Jan. 21, 1964 J. L. HOELLERICH 3,118,339

ANTI-SLIDE LOCK FOR AN ACTUATOR PEDAL

Filed Dec. 21, 1962

Fig. 3.

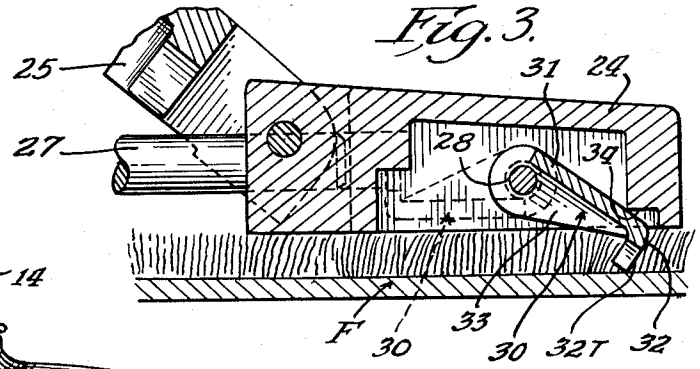


Fig. 1.

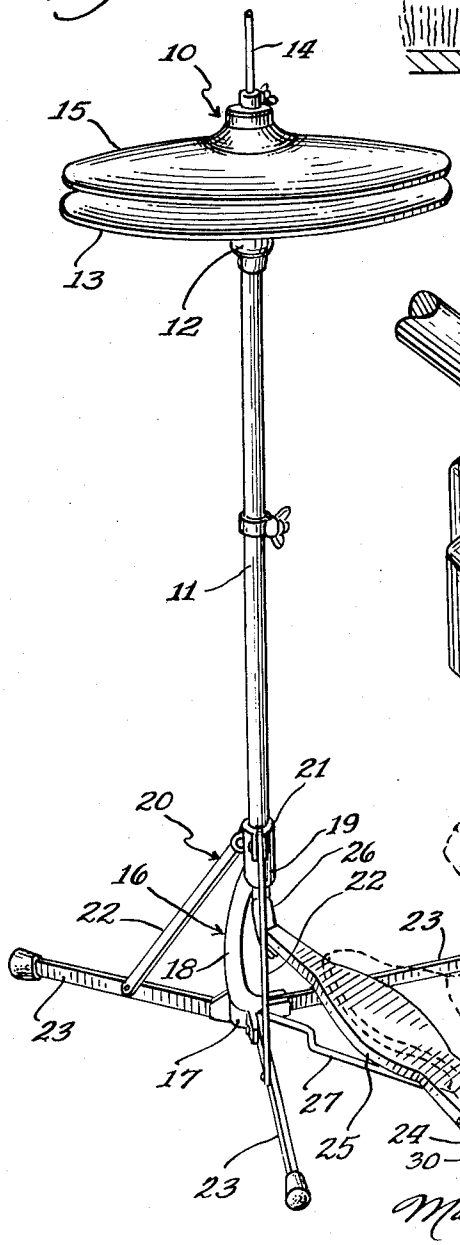
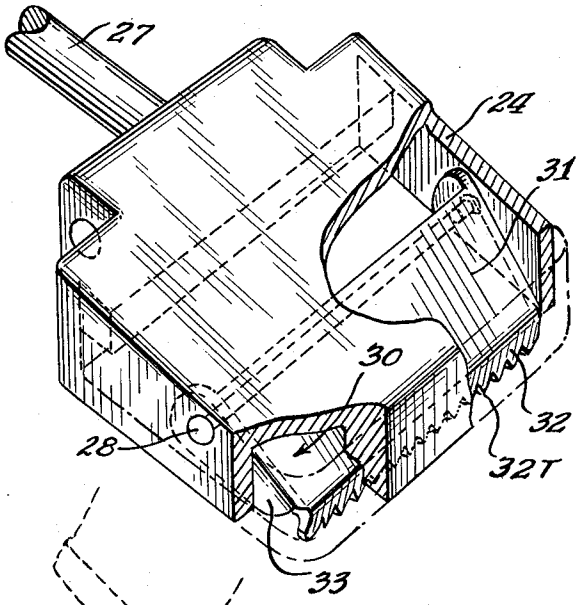


Fig. 2.



