

- [54] **MUSICAL INSTRUMENT OF THE PERCUSSION TYPE**
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[51] Int. Cl. **G10d 13/04**
[58] Field of Search **84/411, 419**

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- [57] **ABSTRACT**
Percussion instruments, typically kettledrums, are dis-

closed, wherein a plurality of adjustments are provided for, notably by a construction wherein a percussion head is carried on the drum and is subject to be variably tensioned; a plurality of tension members are disposed in spaced-apart relation peripherally of the drum and interconnect said head and a master tuning member; there being a pitch control for said member, disposed for ready access by a player at a given location, and having a mounting pivot at said location, and coupled to said master tuning member whereby to actuate the tension members in unison and vary the tension on the percussion head; and a supplemental fine tuning adjuster is disposed for ready access by the player at the same location; and, in typical embodiments, the instrument includes a base, and a frame mounted on the base for rotation relative thereto about the drum axis and having means supporting the drum so that rotation of the frame carries the drum and head therewith; and in the preferred arrangement there is a drum rotating control disposed at a location for ready operation by the player, comprising a motion-reducing mechanism, said mechanism preferably having an irreversible connection. Other features are shown, in combination with one or more of the foregoing, such as: a pitch indicator observable by the player, individual adjustments for the tension members, a foot-pedal pitch control pivoted at the heel end and normally set at a moderate angle to the horizontal, and means whereby the construction drums of different sizes.

16 Claims, 11 Drawing Figures

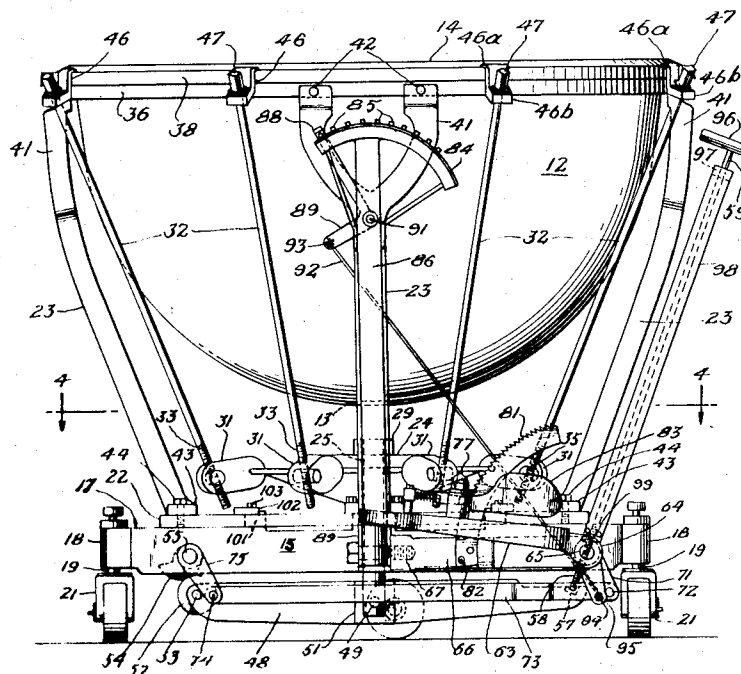


Fig. 1.

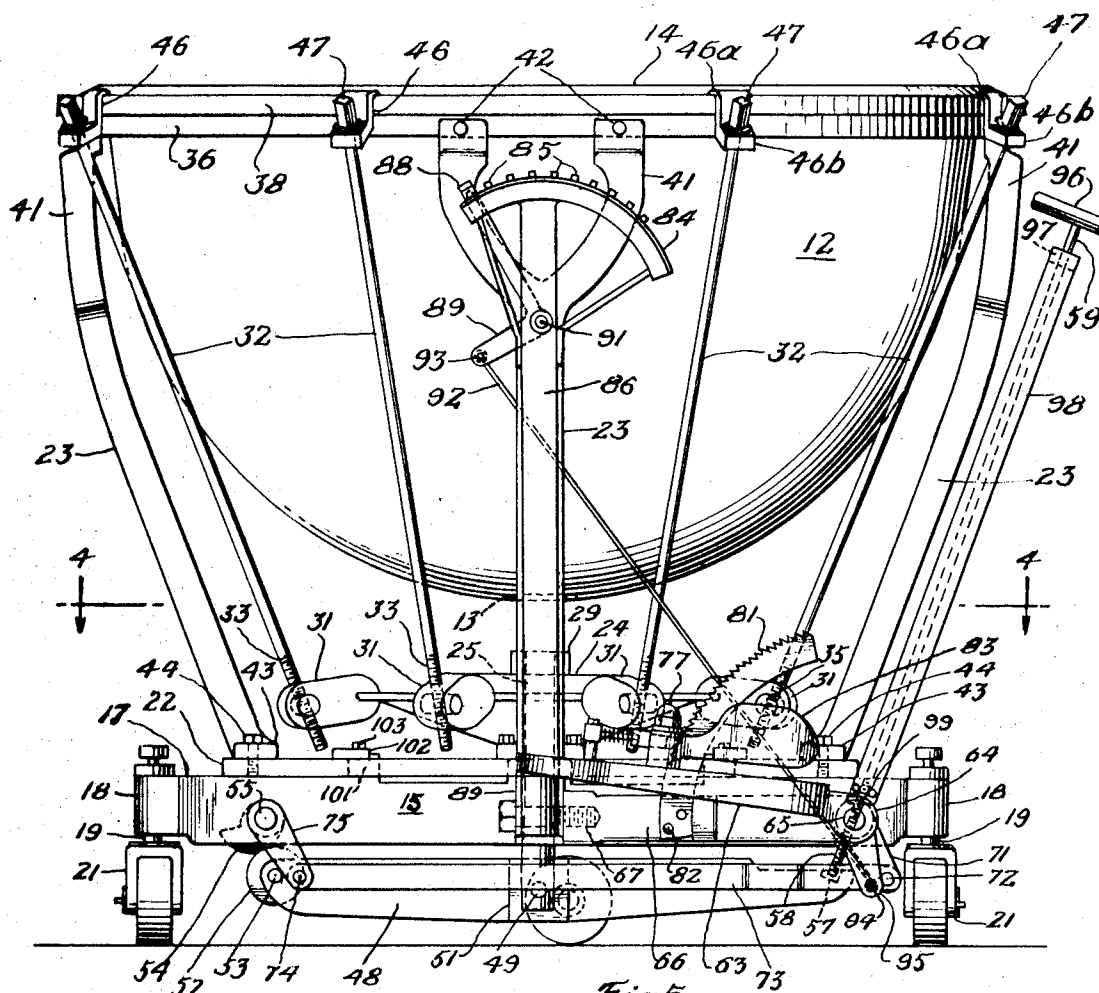


Fig. 5.

