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AMPLIFIER STAND AND METHOD OF USE THEREOF

Abstract

An amplifier support stand includes two tiers of supports such that the stand is capable of supporting two amplifiers above the ground and on a level surface, which results in efficient use of stage space and enhanced sound quality from the amplifiers. The amplifier support stand includes two base members, two amplifier support members, and a frame interconnecting the base members and the support members. The base members support the stand on the ground and function as a first tier of supports for a first amplifier. The amplifier support members function as a second tier of supports for a second amplifier directly above the first amplifier. The frame enables relative movement between the amplifier support members and the base members to accommodate amplifiers of various sizes. The base members and support members are rotatable to minimize the stand's dimensions for compact storage. A corresponding method of use is also provided.

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Background/Summary

CROSS REFERENCE TO RELATED APPLICATION [0001] This application claims the benefit of U.S. Provisional Patent Application No. 63/554,710, filed Feb. 16, 2024, and which is hereby incorporated by reference in its entirety.

TECHNICAL FIELD

[0002] This disclosure relates to stands for supporting sound amplifiers.

BACKGROUND

[0003] The majority of professional musicians perform at clubs, bars, parties, weddings, etc. and must supply their own equipment. One of the most important pieces of equipment is an amplifier because the amplifier enables the audience to hear the musician's instrument. As used herein, an “amplifier” is the combination of an amplifier head, which amplifies the electrical signals produced by a musical instrument, and a speaker that receives the amplified electrical signals. As understood by those skilled in the art, an “amplifier” includes what is referred to as a “combo amp,” i.e., an apparatus in which the amplifier head and speaker are integrated in a single housing. An “amplifier” also includes amplifier heads and speakers operatively interconnected with each other but housed in separate housings, which is commonly referred to as a “head and cab” or “head and cabinet.”

[0004] If an amplifier malfunctions or ceases to function during a musical performance, the performance is essentially terminated. This can be especially problematic at an event like a wedding reception where, instead of an evening of dancing and celebration, there is now quiet solemnity. Even at a night club or party, the failure of an amplifier will result in disappointed ticket holders or other attendees.

[0005] To avoid the disastrous consequences of an amplifier failure, musicians may bring two amplifiers to a performance so that there is a back-up amplifier in the event that one fails to function properly. However, having two amplifiers takes up limited space on the stage or other performance space, which limits freedom of movement of the musician and may alter the aesthetic by making the performance space appear cluttered.

[0006] Furthermore, for amplifiers emitting middle and high frequency sounds, the sound is directional. When an amplifier is placed on the ground or the stage, the sound waves are emitted from the amplifier at a height that is too low for the musician to hear, i.e., the sound waves travel past the musician's legs instead of the musician's ears. Accordingly, the musician may not receive the feedback necessary for optimal musicianship during the performance.

[0007] Some musicians employ an amplifier stand that tilts the amplifier so that the sound waves are directed at approximately forty-five degrees relative to the ground and thus directed at the ears of the musician. However, this arrangement results in two significant problems. The first problem is that the sound waves do not travel directly toward the audience thus depriving the audience of the full benefit of the amplifier and the music. The second problem is that, to compensate for the first problem, the amplifier must be quite loud, which, combined with the proximity to the musicians ears, may result in hearing loss over time.

[0008] Semi-professional musicians have struggled with these problems for decades without a solution.

SUMMARY

[0009] According to one aspect of the present disclosure, an amplifier stand is provided that includes a frame, first and second support members, and first and second base members. The base

members support a first amplifier, and the support members support a second amplifier directly above the first amplifier. Thus the amplifier stand enables a musician to have two amplifiers using the same floor space as a single amplifier, and elevates both amplifiers for enhanced sound dispersion. The stand provides adequate space between the bottom amp and the top amp so that controls on bottom amp are accessible. The amplifier stand supports the amplifiers horizontally, so that the sound reaches both the musician and the audience.

