

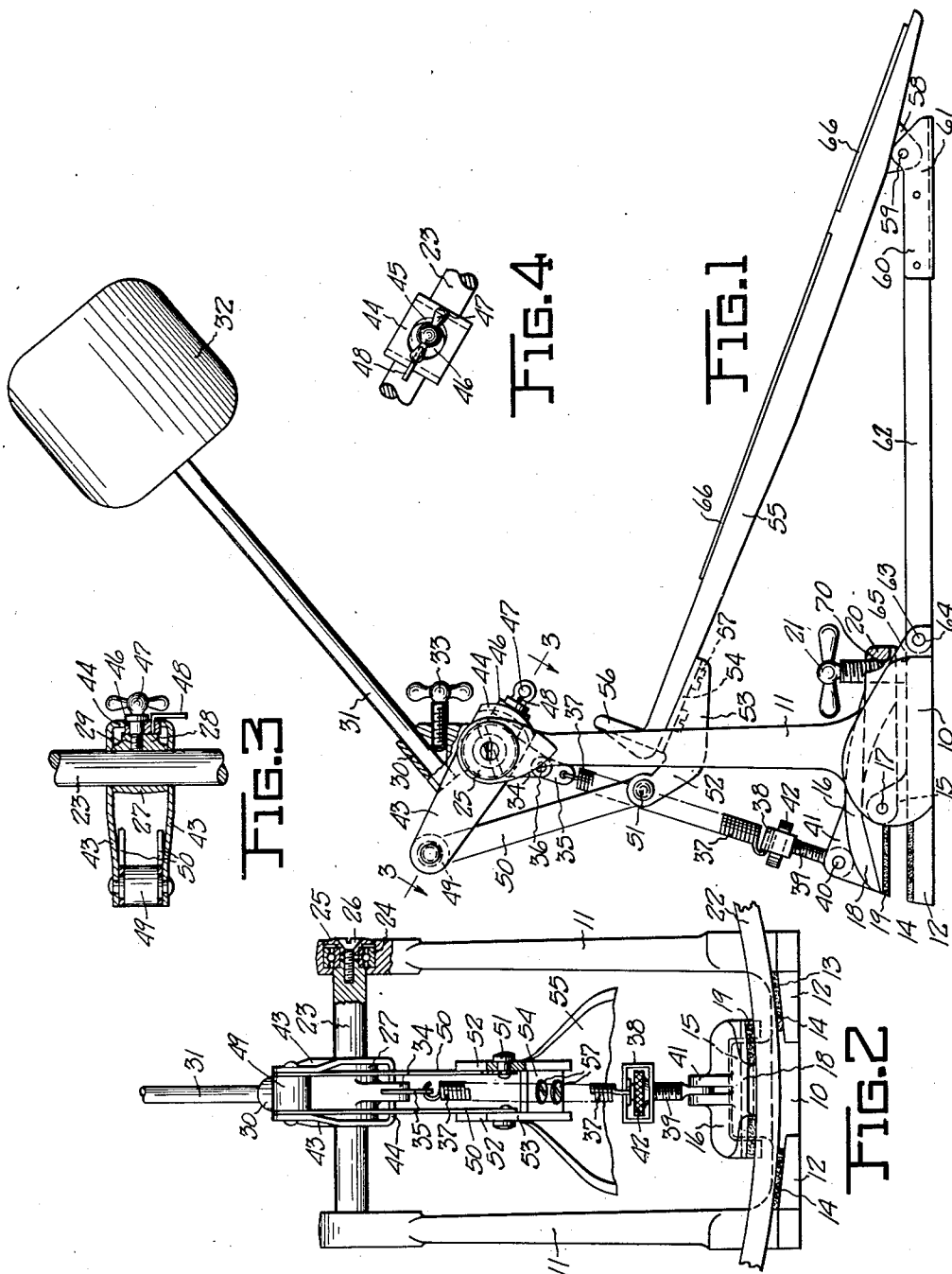
Aug. 3, 1948.

