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2,581,515

DRUM AND CYMBAL BEATING DEVICE

Filed Jan. 6, 1950

2 SHEETS—SHEET 1

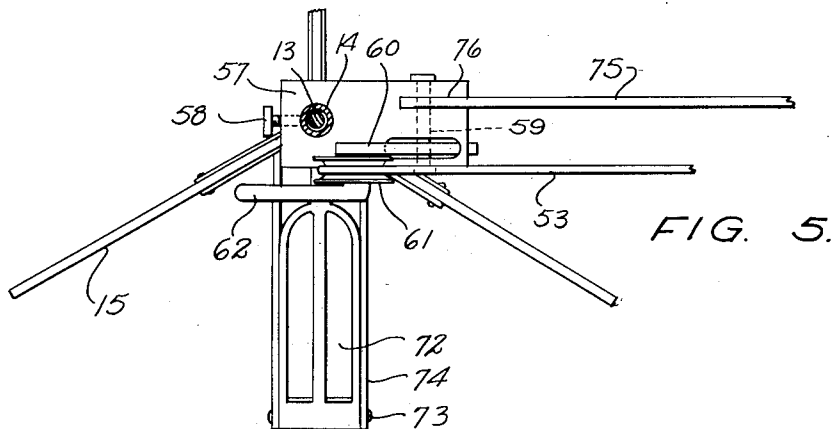


FIG. 5.

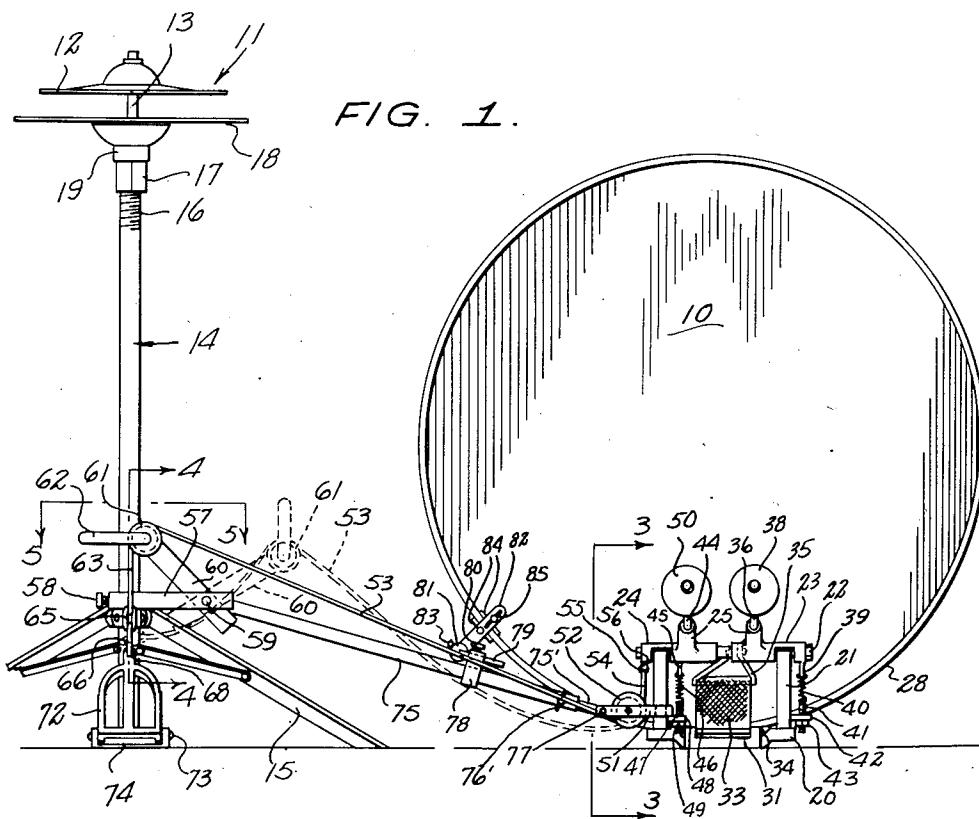


FIG. 1.