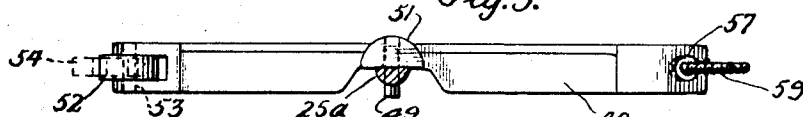
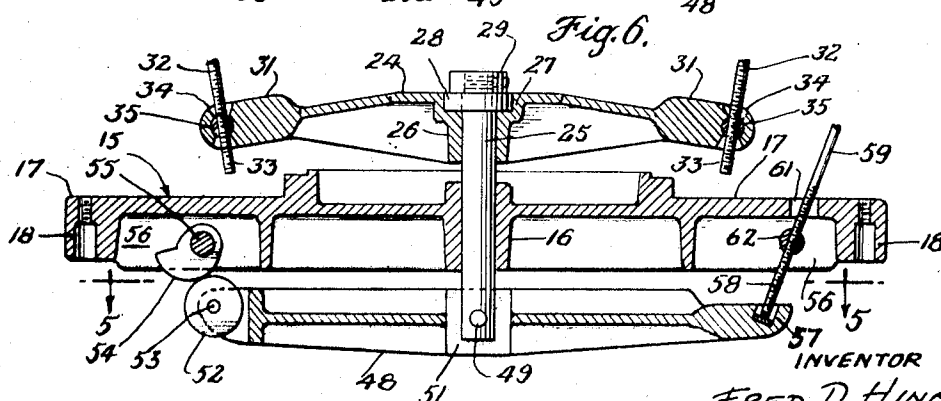


Fig. 6.



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Fig. 2.

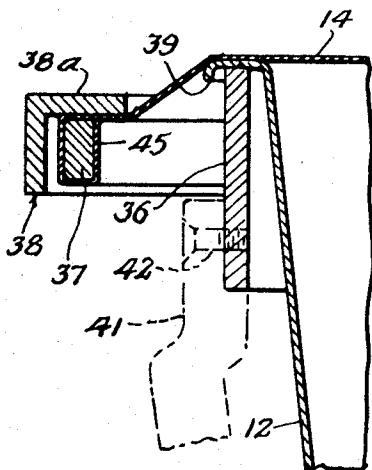
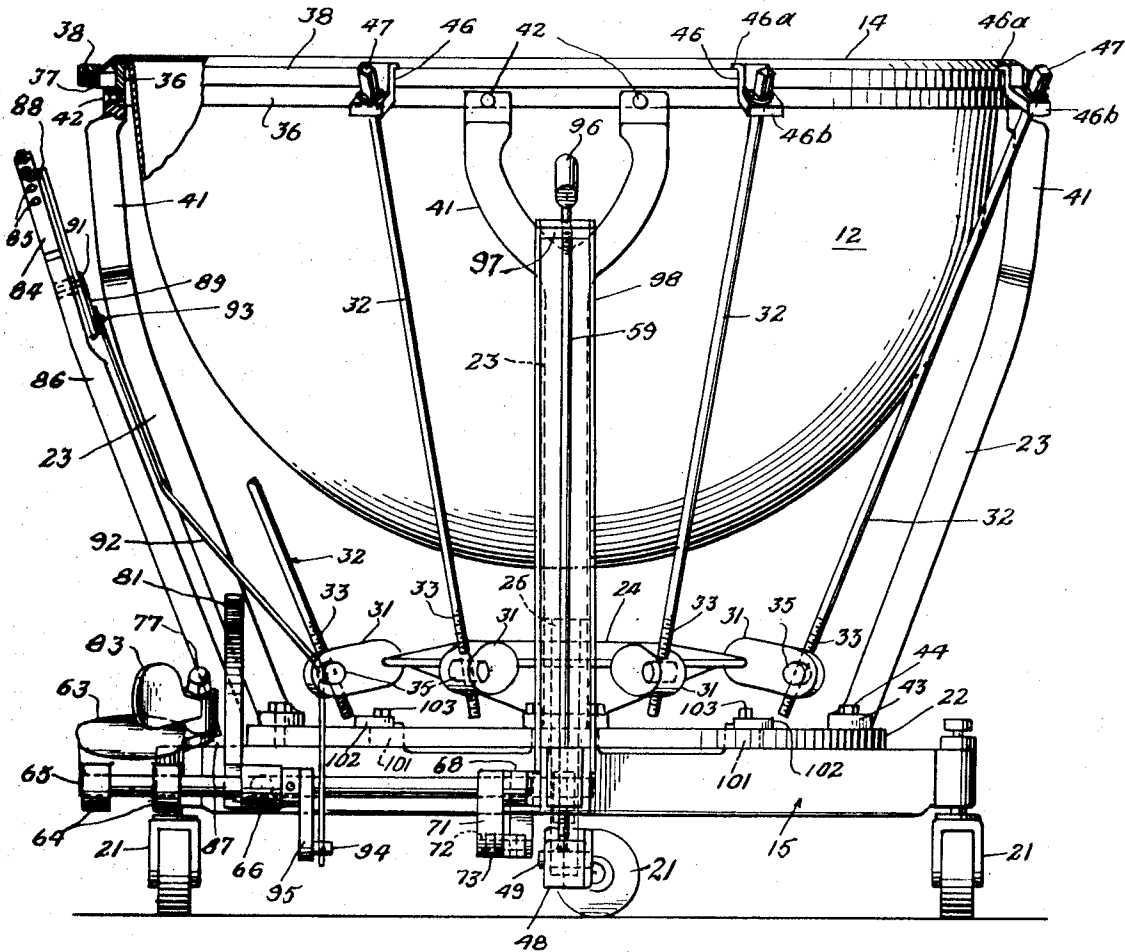


Fig. 7.

