Feb. 11, 1969 H. H. SLINGERLAND, JR 3,426,640

QUICK CONNECT PEDAL CONNECTOR

Filed Feb. 9, 1965

Sheet 1 of 3

Fig. 1.

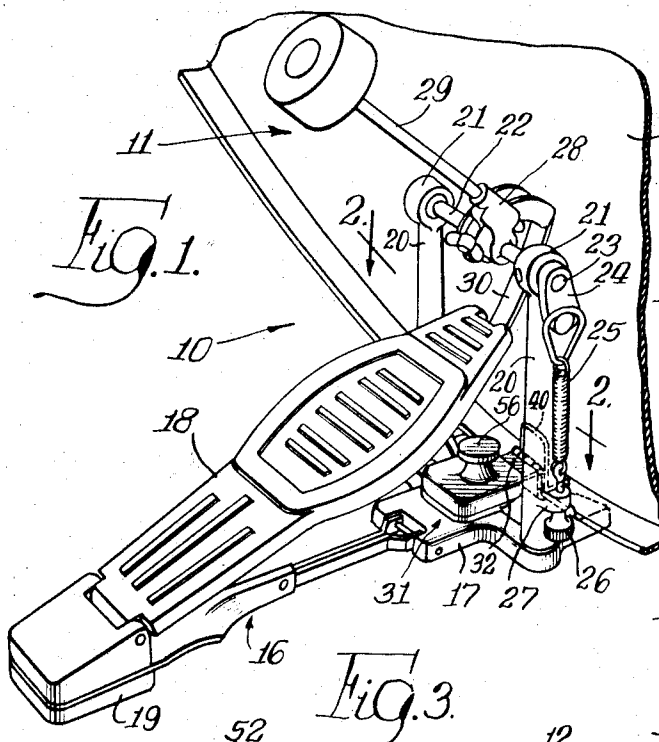


Fig. 2.

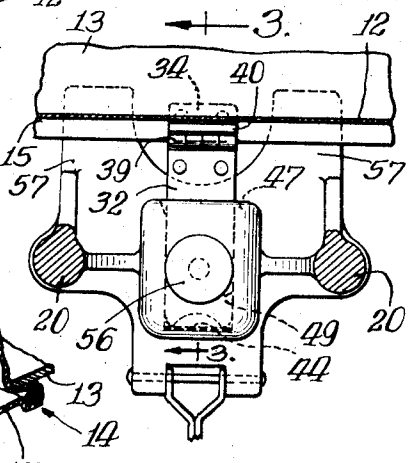


Fig. 3.

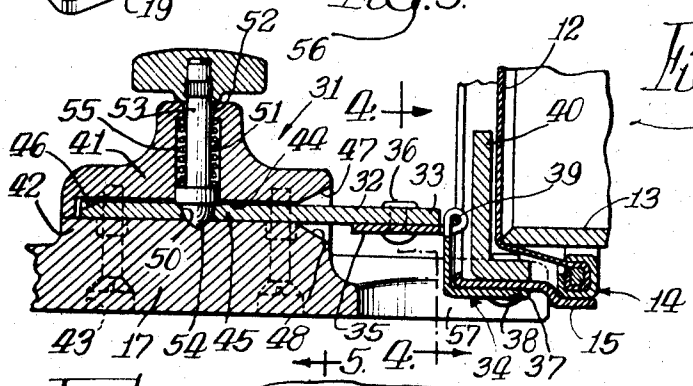


Fig. 5.

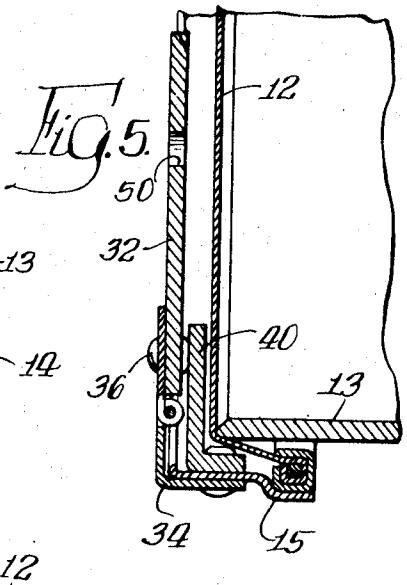
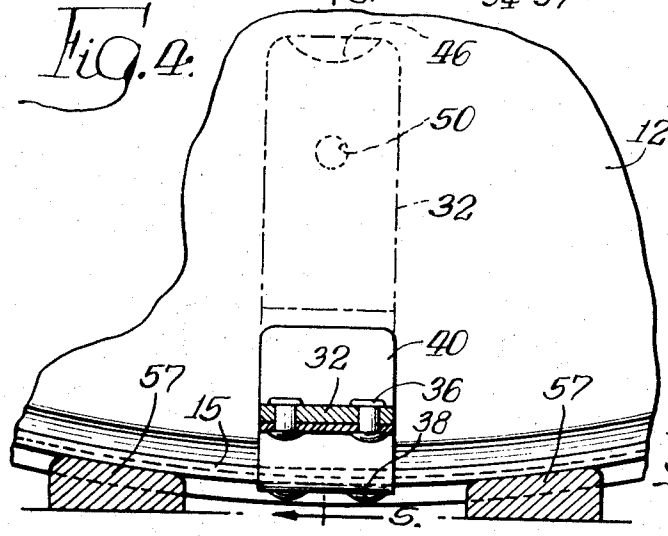


Fig. 4.