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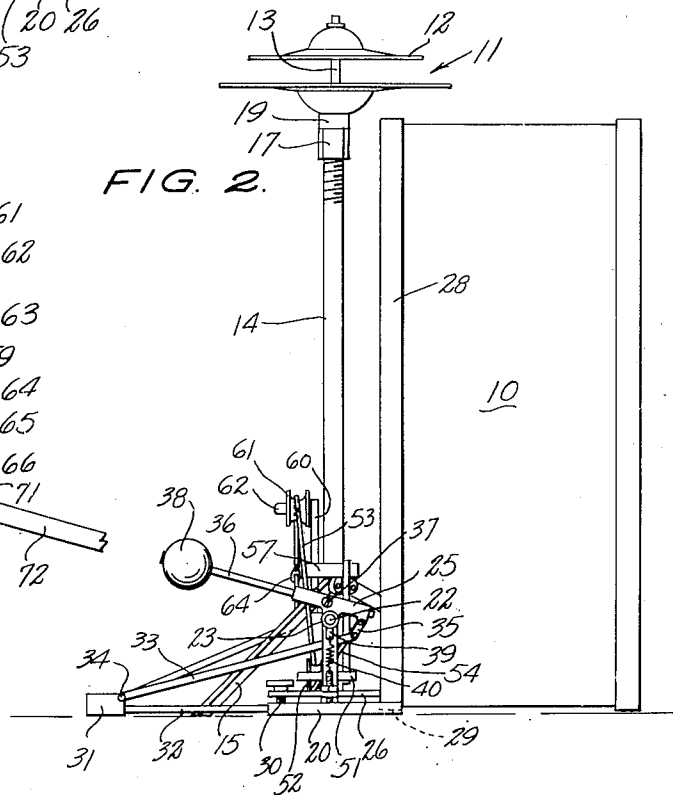
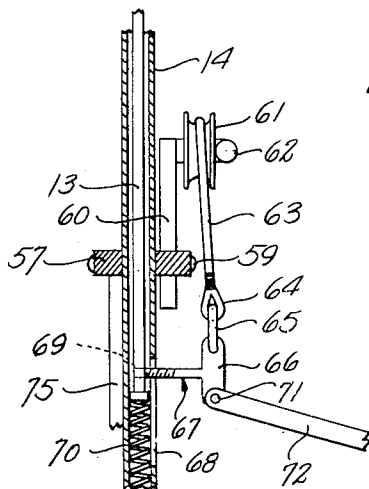
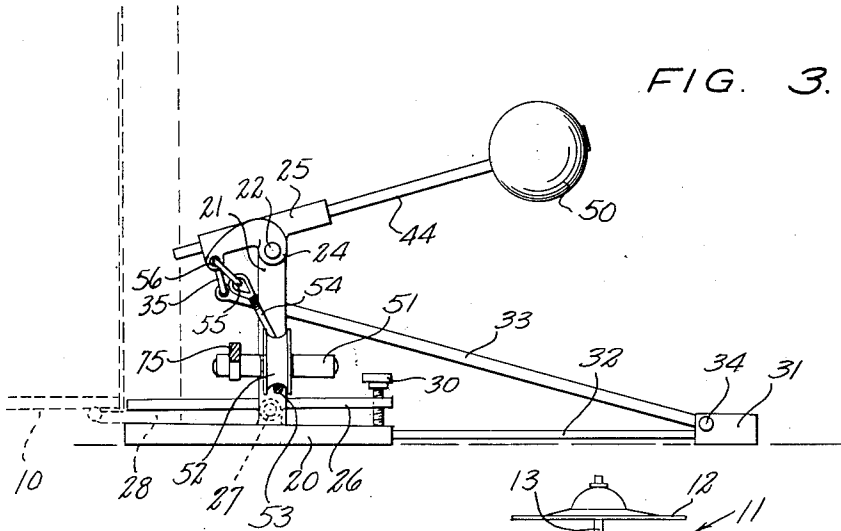
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2 SHEETS—SHEET 2



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DRUM AND CYMBAL BEATING DEVICE

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3 Claims. (Cl. 84-422)

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My invention relates to a drum and cymbal beating device.

The primary object of the invention is to provide drum and cymbal beating mechanism, the use of which enables the drummer to beat the bass drum much more rapidly than is possible with conventional beating devices.

A further object is to provide a drum and cymbal beating device of the above-mentioned character which will reduce to a minimum tiring and fatigue in the legs of the drummer, since the drummer uses both feet simultaneously, and alternates on two beater pedals to produce drum beats on fast passages of music instead of using one foot and one pedal, which is usual with most conventional drum beating devices.

