Sept. 13, 1966 H. R. DEAN 3,272,056

GLOCKENSPIEL AND SUPPORT THEREFOR

Filed Dec. 31, 1964 2 Sheets-Sheet 1

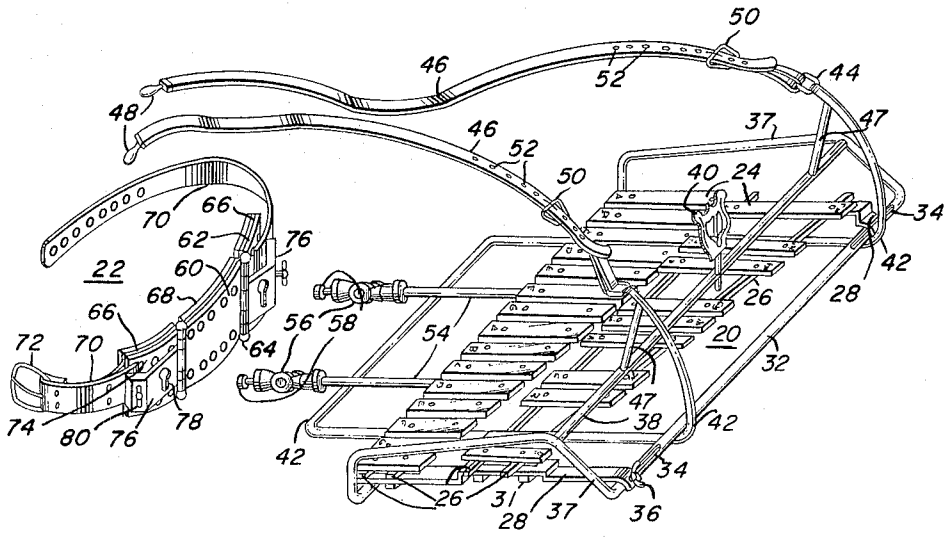


FIG. 1

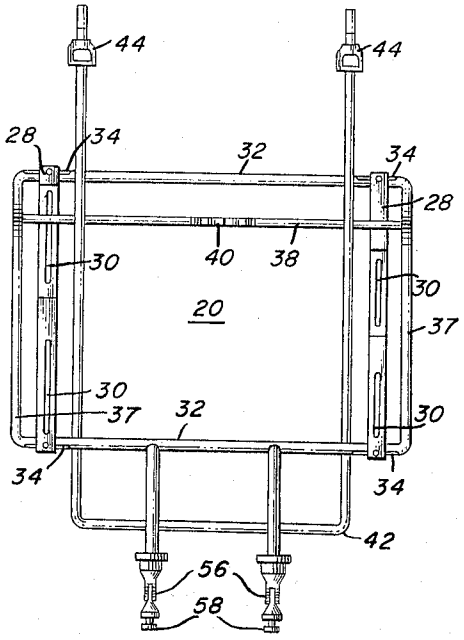


FIG. 2

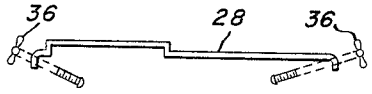


FIG. 5

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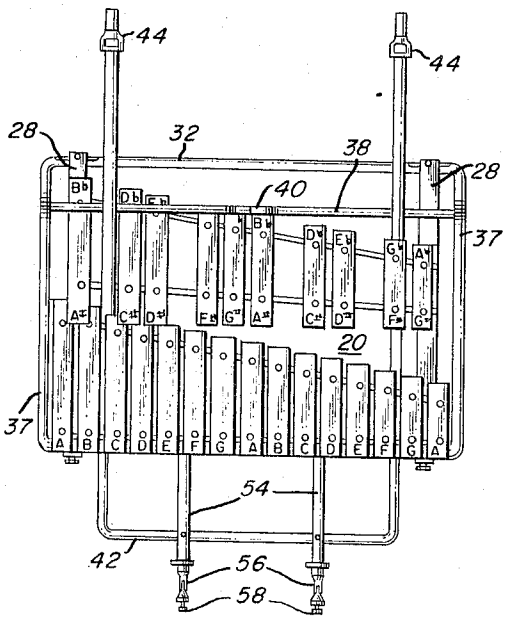