[0010] With two amplifiers, each being positioned on the amplifier stand to provide adequate sound dispersion, a musician thus has a spare amplifier in the event that one of the amplifiers malfunctions. Furthermore, a musician may also employ both amplifiers simultaneously for a richer sound than a single amplifier would produce. Additionally, if each of the two amplifiers has different sound-reproduction characteristics, the musician could alternate which of the amplifiers is being used depending on the sound characteristics desired for a particular song.

[0011] In at least one embodiment, the frame enables the movement of the base members and amplifier support members relative to one another so that the amplifier stand can accommodate amplifiers of various sizes and shapes. Furthermore, in at least one embodiment, the base members and amplifier support members are rotatable relative to the frame so that the stand can be made compact for easy storage and transportation. The frame is coplanar for further compactness, which is an important feature for musicians that have to travel to performances.

[0012] A corresponding method of using the amplifier stand is also provided.

[0013] The above features and advantages and other features and advantages of the present disclosure are readily apparent from the following detailed description of the best modes for carrying out the disclosure when taken in connection with the accompanying drawings.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 is a schematic, perspective view of an amplifier stand;

[0015] FIG. 2 is a partially exploded, perspective view of the amplifier stand;

[0016] FIG. 3 is a schematic, side view of the amplifier stand;

[0017] FIG. 4 is a schematic, front view of the amplifier stand;

[0018] FIG. 5 is a schematic view of the amplifier stand in a collapsed configuration; and

[0019] FIG. 6 is a schematic, front view of the amplifier stand with portions of the amplifier stand widened and elevated.

DETAILED DESCRIPTION

[0020] Referring to the Figures, wherein like reference numbers refer to like components, an amplifier stand **10** is schematically depicted. The stand **10** includes a frame **14**. A first amplifier support member **18**, a second amplifier support member **22**, a first base member **26**, and a second base member **30** are mounted to the frame **14**. When the stand **10** is in a typical use position, the base members **26**, **30** contact the ground, and the amplifier support members **18**, **22** are above the base members **26**, **30**.

[0021] In the embodiment depicted, the frame **14** includes a first telescoping tube assembly **34** that interconnects the first and second base members **26**, **30**. The frame **14** also includes a second telescoping tube assembly **38** that interconnects the first base member **26** and the first amplifier support member **18**. The frame **14** further includes a third telescoping tube assembly **42** that interconnects the second base member **30** and the second amplifier support member **22**. A fourth telescoping tube assembly **46** interconnects the second and third telescoping tube assemblies **38**, **42**.

[0022] Accordingly, the first and fourth telescoping tube assemblies **34**, **46** of the frame **14** permit selective horizontal movement of the first and second base members **26**, **30** relative to one another,

and thus the horizontal distance between the first and second base members **26**, **30** is selectively variable. The first and fourth telescoping tube assemblies **34**, **46** also indirectly interconnect the first and second amplifier support members **18**, **22**, and thus the horizontal distance between the first and second amplifier support members **18**, **22** is selectively variable.

[0023] Similarly, the second telescoping tube assembly **38** of the frame **14** permits selective vertical movement of the first amplifier support member **18** relative to the first base member **26**, and thus the vertical distance between the first base member **26** and the first amplifier support member **18** is selectively variable.

[0024] Likewise, the third telescoping tube assembly **42** of the frame **14** permits selective vertical movement of the second amplifier support member **22** relative to the second base member **30**, and thus the vertical distance between the second base member **30** and the first amplifier support member **22** is selectively variable.

[0025] In the embodiment depicted, the first base member **26** includes a hollow tube **50** having a square cross-sectional shape and two end caps **54** press-fit onto each end of the tube **50**. Similarly, the second base member **30** includes a hollow tube **58** that is substantially identical to hollow tube **50**. Tube **54** also has two end caps **54** press-fit onto each end.

