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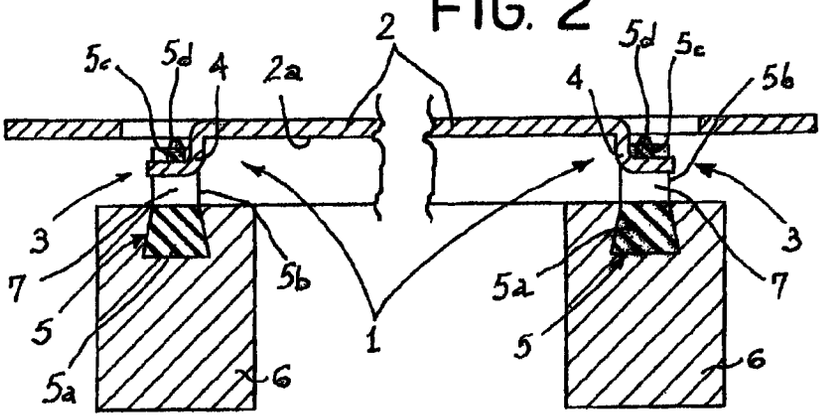
(54) Attachment device for sounding bars of musical percussion instruments

(57) An attachment device for sounding bars of xylophones and similar musical percussion instruments comprises, for each sounding bar (2), at least one pair of connecting elements (3) removably engaged with each other and consisting of a first element (4) integral with the sounding bar and projecting from the lower face thereof and a second element (5) integral with a supporting base (6) of the musical instrument.

FIG. 2



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Description

[0001] The present invention relates to an attachment device for sounding boards or bars of musical percussion instruments, of the type comprising the features recited in the preamble of claim 1.

[0002] In more detail, the invention applies to xylophones or similar musical percussion instruments, provided with sounding boards or vibrating bars each of which reproduces a note or different sound when it is struck with a hammer.

[0003] It is known that in some types of instruments of the above mentioned kind each sounding bar is linked in a removable manner, close to one or both of its ends, to the supporting base of the instrument by appropriate attachment devices. Usually, these attachment devices are formed of connecting elements having the shape of a finger or a hook for example, that pass through respective holes formed in the sounding bar itself and projecting from the upper face thereof.

[0004] However, the attachment devices of known type briefly described above have some important drawbacks. In fact, due to the presence of fingers or hooks projecting from the upper surface of the sounding bars the useful surface for percussion of the bars themselves is greatly restricted, above all with reference to the bars of smaller sizes intended for reproducing the highest sounds.

[0005] This problem appears in a still more apparent manner if each sounding bar is engaged close to both its opposite ends for the purpose of being better linked to the instrument base, so that in many cases the bars are preferably linked at one end alone, exactly for the purpose of limiting those drawbacks resulting from a reduction in the useful percussion surface.

[0006] However, when each sounding bar is linked by connecting elements close to only one of its ends, whereas the opposite end portion is merely received in a sunken seating exclusively holding it at the side edges, displacements and accidental separations of the sounding bars from the supporting base are more likely to occur, which may bring about a possible loss of said bars above all in case of instruments to be used by children.

[0007] In an attempt to counteract the last mentioned event, some types of instruments are provided with a cover that, being lowered onto the sounding bars when the instrument is not used, stops any accidental displacement of same.

[0008] In other types of instruments, the sounding bars are firmly linked, but still with the possibility of vibrating, by cables or wires passing through horizontally-formed transverse holes between the side edges of the bars themselves. In this way the upper faces of the bars are completely available for percussion, but replacement of one or more bars is obviously complicated since the bars to be replaced are to slipped off the cables together with the bars preceding or following them and therefore dismantling and subsequent mounting of the whole instrument is practically required. For the above reason, technical solutions of this type are exclusively adapted for instruments of the professional type having sounding bars of appropriate thickness, but practically cannot be proposed when the bar thickness is rather reduced, as well as in case of diatonic instruments for amateur use, where the possibility of easily replacing the sounding bars so as to be able to play musical pieces in different keys is normally required.

[0009] Under this situation, the technical task underlying the present invention is to conceive an attachment device for sounding boards or bars in xylophones and the like, capable of substantially obviating the mentioned drawbacks.

[0010] Within the scope of this technical task it is an important aim of the invention to provide an attachment device making the upper surfaces of the sounding bars completely available for percussion and, at the same time, enabling a good stability to be achieved in connecting the sounding bars to the supporting base of the instrument and a simultaneous possibility of easily removing one or more of said bars, for a possible replacement of them, for example.

[0011] The technical task mentioned and the aims specified are substantially achieved by an attachment device for sounding bars having the features set forth in the characterizing portion of claim 1.

[0012] The description of a preferred non-exclusive embodiment of an attachment device for sounding bars in xylophones and the like in accordance with the present invention is now given hereinafter by way of non-limiting example, with reference to the accompanying drawings, in which:

- Fig. 1 is a perspective view of a xylophone or similar musical instrument provided with attachment devices in accordance with the invention; and
- Fig. 2 is a fragmentary cross-section taken along line 1-1 in Fig. 1, highlighting the structural features of the device of the invention.

