United States Patent

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[73] Assignee **Columbia Broadcasting System, Inc. a corporation of New York**

[54] **PERCUSSION INSTRUMENT SUPPORT**
6 Claims, 4 Drawing Figs.

[52] **U.S. Cl.** **248/286,** 84/421, 287/14
[51] **Int. Cl.** **A47f 5/00**
[50] **Field of Search** 248/183, 184, 185, 278, 279, 282, 284, 289, 188, 291, 286; 287/14, 20; 84/421, 422

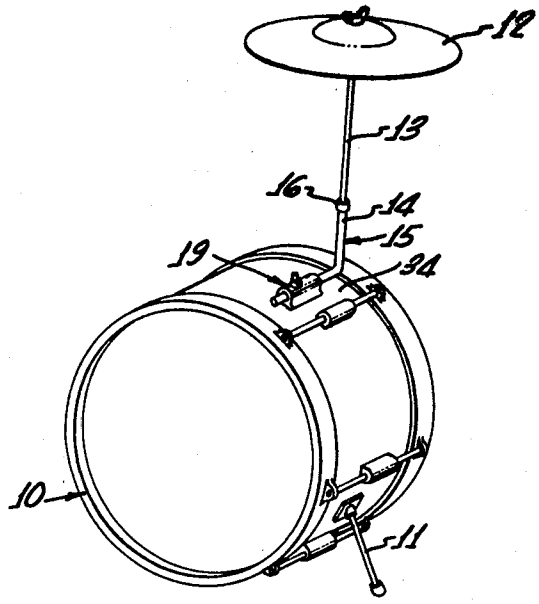
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ABSTRACT: An adjustable support for cymbals and other small percussion devices (traps), wherein a lug has provided therein means to define elongated parallel rails having relatively sharp edges. Mounted in the lug, and adjacent such rails, is a generally cylindrical shaft in which is formed a large number of longitudinal grooves adapted to receive the rail edges. A setscrew is provided to force the shaft against the rails, so that the rail edges seat in the grooves and lock the shaft against rotation whereby to prevent undesired movement of the cymbal (or other percussion device) which is connected to the shaft.



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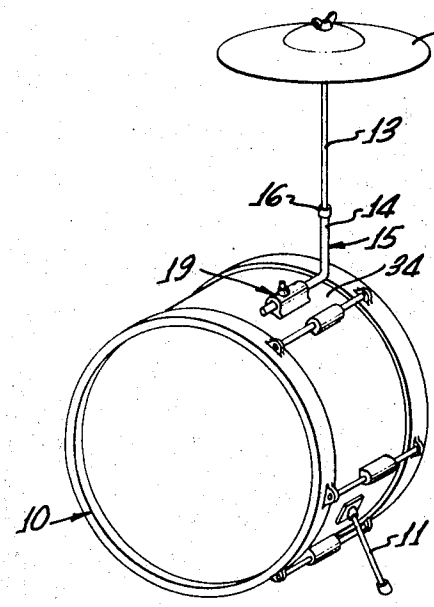


FIG. 1.

FIG. 2.

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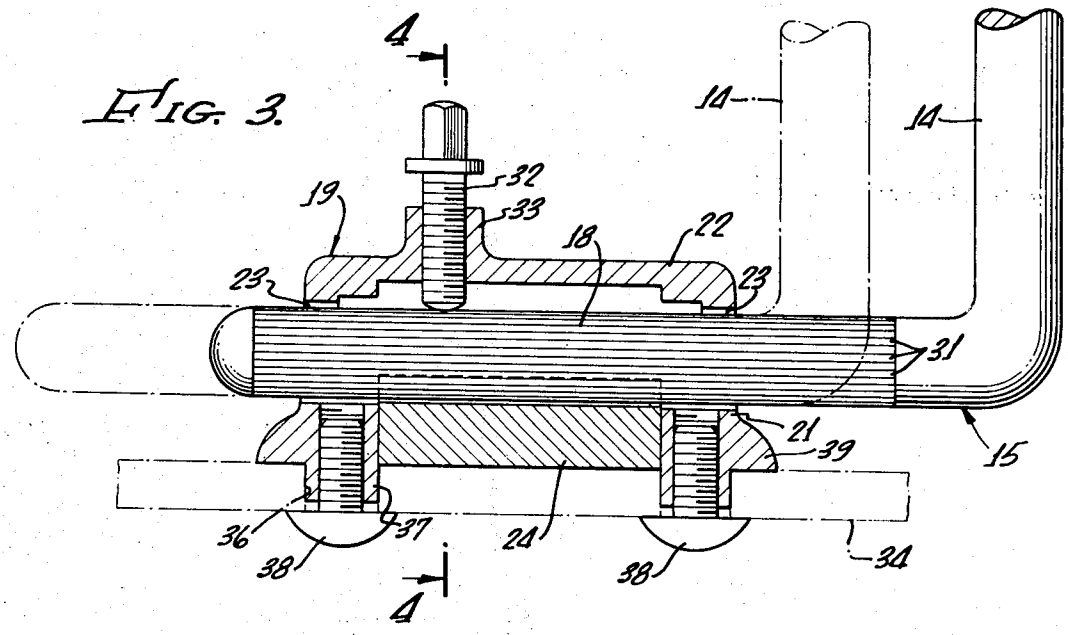
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FIG. 3.