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ANTI-SLIDE LOCK FOR AN ACTUATOR PEDAL

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This invention relates to an anti-slide lock for an actuator pedal for a portable-type foot operated musical device such as a foot operated cymbal (commonly known as a hi-hat).

With particular reference to a portable-type foot operated cymbal, the total weight of the device is not great and the forces applied to its support stand during the repeated actuation of the pedal tend to slide it along the floor. At intervals, the device must be returned manually to its original position, a distraction to the musician's performance. Various arrangements have been provided, usually in connection with the base legs of the stand, for preventing sliding of the device but these have been unreliable. Moreover, they have normally required manual adjustment and are also objectionable from the standpoint of continuously presenting sharp projections capable of scratching or becoming entangled with other equipment during the frequent handling and packing to which these devices are subjected.

The principal object of the invention is to provide an anti-slide lock activated by foot applied forces that tend to cause sliding of the instrument and effective to resist any tendency to slide.

Another object of the invention is the provision of an anti-slide lock that automatically assumes an operative position during setup of the instrument and that automatically assumes a safety position when the instrument is folded for handling and transportation.

Other objects and advantages will become apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same:

FIG. 1 is a perspective view of one type of foot pedal actuated device to which the invention is applied;

FIG. 2 is an enlarged fragmentary perspective view illustrating the mounting of an anti-slide lock within a heel plate, with parts thereof broken away and sectioned and with the lock being shown in active gripping position; and

FIG. 3 is a sectional view through the heel plate and illustrating, in full lines, the lock in active gripping position, and illustrating, in broken lines, the lock in concealed position within the heel plate.

Referring now to the drawings, the invention is illustrated as applied to a pedal actuated cymbal or hi-hat **10** which includes a hollow upstanding post structure **11** equipped with a rubber seat **12** for supporting the lower cymbal **13** and having a vertical rod **14** movably disposed therein and projecting thereabove to mount the upper cymbal **15**. The post structure **11** is fixed upon a vertically elongated casting **16** having a base portion **17**, a curved or bowed support leg **18** rising eccentrically therefrom and a hollow mounting collar **19** at the upper end of the support leg and centered above the base portion **17**.

A tripod folding leg assembly **20** supports the casting **16** against tipping and, as illustrated, is preferably of the well known flat base type. The tripod assembly **20** includes a collar **21** slidable along the post structure **11** between a lowermost position in which it is illustrated and an upper position (not shown) for which the leg assembly is folded and extends along the post structure **11**. Angle struts **22** pivotally attach to the collar **21** and to a corresponding one of three base legs **23**, each of which is pivotally attached to the base portion **17** of the casting **16**.

Finally, the device is equipped with a foot board assembly consisting of a heel plate **24** for flush engagement against the flooring material on which the instrument is situated and a foot pedal **25** having its rear edge pivoted to the front edge of the heel plate and having a toe end equipped with a flexible strap **26** suitably connected to the lower end of the slidable actuator rod **14**. The position of the heel plate **24** is stabilized by a radial rod **27** that is removably insertable into the base portion **17**.

In FIG. 1, a foot is illustrated in playing position upon the foot board assembly and during normal playing action the foot applies forces both to the foot pedal **25** and to the heel plate **24**. These forces are directed so as to induce the entire stand to move or slide along the supporting flooring material. In accordance with this invention an anti-slide lock **30** (see FIGS. 2 and 3) is fitted within the heel plate **24** to respond to the force applied to the heel plate and grip against the flooring material to prevent undesired sliding of the stand.

In the preferred form of the invention, as illustrated herein for purposes of disclosure, the heel plate **24** is a hollow casting open across its bottom face to define a cavity in which the lock **30** is located and is mounted for swinging movement about a transverse pivot axis. Accordingly, the heel plate **24** has its side walls arranged to receive a common pivot pin **28** that spans the heel plate cavity and engages in the side walls to provide the transverse pivot axis. The lock **30** is in the form of a sheet metal stamping having a flat body **31**, a gripping jaw **32** integral with the body and depending from along one transverse edge, and depending side flanges **33** integral with the body and depending from opposite end edges thereof. The side flanges **33** have aligned apertures that receive the pivot pin **28**.

