J. BOHMANN.

AUXILIARY VIBRATOR FOR GUITARS, &c.

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1,128,218.

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Fig. 1

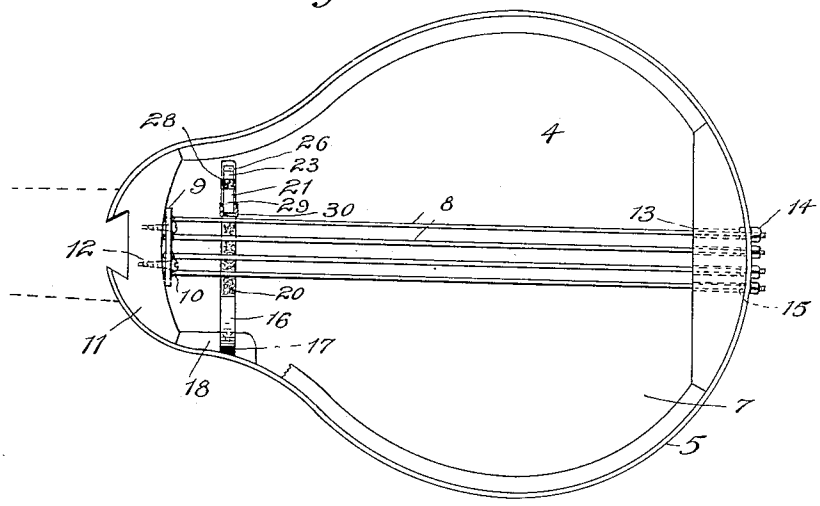


Fig. 2

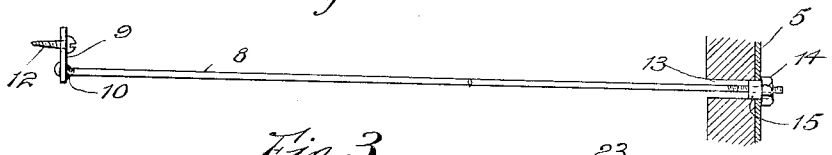
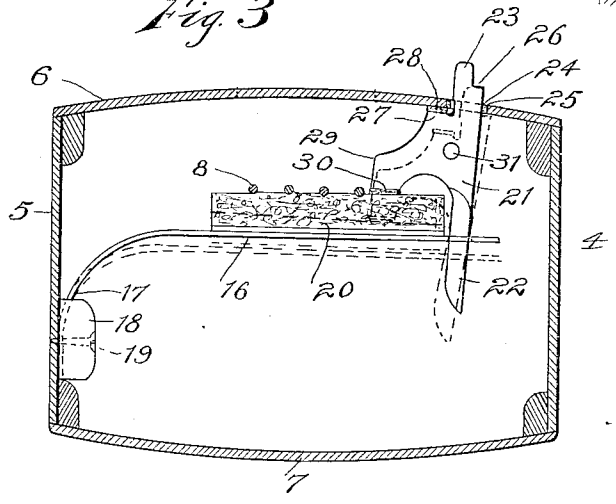


Fig. 3



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AUXILIARY VIBRATOR FOR GUITARS, &c.

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To all whom it may concern:

Be it known that I, JOSEPH BOHMANN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Auxiliary Vibrators for Guitars, &c., of which the following is a specification.

This invention is especially applicable to stringed instruments such as mandolins, guitars, or the like, and relates to means for improving the construction and tone of such instruments.

Among the objects of my invention are to provide the body of the instrument with one or more tension rods for the purpose of increasing or improving the tone of the instrument; to provide means for muting or stopping the vibration of such rods when desired, and to provide such other improvements in details of construction as will appear hereinafter.

In the accompanying drawings illustrating my invention, Figure 1 represents the body of an instrument, for instance a mandolin, with the top removed to show the interior construction; Fig. 2 is a detail of the tension rods; Fig. 3 is an enlarged cross sectional view showing the construction and arrangement of the muting device.

As indicated in these drawings, 4 represents the body of the instrument which comprises the sides or rim 5, the top 6 and the back 7. The tension rods 8 preferably extend longitudinally of the body as indicated in Fig. 1. These rods as usually constructed are about one-sixteenth of an inch in diameter and I prefer to make them of different materials, one being made of German silver, another brass, another copper and the other steel. Of course, other combinations may be made, but I have found the above combination gives a pleasing tone to the instrument. Although various metals may be used, this combination is desirable as it provides rods which may be made all approximately the same size, and which may be easily given proper tensions in order to give the desired tone. Thus copper is used to give the tone of G; brass for the tone of D; steel for the tone of C; and German silver for the tone of F. These particular metals can all be hardened, so that they will retain their vibratory quality for a considerable time after being inserted and placed under tension in the instrument. As an example of such rods, I use a rod 1/16 of an inch in diameter and about 18 inches long, of hardened copper, to give the pitch of G. In order that these rods may be readily attached to any instrument, one end of each of them is secured to a plate 9. This may be done by passing the ends of the rods through holes in the plate and riveting them as indicated in Fig. 2, but I prefer to have them also soldered or brazed as indicated at 10. This soldering or brazing is further advantageous as the heating of the rods adjacent to the plate draws the temper of the same if they are tempered, and tends to improve their tone qualities. This plate is then fastened to the front block 11 by means of screws 12 or in any other convenient manner. The other ends of the rods 8 pass out through enlarged holes 13 in the rear end of the rim and are threaded for engagement with tightening nuts 14. These nuts are provided with inwardly extending circular projections 15 of smaller diameter than the main portion of the nuts, these projections fitting within the holes 13 and being free to turn therein. It will be seen that by means of this arrangement the rods are only supported at their ends and the portions of the rods passing through the block at the rear end of the body will not touch the same, and therefore, their vibration will not be interfered with. This also provides for tuning or adjusting the tension of these rods to any pitch desired.