A further important object is to provide drum and cymbal beating mechanism so designed that the drummer need not depart from the accustomed style of bass drum and cymbal pedal work.

A further object is to provide bass drum and cymbal beating mechanism including separate interconnected pedals which the drummer can manipulate with his feet to execute fast and intricate combinations of beats, licks and accents which are impossible with single beater pedals.

A further object is to provide a drum and cymbal beating device of the above-mentioned character with which the drummer can beat eight to the bar on modern, lively dance music, when called upon to do so.

A further object is to provide a drum beating device with which the drummer may execute four strong and even down beats per measure of music, and in perfect rhythm in the fastest, modern dance music.

A still further object is to provide drum and cymbal beating mechanism of the above-mentioned character which is highly simplified, compact, sturdy and durable and relatively cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a front, side elevation of a base drum and crash cymbals having my beating mechanism applied thereto;

Figure 2 is an end elevation of the same, as viewed from the right-hand end of Figure 1;

Figure 3 is an enlarged, fragmentary, vertical section taken on line 3-3 of Figure 1;

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Figure 4 is a similar section taken on line 4-4 of Figure 1; and

Figure 5 is an enlarged, fragmentary, horizontal section taken on line 5-5 of Figure 1.

In the drawings, where, for the purpose of illustration, is shown a preferred embodiment of the invention, the numeral 10 designates a conventional bass drum of the type used by drummers in dance orchestras and the like. 11 designates generally a set of crash cymbals including an upper, vertically reciprocatory cymbal 12, fixedly secured to an elongated, vertically reciprocatory rod 13 by any conventional means. The rod 13 engages slidably within an elongated, vertical standard or tube 14 mounted upon a suitable tripod stand 15, or the like. The tube or standard 14 is externally screw-threaded at its top end, as shown at 16, and an adjusting nut 17 is provided upon the upper end of the tube. A second or lower crash cymbal 18 is arranged below the upper cymbal 12 and has a central opening slidably receiving the rod 13 therethrough. A felt washer 19 is arranged between the bottom of the cymbal 18 and nut 17, and likewise has an opening slidably receiving the rod 13. During the operation of the cymbals, the lower cymbal 18 is relatively stationary with respect to the upper cymbal 12 which reciprocates vertically, as previously stated. The cymbal 18 may be adjusted vertically by means of the nut 17 to properly coordinate the beat of the crash cymbals with that of the bass drum.

Arranged adjacent to the bottom of the drum 10 at the forward side of the same is a generally flat base plate 20 having a pair of upstanding, vertical posts 21 rigidly secured thereto adjacent to its opposite side edges, as shown. The posts 21 are provided near their tops with aligned openings receiving a horizontal shaft or bolt 22, upon which are rotatably mounted separate, spaced, elongated holders or sleeves 23 and 24, including upstanding, integral, tubular extensions 25 which are normally inclined forwardly or away from the forward side of the drum. The posts 21, shaft or bolt 22 and associated elements are spaced forwardly of the forward side of the drum, as shown. A flat, horizontal clamp plate 26 is provided and disposed above the base plate 20 and between the posts 21. This clamp plate 26 extends for substantially the entire width of the base plate 20. Figure 3, and is pivotally mounted between its ends upon spaced, upstanding lugs 27 which are arranged adjacent to and between the posts 21. The forward or inner end of the clamp plate 26 engages above the forward, annular rim 28 of the

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drum, and the rim 28 is seated within a curved recess 29 provided in the top face of the base plate 20. An adjustable clamp screw 30 has screw-threaded engagement within a screw-threaded opening provided near the outer end of the clamp plate 26, and the bottom of the clamp screw 30 engages the base plate for clamping the forward or inner end of the clamp plate 26 tightly against the rim 28 which is accordingly rigidly secured or clamped between the clamp and base plates.