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Stellman & McCord Attys.

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QUICK CONNECT PEDAL CONNECTOR

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Fig. 6.

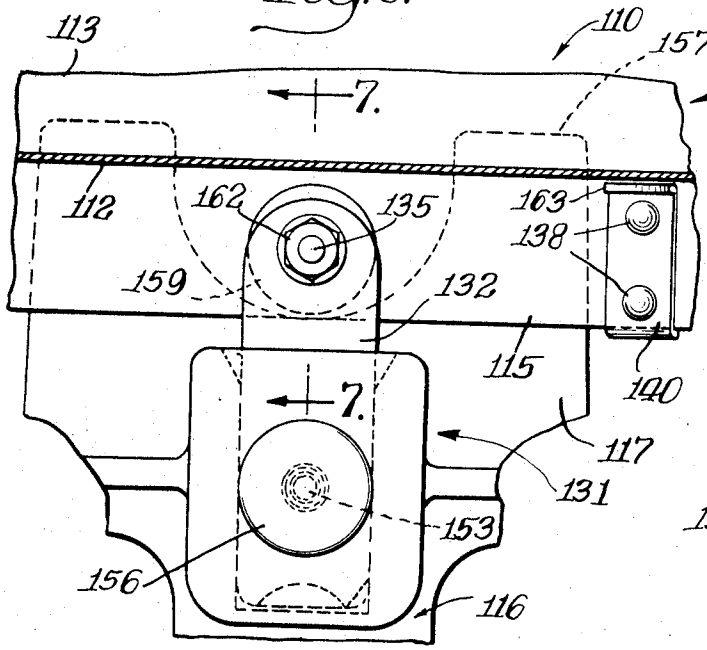


Fig. 10.

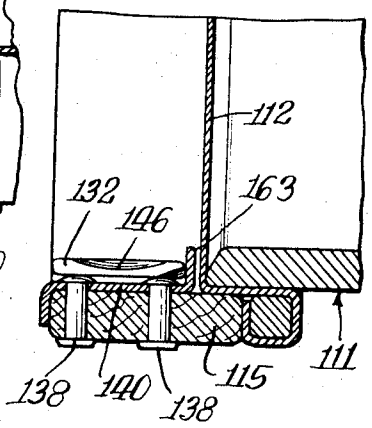


Fig. 7.

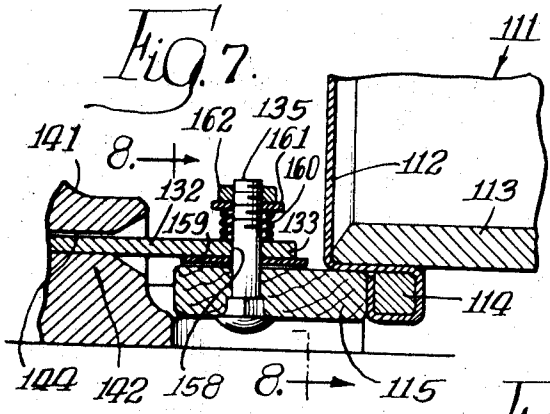


Fig. 9.

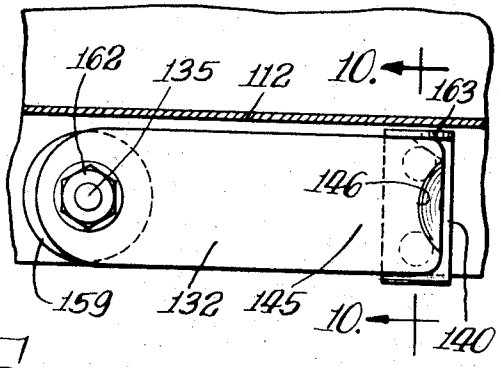
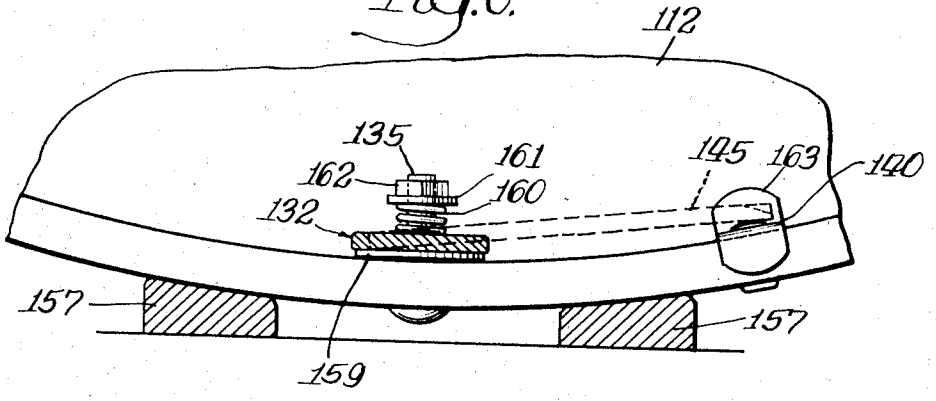


Fig. 8.