At any convenient point in the body, but preferably adjacent to the front thereof where the player may readily operate the same, I provide a muting or deadening device, which is clearly shown in Figs. 1 and 3. A spring 16 is attached at 17 to the inner portion of the rim, preferably by means of a block 18 and screw 19. This spring extends upwardly and then laterally across underneath the rods 8. A pad 20 of felt or other suitable material is secured to the spring 16 at a point underneath the rods and serves to deaden or stop the vibration of the rods when it is pressed against the same by the spring. In order to depress the pad and spring and hold them in depressed position to free the rods, I provide a disengaging or releasing device 21. This device has a downwardly extending arm 22 which passes through a hole in the spring 16 and is preferably made angular in cross section, with the hole corresponding there-

with, in order to prevent the device from rotating. Another branch or projection 23 which is substantially in alinement with the arm 22 projects up through a hole 24 in the top 6. The sides of this hole are preferably lined with felt as indicated at 25 in order to prevent any rattling.

The projection 23 is provided with a shoulder 26 which is adapted to engage with the lower surface of the top 6 when the device is pressed downwardly in order to hold it in such depressed position. The device is also provided with another shoulder 27 at the left of the projection 23 which also engages with the under surface of the top 6 and limits the upward movement of the device. This shoulder is also preferably covered with felt, as indicated at 28, to prevent any undue vibration or noise. The disengaging device 21 is also provided with a foot or projection 29 which extends substantially at right angles from the vertical portion of the same, which foot rests upon the upper surface of the pad 20. This foot may also be provided with a felt pad 30 which serves to prevent the foot from cutting or working into the upper surface of the pad 20. This device is also provided with a hole 31 for convenience in inserting the same in an instrument or withdrawing it therefrom. It will be readily seen that, on account of the unique form of the depressing device 21, when the player presses down on the top of the projection 23, the foot 29 will press the pad 20 away from the rods 8 against the tension of the spring 16. As soon as the notch 26 comes below the lower surface of the top 6, the leverage incident to the offset relation of the foot 29 tends to throw the top of the device to the right as indicated in Fig. 3, and it will be automatically locked in depressed position. In such position the rods 8 are free to vibrate in their normal manner. When the player again desires to stop the vibration of these rods, he merely presses the projection 23 to the left as indicated in Fig. 3 which will free the shoulder 26 and the tension of the spring 16 will force the disengaging device 21 upwardly until it is again in the first position indicated. The disengaging device 21 is preferably made of wood and, on account of the way it is protected from the body of the instrument will not interfere with the tone thereof.

It will be readily seen that my improved arrangement of rods may be readily applied to different instruments and when so applied and properly adjusted will serve to improve the quality and volume of the tone of the instrument. It will also be noted that the muting device is exceedingly simple in construction and efficient in operation and does not interfere with the appearance or construction of the instrument.

Having thus described my invention which, however, I do not wish to limit to the exact arrangement of parts or details of construction herein shown and described, except as specified in the appended claims, what I claim and desire to secure by Letters Patent is:

1. The combination with the body of a musical instrument, of a plate secured to the inner side of the rim of the instrument, one or more rods each having one end secured to said plate and the opposite end extending out through the rim, and nuts engaging with the outer ends for tightening said rods.

2. In a musical instrument, the combination with the body of the instrument, of a plate secured to the inner side of the rim, a plurality of rods each having one end secured to said plate, and the other end extending out through a hole in the opposite side of the rim, said holes being of greater diameter than the rods, and nuts engaging with said rods, said nuts having projections fitting within the holes and serving to hold the ends of the rods from engaging with the adjacent portions of the rim.

3. The combination with a musical instrument having a hollow body, of a plurality of vibratory members arranged within the body, a spring having one end secured to the body and the opposite end extending across said members, a pad on said spring for engagement with the members and normally pressed against said members by said spring, and means for depressing said spring to lock the pad out of engagement with said members.

4. A muting device for a musical instrument having a hollow body comprising a spring arranged within the body of the instrument, a pad on said spring for engagement with the vibratory members, a disengaging device having one end projecting through a hole in said spring and the other end through a hole in the top of the instrument, said device also having a lateral foot engaging with the pad and having a notch adjacent to the upper end, for engagement with the inner surface of the top of the instrument, whereby it will co-act with the spring to lock the pad in depressed position.

5. The combination in a musical instrument having a hollow body, of a plurality of vibratory rods arranged within the body thereof, a spring having one end secured to the body and the other end extending across beneath the rods, a pad on said spring for engagement with the rods and normally held in engagement by the spring, a disengaging device having one end extending through a hole in the free end of the spring and the other end extending out through a hole in the top of the instrument, said disengaging device having a foot out of alinement with

the vertical portion thereof and having a notch in the upper end thereof on the opposite side from the foot, the foot being in engagement with the pad and the notch serving to engage with the lower side of the top for locking the device in depressed position.

6. The combination with auxiliary vibratory rods arranged within a musical instrument, of a pad, a spring normally pressing said pad against the rods, a device for removing said pad from the rods and locking said pad in such removed position.

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