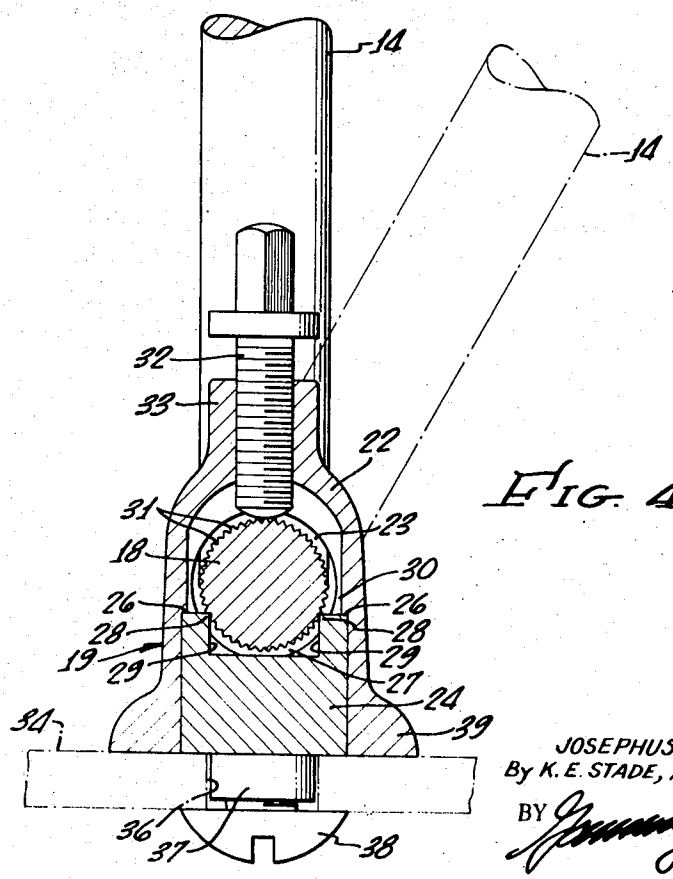


FIG. 4.

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PERCUSSION INSTRUMENT SUPPORT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to the field of percussion musical instruments such as drummer's traps, including cymbals, wood blocks, and others.

2. Description of the Prior Art

It is conventional in the indicated field to mount cymbals and the like onto bass drums by means of relatively expensive adjustable supports. This is because the repeated vibrations caused by striking of the cymbal, wood block, etc., have tended to loosen less expensive supports such as those wherein a sharp-pointed setscrew engages a knurled cylinder. The prior art, particularly in the field of relatively low-cost supports for traps, has also been deficient relative to such important areas as attractiveness, compactness, simplicity, etc.

SUMMARY OF THE INVENTION

In accordance with the present invention, an attractive and decorative lug has mounted therein a means to form a plurality of elongated parallel rail edges. Such edges are adapted to seat in selected ones of a large number of elongated longitudinal grooves which are small in depth, being formed in the cylindrical arm of a cymbal (or other) support. A setscrew is provided to urge the grooved cylinder against the rail edges, thereby rigidly locking the arm against rotation. BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a bass drum having mounted thereon a cymbal support constructed in accordance with the present invention, and which is shown as connected to a cymbal;

FIG. 2 is a greatly enlarged perspective view of the percussion instrument support of the present invention;

FIG. 3 is a longitudinal sectional view on line 3–3 of FIG. 2; and

FIG. 4 is a transverse section along line 4–4 of FIG. 3. DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring first to FIG. 1, as a bass drum **10** having spurs **11** is adapted to support various drummer's traps including the illustrated cymbal **12**. Cymbal **12** is suitably secured to a support post **13** which is preferably tubular in nature, being adapted at the lower end thereof to telescopically receive the generally vertical arm **14** of an angle member **15** (which may be formed of steel). A setscrew connection is provided at **16** in order to permit adjustment of the support post **13** to various positions along the arm **14**, thus raising or lowering the cymbal **12**.