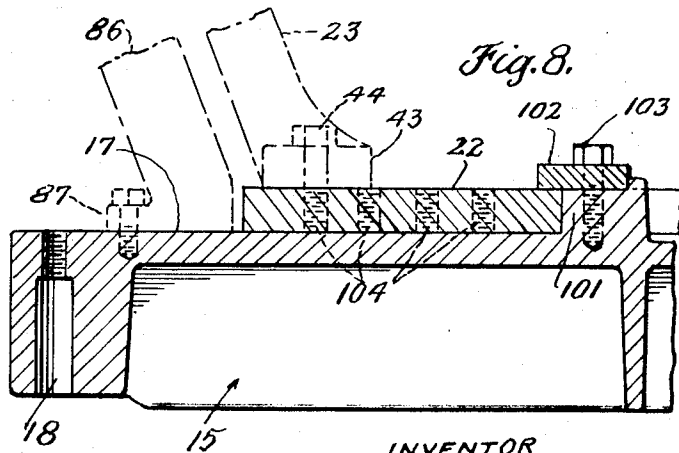
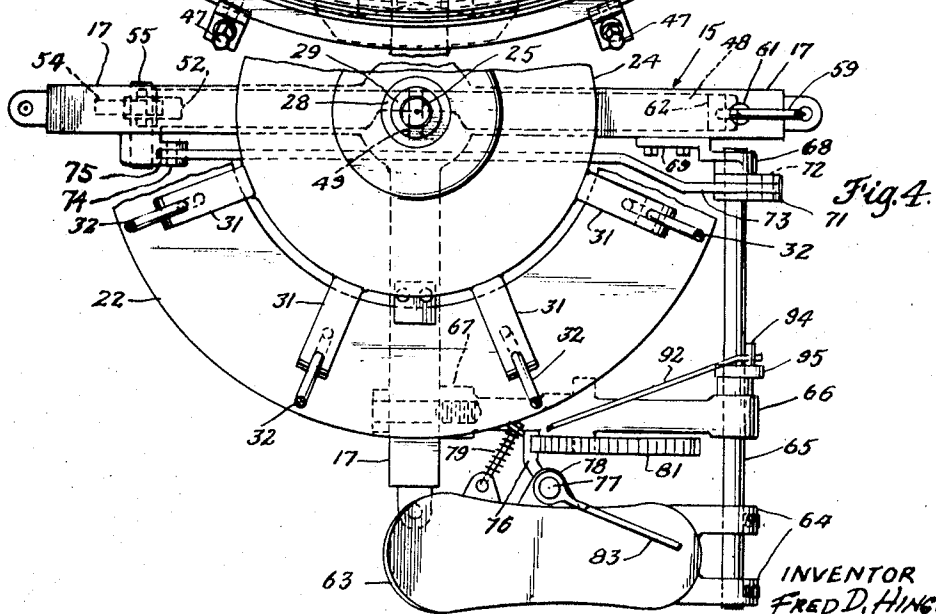
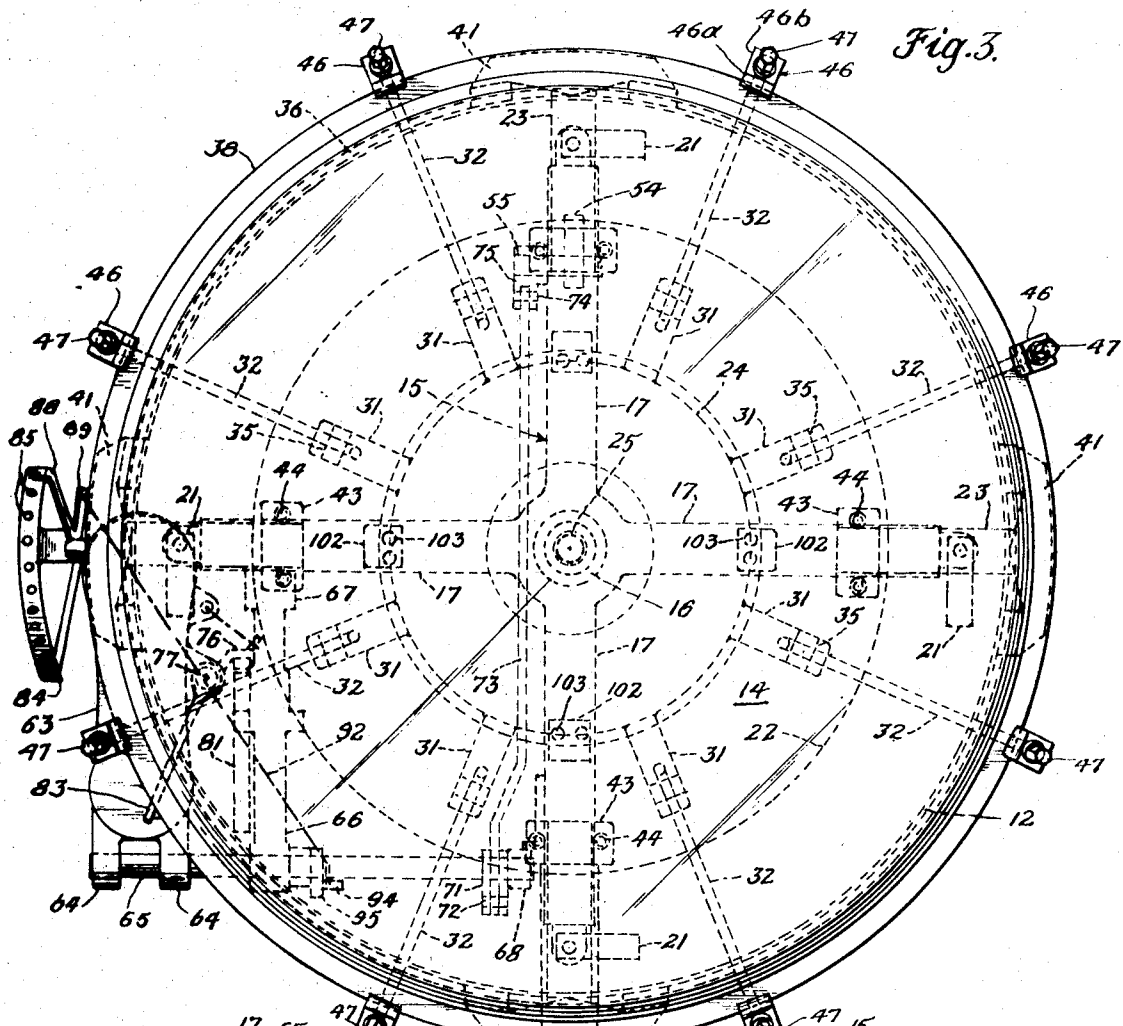


Fig. 8.