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Fig. 11.

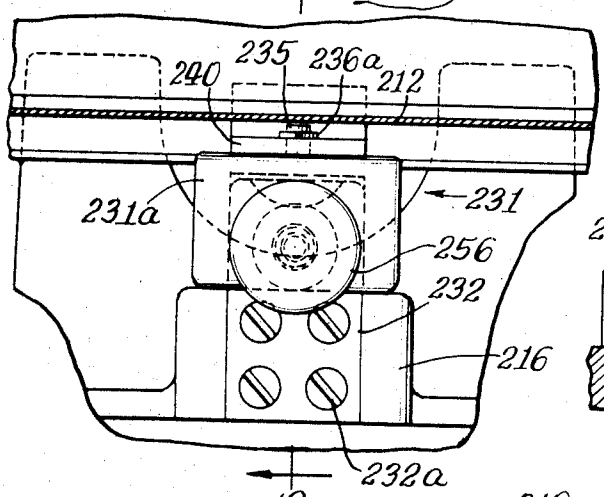


Fig. 12.

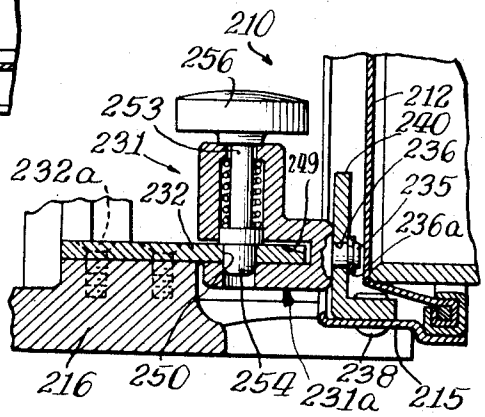


Fig. 13.

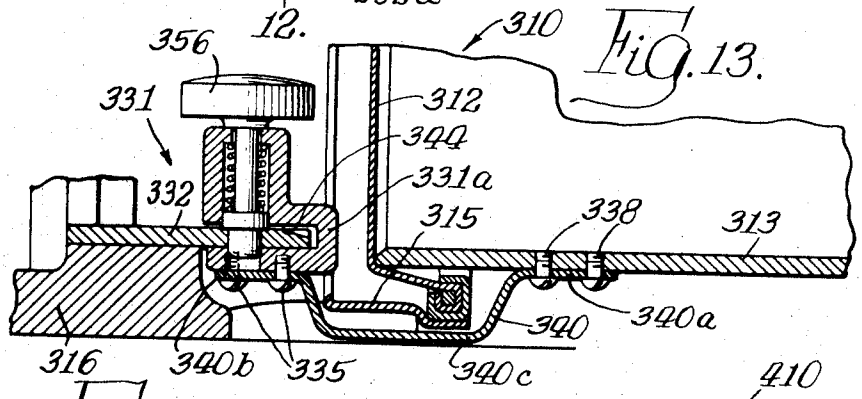


Fig. 14.

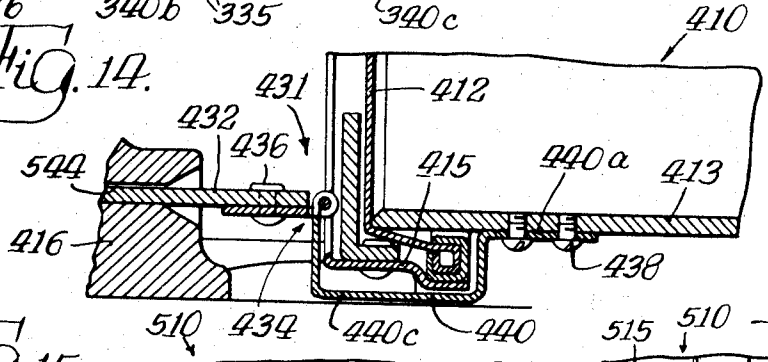


Fig. 15.

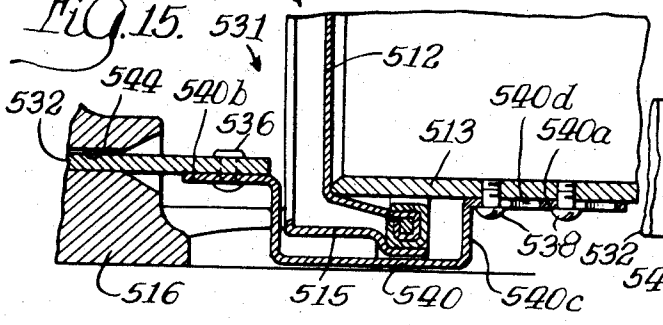
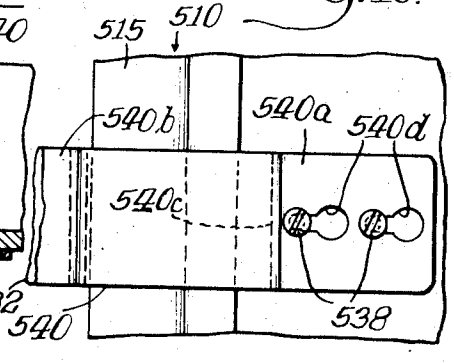


Fig. 16.