The angle member **15** also has a horizontal arm or shaft **18** which may be referred to as a journal portion since it is adapted to rotate (to a limited extent) in a bearing **19** formed by a decorative lug. About 180° of such rotation is possible, but the drummer normally rotates the angle member **15** through a much smaller angle in order to position the cymbal **12** as desired.

There will next be described the bearing or lug **19** and associated elements, and the manner of cooperation thereof with the journal arm **18**. The lug **19** has an open bottom but is otherwise closed by end walls **21** and a decorative top wall **22**. Formed coaxially in the end walls **21** are oversize bearing openings **23** adapted to receive the journal arm **18** in loose-fitting relationship. The holes **23** are sufficiently large that the journal portion **18** may rotate freely therein in the absence of the constraint described hereinafter, thus permitting rotation of the angle member **15** in order to adjust the position of cymbal **12**.

A rail-defining member **24** formed of steel, for example, is mounted in the open-bottomed portion of bearing lug **19**. As best shown in FIG. 4, member **24** is generally rectangular in cross-sectional shape, and has upper corners which seat against shoulder portions **26** of lug **19** in order to limit the extent of upward insertion of the member **24** into the lug. It is emphasized that, as shown in FIG. 3, the rail-defining member **24** is relatively long and fills a large portion of the open bottom of lug **19**.

As shown in FIG. 4, rail-defining member **24** has a longitudinal groove **27** in the full length of the upper surface thereof, and which is adapted to receive the lower portion of the journal arm **18**. The illustrated groove **27** is rectangular in section. Rail or locking edge portions **28** are formed on member **24** at the upper and outer portions of groove **27**, each such rail being defined by a vertical sidewall **29** of groove **27** and by the adjacent upper surface **30** of member **24**. The apexes of the rails, where surfaces **29** and **30** intersect, are relatively sharp.

The spacing between the vertical faces **29**, and the depth of the groove **27**, are sufficiently great that a substantial proportion of the circumference of journal arm **18** is received within the groove **27**. Preferably, such proportion is about 100°, although certain other angles are satisfactory. In any event, the shaft angle received within groove **27** should be substantially less than 180° since it is not desired that the faces **29** be spaced apart by a distance equal to the outer diameter of journal arm **18**.

A large number of longitudinal and parallel grooves **31** is formed externally on journal arm **18**, such grooves being narrow, small in depth, and closely adjacent each other. Each groove is parallel to the axis of arm **18**, and is sufficiently large to receive in locking relationship a locking edge **28** (or at least the extreme apex portion thereof). The number and sizes of grooves **31** are correlated to the spacing between faces **29** in such manner that two spaced-apart grooves **31** will simultaneously receive the apexes of two rails, to thus provide a double-locking action preventing rotation of journal **18** in the bearing lug **19**.

Because the grooves **31** are numerous and closely spaced, the drummer may position the cymbal **12** (or other percussive device) at any one of a large number of positions. However, because the rails **28** and grooves **31** are long, there is a surprisingly high degree of rigidity in the resulting connection. Stated otherwise, the substantial lengths of the rails and of the grooves create a relatively large amount of bearing area despite the fact that the grooves are numerous and relatively shallow.

As indicated above, the diameter of journal arm **18** is substantially larger than the spacing between groove walls **29**. The journal arm engages the rail edges on one side of a diametral plane through the axis of arm **18**.

The grooves **31** may be economically formed by knurling, using appropriate dies. Thereafter, the journal element may (if desired) be suitably hardened. Although the grooves **31** may be formed by knurling, with resulting production economies, it is emphasized that there is no mere roughening or criss-crossing of the journal arm **18** but instead a precise formation of grooves thereon which are longitudinal and parallel to the axis of the journal **18** and are adapted to receive simultaneously the two rail edges **28**. The journal arm **18** may be referred to as serrated, it being emphasized that the grooves or "serrations" **31** are sufficiently long to provide substantial bearing area relative to the rail edges **28**.