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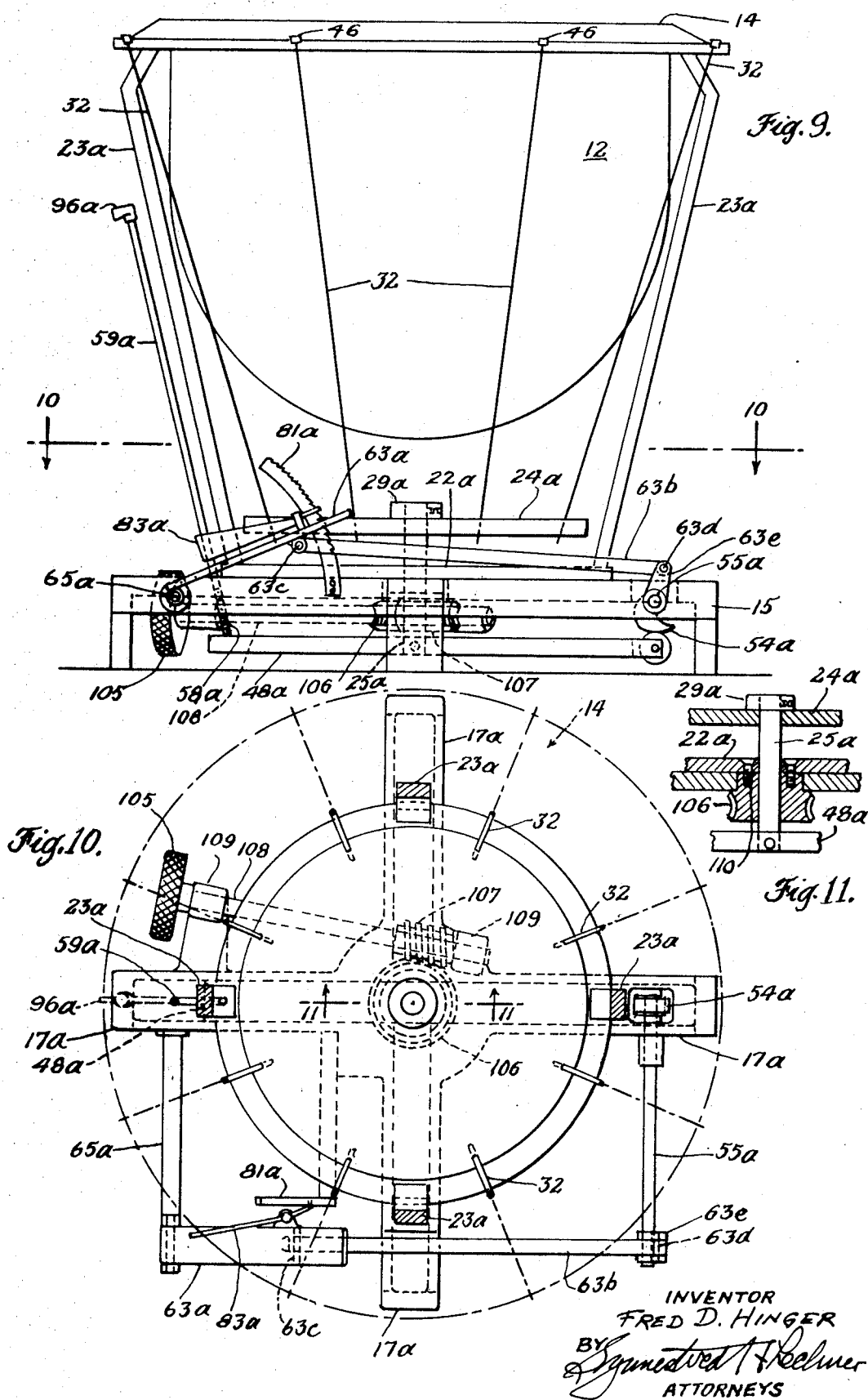
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MUSICAL INSTRUMENT OF THE PERCUSSION TYPE

This invention relates to musical instruments of the percussion type, and particularly to adjustable percussion instruments such as used in orchestras and bands, being especially adaptable to and useful in drums, particularly kettledrums, also termed timpani.

The principal object of the invention is the improvement of the construction and operation of percussion instruments, especially with respect to the adjustability, versatility, tunability, tone quality, facility of use, durability and ease of manufacture of such instruments, especially of the kettledrum type.

More specifically, the invention contemplates the provision of a percussion instrument, typically a kettledrum, wherein a plurality of adjustments may be made by the player, with exceptional ease, and especially wherein general changes of pitch of the instrument, and fine tuning for accuracy of intonation, can be easily and quickly accomplished.

Still further, the invention contemplates the provision, in such instruments, of general and fine tuning by the player together with the capability of additional adjustments at different peripheral locations around the head of the instrument.

Still further, the invention contemplates the provision of one or more such features, together with the feature of rotative adjustment of the drum about its axis, relative to the base structure of the instrument, so that different parts of the playing head of the instrument may be readily brought in position for access to the player.

Additionally, the invention contemplates constructional features and arrangements in the instrument, so characterized that two or more of the available adjustments can be made by the player from the position where he sits or stands when playing the instrument.

The invention further provides for the combination of a rotative adjustability of a drum member, about its axis, relative to a base member, and a rotative adjustability of a percussion head member relative to said drum member.

Besides such features as adjustability, versatility, tunability, and facility of use, the construction provides an improvement in tone quality, and further, the maintenance of a high quality of tone, even after considerable periods of wear of the percussion head, by virtue of the ready capability of the rotation of head member and drum member, whereby unworn areas of the head member are readily brought into position for playing thereon.

