as a microphone for pickup of the audible output of the instrument.

While certain particular forms of the invention have been shown and described herein, it will be understood that the invention is not limited in all details thereto since as pointed out, many modifications may be made within the concept of the invention and it is therefore contemplated by the appended claims to cover all modifications which fall within the true spirit and scope of the invention.

I claim:

1. In combination with a stringed musical instrument having a hollow instrument chamber and an opening in the chamber wall underlying the strings;

means for support of a pickup for the musical output of the instrument under said strings within the space transverse to the perimeter of said opening,

said support means comprising a platform having legs extending therefrom establishing engagement with the chamber wall edge at regions spaced about the perimeter of said opening for support of said platform below said strings.

2. The combination set forth in claim **1** wherein means is provided for cushioning the supporting engagement of the legs with the edge surbase of the chamber opening.

3. The combination set forth in claim **1** wherein at least one leg of said support means is adjustable in length.

4. The combination set forth in claim **3** wherein the adjustable leg has a telescopically extensible length portion and a means is provided for locking the extensible portion to a selected length.

5. The combination set forth in claim **4** wherein the locking means comprises a chuck for clamping the extensible portion to selected lengths.

6. A mount for support of components such as electrical pickup units and the like on stringed instruments of the type having a hollow sound chamber with an opening in the chamber wall underlying the strings comprising a platform for support of an instrument component in aligned relation with the instrument strings within the space transverse to and bounded by the edge of the opening to the instrument sound chamber, at least three legs extending from said platform in different directions toward the perimetric edge of the wall at the opening to the sound chamber;

said legs having means for making engagement with the edge of the sound chamber opening at regions so spaced about the opening to provide stable support of said platform.

7. A stringed instrument mount as set forth in claim **6** wherein at least one leg of said legs is adjustable in length to facilitate installation and adjustment of orientation of said mount.

8. A stringed instrument mount as set forth in claim **7** wherein the adjustable leg comprises a hollow leg section and an extension portion telescopically slideable therein.

9. A stringed instrument mount as set forth in claim **8** wherein said adjustable leg has locking means effective to lock the leg to a selected length.

10. A stringed instrument mount as set forth in claim 9 wherein said locking means comprises a locking chuck effective to clamp the end of said hollow section about the body of the portion slideably extendable therefrom.

11. A stringed instrument mount as set forth in claim 6 having means connected for vertically modifying the position of components supported on said platform.

12. A stringed instrument mount as set forth in claim 6 wherein said engagement means has portions spaced a distance from each other approximating the thickness of the chamber wall at the opening and adapted to engage the overlying and underlying surfaces of the chamber wall at the edge of the opening.

13. A stringed instrument mount as set forth in claim 6 wherein the engagement means of each of said legs comprises a C-shaped element of dimension for snug engagement with the edge of the wall at the opening to the sound chamber of the instrument.

14. A stringed instrument mount as set forth in claim 13 wherein the C-shaped engagement elements of said mount are lined with cushioning material for resilient support of said mount on the edge of said opening.

15. A stringed instrument mount as set forth in claim 7 wherein the adjustable legs are spring biased to permit self-extension of said legs into biased engagement with the perimeter of the opening to the sound chamber.

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