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2,572,504

LEVER ACTUATED DRUM TONE MODULATOR

Filed Jan. 6, 1950

2 SHEETS—SHEET 1

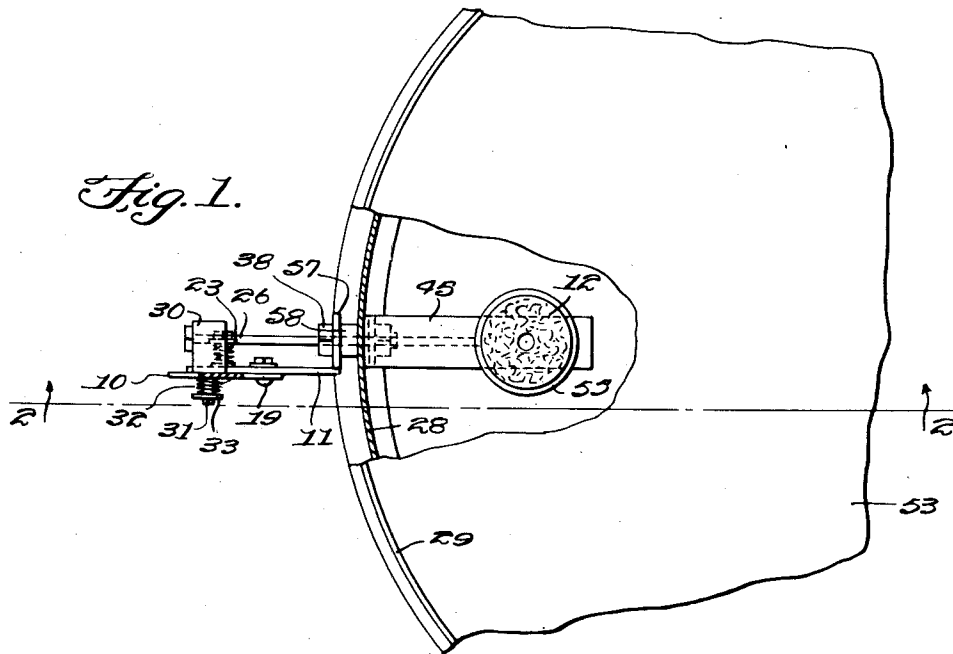


Fig. 5.

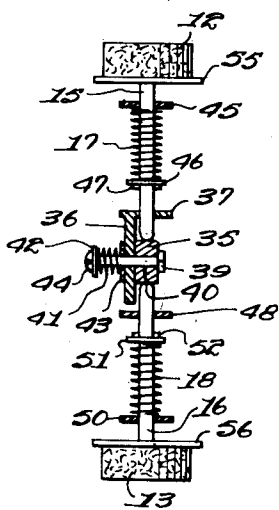
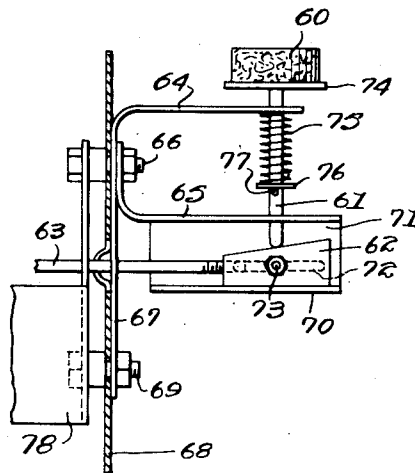


Fig. 6.



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2 SHEETS—SHEET 2

Fig. 2.