A further feature of the invention resides in the capability that multiple adjustments of the instrument may be easily and quickly made, from one location of the player, preferably also with the arrangement of a pitch indicator readily visible from the same location, and preferably also in conjunction with means to prevent maladjustment or undesired disturbance of any of the adjustments.

Still another feature of the invention resides in the simplicity and the ease of manufacture of various parts of the instrument, and the ease with which drum members and head members of different sizes may be utilized while retaining standard or uniform sizes of most of the other parts of the instrument.

How the foregoing objects and advantages are obtained by means of the present invention will appear more clearly from the following description of the presently preferred embodiment, and of an alternative embodiment, of the present invention, taken together with the accompanying drawings, illustrating said embodiments, wherein:

FIG. 1 is a side elevational view of a kettledrum embodying my invention, the view being taken from the left side, considered with relation to the position occupied by the artist when playing the kettledrum;

FIG. 2 is a similar view, taken from the position of the player (and thus viewed from the right of FIG. 1) and showing certain details in section;

FIG. 3 is a top plan view of the kettledrum shown in FIGS. 1 and 2;

FIG. 4 is a fragmentary sectional plan, taken on the line 4—4 of FIG. 1, showing some of the chief structural parts beneath the kettle or drum member of the instrument;

FIG. 5 is a plan view of the main tuning lever, also termed combining lever, with certain associated parts shown in section and others in elevation, taken on line 5—5 of FIG. 6;

FIG. 6 is a vertical sectional view through the mounting base and certain of the members of the tuning adjustment system, with some parts in elevation;

FIG. 7 is an enlarged sectional detail of an upper portion of the kettle, the drumhead, and associated parts;

FIG. 8 is an enlarged sectioned detail of a portion of the base frame and of one of the kettle supports, showing two features of adjustability, and other details;

FIG. 9 is an elevational view of a second embodiment of the invention, viewed from the right side of the position of the player (assuming that the player here is using only one kettledrum);

FIG. 10 is a sectional plan taken on the line 10—10 of FIG. 9; and

FIG. 11 is a fragmentary vertical section on the line 11—11 of FIG. 10, showing parts of two of the adjusting systems characterizing the instrument.

While those skilled in the art will recognize that the invention, or certain aspects of it, may well be adapted to other musical instruments, and particularly to other types of drums, the invention is especially adapted for use in kettledrums, and the drawings are all directed to kettledrum embodiments.

In the embodiment of FIGS. 1 to 8, the adjustable percussion instrument comprises, in general, a drum member 12 — in this instance a copper kettle of known type, which may have the customary opening 13 at the bottom. The kettle may, alternatively, be made of aluminum, or of a fiberglass-reinforced plastic. The top of the kettle is closed by the percussion head 14, which is carried on the drum member 12, and is adapted to be variably tensioned, in a manner hereinafter described. The head 14 may be of skin, plastic, or other suitable material, and in orchestral instruments it has been customary to make the head of calf-hide.

The instrument further comprises a base, or foundation structure, 15, which in the present instance is in the form of a casting having a central vertical tubular member 16 (see FIG. 6) and four arms 17 radiating therefrom (FIGS. 1 to 4 and 6), each arm having at its outer end a vertical pivot socket 18, adapted for the mounting of the upright pin 19 of a swiveling caster 21.

Carried on the base 15 is a frame structure 22 in the form of a ring which is mounted for rotation relative to the base about a vertical axis coinciding with the drum axis, said frame 22 supporting the drum 12, by means of a series of spaced-apart, generally upright arms 23 (in a manner to be described in more detail) whereby rotation of the frame 22 carries therewith the drum and its percussion head, about a vertical axis, relative to the frame and certain parts mounted thereon, this rotational adjustment being for purposes hereinafter to be described.

Tuning of the instrument both for quick general pitch change and for fine changes of intonation, is accomplished through a master tuning member 24 which is vertically movable, i.e., movable axially of the drum, by virtue of a central shaft 25 which, at its upper end, carries the member 24, said shaft being axially slidable in the sleeve 16 of the base 15. The member 24 may be described as a spider casting, having at its center a vertical sleeve 26, with a recess or socket 27 to receive the thrust collar 28, upon which bears the retaining nut 29 which is screwed on to the upper end of shaft 25, so that said shaft and hence the spider may be pulled downwardly, and held in any position of adjustment, by means hereafter to be described. The sleeve 26 is capable of rotative movement (with the drum member 12 and other parts) about the shaft 25, as will later be described.

The spider member 24 carries a peripheral series of arms 31 (in this case eight in number) each of which is connected with the percussion head 14 through an associated tension member 32. The plurality of tension members, thus provided, are disposed in spaced-apart relation, peripherally of the instrument, and of course with clearance relative to the kettle 12.

The connection of each tension member 32, at its lower end, to the associated spider arm 31 (as best seen in FIGS. 1, 2 and 6) is by means of a threaded end 33, which passes through a slot 34 in the spider arm, and is screwed into a transverse aperture in the pivot pin 35 which is rockable within an aperture extending tangential to the spider.

The connection of the upper end of each tension member 32 to the drumhead will be best understood by reference to FIGS. 1, 2, 3 and 7, showing the mounting of the kettle itself, and the relationship of the drumhead thereto. In this regard, it will be seen from FIG. 7 (and from the sectioned portion at the upper left corner of FIG. 2) that three annular members 36, 37 and 38 are employed at the periphery of the kettle 12. The member 36 is a mounting hoop, on which the outwardly turned flange structure 39 of the kettle 12 rests. This hoop 36 is carried on the four upstanding arms 23 previously referred to, by means of the forked upper ends 41 on said arms, to which the hoop 36 is securely fastened as by screws 42. The lower ends of arms 23 have brackets 43 which are rigidly secured by bolts 44 to the rotatably-adjustable base ring 22. Thus, the kettle 12, the base 22, the supporting arms 23 and the hoop 36 are all rigidly secured together.

The percussion head 14 may also be considered as including the ring 37, since the skin portion of the head is extended outwardly at the periphery, to pass over and be looped around the ring 37, as shown at 45. The tensioning of the head, for both coarse and fine tuning, is done through the medium of the ring 38, which, as shown in FIG. 7, is an angle member in cross-section,

having a horizontal flange 38a bearing upon the head and ring assembly 14, 37.

