Oct. 26, 1926. 1,604,945

T. ROHR

MECHANICAL DRUM BEATER

Filed May 28, 1924 2 Sheets-Sheet 1

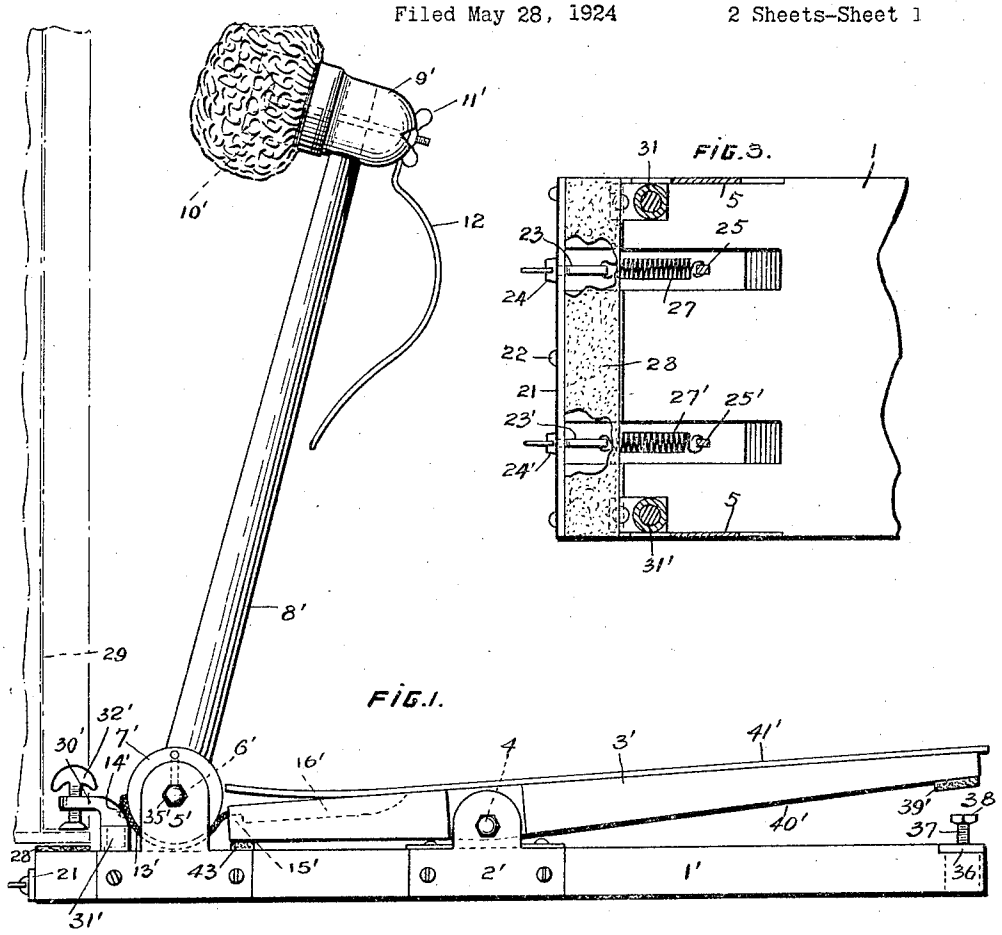


FIG. 1.

FIG. 3.

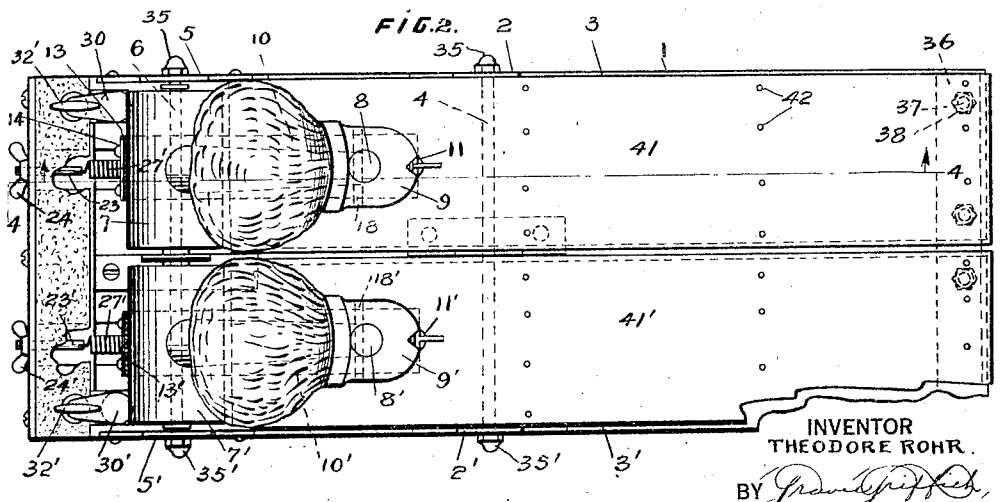


FIG. 2.