A heel block or rest 31 is spaced forwardly of the base plate 20, Figure 2, and rigidly connected therewith by a horizontal, elongated extension or plate 32. A normally inclined, vertically swingable pedal or plate 33 has its lower or forward end pivotally connected, as at 34, with the heel block 31 and the pedal extends inwardly toward the drum 10 and above the clamp plate 26 and associated elements, as shown. The pedal 33 is disposed between the posts 21, and the inner end of the pedal is pivotally connected by means of a link 35 with the rear end of the inclined, tubular extension 25 of the sleeve 23, the tubular extension 25 extending forwardly and rearwardly of the bolt or shaft 22, Figure 2. A shaft or rod 36 is longitudinally adjustably mounted within the tubular extension 25 of the sleeve 23, and secured in the selected adjusted position by a set screw 37, or the like. A drum beater head or ball 38 is suitably rigidly secured to the top end of the rod 36 for beating the drum when the rod 36 and associated elements are swung toward the drum. The sleeve 23 is provided adjacent to its outer end with a depending, radial extension 39, to which is connected the top end of a retractile coil spring 40, the bottom end of which is connected with a vertical adjusting screw 41 extending through an apertured lug 42 rigidly secured to the adjacent post 21. An adjusting nut 43 is mounted upon the screw 41 beneath the apertured lug 42, and the tension of the spring 40 accordingly may be varied by manipulation of the nut. The spring 40 will normally maintain the extension 39 in a depending, vertical position, Figure 2, so that the tubular extension 25 and rod 36 are normally held in their forwardly inclined positions, as shown, with the pedal 33 elevated. By manipulation of the pedal 33 with one foot, the beater head or ball 38 may be swung into contact with the forward side of the drum for beating the drum.

The tubular extension 25 of the sleeve 24 has a rod 44 identical with the rod 36 longitudinally adjustably mounted within it, and the sleeve 24 is provided near its longitudinal center and laterally inwardly of the left-hand post 21, Figure 1, with a depending, radial extension or lug 45. The top end of a retractile coil spring 46 similar to the spring 40 is connected with the lug 45, and the bottom end of this spring is connected with an adjusting screw 47 engaging through an opening in a lug 48 rigidly secured to the inner side of the adjacent post 21. A nut 49 is mounted upon the screw 47 below the lug 48, and the tension in the spring 46 may be adjusted by manipulating the nut. The spring 46 normally holds the extension or lug 45 in the depending or vertical position, so that the tubular extension 25 of the sleeve 24 and the rod 44 are maintained normally inclined and parallel to the rod 36 and associated elements. A drum beating ball or head 50 is suitably fixedly secured to the top end of the rod 44, and the ball 50 is spaced laterally from the ball 38 and arranged at the same elevation as the

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ball 38. The balls 38 and 50 are disposed the same distance forwardly of the drum 10, the rods 36 and 44 being of the same length, and since the rods 36 and 44 are mounted upon the same shaft 22, the heads or balls 38 and 50 have the same length of travel or stroke before contacting the forward side of the drum for beating the drum. It is to be understood that the pedal 33 operates the beating head or ball 38 only, and the pedal 33 is not connected with the head or ball 50.

A flat, horizontal support plate or holder 51 is freely pivotally mounted upon the left-hand post 21, Figure 1, so that it may swing horizontally to any desired angle with respect to the base plate 20. The support plate 51 must be freely adjustable or swingable about the post 21, since all drummers do not position the cymbal stand in precisely the same location relative to the forward side of the drum. The support plate or holder 51 cannot shift upwardly upon the post 21 with which it is connected, because the diameter of the post above the support plate is larger than the opening through the support plate. The support plate or holder 51 extends laterally outwardly and beyond the adjacent post 21 and is spaced above the base plate 20, as shown. The support plate 51 is provided with a longitudinal slot within which is rotatably mounted a pulley 52, beneath which is trained a flexible belt or cable 53 having one end portion 54 extending vertically upwardly adjacent to the outer side of the left-hand post 21 and connected by means of a link or ring 55 with a depending, apertured extension or lug 56 integrally secured to the outer end of the sleeve 24.