[0013] With reference to the drawings, an attachment device for sounding bars in xylophones and the like in accordance with the present invention has been generally identified by reference numeral 1.

[0014] The device 1 for each sounding bar 2 comprises two pairs of connecting elements 3, each of which consists of a first connecting element 4 integral with the sounding bar 2, and a second connecting element 5, integral with a supporting base 6 of the musical instrument, which elements are susceptible of being removably engaged with each other close to an end portion of the sounding bar 2.

[0015] The first connecting element 4 exclusively projects from a lower face 2a of bar 2 and is substantially shaped in the form of a hook. For sounding bars of metal material, made of an aluminium alloy for example,

the hook-shaped element 4 can be advantageously obtained by cutting out a portion of the bar 2 itself which is then suitably bent over on the side of the lower face 2a, so as to form a loop with said face, which loop has an opening turned towards the corresponding bar end.

[0016] The second connecting element 5 is defined by a grip element having a bored portion 7 adapted to house the hook-shaped element 4. Practically, the grip element 5 is made of an elastomer material and comprises a portion 5a for junction to the supporting base 6 in the form of a dovetail for example, two posts 5b extending from the junction portion 5a and a crosspiece 5c for connection between the posts 5b. Extending over the crosspiece 5c, preferably on top of the corresponding posts 5b, there are two pointed projections 5d (only one of which is shown in the accompanying drawings) forming two supports for the sounding bar 2. Posts 5b and crosspiece 5c define the bored portion 7 into which the hook-shaped element 4 can be fitted.

[0017] Said hook-shaped element comprises an end portion 4a suitably spaced apart from the lower face 2a of the sounding bar 2, so that the loop formed by it can hold the crosspiece 5c and the support projections 5d.

[0018] The mounting modality of each sounding bar 2 through the device of the invention described above mainly as regards structure, is as follows.

[0019] After inserting a hook-shaped element 4 corresponding to one of the end portions of a bar 2 into the respective grip element 5, by deeply pressing the hook-shaped element against the crosspiece 5c and utilizing the elasticity of the latter, the other hook-shaped element 4 too of the same bar can be easily fitted into the corresponding grip element. In this way the vibrating bar is firmly anchored to the supporting base.

[0020] If a bar is wished to be removed for replacing it with another adapted to produce a different note for example, it is first of all necessary to exert a thrust action on the bar moving it laterally until one of the two hook-shaped elements 4 is released from the respective grip element 5.

[0021] The second hook-shaped element too is subsequently disengaged by slightly inclining the bar upwardly and moving the latter longitudinally in the opposite direction relative to the first displacement.

[0022] The invention achieves important advantages.

[0023] It is to point out first of all that each sounding bar mounted to the supporting base of an instrument by means of the device of the invention does not exhibit any projecting element in its upper surface: said surface is therefore thoroughly available for percussion.

[0024] In addition, while the attachment device of the invention enables quick and easy mounting and dismantling operations of each sounding bar, it firmly fastens said bar to the supporting base of the instrument and prevents displacements or removals thereof of the accidental type, avoiding additional holding elements such as covers and the like being added.

Claims

1. An attachment device for sounding bars of musical percussion instruments, comprising at least one pair of connecting elements (3) for each sounding bar (2), to be removably engaged with each other, characterized in that said pair of connecting elements comprises a first connecting element (4) integral with the sounding bar and projecting from the lower face (2) thereof and a second connecting element (5) integral with a supporting base (5) of the musical instrument.

2. A device as claimed in claim 1, characterized in that said connecting elements (3) comprise a shaped element (4) substantially in the form of a hook and a grip element (5) having a bored portion (7) adapted to house said hook-shaped element (4).

3. A device as claimed in claim 2, characterized in that said first connecting element (4) integral with the sounding bar is embodied by said hook-shaped element and said second connecting element (5) integral with the supporting base (6) is embodied by said grip element.

4. A device as claimed in claim 3, characterized in that said hook-shaped element (4) consists of a cut-out and bent-over portion of said sounding bar (2).

5. A device as claimed in claim 2, characterized in that said grip element comprises:

   - a portion (5a) for junction to the supporting base (6) of the instrument,
   - two posts (5b) extending from said junction portion (5a), and
   - a crosspiece (5c) for connection between two posts (5b), said posts (5b) and crosspiece (5c) defining said bored portion (7).

6. A device as claimed in claim 3, characterized in that said grip element (5) is made of an elastomer material and comprises at least one upper projection (5d) for support of the sounding bar (2).

7. A device as claimed in claim 1, characterized in that for each sounding bar (2) provision is made for two pairs of said connecting elements (3) disposed close to opposite end portions of the sounding bar (2) itself.