FIG. 3

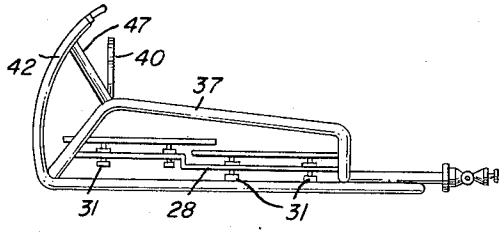


FIG. 4

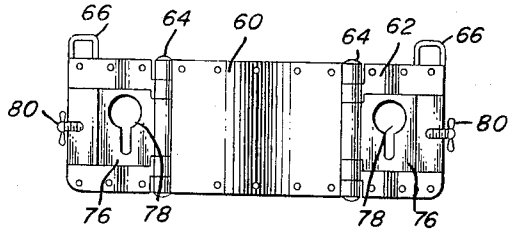


FIG. 6

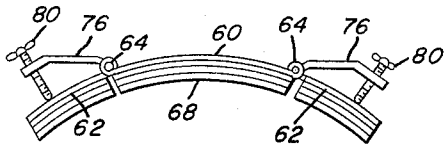


FIG. 7

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GLOCKENSPIEL AND SUPPORT THEREFOR

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Filed Dec. 31, 1964, Ser. No. 422,781
10 Claims. (Cl. 84—403)

The present invention relates to a musical instrument and support therefor and more particularly to a percussion musical instrument for use in marching bands.

Marching band percussion instruments of the tone bar type, such as the glockenspiel, are usually played in an upright position that requires the use of one hand for holding the instrument. Since it is advantageous to have both hands free for playing, and further, it is better to have the bars situated in a horizontal playing position, hand-free supports have been designed for providing horizontal positioning of the instrument. The present invention relates to an improved musical instrument and support therefor of this type.

Accordingly, an object of the present invention is to provide an improved tone bar percussion instrument and support therefor.

A further object is to provide a non-tip horizontal support for a tone bar percussion instrument.

While it is advantageous to have such a musical instrument in a horizontal position while being played, there are other times, for example during close-order marching, when it is desirable to have the instrument as close as possible to the body of the player.

Thus, another object is to provide a horizontal tone bar instrument support that can be quickly adjusted to permit close-order marching.

A further object is to provide a support that provides horizontal and vertical positioning of a tone bar percussion instrument.

The support should be adjustable to comfortably fit different sized players.

Hence, another object of the present invention is to provide a comfortable and adjustable horizontal tone bar support.

It would be convenient if tone bars of different sizes and number could be used.

Thus, a further object is the provision of a horizontal tone bar support that is adjustable for accommodating tone bars of widely varying sizes and number.

These and other objects are achieved in a preferred embodiment of my invention comprising a hinged body encircling belt to which is connected a chassis for holding the tone bars. The chassis is attached by hinges to the belt to provide vertical chassis movement and also horizontal support. The chassis has tone bar supports that are horizontally adjustable with respect to each other. Also, adjustable members on the tone bar supports permit adjustment of the distance between sets of tone bars referred to hereinafter as tone bar assemblies. Shoulder straps are connected between the chassis and belt to provide further chassis support. Some of the chassis support members are situated and are of such a configuration so as to provide a level support such that the instrument can be set on a table and played without support from the belt.

The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, together with further objects and advantages thereof may best be understood by reference to the following description taken in connection with the accompanying drawings in which:

FIGURE 1 is a perspective view of a preferred embodiment of the present invention;

FIGURE 2 is a top plan view of the chassis shown without the tone bar assemblies;

FIGURE 3 is a top plan view of the chassis, similar to FIGURE 2, except that the tone bar assemblies are included;

FIGURE 4 is an elevational view of one side of the chassis;

FIGURE 5 is a side elevational view of one of the tone bar support frame members;

FIGURE 6 is a front elevational view of a preferred belt embodiment; and

FIGURE 7 is a top plan view of FIGURE 6.

Referring now principally to FIGURE 1, but also to FIGURE 2 and FIGURE 3 for some details of the chassis, there is illustrated a preferred embodiment of the present invention comprising a chassis section **20** and a belt section **22**. In chassis section **20** two rows of tone bars **24** are mounted in conventional fashion on four tone bar support members **26** that are end supported by two tone bar support frames **28**. Each row of bars **24** with the accompanying members **26** is a tone bar assembly. Longitudinally extending slots **30** are provided in frames **28** through which protrude a nut and bolt arrangement **31** or the like on the underside of members **26** to secure members **26** in sliding fashion such that they can be moved horizontally forward or backward to accommodate tone bars **24** of differing sizes.