United States Patent Office 3,426,640 Patented Feb. 11, 1969

3,426,640

QUICK CONNECT PEDAL CONNECTOR

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Filed Feb. 9, 1965, Ser. No. 431,333
U.S. Cl. 84—422 15 Claims
Int. Cl. G10d 13/00, 13/02

ABSTRACT OF THE DISCLOSURE

Means for connecting the foot pedal of a drum apparatus removably to the drum for facilitated assembly and disassembly. The connecting means includes a connector member swingably carried on the drum. The connector member movement may be controlled by means limiting the movement to a preselected retracted position. Further, the connector member may be releaseably held in the retracted position. The connector member alternatively may be secured to the drum shell by a bracket which is removably connected to the shell by cooperating interlocking shoulder means on the bracket and shell. The connector member may be pivotally mounted on the counterhoop. The means for securing the connector member may comprise a spring biased plunger.

This invention relates to music apparatus and in particular to drum apparatus. Still more specifically the invention is concerned with the connecting of a pedal device to a drum, such as a bass drum.

In one conventional form of apparatus for connecting a pedal device to a drum, the pedal device is provided with a clamp means arranged to clampedly engage the rim of the bass drum. The clamp device is conventionally provided with a knob or similarly manually operable device for effecting the desired clamped engagement. Such known structures have the serious disadvantage of difficulty of connection and likelihood of scratching and otherwise maring the drum rim so as to prevent an unsightly appearance.

Still another disadvantage of such conventional connecting means is that the known connecting devices require a substantial amount of time to effect the desired connection and, further, are not positive in use as the amount of clamping force is conventionally controlled solely by the user's feel and thus may vary over a wide range so that at times the drum rim may be overly tightly clamped, while at other times it may be overly loosely clamped permitting undesirable separation of the drum from the pedal.

The present invention comprehends an improved means for connecting a pedal to a drum eliminating the above discussed disadvantages of the conventional known devices.

Thus, a principal feature of the present invention is the provision of a new and improved connecting means for use in connecting a pedal to a drum.

Another feature of the invention is the provision of such a connecting means for use in a drum apparatus having a drum having an end provided with an annular counterhoop and a pedal having a support and means for beating a drum as a result of the actuation by a user's foot, wherein the connecting means comprises a connector member, means for swingably carrying the connector member on one of either the pedal support or the counterhoop, and means for detachably interlocking the connector member to the other of the pedal support or counterhoop.

A further feature of the invention is the provision of such a connecting means wherein the interlocking means comprises a quick-connect device.

Still another feature of the invention is the provision of

such a connecting means wherein the interlocking means comprises a pair of shoulders cooperatively associated in an interlocking arrangement to positively preclude separation of the pedal from the drum.

A further feature of the invention is the provision of such a connecting means further including means for limiting the swing of the connector member toward the drum end to position the connector member in a retracted position closely spaced from the drum end.

Another feature of the invention is the provision of such a connecting means wherein the carrying means comprises hinge means.

Still another feature of the invention is the provision of such a connecting means wherein the carrying means comprises pivot means.

A further feature of the invention is the provision of such a connecting means wherein the connector is disposed fully radially within the annular counterhoop in the retracted position.

Yet another feature of the invention is the provision of such a connecting means wherein the carrying means is secured to a radially outer portion of the counterhoop.

A yet further feature of the invention is the provision of such a connecting means wherein the limiting means is secured to a radially inner portion of the counterhoop.

A further feature of the invention is the provision of such a connecting means wherein the carrying means and the limiting means are secured to a radially inner portion of the counterhoop.

Still another feature of the invention is the provision of such a connecting means wherein the carrying means includes spring means providing for limited movement of the connector member transversely to the direction of the swing thereof.

Another feature of the invention is the provision of such a connecting means further including means for releasably holding the connector member in a retracted position.

Still another feature of the invention is the provision of such a connecting means wherein the holding means and carrying means comprise a frictionally tight hinge means.

A further feature of the invention is the provision of such a connecting means wherein the holding means comprises a clip carried on the same apparatus as that on which the connector member is swingably carried.

A yet further feature of the invention is the provision of such a connecting means wherein the connector member is attached to the pedal and the means for connecting the connector member to the drum is attached to the counterhoop.

Another feature of the invention is the provision of such a connecting means wherein the means for connecting the connector member to the drum is attached to the drum shell.

