The present invention relates to a bass drum beating mechanism, more particularly, to a double acting mechanism wherein alternate rocking of a pedal moves a beater into drum beating position.

It has been found for drummers to operate two bass drums, one with each foot, for producing rhythms which are not possible when playing one drum with one foot. Since many times it is not feasible to employ two bass drums various mechanisms have been devised which would enable the effects of the two bass drum set-up to be obtained on a single bass drum. In such a mechanism the drummer generally uses one foot to rock a pedal which is mechanically connected to a drum beating mechanism. While the concept of achieving the effect of a two bass drum set-up with a single drum and using a beating mechanism actuated by one foot is known, these proposed drum beating mechanisms have been rather cumbersome in structure and impractical in operation. Such proposed mechanisms had the further disadvantage that the response and "feel" of the mechanism was substantially altered or modified in transmitting the movement from the foot pedal to the drum beater.

It is therefore the principal object of the present invention to provide a novel and improved double acting bass drum pedal mechanism.

Another object of the present invention is to provide a double acting bass drum pedal apparatus wherein rocking movement of a foot pedal is transmitted into movement of a single beater into the drum beating position.

In one aspect of the present invention a double acting bass drum pedal apparatus may comprise a horizontal shaft rotatably mounted on a support stand with a beater being mounted on said shaft. The beater is moveable from an inoperative position into a drum-beating position upon rotation of the shaft in one direction. Resilient means are connected to the shaft to urge the shaft and the beater into the beater inoperative position. A rockable pedal is mounted on the stand and has one end directed toward the shaft. Connecting the shaft and the end of the pedal are means for rotating the shaft in the one direction upon rocking of the pedal in either direction so that the beater is moved into the drum-beating position upon a rocking movement of the pedal. The shaft rotating means may comprise an arm mounted in an off-center position on the shaft and extending toward the one end of the foot pedal. A flexible strip connects the arm and the end of the pedal.

Other objects and advantages of the present invention will be apparent upon reference to the accompanying description when taken in conjunction with the following drawings, which are exemplary, wherein:

FIG. 1 is a side elevational view of the double acting drum pedal apparatus of the present invention with a portion of the support stand cut away to show the arm and flexible strip and the lower portion of the drum cut away to show the clamping structure onto the drum rim;

FIG. 2 is a top plan view of the apparatus of FIG. 1 with the center portion of the pedal being cut away;

FIG. 3 is an end elevational view of the drum beater support stand of FIG. 1; and

FIG. 4 is a side elevational view in enlarged scale of the arm which is mounted on the drum beater shaft.

Proceeding next to the drawings wherein like reference symbols indicate the same parts throughout the various views a specific embodiment of the present invention will be described in detail.

In FIG. 1 there is indicated generally at 10 a bass drum in the position in which it is conventionally used by a trap drummer and a pedal mechanism according to the present invention is indicated generally at 11.

The pedal mechanism comprises a support stand 12 having a pair of upright vertical supporting members 13 and 14 on the upper ends of which are mounted ball bearing or friction-reducing bearing boxes 15 and 16 in which are journaled the ends of a shaft 17 for rotatable movement.

A beater arm 18 having a beater 19 at one end thereof has its other end inserted in an opening of a hub clamp 20 which is secured onto the shaft 17 by means of a set screw 21. The beater arm 18 may be adjusted within the hub 20.

Similarly mounted on shaft 17 and adjacent the hub 20 is an arm 22 shown in greater detail in FIG. 4 and having a hub 23 which is secured to the shaft 14 by means of a set screw 24. The arm 22 is positioned off-center from the shaft as may be seen in FIG. 4 and the outer surface of the arm 22 indicated at 25 is provided with a slight convex curvature.

Spacer sleeves 26 and 27 are provided respectively between bearing 15 and arm 22 and bearing 16 and beater hub 20.