The pull of the tension rods 32 downwardly upon the percussion head is by means of a series of double-angle brackets 46. The upper in-turned flange 46a of each bracket bears upon the horizontal flange 38a of the ring. The lower, out-turned flange 46b is apertured to receive the tension rod 32 which fixedly carries a head seated on the flange 46b. The head has a squared portion 47, so that a wrench or other tool may be used for turning the rod, and thus in effect lengthening or shortening the connection between the percussion head and the tuning spider 24, by virtue of the threaded connection 33 with the pivot pin 35. This adjustment is used to equalize or otherwise adjust the tension imposed upon different parts of the drumhead.

By loosening or releasing the threaded connection 33, 35, the brackets 46 may be slipped off of the ring 38, so that the ring itself may be lifted off, and a worn drumhead may be removed and a new one substituted. By this arrangement it is also possible to turn the drumhead relative to the kettle, which provides a rotative adjustment supplementary to the adjustment of the kettle about its own axis as hereinafter described.

The tuning controls are mounted on the base of the instrument, and comprise what may be termed a general pitch change mechanism, including, for example, a device conveniently located for operation by the foot of the player (to change the pitch of the kettledrum, for example from C to E, or to G, or to various other notes of the scale, within the compass of the instrument), and a supplemental fine tuning control, including, for example, a rotatable handle so located relative to the player's position that he can readily turn the handle and get a vernier adjustment, so as to bring the kettledrum to an accurate concert pitch for any given setting of the general pitch control; since the pitch, as set by the foot control, tends to be altered by temperature, humidity, and other factors.

Both of the controls here under discussion operate through the same tension rods 32, and indeed through the master tuning member 24 and its vertical shaft 25. This is done through the medium of a combining lever or rockerarm 48 (seen best in FIGS. 1, 2, 4, 5 and 6). Through this lever the motions derived from the foot control and the hand control may be simultaneously (though more generally successively) combined, additively or subtractively, as will now appear.

The lever 48 is disposed beneath the base 15. At a point intermediate the ends of the lever it is pivotally mounted on the bottom of vertical shaft 25 by means of the pivot pin 49. This is conveniently accomplished by casting the lever with a semi-cylindrical boss 51 (seen in plan view in FIG. 5 and in elevation in FIG. 6), the flat side of which abuts against the flat face of the semi-cylindrical portion 25a of the shaft 25, at the lower end of the latter.

Large adjustments of the lever 48, and hence of the tension on the drumhead, through the other parts hereinabove described, are accomplished by moving the left-hand end of the lever (as seen in FIG. 6) through the medium of the roller 52, pivoted at 53, and a cam 54, co-operating with said roller and fixed upon a rock-shaft 55 which is pivoted in the vertical web structure 56 of one arm 17 of the base 15.

At the opposite end of the lever 48 (the right-hand end in FIG. 6) there is a slot or socket 57 in which is

seated the lower, threaded, end, 58 of a fine tuning rod 59, which passes through an aperture 61 in the arm structure 17 of the base 15, said threaded end 58 being screwed through a pivot pin 62 rockably mounted in the fixed vertical structure 56 of an arm 17 of the base 15.

It will now be clear that by turning the rockshaft 55 in a counterclockwise direction, as viewed in FIG. 6, the left hand end of lever 48 will be moved downwardly (while the threaded rod end 58 serves as a fulcrum for the lever) and such action will pull shaft 25 downwardly, lowering all of the tension rods 32 simultaneously and equally. On the other hand, if shaft 55 is held stationary, so that cam 54 serves as a fulcrum for lever 48, rotation of the fine tuning rod 59, in such direction that the threaded part 58 (screwing down through pivot 62) pushes downwardly on the right hand end of lever 48, will impart a relatively slight downward motion to central shaft 25 and thus to all the tension rods 32 equally.

Since the percussion head 14 is always under tension, when in use, the tendency of the rods 32 is to lift the spider 24 and vertical shaft 25, thus tending to pull the lever 48 upwardly, by means of pivot 49, and such action will take place to a greater or lesser degree, if the cam 54 is turned clockwise by means of shaft 55, or if the rod 59 is so turned that the threaded part 58 is screwed upwardly in its pivot 62. The controls for so actuating the lever 48 will now be described.

As viewed in FIG. 1, the player sits or stands at the right of the instrument (or as viewed in FIG. 2, he is on the near side of the instrument), if he is playing one kettledrum only, so that, in this embodiment, the pitch-adjusting foot pedal 63 is conveniently accessible to the left foot of the player. At its heel end, the pedal 63 has lugs 64 fixedly secured on rockshaft 65 which is pivotally mounted in a solid bracket 66 rigidly fastened at 67 to one of the arms 17 of the base. The end of shaft 65 farthest from the pedal 63 is also pivoted in a bracket 68, bolted at 69 to another of the arms 17 of the base. This assembly may be reversed, so that the pedal is on the right, so that right and left arrangements are available, for use when the performer is utilizing a plurality of kettledrums.

Near the latter end of shaft 65 is fixed a forked lever 71, to which is pivoted, at 72, one end of a link 73, which generally parallels the combining lever 48. As best seen in FIGS. 1, 3 and 4, the opposite end of link 73 is pivoted at 74 to a lever 75 fixedly secured to the rockshaft 55 which carries the cam 54.

Through the mechanism just described, the movement of the foot pedal 63 is transmitted to the cam 54 and thence to the roller 52 and combining lever 48. Normally, the position of the foot pedal 63 is fixed. This fixation is accomplished by means of a latch member 76 (FIG. 4) fixed to a pivot pin 77, mounted on pedal 63 by a bracket 78. A compression spring 79 urges the latch 76 into engagement with the fixed toothed quadrant 81, which is bolted at 82 to the fixed bracket 66. However, a series of pitch changes may be made, quickly, while the latch is held "off" by the foot; which is feasible because of the pivoting of the pedal at the heel position.

To operate the foot pedal 63, the player moves the side of his foot against the lever 83 (fixed on pivot pin 77), and thus swings the latch 76 out of contact with the teeth of the quadrant. The player may then increase

the tension on the drumhead by pressing down on the foot pedal 63, until the kettledrum is set at the desired higher pitch. If he wishes a lower pitch, he releases the latch 76 by means of the lateral lever 83, and allows the pedal 63 to rise the desired amount, which it will do by virtue of the tension at the drumhead.