A flat, horizontal support plate 57 is vertically adjustably mounted upon the tube or standard 14 of the crash cymbals and is clamped in the selected adjusted position by means of a set screw 58. The support plate 57 is disposed near and above the bottom end of the tube 14 and adjacent to the top of the tripod stand 15. The support plate 57 extends laterally inwardly of the tube 14 and toward the drum 10 which is spaced from the crash cymbals, as shown in Figure 1. The support plate 57 is provided near its inner end with a longitudinal slot within which is pivotally mounted, as at 59, an elongated, vertically swingable arm or bar 60 having a pulley 61 rotatably mounted on its top end. The arm 60 is equipped with a forwardly projecting extension or handle 62 rigidly secured thereto, and this handle is used for swinging the arm 60 from its operative position shown in full lines in Figure 1 to its inoperative position shown in dotted lines. The belt or cable 53 extends between the pulleys 52 and 61, as shown, and is trained over the pulley 61 which is arranged at an elevation above pulley 52. The belt or cable 53, after being trained over pulley 61, terminates in a depending, vertically extending portion 63 having a ring or eye 64 secured to its bottom end and connected with a ring or link 65, in turn pivotally connected within an opening formed in a head or plate 66 of a thumb screw 67. This thumb screw projects through an elongated, vertical slot 68 formed in the forward side of the vertical tube 14 near the bottom of the tube, and engages in a transverse, screw-threaded opening 69 formed in the rod 13 near the bottom of the same. The bottom of the rod 13 is seated upon a compressible coil spring 70 mounted within the bottom of the tube 14 and serving to bias the rod 13 and upper cymbal 12 upwardly and out of contact with cymbal 18. The

spring 70 normally maintains the thumb screw 67 near the upper end of the slot 68, Figure 4. The head or plate 66 extends below the shank of the thumb screw 67 and is pivotally connected, as at 71, with the forward, upper end of a crash cymbal operating pedal 72 disposed adjacent to the bottom of the tube 14 and extending forwardly thereof. The outer and bottom end of the pedal 72 is pivotally connected, as at 73, with a pedal base plate or support 74 mounted upon the floor or the like. The pedal 72 is maintained normally inclined upwardly or elevated by the spring 70, and when the pedal 72 is depressed by the foot of the drummer, the upper cymbal 12 is shifted downwardly against the lower cymbal 18 of the crash cymbals. The pedal 72 is operated independently of the pedal 33, and one foot operates one of the pedals, while the other foot operates the other pedal. The pedals 33 and 72 are spaced apart a proper distance so that the drummer may conveniently and comfortably operate both pedals simultaneously with his feet, also the spacing is for the purpose of allowing room between the drummer's knees for the snare drum. It is now evident that when the pedal 72 is manipulated with one foot, both the crash cymbals and the left-hand drum beating head or ball 50 will be operated simultaneously by virtue of the connection through the cable 53 and associated elements. By proper adjustment of the nut 17, the ball 50 can be made to beat the drum at precisely the same time that the crash cymbals 12 and 18 engage, also nut 17 can be used to lower cymbal 18 to a position, so that when pedal 72 is depressed, cymbals 12 and 18 will not crash, but beater ball 50 will strike the bass drum.

Means are provided for positively connecting the crash cymbal and drum assemblies. Such means comprises an elongated, inclined bar 75 having one end pivotally secured within a slot 76 formed in the inner end of the support plate 57, Figure 5. The opposite end of the bar 75 is pivotally secured within a slot formed in the inner end of the support plate 51 by means of a pin 77, or the like. The bar 75 thus serves to prevent relative movement of the drum and crash cymbals when the same are assembled together for use. The bar 75 may be formed in two telescoping sections, and the inner section 75' is longitudinally adjustable within the outer section of the bar, and securely clamped in the selected adjusted position by a thumb screw 76' or the like. In this manner, the distance between the pedals 33 and 72 may be varied.

A block or holder 78 is adjustably mounted upon the bar 75 between the ends of the bar and near the left-hand side of the drum, Figure 1, and this block 78 is held in place by a set screw 80. A generally horizontal L-shaped rod 79 has one end adjustably mounted within an opening formed in the block 78, and the other end of the L-shaped rod 79 is adjustably mounted within an opening in a block or head 81, disposed near the periphery of the drum and adjacent to the forward face thereof. The block or head 81 is held in place upon the L-shaped rod 79 by means of a suitable set screw 83. An inclined, radially disposed arm or plate 82 is integrally connected with the head 81 and extends adjacent to the forward, annular rim 28 of the drum, as shown. A pair of clamp plates 84 are mounted upon the arm 82, and the innermost clamp plate 84 is radially adjustable with respect to the rim 28 of the drum and may be locked in the selected adjusted position by 75

means of a thumb screw or the like. The rim 28 of the drum is thus securely clamped between the plates 84, so that the drum will not tend to pivot about its bottom end while being beat. By virtue of the bar 75 and associated elements, the drum and crash cymbal assemblies are detachably secured together as a unit.