The shaft 17 has its ends projecting outwardly of the uprights 13 and 14 and arms 28 and 29 are non-rotatably secured on the shaft ends. Springs 30 and 31 connect the arms 28 and 29 to spring adjuster screws 32 and 33 which are threaded in lugs 34 and 35 extending laterally outwardly from the uprights 13 and 14. The springs 30 and 31 resiliently maintain the beater 19 in its inoperative position as shown in FIG. 1.

Spaced away from the stand 12 is a pedal stand 40 having a pair of spaced vertical uprights 41 between the upper ends of which is pivotally mounted a foot pedal 42 which is normally displaced about 5° for convenience as may be seen in FIG. 1. One end of the foot pedal indicated at 43 is connected by a flexible leather strip 44 to the arm 22. One end of the strip 44 is secured to the underside of the pedal end 43 by means of a rivet, screw or the like and the strip then passes around the curved face 25 of the arm to have its upper end secured onto the arm hub by means of a rivet, pin or other suitable fastening member as indicated at 45.

A connecting rod 46 which has both ends threaded interconnects the pedal stand 40 with the beater stand 12 and provides for adjustment of the distance between these two stands.

In order to anchor the apparatus during operation the stand 20 is clamped to the inner rim of the drum 10 by means of a clamping member 47 and an adjusting screw 48. When the inner edge of the drum rim is provided with an annular rib the clamping member 47 may have a groove 49 which is positioned over this rib.
In use, the pedal 42 is depressed by the foot of the drummer so that the front end 43 moves downwardly as viewed in FIG. 1. This downward movement of the front end will pull leather strip 44 to pivot the arm 22 thereby rotating shaft 17 clockwise as viewed in FIG. 1. This rotation of the shaft will move the beater 19 to hit the drum in the drum beating position.

As the drummer’s foot is rocked to the other direction so that the front end 43 of the pedal moves upwardly as viewed in FIG. 1, the springs 30 and 31 will return the shaft 17 and the beater 19 to its inoperative position as shown in FIG. 1. When the drummer’s foot is rocked to cause the pedal front end to move upwardly above its normal position as shown in FIG. 1 the strip 44 is again pulled and will rotate the arm 22, shaft 17 and beater 19 as previously described to cause the beater to hit the drum. Thus, rocking of the foot pedal 42 in either direction will rotate the shaft 17 in the same direction and will bring about a beat on the drum.

With the double acting drum pedal mechanism as described above it is readily apparent that the effect of a second bass drum set-up can easily be obtained without the necessity of the drummer alternating his foot movement between two drums and high hat. Further, the requirement of a second bass drum is eliminated. Not only is the present double acting drum pedal mechanism simpler in construction but it enables the drummer to retain his feel of the drum.

It will be understood that this invention is susceptible to modification in order to adapt it to different usages and conditions.

What is claimed is:

1. A double acting bass drum pedal apparatus comprising a support stand, a horizontal shaft rotatably mounted on said stand, a beater on said shaft and movable from an inoperative position into a drum beating position upon rotation of said shaft in one direction, resilient means for urging said shaft and beater into the beater inoperative position, a rockable pedal on said stand, and means connecting said shaft and said pedal for rotating said shaft in said one direction upon rocking of said pedal in either direction so that said beater is moved into the drum beating position upon a rocking movement of the pedal, said shaft rotating means comprising an arm mounted on said shaft and a flexible strip connecting said arm to an end of the pedal.

2. A double acting bass drum pedal apparatus as claimed in claim 1 wherein said pedal has one end directed toward said shaft, said arm extending downwardly toward said pedal end.

3. A double acting bass drum pedal apparatus as claimed in claim 2 wherein said arm is offset from the rotary axis of said shaft away from said pedal end.

4. A double acting bass drum pedal apparatus as claimed in claim 3 wherein said arm is offset from the rotary axis of said shaft away from said pedal end.

5. A double acting bass drum pedal apparatus as claimed in claim 4 wherein one end of said flexible strip is attached to said arm at a point adjacent said shaft and passes over the curved surface of said arm to said pedal end.

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