A visual indication of the pitch setting is given by the mechanism now to be described with reference to FIGS. 1 to 4 and 8. An indicating quadrant 84, carrying pitch indicia on studs 85, is located to the left and in full view of the player, it being mounted in that position by means of an upright post 86, the bottom end of said post being secured at 87 to an arm 17 of the base 15 (as best seen in FIGS. 2 and 8). A pitch indicating pointer 88, which is one arm of a bellcrank having an actuating arm 89, is pivoted at 91 on the post 86, and is actuated by a link 92 pivoted at 93 to arm 89 and at 94 to an arm 95 fixed on rockshaft 65. The operation of this indicator is thus directly tied to the actuation of the general pitch setting mechanism by the foot pedal.

The fine tuning adjustment (as seen from FIGS. 1, 2, 5 and 6) is accomplished by means of the rotatable handle 96, disposed immediately in front of the player, and fastened on the upper end of the fine tuning rod 59, whose threaded lower end 58 was heretofore described in connection with its association with the combining lever 48 (FIG. 6). The upper end of rod 59 is braced by its passing through an aperture in a plate 97, carried by an upstanding bracket 98 which is rigidly secured on an arm 17 of the base, by bolts 99.

In order that the tautness of the drumhead may be substantially uniform over its entire area, the squared heads 47 may be individually turned, and thus the effective length of the tension rods 32 individually adjusted, whereby the double-angle brackets 46 will impose the desired initial tension upon different portions of the ring members 38 and 37 and thus the skin or drumhead proper 14. Once that adjustment is properly made, the general changes of pitch and the fine tuning adjustments can be readily and quickly made by the player, by means of the foot pedal 63 and the hand lever or crank 96.

Another significant adjustment, heretofore briefly dealt with, is the rotative adjustment of the kettle and drumhead assembly, relative to the base 15 and all those parts mounted upon or fixedly associated with the base structure 15. For a fuller understanding of this feature, reference should be had to FIGS. 1, 2 and 8, from which it will be seen that the rotating frame, formed as a ring 22, which carries the kettle 12 and the percussion-head assembly by means of the four arms 23, is mounted on the upper face of the four radiating arms 17 of the base structure 15. The frame ring 22 is centralized with respect to the base, by means of the upstanding integral lugs 101 formed on said base, and is held in place by four retainer plates or keepers 102 which are secured as by cap screws 103.

As the skin or other covering forming the playing surface of the drumhead wears thin in one area, where it is played upon by the musician, or if one area is stretched by the beating of the mallets thereon, the kettle and associated parts may be rotated as one unit, simply by easing up on the cap screws 103 and loosening the fine tuning adjustment control 96, and then turning the ring-like frame member 22, and hence the assembly mounted thereon, until a different area of playing surface is disposed in position for the drummer to play

thereon. This rotative adjustment, carries with it the master tuning spider 24, and the tension members 32, and associated parts, so that none of those parts need be disassembled. At the same time, there is no change made in the relative positions of the player, the base, and all those parts normally associated with the base, such as the foot pedal 63, the hand tuner 96, and the pitch indicator 84, 85, etc.

A further feature of this embodiment, resides in the capability of utilizing kettle and drumhead assemblies of different diameters, while retaining, unchanged, all other parts of the instrument. This advantage is accomplished by having a radial series of bolt holes 104 (see particularly FIG. 8) whereby each kettle supporting arm 23 may be mounted at several different positions, radially, with respect to the center of the instrument. Thereby, a kettle 12 of perhaps 29 or 30 inches maximum diameter may be substituted for a kettle of 32 inches diameter, for instance. Hence, all parts of the instrument can be standardized, for kettle drums of various different sizes and pitch ranges, excepting only for the kettles 12 themselves, and the associated rings 36, 37 and 38 and playing head 14.

By reference now to FIGS. 9, 10 and 11, representing the presently preferred construction, it will be seen that many of the elements of the instrument are similar to those of the embodiment shown in FIGS. 1 to 8. Accordingly, identical reference characters are used on some parts, and similar reference characters, with suffixes, are used on others, and various parts and details are omitted, or left un-numbered as being unnecessary to the complete understanding of this embodiment.

In this instance, besides having the general pitch change adjustment control and the fine tuning control both located so as to be accessible to the player when he sits at one side of the instrument, the rotating adjustment of the kettle and playing head assembly is made regulable, from the same side as the other two controls, by means of a knurled handwheel.

In this embodiment, the foot pedal 63a is disposed toward the right of the player's position (if he be assumed to be playing one kettledrum), and the hand-wheel control 105 is disposed slightly toward the left, while the fine tuning control lever 96a is disposed centrally in front of the player. A combining lever 48a is used, and the general tuning is again done by a cam 54a and by a threaded rotatable rod 59a having a threaded lower end 58a. The connections from the foot pedal 63a to the cam shaft 55a involve a modified linkage, due to the different location of various parts, but the principles involved are essentially the same as in the embodiment first described. As seen in FIGS. 9 and 10, this linkage comprises a link 63b connected at 63c to the foot pedal 63a and at its other end at 63d to a lever 63e secured on the shaft 55a.

In the form presently under consideration, the rotating frame of the instrument is in the form of a disk 22a mounted on top of the base 15a.

Rotational adjustment of the kettle 12 and playing head surface 14, is secured through a wormwheel 106 (FIG. 11), fixed to base member 22a by screws 110, and actuated by a worm 107 mounted on a rotatable shaft 108, pivoted in bearings 109, and turned by the knurled wheel 105. The employment of the worm and wormwheel adjustment is advantageous not only because of the ease of adjustment but also because it is self-locking as against unintentional change of setting,

such as might occur were someone to exert a turning force on the kettle itself.

The individual adjustment of the tensioning rods 32 is accomplished, as in the other embodiment, by applying a tool to the squared heads thereon.

In dealing with the embodiment of FIGS. 1 to 8 inclusive, the pedal 63 has been referred to as being for operation by the left foot of the player, and the fine tuning lever 96 has been referred to as being directly in front of the player; and in referring to the embodiment of FIGS. 9 to 11, it has been said that the pedal 63a is in position for operation by the right foot of the player, the fine tuning control 96a being again directly in front of the player. It should be understood that these descriptions refer to the situation where only a single kettledrum is being used. More often, the player is working with at least a pair of kettledrums of different sizes and ranges of pitch.

