June 5, 1951 R. O. ADAMS 2,555,388

ATTACHMENT FOR STRINGED MUSICAL INSTRUMENTS

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Fig. 1.

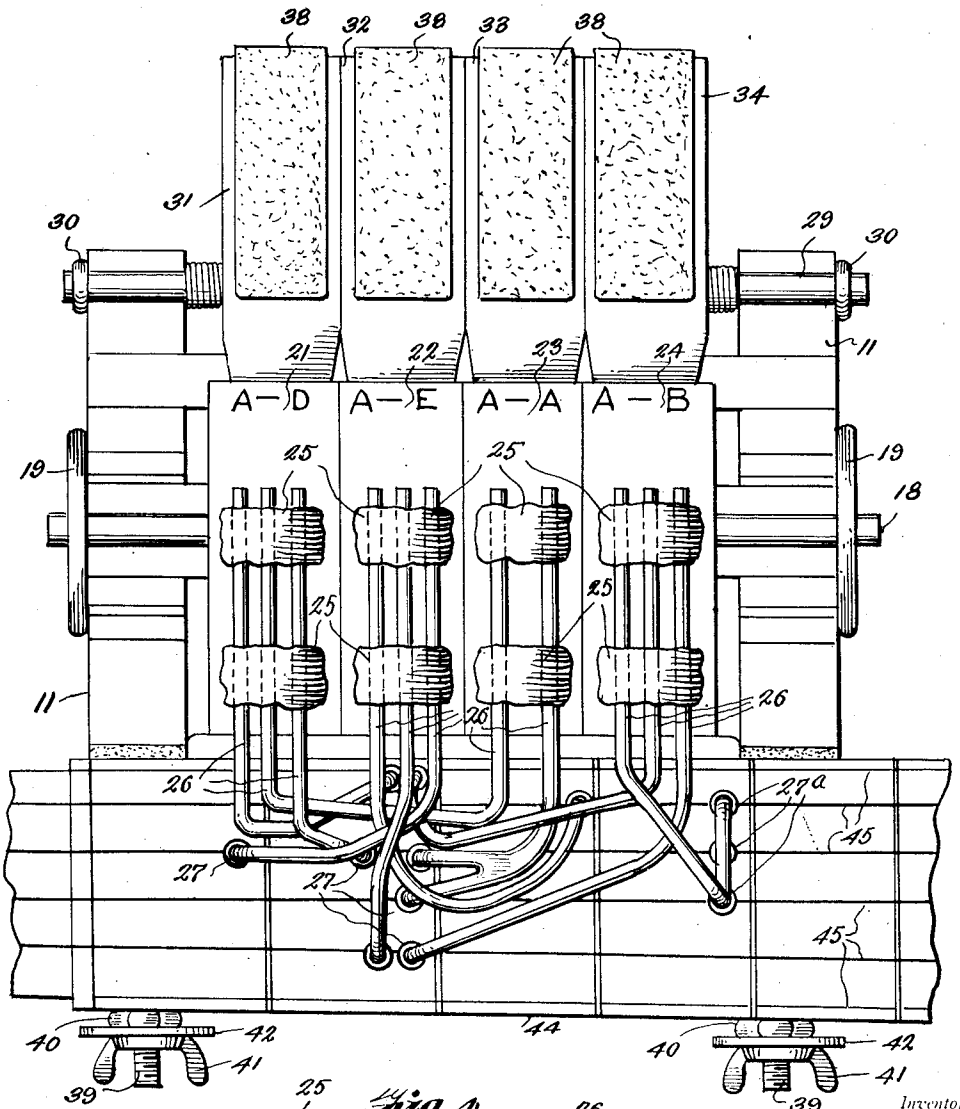

Fig. 4.

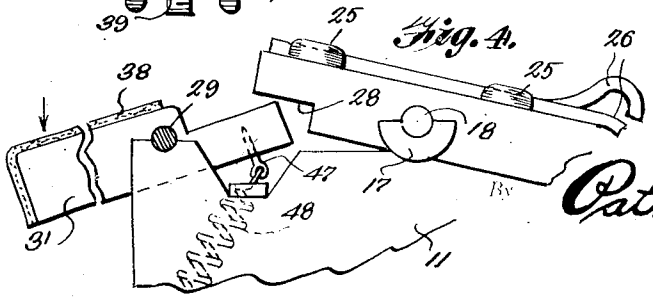

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Fig. 2.