[0026] The first amplifier support member **18** includes a hollow tube **62** having a square cross-sectional shape and an end cap **54** press-fit onto one end. The first amplifier support member **18** includes an anti-slip strip **66** mounted to the tube **62** such as by adhesive bonding. Similarly, the second amplifier support member **22** includes a hollow tube **70** that is substantially identical to tube **62**, with an end cap **54** press-fit onto one end and an anti-slip strip **66** mounted to the tube **70**. Anti-slip strips **66** are material having a higher coefficient of friction than the tubes **62**, **70**.

[0027] Telescoping tube assembly **34** includes a hollow tube **74** having a square cross-sectional shape that is mounted to the tube **58** such as by welding such that the tube **74** is perpendicular to tube **58**. Tube **74** defines an enclosed space **78**. Telescoping tube assembly **34** also includes a tube **82** that is mounted to tube **50** such as by welding such that the tube **82** is perpendicular to tube **50**.

[0028] The outer dimensions of tube **82** are slightly smaller than the inner dimensions of tube **74**. Tube **82** extends into the enclosed space **78** of tube **74** such that movement of tube **82** relative to tube **74** is substantially limited to linear translation. Tube **74** defines a hole **86** through which a thumb screw **90** extends. Thumb screw is selectively rotatable to engage tube **82** within the enclosed space **78**. Thus, thumb screw **90** selectively locks tube **82** relative to tube **74**.

[0029] Telescoping tube assembly **38** includes a hollow tube **94** having a square cross-sectional shape that is rotatably mounted to the tube **50** such that the tube **94** is perpendicular to tube **50** and perpendicular to tube **82**. The tube **94** is mounted to tube **50** via a bracket **98**. More specifically, the tube **50** defines two holes **102**, **106**. The bracket **98**, which is welded to the tube **94**, also defines two holes **110**, **114**. A bolt **118** extends through holes **102**, **110** and is secured with a nut **122** to attach the tube **94** to tube **50**, and a pin **126** extends through holes **106**, **114** to prevent rotation of tube **94** relative to tube **50** about bolt **118**. When the pin **126** extends through holes **106**, **114**, the tube **94** is perpendicular to tube **50**.

[0030] Tube **94** defines an enclosed space **130**. Telescoping tube assembly **38** also includes a tube **134** that is rotatably mounted to the tube **62** of the first amplifier support member **18**. In the embodiment depicted, a bracket **138** is welded to the tube **62**. The bracket **138** defines two holes **142**, **146**. Tube **134** defines two holes **150**, **154**. A bolt **118** extends through holes **142**, **150** and is secured with a nut **122** to attach the tube **62** to tube **134**, and a pin **126** extends through holes **146**, **154** to prevent rotation of tube **62** relative to tube **134** about bolt **118**. When the pin **126** extends through holes **146**, **154**, the tube **62** is perpendicular to tube **134**.

[0031] The outer dimensions of tube **134** are slightly smaller than the inner dimensions of tube **94**. Tube **134** extends into the enclosed space **130** of tube **94** such that movement of tube **134** relative to tube **94** is substantially limited to linear translation. Tube **94** defines a hole **158**. Tube **134** defines a plurality of holes **162A**, **162B**, **162C**, **162D**. Tube **134** is selectively lockable relative to

tube **94** by moving the tube **134** such that one of the holes **162A**, **162B**, **162C**, **162D** aligns with hole **158** and inserting a bolt **166** through the hole **158** and one of holes **162A**-**162D** and securing the bolt **166** with a wing nut **170**.

[0032] Telescoping tube assembly **42** includes a hollow tube **174** having a square cross-sectional shape that is rotatably mounted to the tube **58** such that the tube **174** is perpendicular to tube **58** and perpendicular to tube **74**. The tube **174** is mounted to tube **58** via a bracket **98**. More specifically, the tube **58** defines two holes **102**, **106**. The bracket **98**, which is welded to the tube **174**, also defines two holes **110**, **114**. A bolt **118** extends through holes **102**, **110** and is secured with a nut **122** to attach the tube **174** to tube **58**, and a pin **126** extends through holes **106**, **114** to prevent rotation of tube **174** relative to tube **58** about bolt **118**. When the pin **126** extends through holes **146**, **154**, the tube **174** is perpendicular to tube **58**.