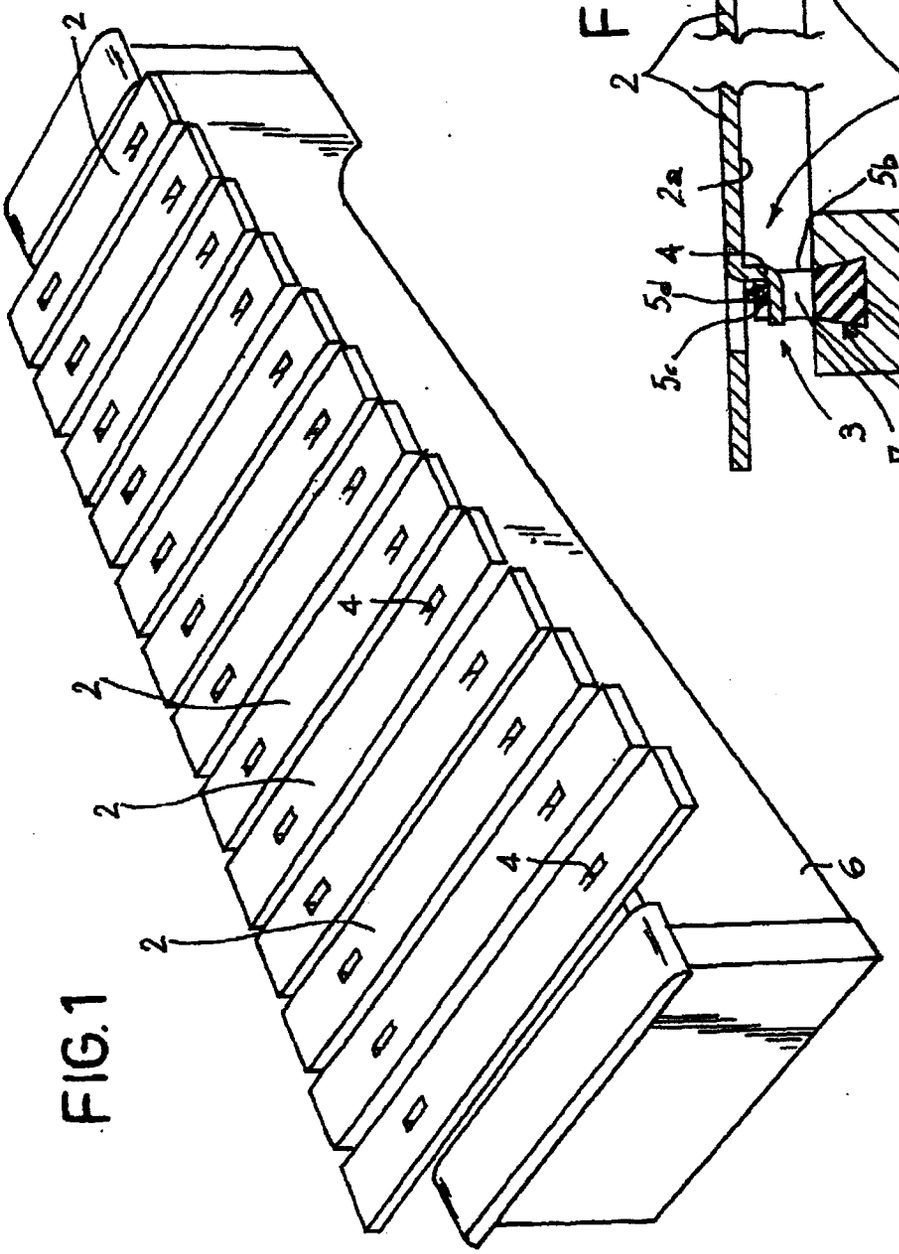

FIG. 1

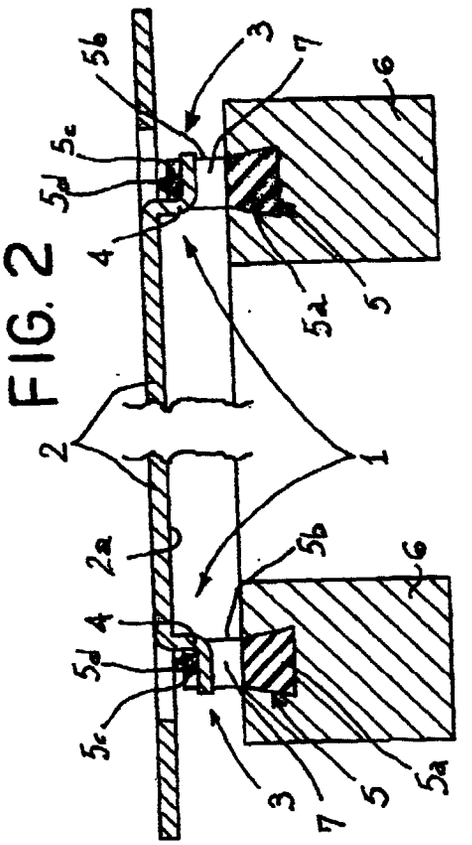

FIG. 2