Interiorly along its rear edge the heel plate **24** is provided with a recessed abutment ledge **34** engageable with the rear transverse corner edge of the lock to determine its gripping position. The jaw **32** preferably has a series of teeth **32T** projecting below the bottom plane of the heel plate **24**. When the lock is not in use it is swingable to a concealed relation within the front half of the heel plate cavity (see the broken line illustration of FIG. 3) and in this position the jaw teeth **32T** project upwardly and are completely masked by the main body of the heel plate.

The lock is freely swingable between its limit positions, with the position of the lock being dependent only upon the orientation of the heel plate. Thus when the stand is collapsed and the foot board assembly is inverted and located alongside the upstanding post structure **11**, the lock is in its concealed position whereas when the stand is assembled and is positioned upon the floor, the lock swings freely to an exposed gripping position. The lock is particularly useful on carpeted surfaces but where the stand is to be placed on a flooring surface that cannot be marred, the lock is manually flipped to its concealed position where it will remain so long as the stand is not tipped.

The free swinging action of the lock affords a maximum of convenience to the user. More importantly, the heel plate location of the lock insures that the forces which tend to set up the sliding movement will now be responded to directly to set up counter forces tending to oppose such movement.

While the invention has been illustrated as applied to a hi-hat, it will be appreciated that it is also applicable to pedal actuated base drums and similar instruments.

It should be understood that the description of the preferred form of the invention is for the purpose of complying with Section 112, Title 35, of the U.S. Code and that

the appended claims should be construed as broadly as the prior art will permit.

What is claimed is:

1. In a floor mounted foot board assembly for operating a portable musical instrument, said assembly including a heel plate for flush supported engagement upon a floor surface and a foot pedal having a pivot connection to the heel plate and having a toe end equipped with facilities for actuating said instrument in accordance with movement of said foot pedal, the improvement wherein said heel plate comprises a hollow body open across its lower face to define a downwardly opening cavity bordered laterally by fore, aft and side walls, a pivot pin spanning said cavity transversely of said heel plate and engaged in said side walls at corresponding points intermediately therealong, and a lock in said heel plate and having a grip establishing edge extending transversely of said heel plate, said jaw having side portions pivotally engaged on said pin to control swinging movement of said lock from a concealed inactive position wherein said edge projects upwardly within said cavity adjacent the front thereof to an exposed in-use position wherein said edge projects generally downwardly of the heel plate adjacent the rear of said cavity.

2. In a floor mounted foot board assembly for operating a portable musical instrument, said assembly including a heel plate for flush supported engagement upon a floor surface and a foot pedal having a pivot connection to the heel plate and having a toe end equipped with facilities for actuating said instrument in accordance with movement of said foot pedal, the improvement wherein said heel plate comprises a hollow body open across its lower face to define a downwardly opening cavity bordered laterally by fore, aft and side walls, said aft wall having a downwardly facing abutment ledge extending therealong at a location recessed upwardly in said cavity, a pivot pin spanning said cavity transversely of said heel plate and engaged in said side walls at corresponding points intermediately therealong, and a lock in said heel plate and comprising a sheet metal stamping having a flat body spanning said cavity transversely of said heel plate, a gripping jaw integral with said body and depending from along one transverse edge, and side flanges integral with the body and depending from opposite end edges thereof, said side flanges having aligned apertures engaged on said pin to control swinging movement of said lock from a concealed inactive position wherein said edge projects upwardly within said cavity adjacent the front thereof to an exposed in-use position wherein said body abuts said ledge and said edge projects generally downwardly of the heel plate adjacent the rear of said cavity.

3. In a floor mounted mechanism for operating a portable musical instrument, in combination a foot board assembly comprising a heel plate for supported engagement upon a floor surface and a foot pedal having a pivot connection to the heel plate and having a toe end equipped with facilities for actuating said instrument in accordance with movement of said foot pedal, said heel plate comprising a hollow body open across its lower face to define a downwardly opening cavity bordered by fore, aft and side walls, and a lock in said heel plate and having a grip establishing edge extending transversely of said heel plate, said jaw having spaced side portions and means mounting said side portions from said side walls for swinging movement of said side portions about an axis transverse of said cavity to control movement of said lock from a concealed inactive position wherein said edge projects upwardly within said cavity adjacent the front thereof to an exposed in-use position wherein said edge projects generally downwardly of said heel plate adjacent the rear of said cavity.

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