M. E. CROWELL

2,446,508

DRUM PEDAL

Filed May 17, 1945



INVENTOR.

MILTON E. CROWELL.

BY

Oltsch + Gublock

ATTORNEYS.

UNITED STATES PATENT OFFICE

2,446,508

DRUM PEDAL

Milton E. Crowell, Oak Park, Ill., assignor to H. & A. Selmer, Inc., Elkhart, Ind., a corporation of Indiana

Application May 17, 1945, Serial No. 594,306

9 Claims. (Cl. 84-422)

1

This invention relates to a drum pedal, and particularly to a pedal actuated device for operating a drum beater.

The primary object of the invention is to provide a device having a beater, an operating pedal, and a tensioning spring wherein the relationship of beater to the operating pedal is adjustable to regulate the stroke of the pedal required to actuate the beater without varying the tension of the spring.

A further object is to provide a drum pedal with a novel and simple clamp for securely gripping the counter hoop of a drum without danger of slipping or of marring the hoop.

A further object is to provide a device of this character constructed to prevent slipping of the foot of the operator on the pedal into engagement with the tension spring and other operating parts of the device.

A further object is to provide a device of this character which is balanced throughout to equalize the load on the post bearings, to prevent side binding action, to centrally apply the tension of the spring, and to produce a smooth, easy action.

A further object is to provide a device of this character wherein the relationship between the beater arm and operating pedal is adjustable, with simple means for quickly, easily and conveniently adjusting said relationship.

A further object is to provide a drum pedal with means for rapidly and easily connecting and disconnecting the footboard from the mechanism operated thereby.

A further object is to provide a device of this character, with novel means for connecting the tensioning spring between the means for clamping the device to a drum and the beater actuating mechanism.

Other objects will be apparent from the description, drawing and appended claims.

In the drawing:

Fig. 1 is a side view of the device.

Fig. 2 is a fragmentary end view of the device with parts shown in section.

Fig. 3 is a sectional view taken on line 3-3 of Fig. 1.

Fig. 4 is a fragmentary detail view illustrating the adjusting means.

Referring to the drawing, which illustrates one embodiment of the invention, the numeral 10 designates the base of a pedal stand from whose opposite sides project a pair of integral vertical posts 11. A pair of laterally spaced clamp plates 12 are formed integrally with and project from

2

the front of the base at opposite sides thereof. Plates 12 have laterally inwardly inclined upper surfaces 13 on which rubber pads 14 are secured. A transverse lug 15 is formed integrally with and projects from the upper portion of the base adjacent the front thereof and centrally between the sides thereof. An elongated toe clamp 16 is pivoted at 17 intermediate its ends to the lug 15. The toe clamp is spaced above the base 10 and the bottom face of the front projecting portion 18 thereof is transversely arcuate and has a rubber pad 19 applied thereto. The rear portion 20 of the toe clamp has a central tapped opening 21 receiving a thumb screw 21 whose lower end bears upon the base 10. The pads 14 are adapted to engage the bottom of the outer face of the counter hoop 22 of a base drum, and the pad 19 bears against the inner face of said hoop. The toe clamp is urged to clamping engagement with the hoop by the thumb nut 21. The pads provide a non-slip grip on the drum hoop 22 without requiring the application of pressure sufficient to deform the hoop. They also guard against marring of the hoop.

A cross shaft 23 is journaled at its opposite ends in bearings 24 carried by the upper ends of posts 11, and is secured against endwise play by end caps 25 secured to the shaft by screws 26. A beater arm mount 27 is secured to shaft 23 centrally thereof. The mount 27 comprises a sleeve fitting snugly and rotatably upon the shaft and provided with a radial lug 28 having a screw threaded aperture 29. A lug 30 projects upwardly from mount 27 and has a normally inclined bore therethrough perpendicular to shaft 23 in which the elongated stem 31 of a beater 32 fits slidably. A screw threaded opening extending at an angle to and communicating with the stem receiving bore of lug 30 receives a set screw 33 for clamping the stem 31 in selected position in the lug.