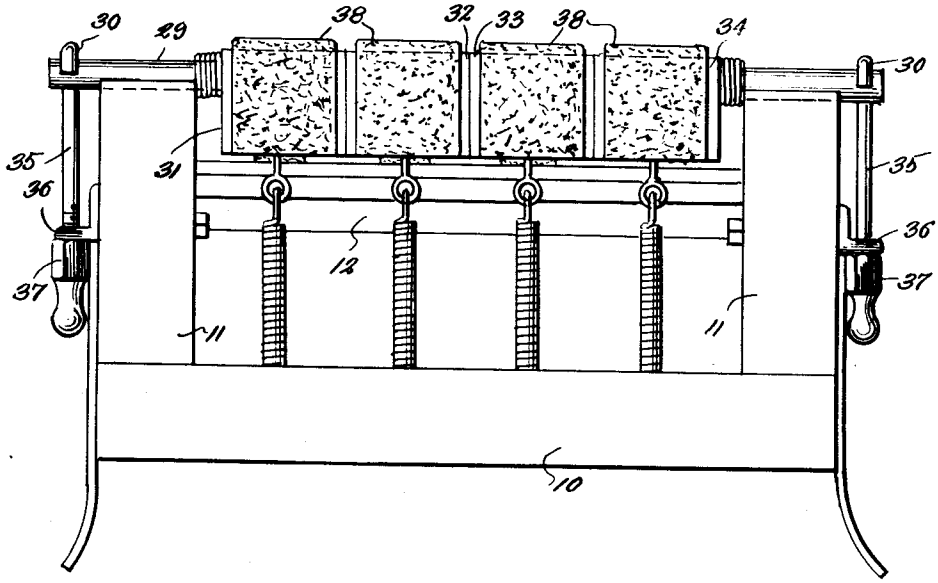
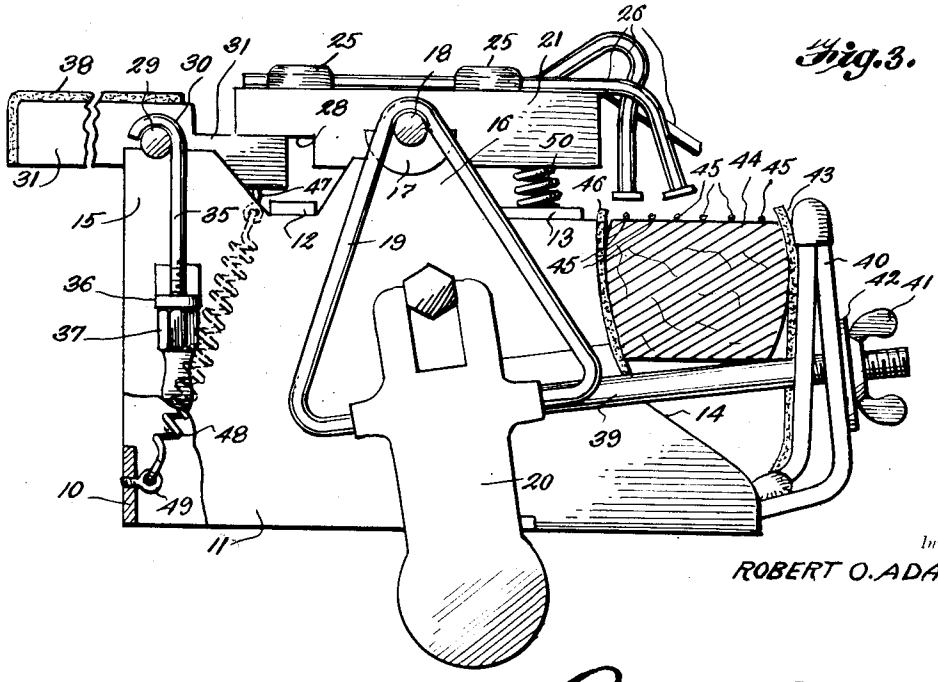


Fig. 3.



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ATTACHMENT FOR STRINGED MUSICAL INSTRUMENTS

Robert O. Adams, Monte Vista, Colo.

Application February 10, 1950, Serial No. 143,590

1 Claim. (Cl. 84—317)

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The present invention relates to an attachment for stringed musical instruments and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

Generally there is provided an attachment for stringed musical instruments such as, for example, guitars, and which comprises a unitary device which may be clamped to the neck of the instrument and which includes a set of four keys which, when depressed activate selected levers which, in turn, carry in each case, a plurality of outwardly extending metallic fingers which are bent in such manner as to depress strings of the instrument in the manner of human fingers. The sets of levers are interchangeably mounted in the device so that selected sets of levers may be placed in the device for a given musical key.

It is accordingly an object of the invention to provide a device of the character set forth which is simple in construction, inexpensive to manufacture and yet effective and efficient in use.

Another object of the invention is the provision of novel interchangeable levers having string-depressing fingers, both forming a part of the invention.

Another object of the invention is the provision of a novel keyboard forming a part of the invention.

A still further object of the invention is the provision, in a device of the character described, of novel means for mounting such device upon a musical instrument.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is a plan view of an embodiment of the invention shown mounted upon the neck of a guitar,

Figure 2 is an end elevational view thereof,

Figure 3 is a side elevational view of the device shown in Figures 1 and 2, and

Figure 4 is a fragmentary elevational view, partly in section, illustrating the action of certain elements of the invention.