[0033] Tube **174** defines an enclosed space **178**. Telescoping tube assembly **42** also includes a tube **182** that is rotatably mounted to the tube **70** of the second amplifier support member **22**. In the embodiment depicted, a bracket **138** is welded to the tube **70**. The bracket **138** defines two holes **142**, **146**. Tube **182** defines two holes **150**, **154**. A bolt **118** extends through holes **142**, **150** and is secured with a nut **122** to attach the tube **70** to tube **182**, and a pin **126** extends through holes **146**, **154** to prevent rotation of tube **70** relative to tube **182** about bolt **118**. When the pin **126** extends through holes **146**, **154**, the tube **70** is perpendicular to tube **182**.

[0034] The outer dimensions of tube **182** are slightly smaller than the inner dimensions of tube **174**. Tube **182** extends into the enclosed space **178** of tube **174** such that movement of tube **182** relative to tube **174** is substantially limited to linear translation. Tube **174** defines a hole **158**. Tube **182** defines a plurality of holes **162A**, **162B**, **162C**, **162D**. Tube **134** is selectively lockable relative to tube **94** by moving the tube **134** such that one of the holes **162A**, **162B**, **162C**, **162D** aligns with hole **158** and inserting a bolt **166** through the hole **158** and one of holes **162A**-**162D** and securing the bolt **166** with a wing nut **170**.

[0035] In the embodiment depicted, tubes **94** and **174** are substantially identical to one another, and tubes **134** and **182** are substantially identical to one another. The telescoping tube assembly **46** includes a hollow tube **186** that is mounted to tube **174**, such as by welding. Tube **186** is identical to, and parallel to, tube **74**. Telescoping tube assembly **46** also includes tube **190** mounted to tube **94** such as by welding. Tube **190** is substantially identical to, and parallel to, tube **82**. Tube **190** extends into tube **186** for linear translation therein. Tube **190** is selectively lockable by turning thumb screw **90** that extends into tube **186**.

[0036] End caps **194** are inserted into the open ends of tubes **134**, **182**. In the embodiment depicted, the amplifier stand **10** does not include any parts or components that are not shown in the drawings or described herein.

[0037] A method of using amplifier stand **10** is schematically depicted in FIGS. 3-5. Referring to FIGS. 3-5, wherein like reference numbers refer to like components from FIGS. 1 and 2, the method may include placing the first and second base members **26**, **30** on the ground **200**, which may be any horizontal surface such as a floor, a stage, etc. where a musician is performing. The method further includes placing a first amplifier **204** on the first and second base members **26**, **30** and placing a second amplifier **208** on the first and second amplifier support members **18**, **22** such that the second amplifier **208** is directly above the first amplifier **204**.

[0038] The base members **26**, **30** define respective upwardly-facing surfaces **212**, **216** that the first amplifier **204** rests upon. Surfaces **212**, **216** are coplanar in a first plane that is within twenty degrees of horizontal and, in the embodiment depicted, that is horizontal and parallel to the ground **200**. Similarly, the amplifier support members **18**, **22** define respective upwardly-facing surfaces **220**, **224** that the second amplifier **208** rests upon. Surfaces **220**, **224** are coplanar in a second plane that is within twenty degrees of horizontal and, in the embodiment depicted, is horizontal and parallel to the ground **200**. Surfaces **220**, **224** in the embodiment depicted are defined by the anti-slip strips **66**.

[0039] Thus, both amplifiers are elevated above the ground for enhanced sound dispersion, including to the musician, and are horizontal for maximum audience reach.