A pair of spaced ears 34 project downwardly from mounting 27, and a link 35 is pivoted therebetween at 36. One end of an elongated coil spring 37 is hooked in an aperture in the free end of link 35. The lower end of spring 37 is hooked to a clevis 38 mounted on a screw 39 which is pivoted at 40 between a pair of upstanding lugs 41 upon the toe clamp 16. A nut 42 threaded on screw 39 fits within the clevis to adjust the tension upon the spring 37.

A lever of U-shape having a pair of elongated arms 43 and a cross piece 44 of arcuate cross section is provided with opposed openings in arms 43 by which it is journaled upon shaft 23 con-

centric with the cross sectional curvature of cross piece 44 and adjacent thereto. Cross piece 44 has a transversely elongated aperture 45 therein. A cylindrical cam member 46 fits rotatably within the aperture 45, without play transverse of the aperture, and it bears against the end of lug 28 of mounting 27. A thumb screw 47 is threaded in bore 29 of lug 28 and passes eccentrically through member 46 and serves to clamp it in selected rotative position. A finger piece 43 projects from member 46 to accommodate adjustment of its rotative position when the set screw is loosened.

A trunnion 49 is secured between the free outer end of lever arms 43 and journals one end of each of a pair of links 50 in spaced relation. The opposite ends of links 50 are pivotally connected at 51 to spaced parallel ears 52 of a bracket 53. The bracket 53 includes a plate 54 extending perpendicularly between the ears 52. Plate 54 has a pair of spaced key-hole shaped openings (not shown) therein. An elongated rigid foot board 55 having rubber sole and heel pads 66 and an upturned toe piece 56 at its front end is provided at its front end with a pair of spaced depending screws having enlarged heads 57 which fit removably in and interlock with the key-hole slots in bracket plate 54. The opposite end of the foot board has a depending transverse lug 58 which is pivoted at 59 to the parallel vertical flanges 60 of a U-shaped heel base 61. A pair of elongated spring steel links 62 are rigidly secured at one end thereof to the opposite flanges 60 of heel base 61 to project forwardly therefrom in spaced parallel relation. Pins 63 project laterally outwardly from the forward ends of the links 62 and fit snugly but removably in apertures 64 formed in a pair of laterally spaced lugs 65 projecting from the rear end of base plate 10.

The device is adapted to be shipped and stored in disassembled condition, and is readily assembled and disassembled. Thus, assuming the device is assembled, it is disassembled by simply releasing the connection between the foot board 55 and bracket 53 and the connections between links 62 and lugs 65 of base 10. Likewise, the beater stem 31 may be disconnected from mounting 27. Consequently, the device requires only a small amount of storage space and can be shipped in a small package. Another important feature is that the disassembly does not require disconnection of the tension spring 37.

Another important advantage of the device is that it can be adjusted to control the stroke of the foot board to suit the convenience of the operator without altering the tension of the spring 37. This is accomplished by releasing the thumb screw 47 and adjusting the rotative position of the cam cylinder 46 by means of finger piece 43. This cam adjustment serves to change the angular position of the lever arm 43, i. e., to raise or lower the free trunnion-mounting ends of the arms, and results in increasing or decreasing of the angle of the footboard relation to the horizontal. A substantial range of adjustment is provided, and the adjustment can be made and set at any point within that range by simply retightening thumb screw 47 while the cam cylinder is held in selected adjustment or position.

Other features of the device are also believed worthy of particular notice. One of these is the balanced construction provided by the use of a U-shaped lever 43 and the dual links 50. These make it possible to arrange the tension spring and the beater centrally of the device so that all

stresses are transversely balanced, no tendency toward binding or side motion occurs, and the various moving parts have adequate clearance in operation. Another advantage is the toe flange 56 which prevents the operator's foot from sliding forwardly on the foot board and into engagement with the tension spring or other moving parts. It will also be noted that the connection of the spring between the toe clamp 16 and the beater mount 27 permits it to serve the dual functions of holding the hoop clamp open as said clamp is released and of controlling the beater arm for quick return movement after each drum engaging operation of the beater.