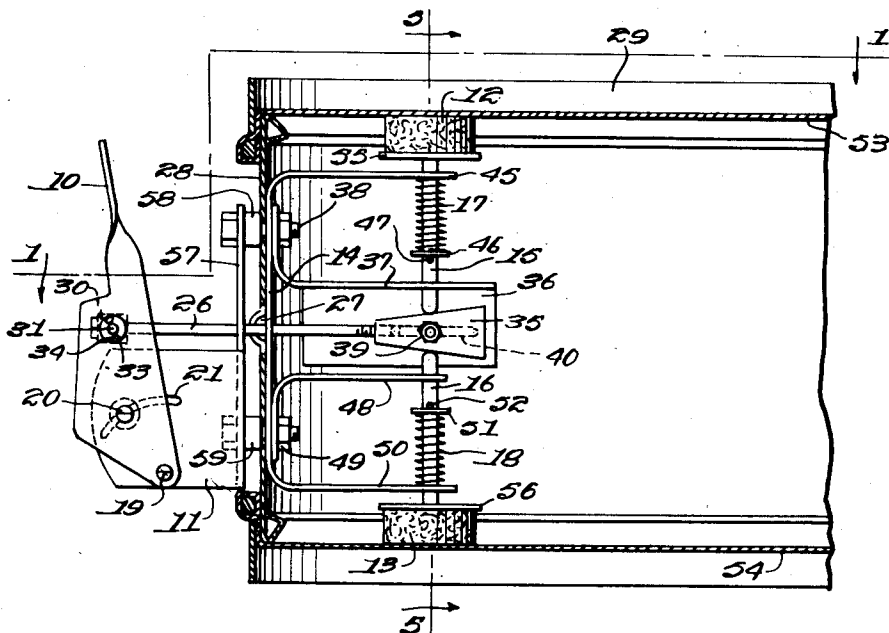


Fig. 3.

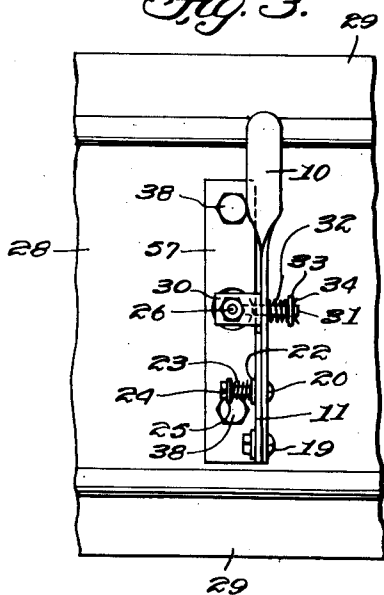
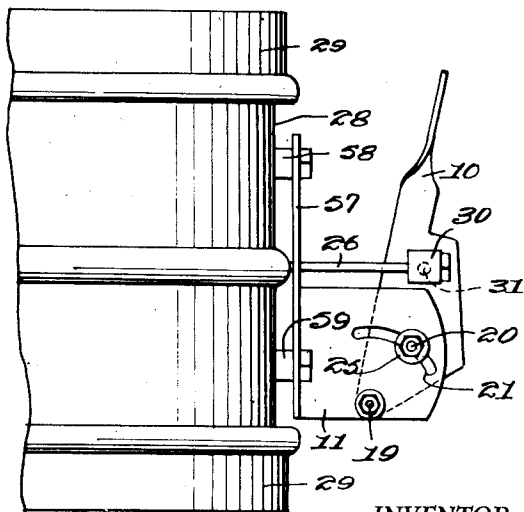


Fig. 4.



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LEVER ACTUATED DRUM TONE
MODULATOR

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2 Claims. (Cl. 84—411)

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This invention relates to musical instruments and particularly drums of the snare drum type, and in particular this invention relates to a softening pad positioned in a drum and actuated by a cam mounted in the drum and operated by a lever pivotally mounted on the outer surface of the drum.

The purpose of this invention is to provide a mute or tone modulator for drums wherein drum head engaging pads may be instantly separated from the heads when loud tones are desired.

In the usual type of modulator for drums of this type the softening pads are actuated by thumb nuts on adjusting screws and when loud tones are suddenly desired it is necessary to unscrew the thumb nut with one hand while the drum is played with the other and by this means it is substantially impossible to instantly release the head or heads of the drum. With this thought in mind this invention contemplates an improved mounting for tone softening or modulating pads of a drum whereby the pads may be instantly separated from the heads.

The object of this invention is, therefore, to provide means for mounting modulating pads in drums whereby the pads are moved into engagement with a head or with heads of a drum by a cam which is connected to a manually actuated lever whereby with the pads held against the cam by springs inward movement of the lever instantly releases the pads so that they are actuated by the springs to relieve the head or heads of the drum.