Still another feature of the invention is the provision of such a connecting means wherein the connector member is carried by a bracket attached to the drum shell, with the connector member being hingedly connected to the bracket.

A further feature of the invention is the provision of such a connecting means wherein the bracket is detachably secured to the drum shell.

Other features and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawing wherein:

FIGURE 1 is a fragmentary perspective view of a drum apparatus having a means embodying the invention for connecting a pedal to a counterhoop of the apparatus;

FIGURE 2 is a fragmentary horizontal section taken substantially along the line 2—2 of FIGURE 1;

FIGURE 3 is a fragmentary enlarged vertical section taken substantially along the line 3—3 of FIGURE 2;

FIGURE 4 is a fragmentary vertical section taken substantially along the line 4—4 of FIGURE 3;

FIGURE 5 is a fragmentary vertical section taken substantially along the line 5—5 of FIGURE 4;

FIGURE 6 is a fragmentary horizontal section similar to that of FIGURE 2, but illustrating a modified form of connecting means;

FIGURE 7 is a fragmentary vertical section taken substantially along the line 7—7 of FIGURE 6;

FIGURE 8 is a fragmentary vertical section taken substantially along the line 8—8 of FIGURE 7;

FIGURE 9 is a fragmentary horizontal section illustrating the disposition of the connector member in the retracted position;

FIGURE 10 is a vertical section taken substantially along the line 10—10 of FIGURE 9;

FIGURE 11 is a fragmentary horizontal section similar to that of FIGURE 2 but illustrating a further modified form of connecting means;

FIGURE 12 is a fragmentary vertical section taken substantially along the line 12—12 of FIGURE 11;

FIGURE 13 is a fragmentary vertical section generally similar to that of FIGURE 12, but illustrating another modified form of connecting means;

FIGURE 14 is a fragmentary vertical section generally similar to that of FIGURE 12, but illustrating still another form of connecting means;

FIGURE 15 is a fragmentary vertical section generally similar to that of FIGURE 12, but illustrating yet another modified form of connecting means; and

FIGURE 16 is a fragmentary bottom plan view of the connecting means of FIGURE 15.

In the exemplary embodiment of the invention as disclosed in FIGURES 1 through 5 of the drawing, a drum apparatus generally designated **10** is shown to comprise a drum **11** of conventional construction having a beating head **12** mounted under tension across one end of a tubular shell **13** by means of a hoop **14** and a connecting counterhoop **15**. As shown, the counterhoop **15** provides an annular pressure force against the hoop **14** to force the head **12** tightly across the end of the shell **13** in the conventional drumhead mounting manner.

The drum apparatus **10** further includes a pedal **16** of generally conventional construction including a base **17** and a foot pedal **18** pivotally carried on a heel portion **19** connected to the base **17**. The pedal **16** may be of any conventional construction and herein is shown to include a pair of uprights **20** each having an upper end **21** in which a cross-rod **22** is journaled for rotational movement about its axis. At one end **23**, the rod projects outwardly from the upright end **21** and is provided with a spring connector **24**. A spring **25** is connected at one end to the connector **24** and at its other end to an adjusting screw **26** threaded in a suitable boss **27** on the upright **20** adjacent the base **17**.

Mounted on the cross-rod **22** intermediate the uprights **20** is a connector **28** which carries a beater **29**. A strap **30** is connected between the forward end of the pedal **18** and the connector **28** so that when the user depresses the pedal **18** the beater **29** is swung about the axis of the rod **22** to strike the drumhead **12**. Suitable adjustment of the screw **26** provides for control of the spring tension against which the operation of the foot pedal acts in the beating operation.

The present invention is concerned with the means for connecting the pedal **16** to the drum **11**. The present invention comprehends an improved connector generally designated **31** which, as shown in FIGURE 1, is adapted to connect the base **17** of the pedal **16** to the counterhoop **15** of the drum **11**. The connector **31** herein comprises a quick-connect type connector which while being readily operable to effect the desired connection and disconnection of the pedal **16** relative to the drum **11** provides a positive interlocked connection therebetween in the connected arrangement as shown in FIGURE 1.

More specifically, referring now to FIGURES 2 through 5, the connector **31** includes a connector member **32** comprising an elongated bar having one end **33** swingably carried on the counterhoop **15** by a hinge **34**. As shown in FIGURE 3, one leaf **35** of the hinge **34** is secured to the connector bar end **33** by suitable means such as rivet **36**. The other leaf **37** of the hinge **34** is connected to the counterhoop **15** by suitable means such as rivet **38**. In the illustrated embodiment, the hinge **34** is preferably provided with a hinge pin **39** having a tight frictional fit in the leaves **35** and **36** so as to provide a selectively retained positioning of the connector bar **32**. Further, as shown in FIGURE 3, a stop clip **40** is secured to the counterhoop **15** by the rivet means **38** to extend radially inwardly from the counterhoop in closely spaced relationship to the drumhead **12**.