[0040] The method may also include adjusting the height of the amplifier support members **18**, **22** by removing bolts **166** from holes **158**, moving members **18**, **22** to a desired height, and then reinserting bolts **166** into holes **158** and one of holes **162A-162D**. FIG. **6** schematically depicts one example of adjusting the vertical distance between the amplifier support members **18**, **22** and the base members **26**, **30**. Referring specifically to FIG. **6**, removing the bolts **166** from holes **158** enables vertical movement of tube **134** relative to tube **94** from a first position shown at **134** to a second position shown in phantom at **134A**. Member **18** is operatively connected to tube **134**, and is thus moved from a first position shown at **18** to a second position shown in phantom at **18A**. When the member **18** is in the second position, it is at a greater vertical distance from member **26** than when the member **18** is in the first position. Reinserting the bolt **166** into the hole **158** in member **94** and through the hole (**162A-D**) in member **134** that aligns with hole **158** will re-lock member **134** relative to member **94**.

[0041] Likewise, removing the bolts **166** from holes **158** enables vertical movement of tube **182** relative to tube **174** to the position shown in phantom at **182A**. Member **22** is operatively connected to tube **134**, and is thus moved to the position shown in phantom at **22A**. When the member is at the position shown **22A**, it is at a greater vertical distance from member **30** than when the member is at the position shown at **22**. Reinserting the bolt **166** into the hole **158** in member **174** and through the hole (**162A-D**) in member **182** that aligns with hole **158** will re-lock member **182** relative to member **174**.

[0042] The method may also include adjusting the horizontal distance between members **26**, **30** and members **18**, **22** by loosening thumb screws **90** so that tubes **82**, **190** can slide relative to tubes **74**, **186** and then tightening the thumb screws **90** when the desired width of the stand **10** is achieved. For example, and with continued reference to FIG. **6**, loosening the thumb screws **90** permits tubes **82** and **190** extend further out of tubes **74**, **186** to the positions shown in phantom in FIG. **6**, which causes tubes **94** and **134** to move the positions shown in phantom at **94B** and **134B**. Base member **26** is thus moved from a first position shown at **26** to a second position shown in phantom at **26B**. Base member **26** is at a greater horizontal from base member **30** when the base member is in the second position shown at **26B** than in the first position shown at **26**.

[0043] Likewise, the movement of tube **94** to the position shown at **94B** causes the amplifier support member **18** to move from a first position shown at **18** to a third position shown in phantom at **18B**, which is at a greater horizontal distance than in the first position shown at **18**. The adjustability of the relative positions of members **18**, **22**, **26**, **30** enables the stand **10** to be used with amplifiers of various sizes and shapes.

[0044] Finally, the method may include removing the amplifiers **204**, **208** and collapsing the stand **10** for compact transportation and storage. Collapsing the stand **10** includes removing all pins **126** and rotating tubes **58** and **62** about their respective bolts **118** so that they are parallel with tubes **94** and **134**, and rotating tubes **58** and **70** about their respective bolts **118** so that they are parallel with tubes **174** and **182**, as shown in FIG. **5**. It should be noted that, in the embodiment depicted, each of the base members **26**, **30** and each of the amplifier support members **18**, **22** are connected to each other only via the frame **14**, and thus each of the base members **26**, **30** and each of the amplifier support members **18**, **22** is rotatable independently of one another.

[0045] All tubes in the embodiment depicted are constructed of industrial metal tubing. Tubes **50**, **58**, **62**, **70**, **74**, **94**, **174**, **186** are 1 inch by 1 inch in cross-sectional dimensions.

[0046] While the best modes for carrying out the disclosure have been described in detail, those familiar with the art to which this disclosure relates will recognize various alternative designs and embodiments for practicing the disclosure within the scope of the appended claims.