Tone bar support frames **28** are mounted in slidable fashion on two main support members **32** that are preferably constructed of metal tubing, but that may be formed from wood, plastic, or other suitable materials. Near the ends of members **32** longitudinally extending slots **34** are provided through which bolt and nut arrangements **36** protrude for securing frames **28** to members **32**. Arrangements **36** permit horizontal movement of support frames **28** with respect to one another prior to the tightening of the nuts in a manner that is well understood. In this way tone bar support members **26** of different lengths can be accommodated. The longer the members **26**, the more tone bars **24** that can be affixed to them. Slots **34** and members **32** are made of sufficient length to permit the use of the largest and smallest anticipated numbers of tone bars.

Two guard rails **37** extending between members **32** serve to protect the tone bars **24**, to provide additional structural strength, and to provide a ready grasping means for moving or lifting the chassis **20**. A support member **38** joined at its ends to guard rails **37** holds a music lyre **40** secured to the center of member **38**.

A center support member **42** that is generally U-shaped but with curved ends extends from the back of, to the front of, and along the front of chassis **20**. A the ends of members **42** are two eyelets **44** to which adjustable shoulder straps **46** are connected. Braces **47** join member **42** to member **38** for further support. Member **42** in addition to providing convenient positioning support for straps **46** and additional structural strength to chassis **20**, provides a level table rest to permit this chassis to be placed on a table and used in the same manner as the conventional set of orchestra bells. Thus, the instrument serves a dual function.

Shoulder straps **46** are designed to extend over the shoulders and under the arms of the player in the conventional manner. Straps **46** are secured to belt section **22** by means of snap hooks **48** for quick assembly and disassembly. In straps **46** are buckles **50** and buckle holes **52** to provide strap length adjustment for players of different sizes to ensure proper horizontal placement of chassis **20**.

Two front support members **54** connected to the front portion of member **42** and to the front member **32** make removable connection with belt section **22** through two vertical hinges **56** and two insert buttons **58**. The vertical

hinge arrangement permits chassis 20 to be raised to a substantially vertical position when the instrument is not being played, so that chassis 20 extends a shorter distance in front of the player enabling him to engage in close-order marching.

FIGURE 4 illustrates some of the details of the far end of chassis 20 that are not readily evident from FIGURE 1. It is seen that the tone bar frame 28 at this end, which is shown in FIGURE 5, has a larger raised shoulder than the corresponding shoulder of frame 28 at the other end of chassis 20. The larger shoulder is required to accommodate the larger tone bars at this end as is well understood.

Belt section 22 which is best seen in FIGURES 1, 6, and 7 comprises a center plate 60 to which end plates 62 are connected by means of hinges 64. Plates 60 and 62 are curved to provide comfortable positioning around the waist of the player. Hinges 64 permit plates 62 to fit waists of different sizes while maintaining rigid structural support. At the ends of plates 62 are eyelets 66 situated to be engaged by snap hooks 48.

On the interior of plates 60 and 62 is padding 68 which may comprise, for example, foam rubber on leather for providing added comfort in wear of belt section 20. A belt 70 with buckle 72 is attached to end plates 62 through slots 74 by means of conventional leather snaps (not shown).

Also hinged to center plate 60 are two securing plates 76 in which are key-shaped insert holes 78 for receiving in removably locking position buttons 58 at the ends of member 54. The circular portion of holes 78 are sufficiently large to readily admit buttons 58, but when buttons 58 are pressed down into the narrow region of holes 78 the buttons are secured until pressed up again. It is important that plates 76 be in a vertical plane so that the spacing between holes 78 agrees with that between buttons 58. To this end, there are provided threaded bolts 80 which extend through threaded holes in plates 76 to engage the front portions of plates 62. Through rotation of bolts 80, the proper positioning of plates 76 can be obtained even though players with different sized waists use the instrument. Alternatively, plates 76 can be extensions of center plate 60, and thus be fixed in a vertical plane at all times.

To use this instrument, a player first secures belt section 22 to his waist. Then he lifts chassis 20 and inserts buttons 58 into holes 78. After this he places straps 46 over his shoulders and under his arms and snaps hooks 48 into eyelets 66. With these connections made chassis 20 is secured to the player by four point non-tipping suspension, and both hands of the player are free to play the instrument. If he is engaged in close-order drill while not playing, the vertical hinges 56 permit him to raise chassis 20 to almost a vertical position thereby decreasing the distance that chassis 20 extends in front. For use with a seated band or orchestra, the chassis 20 may be placed on a table and rested on members 42 and thereby serve the purpose of orchestra bells.