Another object of the invention is to provide a modulating pad mounting for drums that may be incorporated in drums now in use without changing the structure thereof.

A further object of the invention is to provide an improved modulated pad mounting for snare drums and the like which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies a bracket mounted on the inner surface of the wall of a drum with pads having stems slidably mounted in the bracket and resiliently urged inwardly by springs, a cam positioned to engage the inner ends of the stems, and a lever pivotally mounted on the outer surface of the wall of the drum and connected to the cam through an opening in the wall thereof.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a plan view showing one side of a drum with parts broken away and parts shown in section and with the section taken on line 1—1 of Figure 2.

Figure 2 is a vertical section taken on line 2—2 of Figure 1.

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Figure 3 is a detail looking toward the outside of the drum, showing a section thereof and illustrating the operating lever mounting.

Figure 4 is also an elevational view showing a side elevation of the operating lever with the mounting therefor.

Figure 5 is a cross section taken on line 5—5 of Figure 2 illustrating the mounting of the modulating pads with other parts removed.

Figure 6 is a detail taken at right angles to that shown in Figure 5 and illustrating a modification wherein a single modulating pad is used.

Referring now to the drawings wherein like reference characters denote corresponding parts the improved lever actuated modulating device of this invention includes a lever 10 pivotally mounted on a bracket 11 with modulating pads 12 and 13 mounted in a bracket 14 with stems 15 and 16 on the outer ends of which the pads 12 and 13 are carried, respectively slidably mounted in the bracket and resiliently urged inwardly by springs 17 and 18, respectively.

The lever 10, which is pivotally mounted on the bracket 11 by a pin 19 is provided with a stud 20 that extends through an arcuate slot 21 in the bracket and the lever is frictionally held by a friction washer 22 which bears against the surface of the bracket 11, and the washer is held by a spring 23 which is positioned on the stud between the washer and a head 24 on the outer end of the stud. A washer 25 may also be provided under the head 24 of the stud.

The lever 10 is pivotally connected to a rod 26 that extends through an opening 27 in the wall 28 of the drum, which is indicated by the numeral 29, and the rod 26 extends through a block 30 on the lever 10, as shown in Figure 1. The block 30 is provided with a stud 31 that extends through the lever 10 and a spring 32 on the stud frictionally holds the block against the surface of the lever. The spring is held by a washer 33 with a cotter pin 34 extended through the outer end of the stud.

The inner end of the rod 26 is provided with a cam 35 into which the end of the rod is threaded, as shown in Figure 2 and the cam is resiliently held on a flange 36 extended downwardly from an arm 37 that is secured to the bracket 14 by a bolt 38. The cam is provided with a stud 39 that extends through a slot 40 in the flange 36 and a spring 41 that is positioned between washers 42 and 43 on the stud resiliently holds the cam against the flange 36. The outer end of the stud is provided with a head 44, as shown in Figure 5.

The cam 35 is positioned to engage the inner ends of the stems 15 and 16 of the modulating pads 12 and 13 and, as illustrated in Figure 2 the stem 15 is slidably mounted in the arm 37 and also in an arm 45 extended from the upper end

of the bracket 14. The spring 17 on the stem 15 bears against the under surface of the arm 45 and the opposite end is held by a washer 46 which is held in position on the stem by a cotter pin 47.

The stem 15 is slidably mounted, at the inner end, in an arm 48 that is attached to the bracket 14 by a bolt 49, and at the outer end in an arm 50 that extends from the bracket 14. The spring 18 is positioned between the arm 50 and a washer 51 that is held on the stem 16 by a cotter pin 52.

With the parts arranged in this manner outward movement of the lever 10 draws the cam 35 between the stems 15 and 16 thereby forcing the modulating pads 12 and 13 outwardly and into engagement with drum heads 53 and 54, and when it is desired to release the drum heads it is only necessary to snap the lever 10 inwardly whereby the springs 17 and 18 instantly draw the pads 12 and 13 away from the drum heads.