The connector **31** further includes a cap **41** carried on a boss **42** on pedal base **17** and secured thereto by suitable means such as screws **43**. Cap **41** is provided with a slot **44** adapted to receive the distal end **45** of the connector bar **32**. As shown in FIGURE 3, the forward end **46** of the connector bar portion **45** is relieved, the entrance portion **47** of the slot **44** is relieved, and the boss **42** is correspondingly relieved at **48** to provide for facilitated insertion of the connector bar end **45** into the slot **44**. The connector bar preferably has a relatively close fit with the side walls **49** of the slot **44**, as shown in FIGURE 2, so as to minimize transverse play in the connection of the connector bar **32** to the pedal **16**.

The connector bar is provided with an opening **50** in its outer end **45**. The cap **41** is provided with a vertical bore **51** defined at its upper end by an inturned flange **52**. A retaining pin **53** extends coaxially through the bore **51** and includes at its lower end an interlocking head **54** adapted to be snugly received in the opening **50** of the connector bar, as shown in FIGURE 3. The interlocking head **54** is biased downwardly by suitable means such as coil spring **55** compressed between flange **52** and head **54** in bore **51**. Manipulation of the pin **53** may be effected by means of a handle **56** secured to the upper end of the pin to permit a selective retraction of the head **54** from the connector bar **50** when desired. Further, as shown in FIGURE 3, the head **54** is preferably rounded so that the relieved surface **46** may function to automatically raise the head **54** when the connector bar is inserted into the slot **44**, thereby further facilitating the connection of the pedal **16** to the drum **11**.

To install the pedal **16** on the drum **11** by means of the connector **31**, the user merely swings the connector bar **32** downwardly from the retracted position of FIGURE 5 to the connecting position of FIGURE 3. The drum may at this time be disposed in the normal position, as shown in FIGURE 1, as the user need merely cause relative movement between the connector bar **32** and the pedal **16** to effect the insertion of the forward end **45** of the connector bar into the slot **44** to the position wherein the pin head **54** moves into the opening **50** of the connector bar to positively interlock the connector bar to the pedal. The counterhoop **15** rests on suitably spaced legs **57** projecting from the base **17**, as shown in FIGURES 2, 3 and 4, so as to effectively cradle the drum **11** and provide for a positive interlocking connection between the drum and the pedal **16**.

When it is desired to disconnect the pedal **16** from the drum **11**, the user merely pulls up on the handle **56** while urging the pedal **16** and drum **11**, respectively, apart, i.e. parallel to the longitudinal extent of the connector bar **32**. By withdrawing the pin head **54** from the opening **50** of the connector bar, free separating movement therebetween is provided. Upon separation of the pedal **16** from the drum **11**, the user may readily position the connector bar **32** in a retracted position, as shown in FIGURE 5, by merely swinging the connector bar on the hinge **34** to the retracted position wherein the connector bar is facially juxtaposed to the drumhead **12**.

The stop **40** automatically positions the connector bar in this retracted position by virtue of the abutment of the connector bar therewith, in the illustrated embodiment the rivet **36** engages the stop **40** in the retracted position.

Turning now to FIGURES 6 through 10, a modified form of drum apparatus generally designated **110** is shown to comprise a drum apparatus generally similar to drum apparatus **10**, but having a modified form of connector **131** adapted for use with a modified counterhoop **115** of the drum **111**. Elements of drum apparatus **110** which are similar to elements of drum apparatus **10** are identified herein by similar reference numerals, except one hundred higher. Other than disclosed below, drum apparatus **110** is similar to and functions in a similar manner to drum apparatus **10**.

More specifically, counterhoop **115** comprises an annular hoop formed of a material, such as wood, adapted to bear against the hoop **114** to apply tension to the drumhead **112**. Pedal **116** is similar to pedal **16** and is provided with a boss **142** and cap **141** cooperating to define a slot **144** for selectively receiving a connector bar **132** of the connector **131**. The connector includes a manipulating handle **156** carried on an interlocking pin **153**.

The outer end **133** of the connector bar **132** is connected to the counterhoop **115** by a pivot means, herein comprising a pivot screw **135**, extending through a suitable opening **158** in the outer end **133** of the connector bar. A suitable washer **159** is disposed about screw **135** between connector bar end **133** and the counter hoop **115** to facilitate pivoted movement of the connector bar end **133** on the counterhoop. The connector bar end **133** is biased against the washer **159** by means of a coil spring **160** compressed between the connector bar end **133** and a spring retainer washer **161** adjustably positioned on screw **135** by a nut **162** threaded to the outer end of the screw.

The connector **131** further includes a clip **140** secured to the counterhoop by suitable means such as rivets **138**. The clip **140** includes an inturned flange **163** facially juxtaposed to the drumhead **112**, as shown in FIGURES 9 and 10. As best seen in FIGURE 9, the outer end of the connector bar **132** may be provided with a relieved surface **146** for facilitated manipulation of the connector bar between the retracted position of FIGURES 8, 9 and 10 and the connecting position of FIGURES 6 and 7.