Claims

1. A method comprising: possessing an amplifier stand having a frame, a first amplifier support member mounted to the frame, a second amplifier support member mounted to the frame, a first base member mounted to the frame, and a second base member mounted to the frame; placing the first and second base members on the ground; placing a first amplifier on the first and second base members; placing a second amplifier on the first and second amplifier support members such that the second amplifier is directly above the first amplifier.
2. The method of claim 1, wherein at least one of the first and second amplifiers is a combo amp.
3. The method of claim 1, wherein at least one of the first and second amplifiers is a head and cabinet.
4. The method of claim 1, wherein the frame is configured such that the vertical distance between the first base member and the first amplifier support member is selectively variable; wherein the frame is configured such that the vertical distance between the second base member and the second amplifier support member is selectively variable; and wherein the method further comprises raising or lowering the first and second amplifier support members relative to the first and second base members.
5. The method of claim 4, wherein the frame is configured such that the horizontal distance between the first and second base members is selectively variable; wherein the frame is configured such that the horizontal distance between the first and second amplifier support members is selectively variable; wherein the method further comprises altering the distance between the first and second base members and altering the distance between the first and second amplifier support members.
6. The method of claim 5, wherein the first base member defines a first upwardly-facing surface, the second base member defines a second upwardly-facing surface, the first amplifier support member defines a third upwardly-facing surface, and the second amplifier support member defines a fourth upwardly-facing surface; wherein the first amplifier is in contact with, and supported by, the first and second upwardly-facing surfaces; wherein the second amplifier is in contact with, and supported by, the third and fourth upwardly-facing surfaces; wherein the first and second upwardly facing surfaces are coplanar in a first plane that is within twenty degrees of horizontal; and wherein the third and fourth upwardly-facing surfaces are coplanar in a second plane that is within twenty degrees of horizontal.
7. The method of claim 6, wherein the first and second planes are within ten degrees of horizontal.
8. The method of claim 7, wherein the frame includes a first telescoping tube assembly that interconnects the first and second base members; wherein the frame includes a second telescoping tube assembly that interconnects the first base member and the first amplifier support member; and wherein the frame includes a third telescoping tube assembly that interconnects the second base member and the second amplifier support member.
9. The method of claim 8, wherein the frame includes a fourth telescoping tube assembly that interconnects the second and third telescoping tube assemblies.
10. The method of claim 1, wherein the first base member is selectively rotatable with respect to the frame, the second base member is selectively rotatable with respect to the frame, the first amplifier support member is selectively rotatable with respect to the frame, and the second amplifier support member is selectively rotatable with respect to the frame; wherein the method further comprises rotating each of the first and second base members and the first and second amplifier support members relative to the frame prior to said placing a first amplifier on the first and second base members and prior to said placing a second amplifier on the first and second amplifier support members.
11. The method of claim 10, wherein said rotating each of the first and second base members and

the first and second amplifier support members relative to the frame includes rotating each of the first and second base members and the first and second amplifier support members relative to the frame at least eighty-five degrees.

12. The method of claim 10, wherein the first base member, the second base member, the first amplifier support member, and the second amplifier support member are rotatable with respect to the frame independently of one another.

13. An amplifier stand comprising: a frame, a first amplifier support member mounted to the frame, a second amplifier support member mounted to the frame, a first base member mounted to the frame, and a second base member mounted to the frame; wherein the frame includes a first telescoping tube assembly that interconnects the first and second base members such that the distance between the first and second base members is selectively variable; wherein the frame includes a second telescoping tube assembly that interconnects the first base member and the first amplifier support member such that the distance between the first base member and the first amplifier support member is selectively variable; wherein the frame includes a third telescoping tube assembly that interconnects the second base member and the second amplifier support member such that the distance between the second base member and the second amplifier support member is selectively variable; and wherein the first base member is selectively rotatable with respect to the frame, the second base member is selectively rotatable with respect to the frame, the first amplifier support member is selectively rotatable with respect to the frame, and the second amplifier support member is selectively rotatable with respect to the frame.

14. The amplifier stand of claim 13, wherein the first base member, the second base member, the first amplifier support member, and the second amplifier support member are rotatable with respect to the frame independently of one another.

15. The amplifier stand of claim 14, wherein the stand is positionable such that the first and second base members are horizontally oriented, the first and second amplifier support members are horizontally oriented, and the frame is vertically oriented.

16. The amplifier stand of claim 13, wherein the first, second, and third telescoping tube assemblies are coplanar with one another.