In such a case, a kettledrum with a right-hand pedal would be placed close to the player on his left, and a kettle-drum with a left-hand pedal would be placed just to his right. Under those conditions, what was above described as a "right" pedal would be operated by the left foot of the player, and the pedal heretofore designated as a "left" pedal would be operated by the right foot of the player. Of course, the kettledrum of either embodiment is readily capable of assembly with the pedal control located either toward the right or toward the left. The significant thing is that the adjusting devices in general are disposed for ready access from one position, and the visual pitch indicating device is also readily seen from the same position.

Another feature of advantage is involved in the mounting and disposition of the pedal. It is pivoted adjacent the heel position of the player, and has but a moderate slope in its average position of adjustment, so that the player can operate it with a tilting motion of the foot, about the ankle joint, and does not have to raise and lower the leg from the hip joint, as is necessary with certain prior known constructions.

It will be noted that the adjustment devices involve motion-reducing mechanism. This is true of all of the tuning devices (in both of the illustrated embodiments) and it is also true of the rotational adjustment through worm and wormwheel, in the embodiment of FIGS. 9 to 11. Such mechanism aids in obtaining accurate adjustments, without difficulty; and, in the case of the tuning adjustments, it makes it feasible for the player to change general pitch, or to get an accurate intonation, quickly, during his performance, without having to be correspondingly cautious in his foot or hand movements.

In both embodiments, the combining lever arrangement, in conjunction with control systems wherein an element of each system may serve as a fulcrum (respectively at opposite ends of said lever), provides an extremely simple mechanism for obtaining the desired results.

Besides the advantages heretofore stated, it should be added that the separation of the kettle from the foundation or base structure, by the intermediation of the rotative frame has resulted in improving the tonal characteristics of the instrument.

In view of the foregoing description, other advantages of the invention will appear to those skilled in the art of playing on percussion instruments.

I claim:

1. An adjustable percussion instrument comprising a drum; a percussion head carried on said drum and subject to be variably tensioned; a base; a frame mounted on said base for rotation relative thereto about the drum axis and supporting said drum peripherally of the latter so that rotation of said frame carries the drum and head therewith; a master tuning member mounted for movement axially of said drum; a plurality of tension members disposed in spaced-apart relation peripherally of the drum and interconnecting said head and said master tuning member; a tuning control mounted on said base at a location for operation by the player, and coupled to said master tuning member by a central tension connection for moving said member axially of said drum, whereby to actuate said tension members in unison and vary the tension on said percussion head; a swivel in said connection; and a supplemental fine tuning adjuster disposed for ready access by the player, and coupled to said master tuning member through said central tension connection for moving said member axially.

2. The construction of claim 1 wherein the coupling of the tuning control to the master tuning member includes a motion-reducing linkage.

3. The construction of claim 2 wherein said linkage has an adjustably movable fulcrum.

4. The construction of claim 3 wherein the supplemental fine tuning adjuster acts to move said fulcrum.

5. The construction of claim 1 wherein a drum rotating control is disposed at a location for ready operation by the player.

6. The construction of claim 5 wherein said drum rotating control includes a motion-reducing mechanism.

7. The construction of claim 6 wherein said mechanism has a self-locking connection.

8. In an adjustable percussion instrument comprising a drum and a percussion head carried on said drum and subject to being variably tensioned; a master tuning member; a plurality of tension members disposed in spaced-apart relation peripherally of the drum and interconnecting said head and said master tuning member; a pitch control lever for said master tuning member disposed for ready access by a player in a location at one side of the drum, said lever having a mounting pivot also disposed at said side of the drum; said lever being movable on said pivot in an arc whose concave side is toward the player's location; linkage by which said lever is coupled to said master tuning member whereby to actuate said tension members in unison so as to increase the tension on said percussion head by a movement of said lever generally forwardly away from the player; and a supplemental fine tuning adjuster located at the same side of the drum and operative upon said master tuning member.

9. The construction of claim 8 wherein the pitch control lever comprises a foot pedal, pivoted at the heel end thereof, and set at a moderate angle to the horizon-

tal when in an intermediate position of adjustment.

10. An adjustable percussion instrument comprising a drum and a percussion head carried on said drum and subject to being variably tensioned; a master tuning member; a plurality of tension members disposed in spaced-apart relation peripherally of the drum and interconnecting said head and said master tuning member; a pitch control lever for said master tuning member disposed for ready access by a player in a location at one side of the drum, said lever having a mounting pivot also disposed at said side of the drum; said lever being movable on said pivot in an arc whose concave side is toward the player's location; linkage by which said lever is coupled to said master tuning member whereby to actuate said tension members in unison so as to increase the tension on said percussion head by a movement of said lever generally forwardly away from the player; and a supplemental fine tuning adjuster located at the same side of the drum; the instrument further comprising a base and a frame mounted on said base for rotation relative thereto about the drum axis and supporting said drum so that rotation of said frame carries the drum and head therewith but without corresponding movement of the tuning control and fine tuning adjuster.

11. The construction of claim 10 having a drum rotating control disposed also for ready access by said player at the same location.

12. An adjustable percussion instrument comprising a drum; a percussion head carried on said drum and subject to be variably tensioned; a base; a frame mounted on said base for rotation relative thereto about the drum axis and having means supporting said drum so that rotation of said frame carries the drum and head therewith; a master tuning member mounted for movement axially of said drum and connected to said head; a central tension adjustment means for moving said member axially of said drum; and a swivel connecting said master tuning member and said central tension adjustment means.

13. The construction of claim 12 wherein the drum supporting means are adjustable to accommodate drums of different sizes.

14. The construction of claim 12 wherein the drum has a general tuning control and a fine tuning adjuster, said control and said adjuster being disposed for access at the same player location, regardless of rotation of the frame.

15. The construction of claim 14 with a drum rotating control also disposed for access at the same location.

16. The construction of claim 12 with a pitch control lever coupled to said adjustment means, and also having a pitch indicator coupled to said lever; said frame and drum supporting means being rotatable without uncoupling any of the other parts set forth.

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