In utilizing the connector **131** for connecting the drum **111** to the pedal **116**, the user firstly pivotally swings the connector bar **132** to the connecting position of FIGURE 6 and effects relative inserting movement between the connector bar **132** and the slot **144** of the connector **131** carried by the pedal **116**. When the connector bar **132** is fully inserted in the slot **144** as shown in FIGURE 6, the drum **111** is positively interlocked with the pedal **116**. As shown, the counterhoop **115** is cradled at this time on the legs **157** of the pedal base **117** so as to provide a secure positive connection between the drum and pedal.

When the user wishes to disconnect the pedal from the drum, he merely suitably manipulates the handle **156** to permit the withdrawal of the connector bar **132** from the slot **144**. Upon such removal, the user then may move the connector bar **132** to the retracted position of FIGURES 9 and 10 by simply pivotally swinging the bar to bring the outer end **145** into overlying relationship with the retaining clip **140**. The spring **160** resiliently biases the connector bar **132** against the retaining clip, herein against the rivets **138** thereof, to effectively retain the connector bar in the retracted position of FIGURE 9.

The pivotal movement of the connector bar on the screw **135** is limited by the stop **163** of clip **140** so as to automatically position the connector bar in the retracted position juxtaposed to the drumhead **112**, as best seen in FIGURE 9. A slight displacement of the connector bar from the radial plane of movement thereof may be effected to dispose the connector bar end **145** on the clip **140**, as shown in FIGURE 8, by virtue of the resilient retention of the connector bar on the pivot screw **135** afforded by the spring **160**.

Thus, in each of drum apparatuses **10** and **110**, the connector member, or bar, (**32**, **132**) is effectively disposed radially within the counterhoop (**15**, **115**) of the drum in the retracted position and is effectively retained in the retracted position while yet permitting ready swinging thereof to the connecting position when so desired by the user. The connector (**31**, **131**) provides a positive interlocked connection between the drum (**11**, **111**) and the pedal (**16**, **116**) which may be quickly and easily made and broken as desired by the user. The connectors (**31**, **131**) are extremely simple and economical of construction, while yet providing the highly desirable quick-connect functioning discussed above.

Referring now to FIGURES 11 and 12, a further modified form of drum apparatus generally designated **210** is shown to comprise a drum apparatus generally similar to drum apparatus **10** but having a further modified form of connector **231**. In connector **231**, the connector bar **232** is fixedly attached to the pedal **216** by suitable means such as screws **232***a*. The female element of the connecting means **231** comprises a socket member **231***a* defining a slot **244** in which the outer end of the connector member **232** is selectively received. The connector member is releasably secured in the slot **244** by a pin head **254** which is selectively insertable in a hole or opening **250** in the connector member, the selective movement of the pin being effected by suitable manipulation of a handle **256** connected to the pin head by a pin **253**. The socket member **231** is secured to the counterhoop **215** by suitable means such as a clip **240** secured to the counterhoop by a screw **238** and a post **235** projecting rearwardly from the socket member through an opening **236** in the clip **240** and a lock ring **236***a*. Thus, the socket member **231***a* is disposed immediately in front of the drumhead **212** at the bottom of the drum for facilitated connection and disconnection of the connector member **232** of the pedal.

Turning now to FIGURE 13, still another modified form of drum apparatus generally designated **310** is shown to comprise a drum apparatus generally similar to drum apparatus **10** but having a modified form of connector **331**. Connector **331** is generally similar to connector **231**, except that the socket member **331***a* is carried on a bracket **340** having an inner end **340***a* connected to the drum shell **313** by suitable means such as screws **338**, and an outer end **340***b* connected to the socket **331***a* by suitable means such as screws **335**. The bracket **340** further includes a U-shaped bight portion **340***c* arranged to extend under the counterhoop **315** so as to dispose the socket **331***a* in front of the drumhead **312** with its rearward most portion disposed radially within the outer end of the counterhoop **315**. Thus, the socket member is disposed in substantially the same position in the connector **331** as in the connector **231**, although connected to the drum shell rather than to the counterhoop as in connector **231**.

Turning now to FIGURE 14, a further modified form of drum apparatus generally designated **410** is shown to comprise a drum apparatus generally similar to drum apparatus **10** but having a modified form of connector **431** wherein the connector bar **432** is carried on the drum shell **413** by means of a bracket **440** having an inner end **440***a* secured to the drum shell by suitable means such as screws **438**. The bracket is further provided with a U-shaped bight portion **440***c* carrying at its outer end a hinge **434** to which the connector member **432** is secured by suitable means such as rivet **436**. Thus, connector **431** differs from connector **31** in the mounting of the hinge carrying the connector member on the shell of the drum rather than on the counterhoop.

In FIGURES 15 and 16, still another modified form

of drum apparatus generally designated **510** is shown to comprise a drum apparatus generally similar to drum apparatus **410** except that the bracket **450** is provided with an outturned outer end **540***b* to which the connector member **532** is fixedly secured by suitable means such as rivet **536**. Further, the inner end **540***a* of the bracket is provided with keyhole slots **540***d* cooperating with screws **538** to provide a readily detachable firm connection of the bracket **540** to the drum shell **513**. Thus, connector **531** differs from connector **431** in that the connector member **532** is fixedly attached to the bracket **540** which is removably attachable to the drum shell. Thus, the connector member **532** may be removed from the drum as during transport of the drum, while yet it may be readily connected to the drum by simply locking the bracket **540** to the drum shell by means of the screws **538** whereby the pedal may be readily and immediately connected to the drum.