A setscrew **32** is threadedly inserted through an internally threaded boss portion **33** of the upper lug wall **22**. The setscrew has a relatively flat or smoothly rounded lower end adapted to engage journal arm **18** at a region diametrically opposite the groove **27** in rail-defining member **24**. Thus, tightening of setscrew **32** forces the journal arm **18** downwardly against the rails or locking edges **28**, causing such locking edges to be forcefully received within grooves or serrations **31** in order to effectively lock the journal portion **18** against rotation.

Prior to tightening of the screw **32**, the angle member **15** is adjusted to such a rotated position that the cymbal **12** is located as desired. Furthermore, it is pointed out that the arm **18** is sufficiently long that a very substantial amount of adjustment thereof is permitted in the lug **19**, thus providing a substantial degree of adjustment of the position of cymbal **12** in a direction perpendicular to the plane of rotation of support elements **13**—**14**.

The lower end of the setscrew **32** being flat or rounded, it does not seat in grooves **31**.

The lug **19** containing the rail-defining member **24** is readily mounted on the shell **34** of the bass drum **10** or other support. Such shell has openings **36** (FIG. 3) therein which are sufficiently large to receive internally threaded lug portions **37** formed at the ends of a bearing lug **19**. Screws **38** are threaded upwardly into the boss portions **37** in order to clamp the bearing lug **19** tightly against the external surface of drum shell **34**, the lug preferably having a decorative skirt portion **39** which serves to increase the bearing area against the drum shell.

The depth of the rail-defining member **24** is so selected, and so related to shoulders **26** (FIG. 4), that member **24** is clamped tightly against shoulders **26** when skirt **39** is drawn into close engagement with shell **34** as described. Therefore, it is a simple matter to not only mount the lug **19** on the shell **34** but also firmly secure the rail-defining member **24** in the lug **19**, all in response to tightening of only the two screws **38**. Journal arm **18** is then inserted through the oversize openings **23**, following which the setscrew is inserted and tightened in order to seat the journal arm against the rail edges **28**.

It is emphasized that the sizes of openings **23** are sufficiently great to permit unobstructed seating of the serrated or grooved journal arm **18** on rail edges **28**. Similarly, groove **27** in the member **24** is sufficiently deep to permit unimpeded seating of the grooved journal arm on edges **28**.

The described construction is characterized by relatively low cost of manufacture, yet it is highly decorative in nature. More importantly, it effects a very high degree of locking of the journal arm **18** against rotation despite the pounding and vibration incident to the playing of percussive musical instruments.

I claim:

1. A device for use in supporting percussion musical instruments, which comprises:

a hollow lug having an open bottom;

an elongated rail-defining member having a longitudinal groove in one side thereof;

said rail-defining member being seated in said lug with said one side remote from said open bottom;

the other side of said rail-defining member being adjacent said open bottom;

fastener means to mount said lug on the shell of a drum with said open bottom adjacent such shell whereby said shell maintains said rail-defining member in said lug;

a generally cylindrical arm seated on said one side of said rail-defining member;

said arm having formed therein a large number of exterior grooves parallel to the axis of said arm and each adapted to receive an edge portion of said rail-defining member;

said edge portions of said rail-defining member being on the opposite sides of said longitudinal groove therein;

said edge portions being sharp and being spaced apart sufficiently far that circumferentially spaced grooves in said arm will simultaneously receive said edge portions; and

a setscrew threaded through said lug on the side thereof remote from said open bottom to force said arm against said edge portions to thus maintain said edge portions in said grooves whereby to lock said arm against rotation.

2. The invention as claimed in claim **1**, in which said arm is employed in the support of a percussion musical instrument, and is longitudinally shiftable in said lug during periods when said setscrew is in a release position.

3. The invention as claimed in claim **1**, in which said arm extends through openings in the ends of said lug, said openings being substantially larger than the diameter of said arm whereby to permit lateral movement of said arm relative to said lug to effect locking of said arm on said edge portions.

4. The invention as claimed in claim **1**, in which said grooves on said arm are knurled.

5. The invention as claimed in claim **1**, in which said longitudinal groove in said rail-defining member has a depth sufficiently great that the bottom wall of said longitudinal groove is always out of engagement with said arm.

6. The invention as claimed in claim **1**, in which the spacing between the sides of said groove in said rail-defining member is such that the penetrated grooves in said arm are spaced circumferentially apart about 100°.