Nov. 9, 1971 J. A. FEARNS 3,618,441

DOUBLE ACTING DRUM PEDAL

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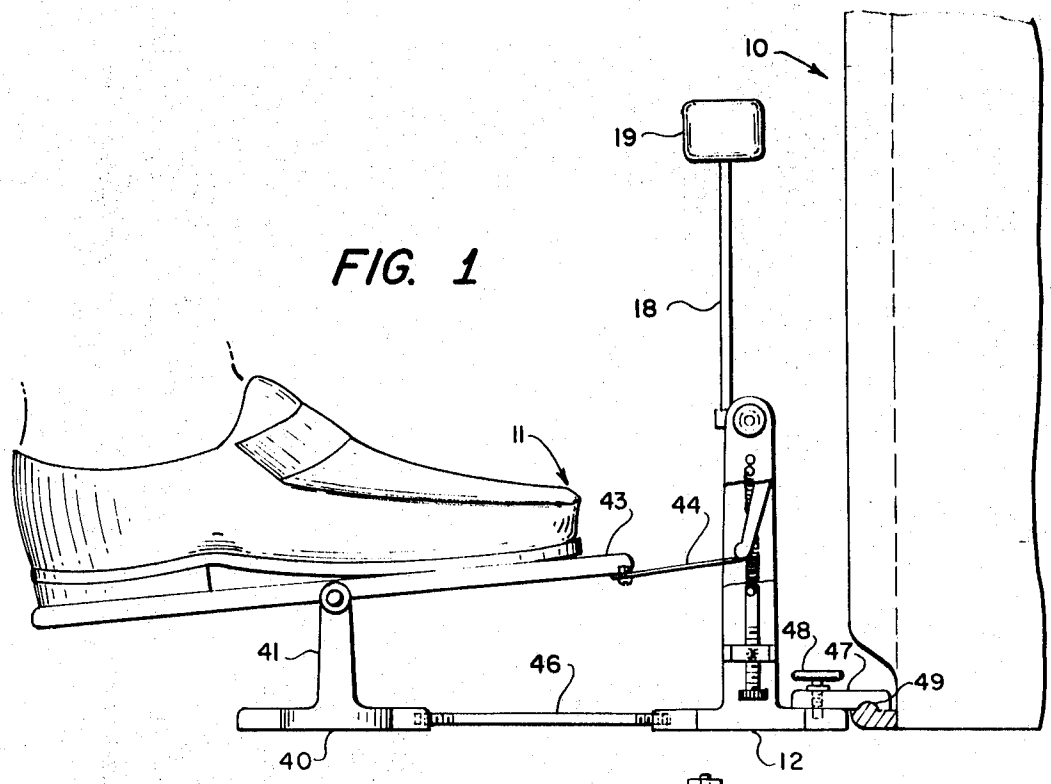


FIG. 1

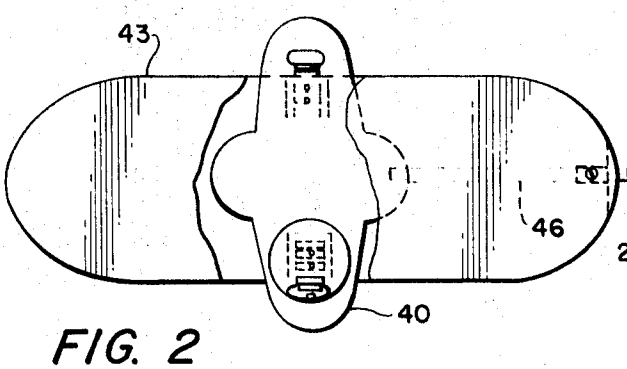
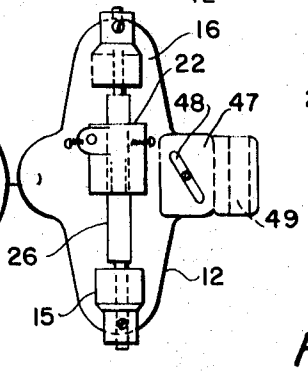


FIG. 2



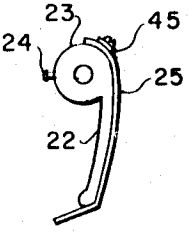


FIG. 4

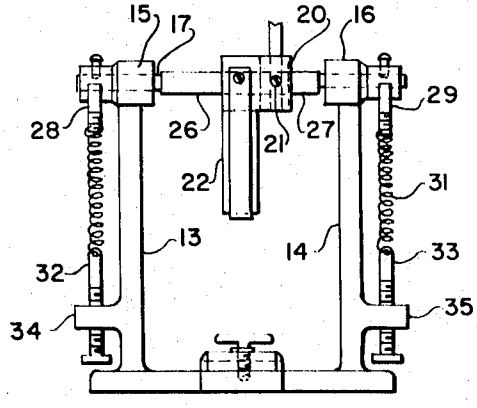


FIG. 3

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DOUBLE ACTING DRUM PEDAL

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ABSTRACT OF THE DISCLOSURE

A double acting bass drum pedal has a beater mounted on a horizontal shaft with there being an arm also mounted on said shaft but offset from the rotary axis thereof and directed downwardly toward an end of a rockably mounted pedal. A flexible strip connects the arm to the end of the pedal so that rocking of the pedal in either direction will rotate the shaft in one direction to bring the beater into the drum beating position.

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 known 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.

It is another object of the present invention 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 journalled 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 in 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 two bass drum set-up can easily be obtained without the necessity of the drummer alternating his foot movements 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 the surface of said arm away from said pedal has a convex curvature.

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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