Except as otherwise indicated, each of the different embodiments of FIGURES 11 through 16 are similar to and function similarly to the embodiment of the invention illustrated in FIGURES 1 through 5. Elements of the embodiments of FIGURES 11 and 12 corresponding to elements of FIGURES 1 through 5 are identified by similar reference numerals but two hundred higher. Elements of the structure illustrated in FIGURE 13 corresponding to similar elements of the structure illustrated in FIGURES 1 through 5 are identified by similar reference numerals but three hundred higher. Elements of the structure illustrated in FIGURE 14 corresponding to similar elements of the structure illustrated in FIGURES 1 through 5 are identified by similar reference numerals but four hundred higher. Elements of the structure illustrated in FIGURES 15 and 16 corresponding to similar elements of the structure illustrated in FIGURES 1 through 5 are identified by similar reference numerals but five hundred higher.

Thus, in each of the embodiments of the invention as disclosed, the pedal is readily connectable to the drum in a new and improved manner. Each of the structural embodiments is extremely simple and economical of construction while yet providing the highly desirable advantages of eliminating the undesirable scratching and other marring of the drum which may occur with the known pedal connectors. Further, the disclosed pedal connectors provide an improved positive connection of the pedal to the drum as distinguished from the relatively impositive clamped engagement of the pedal connector to the drum as provided in conventional connector means.

I claim:

1. In a drum apparatus having a drum having a shell and an end provided with an annular counterhoop, and a pedal having a support and means for beating a drum as a result of actuation by a user's foot, means for connecting said pedal to said drum, comprising: a connector member; hinge means swingably carrying said connector member on said drum; and means for detachably interlocking said connector member to said pedal support.

2. The drum apparatus of claim **1** wherein said interlocking means comprises a shoulder on said connector member, and a cooperating shoulder on said other of said pedal support and said counterhoop, said shoulders having facial abutment transversely to the direction of the extension of said pedal away from said drum when said drum pedal is connected to said counterhoop by said connecting means.

3. The drum apparatus of claim **1** wherein said interlocking means comprises a shoulder on said connector member, and a cooperating shoulder on said other of said pedal support and said counterhoop, said shoulders having facial abutment transversely to the direction of the extension of said pedal away from said drum when said pedal is connected to said counterhoop by said connecting means, one of said shoulders being defined by means defining an opening and the other of said shoulders being defined by a latch selectively insertable into said opening.

4. In a drum apparatus having a drum having an end provided with an annular counterhoop and a pedal having a support and means for beating a drum as a result of actuation by a user's foot, means for connecting said pedal to said counterhoop, comprising:

a connector member; means swingably carrying said connector member on said counterhoop;

means for detachably interlocking said connector member to said pedal support; and

means for limiting the swing of said connector member toward said drum end to a retracted position wherein said connector member is closely spaced from said drum end.

5. The drum apparatus of claim **4** wherein said connector is disposed fully radially within said annular counterhoop in said retracted position.

6. The drum apparatus of claim **4** wherein said carrying means is secured to a radially outer portion of said counterhoop.

7. The drum apparatus of claim **4** wherein said carrying means is secured to a radially outer portion of said counterhoop and said limiting means is secured to a radially inner portion of said counterhoop.

8. The drum apparatus of claim **4** wherein said carrying means and said limiting means are secured to radially inner portions of said counterhoop.

9. The drum apparatus of claim **4** wherein said carrying means includes spring means providing for limited movement of said connector member transversely to the direction of swing thereof.

10. In a drum apparatus having a drum having an end provided with an annular counterhoop and a pedal having a support and means for beating a drum as a result of actuation by a user's foot, means for connecting said pedal to said counterhoop, comprising: a connector member; means swingably carrying said connector member on said counterhoop for movement between an extended position and a retracted position; means for detachably interlocking said connector member to said pedal support and means for releaseably holding said connector member in said retracted position.

11. The drum apparatus of claim **10** wherein said carrying and holding means comprises frictionally tight hinge means.

12. The drum apparatus of claim **10** wherein said holding means comprises a clip carried on said counterhoop and spaced from said carrying means.

13. The drum apparatus means of claim **3** wherein said hinge means swingably carries said connector member on said shell.

14. The drum apparatus means of claim **3** wherein said hinge means swingably carries said connector member on said counterhoop.

15. In a drum apparatus having a drum having a shell and an end provided with an annular counterhoop, and a pedal having a support and means for beating a drum as a result of actuation by a user's foot, means for connecting said pedal to said drum, comprising: a bracket; a connector member swingably connected to said bracket; interlocking shoulder means on said shell and said bracket removably connecting said bracket to said shell; and means for detachably interlocking said connector member to said pedal support.

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