The pads 12 and 13 are mounted on the stems 15 and 16, respectively through discs 55 and 56, and the bracket 11 is provided with a base 57 that is held by the outer ends of the bolts 38 and 49 with spacing elements 58 and 59 positioned on the bolts between the base 57 and wall 28 of the drum.

It will be understood that one of modulating pads and also the mounting means therefor may be omitted so that the attachment would only be permitted with a modulating pad for engaging one of the drum heads. This modification is illustrated in Figure 6 in which a pad 60 on the outer end of a stem 61 is actuated by a cam 62 with a rod 63 extended from the cam to a lever similar to the lever 10.

In this design the stem 61 is slidably mounted in arms 64 and 65, the arm 65 being held by a bolt 66 and the arm 64 being mounted on a bracket 67 that is mounted on the wall 68 of a drum by the bolt 66 and also by a bolt 69. The cam 62 is slidably mounted on a flange 70 on the lower edge of a web 71 extended from the arm 65 and the web 71 is provided with a slot 72 through which a stud 73 of the cam 72, similar to the stud 39, extends. The pad 60 is mounted on the stem 61 through a base 74 and a spring 75 which is positioned on the stem 61 between the arm 64 and a washer 76 urges the pads inwardly. The washer 76 is held in position by a cotter pin 77. This device is also provided with a bracket 78 similar to the bracket 11 and on which a lever, similar to the lever 10 may be pivotally mounted.

It will be understood, therefore, that with a modulating pad or pads mounted in a drum in this manner the pads may be instantly forced outwardly into engagement with the drum head and may also be instantly withdrawn or released from the drum head and by this means a drummer may instantly apply the modulating elements while playing and when loud tones are desired he may instantly release the drum head by tripping a single lever that may be actuated by a thumb or forefinger, or by any part of the body.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. In a drum modulator, the combination which comprises a drum having a cylindrical wall with drum heads on the ends thereof, a

bracket with inwardly extended arms mounted on the inner surface of the wall of the drum, stems with softening pads on the outer ends slidably mounted in the arms of the bracket, a cam slidably mounted on the bracket and positioned to engage the inner ends of the stems of the pads, means resiliently urging the stems against the cam, means frictionally retaining the cam on the bracket, a rod threaded in one end of the cam and extended through the wall of the drum, a bracket positioned on the outer surface of the wall of the drum, a lever pivotally mounted on the bracket on the outer surface of the wall of the drum, means pivotally connecting the bracket to the outer end of the rod extended through the wall of the drum, friction means in the connection between the lever and rod, and friction means between the lever and bracket positioned on the outer surface of the drum for retaining the lever in adjusted positions.

2. In a drum head modulator, the combination which comprises a drum having a cylindrical wall with drum heads on the ends thereof, a bracket having a base positioned longitudinally of the drum, mounted on the inner surface of the wall of the drum and having arms extended inwardly from the ends thereof, a pair of spaced arms also extended inwardly from the intermediate part of the base and aligned with the arms extended from the ends thereof, said arms having aligned openings therethrough, stems slidably mounted in the openings through the said arms with one stem carried by the arms on one side of the center of the drum and another stem carried by the arms on the opposite side of the center of the drum, softening pads carried by extended ends of the stems and positioned to contact the inner surfaces of the drum heads respectively, pins extended through the said stems, springs on the stems positioned between the said pins and arms on the ends of the base, a shaft positioned perpendicular to the said stems and extended through the wall of the drum, a cam having outwardly diverging surfaces carried by the end of the shaft extended into the drum and positioned with the said outwardly diverging surfaces contacting the ends of the stems opposite to the ends on which the softening pads are positioned, an outer bracket having an extended flange mounted on the outer surface of the wall of the drum, a lever pivotally mounted on the said outwardly extended flange of the outer bracket, means pivotally connecting the outer end of the shaft to the lever, an arcuate slot positioned in the said outwardly extended flange and described on a radius on the pivot point of the pivotal mounting of the lever and a pin having a spring thereon extended through the said slot and lever for frictionally retaining the lever in adjusted positions.

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The following references are of record in the file of this patent:

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