In use, the drummer is seated forwardly of the drum and crash cymbal and places his feet upon the pedals 33 and 72. The pedals are spaced apart sufficiently so that the drummer's feet are in comfortable positions at all times. With the arms 60 carrying the pulley 61 swung to the left, Figure 1, and thus arranged in the operative position, the drummer may manipulate the pedal 72 for simultaneously crashing the cymbals 12 and 18 and beating the drum with the head or ball 50. While doing this, the drummer may operate the other pedal 33 with his other foot for simultaneously beating the drum with the ball or head 38. It is thus evident that the number of times that the drum 10 may be struck or beat is twice as great as is possible with conventional drum beating mechanisms, wherein one pedal and one drum beating head are provided. By manipulating both of the pedals 33 and 72 with both feet, the drum 10 may be struck or beat very rapidly without tiring or fatiguing the leg and foot of the drummer. With the construction provided, modern type music having a very fast tempo may be very readily accompanied by the drummer without additional exertion.

When it is desired to operate the crash cymbals and the drum beating head 38 only, the handle 62 is grasped for swinging the arm 60 to the right, Figure 1, into the inoperative position shown dotted. In such inoperative position, the belt or cable 53 is slackened, as shown, and the crash cymbals may be operated by the pedal 72 without actuating the drum beating head 50. The arm 60 will remain in the operative position, shown in solid lines in Figure 1, until removed therefrom, since the arm is past dead center with respect to the pivot 59, and the tension of the cable or belt 53 will hold the arm in the operative position.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A drum and crash cymbal beating device, comprising a support plate disposed adjacent to the drum and connected with the drum, upstanding spaced posts mounted upon the support plate and spaced from the drum, a substantially horizontal shaft mounted upon the upstanding posts, a first drum beating head pivotally mounted upon the shaft, a foot pedal pivotally mounted upon the support plate and connected with the first drum beating head for actuating the same, a second drum beating head pivotally mounted upon the shaft, a pulley connected with the support plate, a second foot pedal connected with the cymbal for actuating the same, a second pulley connected with the cymbal and spaced from the second pedal, and a flexible element extending between said drum and said cymbal and trained over the first and second pulleys and having its opposite ends connected with the second drum beating head

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and second foot pedal so that the cymbal and second drum beating head may be actuated together independently of the first drum beating head.

2. In combination, a drum, a cymbal having a base adapted to rest upon a supporting surface for support independently of the drum, means extending between and connected to the drum and cymbal to prevent unwanted relative movement of the drum and cymbal, a first pedal pivoted on said cymbal for operating the same, a base plate adapted to rest upon said supporting surface and secured to said drum, a first drum beater head pivoted on said base plate to engage the drum, flexible means extending between and operatively connected to said first pedal and said first beater head whereby operation of said first pedal can operate both cymbal and said first beater head, said flexible means comprising an arm pivoted on said cymbal and arranged to be swung into and between operative and inoperative positions, a first pulley on said arm and displaced from the pivotal point thereof, a second pulley fixed on said base plate, a flexible cable connected at one end to said first beater head and at its opposite end to the base of the cymbal, said cable being trained over said first and second pulleys, said arm in its operative position tensioning said cable whereby said first pedal and said first beater head are effectively connected for operation together, said arm in its inoperative position serving to slacken said cable whereby operation of said first pedal is effective to operate the cymbal but ineffective to operate said first beater head.

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3. In combination, a drum, a cymbal having a base adapted to rest upon a supporting surface for support independently of the drum, means extending between and connected to the drum and cymbal to prevent unwanted relative movement of the drum and cymbal, a first pedal pivoted on said cymbal for operating the same, a base plate adapted to rest upon said supporting surface and secured to said drum, a first drum beater head pivoted on said base plate to engage the drum, flexible means extending between and operatively connected to said first pedal and said first beater head whereby operation of said first pedal can operate both said cymbal and said first beater head, said base plate having a second beater head pivoted thereon to engage the drum and a second pedal thereon operatively connected to the second beater head whereby said second beater can be operated independently of said first beater head and said cymbal or can be operated simultaneously with said first beater head and the cymbal.

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