The present invention is designed to accommodate, for example, bell lyra tone bars of different number and size. If bolt arrangements 36 are loosened, the frames 28 can be separated to the desired distance such that members 26 just extend between frames 28. Thus, members 26 of different size and carrying different numbers of tone bars 24 can be fitted to chassis 20. Further, by means of slots in frames 28 the spacing between the two rows of tone bars can be adjusted for different length tone bars 24.

While the invention has been described with respect to certain specific embodiments, it will be appreciated that many modifications and changes may be made by those skilled in the art without departing from the spirit of the invention. I intend, therefore, by the appended claims, to cover all such modifications and changes as fall within the true spirit and scope of the invention.

What is claimed as new and what is desired to secure by Letters Patent of the United States is:

1. A support for tone bar assemblies of a musical instrument of the percussion type comprising two elongated tone bar assembly support frames, said frames each having two longitudinally extending slots extending in the direction of elongation, two elongated frame members, two longitudinally extending end-located slots in said frame members, means for engaging said frame slots for removably securing said support frames to said frame members to form a substantially rectangular configuration, two support members connected to one of said frame members, two hinges connected at ends of said support members for providing rotation in a vertical plane, two insert buttons connected to said hinges, a body encircling belt having three rigid plate sections, slotted plate means secured to said rigid plate sections, said slotted plate means containing two slots for engaging said insert buttons, two shoulder straps, means connected to two of said plate sections for securing ends of said straps, and means connected to said frame members for securing ends of said straps.

2. A support for tone bar assemblies of a musical instrument of the percussion type, said support comprising a four-sided rectangular-shaped frame member, means for providing adjustable spaced movement between two opposite sides of said frame member, means associated with said two opposite sides for providing movable engagement with said assemblies in a direction substantially orthogonal to the direction of movement of said two sides, a body encircling belt, hinge means for providing a hinged support between said frame member and said belt, and shoulder engaging straps for connection between said belt and said frame member.

3. A support for tone bar assemblies comprising two tone bar support frames, chassis means for maintaining said support frames in adjustable spaced relation, body encircling belt means, hinges, means connected to said hinges for removably securing said chassis means to said belt means whereby said chassis means can be moved in a planar direction while secured to said belt means.

4. The support defined in claim 3 and means on said support frames for providing adjustable spaced mounting of tone bar assemblies.

5. A support for tone bar assemblies of a musical instrument of the percussion type, said support comprising chassis means for supporting said assemblies, a body encircling belt, straps for connection between said chassis means and said belt, and a hinge for providing hinged support between said chassis means and said belt whereby said chassis means can be partially rotated while secured to said belt.

6. The support defined in claim 5 wherein said chassis means comprises a four-sided rectangular-shaped member having two sides for supporting said tone bar assemblies, and means for providing adjustable separations between said two sides.

7. The support as defined in claim 6 and means associated with said two sides for providing adjustable separation mounting of said assemblies on said two sides.

8. A support for tone bar assemblies of a musical instrument of the percussion type, said support comprising a four-sided rectangular shaped chassis with two opposite sides for supporting said tone bar assemblies, means associated with said two opposite sides for providing an adjustable spacing between said tone bar assemblies, means for providing an adjustable spacing between said two opposite sides, two shoulder straps, means for connecting said straps to said chassis and for providing a level table rest for said chassis, a body encircling belt, means for connecting said straps to said belt, a plurality of hinges connected to said chassis, and means for removably securing said hinges to said belt.

9. The support as defined in claim 8 wherein said belt comprises a rigid curved center plate section, two rigid

curved end plate sections, two hinges for connecting said end plate section to said center plate section, and a belt for connection between said end plate sections.

10. A musical instrument of the percussion type comprising two tone bar assemblies, two elongated tone bar assembly support frames, said frames each having two longitudinally extending slots extending in the direction of elongation, bolt means on said assemblies for engaging the slots in said frames, two elongated frame members each having two longitudinally extending end-located slots, means for engaging said frame slots for removably securing said support frames to said frame members to form a substantially rectangular configuration, two guard rails mounted to said frame members in a parallel relationship with said support frames, music holding means extending between said guard rails, means fixed to said frame members for providing a level support, two support members connected to one of said frame members, two hinges connected at ends of said support members for providing rotation in a vertical plane, a rigid curved center plate, two rigid curved end plates, hinges for connecting said end plates to opposite sides of said center plate, a belt for connection between said end plates, two slotted

rigid plates connected to said center plate, slot engaging means for removably securing said hinges to said slotted plates, two shoulder straps, means connected to said frame members for securing ends of said straps, and means connected to said end plates for securing ends of said straps.

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