Referring more particularly to the drawings, there is shown therein an attachment for stringed musical instruments having a body comprising a base member 10 to either end of which is affixed an upstanding arm 11. Interconnecting the arms 11 approximately midway of their height is a cross arm 12 and a cross

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arm 13. The forward sides of the arms 11 are curved inwardly, as indicated at 14, and the arms 11 are provided with a rearward upstanding portion 15 and a centrally located upstanding portion 16.

Affixed in the upper ends of the portions 16, in each case is a semi-circular cradle 17 and a shaft 18 lies within the cradle 17 and is hollowed therein, at either end, by means of a substantially triangular yoke 19 to each of which yokes is affixed a dependant bracket member 20 which brackets 20 may be interconnected at their lower end and beneath the base 10.

Pivotally and interchangeably mounted upon the shaft 18 is a series of levers 21, 22, 23, and 24 to the upper side of each of which is affixed by means of solder 25 or like means, in each case, a plurality of arms 26 preferably formed of metallic wire material and each bent into an irregular shape and each provided with a foot 27 or with a plurality of feet 27a in certain instances.

The rearward ends of each of the levers 21 to 24, inclusive, is cut away, as indicated at 28. A shaft 29 is revolubly mounted in suitable grooves formed in the upper faces of the portions 15. Revolubly mounted upon the shaft 29 is a series of keys 31, 32, 33 and 34, the forward ends of which are adapted to engage the under sides of the levers 21 to 24, inclusive, respectively, within the cut away portions 28.

A hook 30 engages the shaft 29 adjacent each end thereof and each of the hooks 30 is provided with a dependant shank 35 which extends through a bracket 36 affixed to the outer face of the arm 11 and which has threaded upon the lower end thereof a nut 37.

Each of the keys 31 to 34, inclusive, is provided with a felt covering 38. To each of the yokes 19 there is affixed one end of an outwardly extending bolt 39 which extends through a resilient supporting arm 40 and which has threaded at the outer end thereof a wing nut 41, a washer 42 being interposed between the nut 41 and the support 40. A felt matting 43 is interposed between the support 40 and the neck 44 of, for example, a guitar, which is provided with the customary six strings 45 and a felt matting 46 is interposed between the other side of the neck 44 and the curvular portion 14 of the arms 11.

The underside of the forward end of each of the keys 31 to 34, inclusive, is provided with an eye 47 which is interconnected by means of a tension spring 48 with an eye 49 affixed to the

base 10 and a compression spring 50 is interposed between the forward underside of each of the levers 21 to 24, inclusive, and the cross bar 13.

In operation, it will be apparent that the feet 27 and 27a are adapted to engage the strings 45 at selected positions due to the irregular shape of the arms 26, such positions being, of course, prearranged when the sets of levers 21 to 24, inclusive, are fabricated. Thus it will be seen that by pressing upon one of the keys 31 to 34, inclusive, at a time that various chords will automatically be "fingered" by the feet 27 and 27a in exactly the manner as they would be "fingered" by an expert player not utilizing this device. Again, it will be apparent that even though the user of the present device may have large or wide fingers that he may nevertheless be able to play a stringed instrument since the fingers of the operator only are utilized to press one of the keys 31 to 34, inclusive, at a time. It will also be apparent that a person having but one finger may still utilize the device. The device is quickly and easily clamped to the neck 44 of a stringed instrument by utilizing the support member 40 and the wing nuts 41.

Also, it will be seen that when the music being played calls for a different key than the particular set of levers 21 to 24, inclusive, which may be in the device at the time, that it is only necessary to remove the set and install a different set which may be arranged for the musical key desired.

Also, it will be seen that pressure downwardly upon any of the keys 31, to 34, inclusive, will cause an upward movement of the rear end of the respective lever thus causing the forward end of such lever to move downwardly against the action of the spring 50 associated therewith and causing the feet 27 or 27a, as the case may be, to come into contact with the strings 45 in the desired manner and that, when pressure is relieved from the keys 31 to 34, inclusive, that the compression spring 50 will cause the forward end of the lever to rise thus causing the rearward end thereof to move the forward end of the associated key downwardly. This action is assisted by the tension spring 48 of that particular key.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claim.

What is claimed is:

An apparatus of the character described comprising a frame, means for removably attaching the frame to the neck of a stringed musical instrument, an inner shaft carried by said frame in spaced parallel relation to the longitudinal axis of said neck, a plurality of horizontally aligned levers pivoted to said inner shaft, an outer shaft mounted on said frame in spaced parallel relationship to said inner shaft, a key for each of said levers, said keys being pivoted to said outer shaft in horizontal alignment, the inner end of each of said keys underlying the outer end of its associated lever, a tension spring interconnecting the underside of the inner end of each key with said frame, a compression spring interposed between the underside of the inner end of each of said levers and said frame, a plurality of irregularly shaped fingers affixed to each of said levers and extending over the strings of said musical instrument, and feet carried at the free ends of said fingers and adapted to bear against selected portions of said springs when a lever is moved against the action of its compression spring by its associated key.

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