I claim:

1. A drum pedal comprising a standard having a rotatable cross bar, a beater-mount carried by said bar, a lever pivoted on said bar, adjustable means carried by said mount for positioning said lever, means clamping said adjustable means in selected position, and actuating means connected to said lever and including a pivoted foot board.

2. A drum pedal comprising a standard having a rotatable cross bar, a beater carrier mounted on said bar, a lever pivoted on said bar, and having a cross-piece substantially parallel to said bar, means connecting said cross-piece and carrier in selected angular relation including a member shiftably carried by one of and in engagement with the other of said lever and carrier means for locking said member in selected position, actuating means connected to said lever and including a pivoted foot board, and a beater-controlling spring connected to said carrier and said standard.

3. A drum pedal as defined in claim 2, wherein said shiftable connecting member is a rotatable eccentric.

4. A drum pedal as defined in claim 2, wherein said cross-piece has an elongated opening therein and said shiftable connecting member constitutes a cam rotatably mounted on said carrier and fitting in said opening.

5. A drum pedal comprising a standard, a cross bar journaled in said standard, a beater carrier mounted on said bar, spring means for controlling the position of said carrier, a lever journaled on said bar and having a slotted portion substantially parallel to said bar and adjacent to said carrier, a cylindrical member fitting in said slot, a journal adjustably mounted on said carrier for eccentrically rotatably mounting said cylindrical member and for clamping the same in selected rotative position, and foot actuated means for operating said lever.

6. A drum pedal comprising a standard, a cross bar journaled in said standard, a beater carrier mounted on said bar, spring means for controlling the position of said carrier, a lever journaled on said bar and having a slotted portion substantially parallel to said bar and adjacent to said carrier, a cylinder fitting in said slot and having an eccentric bore, a set screw adjustably carried by said carrier and extending freely through said bore, said set screw being adapted to clamp said cylinder in selected rotative position, and foot actuated means for operating said lever.

7. A drum pedal comprising a standard, a cross bar journaled in said standard, a beater carrier mounted centrally on said bar, a rigid U-shaped lever straddling said carrier and having a cross piece and a pair of spaced arms journaled on said bar adjacent said cross piece, eccentric means adjustable on said carrier and engaging said cross

5

piece to control the angular relation of said carrier and lever, a pair of links pivoted to the free ends of said lever arms, foot operated actuating means connected to said links and including a pivoted foot board, and a tension spring connecting said standard and said carrier and extending freely between said links.

8. A drum pedal comprising a standard, a cross bar journaled in said standard, a beater carrier mounted centrally on said bar, a rigid U-shaped lever straddling said carrier and having a cross piece and a pair of spaced arms journaled on said bar adjacent said cross piece eccentric means adjustable on said carrier and engaging said cross piece to control the angular relation of said carrier and lever, a pair of links pivoted to the free ends of said lever arms, foot operated actuating means connected to said links and including a pivoted foot board, and a tension spring connecting said standard and said carrier and extending freely between said links, said foot board having an upturned toe flange.

9. A drum pedal comprising a standard, means for clamping said standard to a drum hoop, a spring urged beater unit pivoted to said standard

6

and including a lever, a link pivoted to said lever, a bracket pivoted to said link, a heel base, a foot board pivoted to said base and detachably secured to said bracket at its free end, and a pair of spaced elongated springs each fixedly secured at one end to said base and having a lateral projection at its opposite end, said standard having spaced apertured projections receiving said spring projections.

MILTON E. CROWELL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,016,510	Meyer	Feb. 6, 1912
1,186,189	Hendrickson	June 6, 1916
1,360,031	Scheurer et al.	Nov. 23, 1920
1,804,128	Stripe	May 25, 1931
1,909,761	Greenleaf	May 16, 1933
2,027,869	La Londe	Jan. 14, 1936
2,132,211	Huesckstead	Oct. 4, 1938