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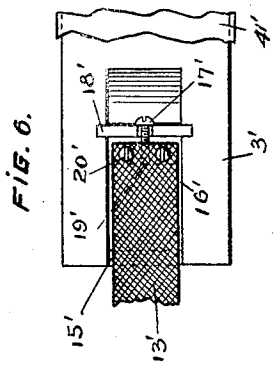


FIG. 6.

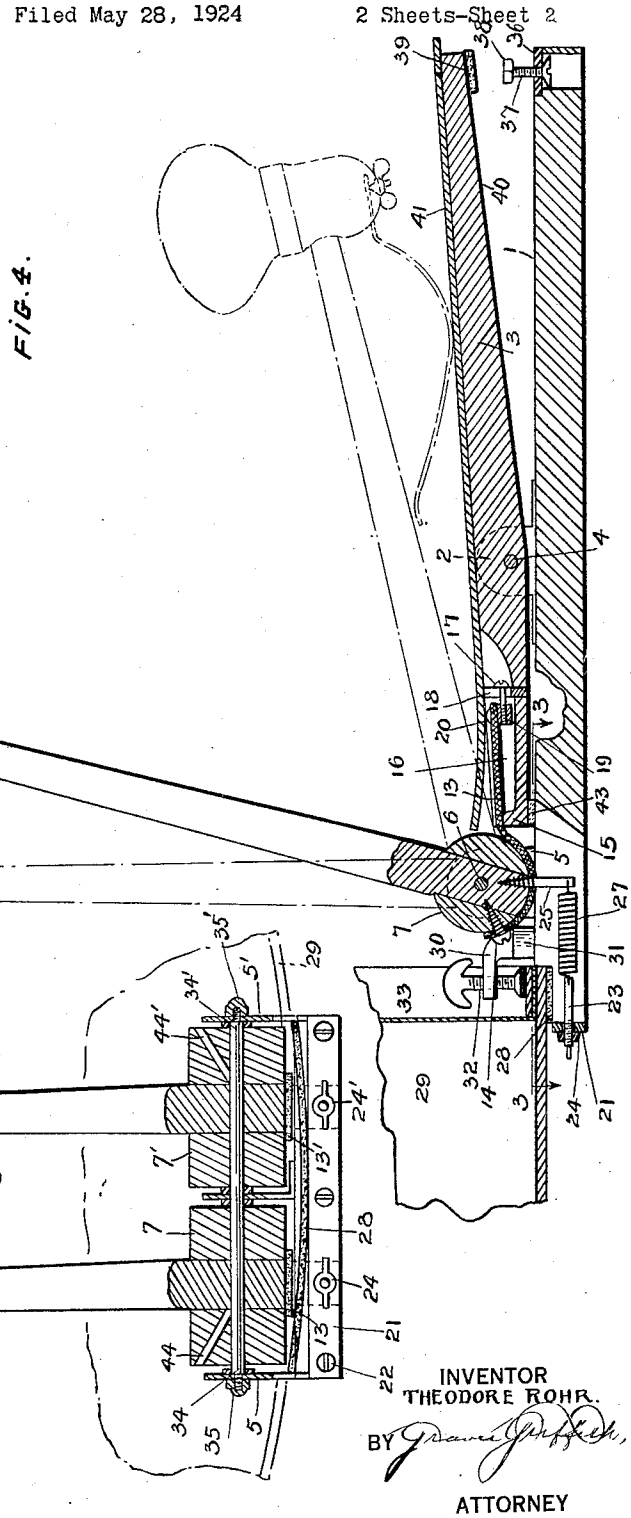


FIG. 4.

FIG. 5.

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UNITED STATES PATENT OFFICE.

THEODORE ROHR, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE QUALITY MUSIC COMPANY, OF SAN FRANCISCO, CALIFORNIA.

MECHANICAL DRUM BEATER.

Application filed May 28, 1924. Serial No. 716,370.

This invention relates to mechanical drum beaters and in particular to devices adapted to be operated by a single or double pedal arrangement pivotally mounted upon a base board which board is provided with clamping means to hold the drum in rigid position in front of the beater arms.

The primary object of this invention is to produce a device of the character described which is simple in construction, adjustable, noiseless and positive in operation.

Another object is to produce a device of this character having positive means for returning the beater arms and holding them normally retracted from the drum head.

Another object is to provide a device of the character described having positive clamping means mounted upon the base board thereof and adapted to clamp the drum and base board together as a unit.

Other objects and advantages of my invention will appear with reference to the subjoined specification and the accompanying two sheets of drawings, in which:

Figure 1 is a side elevation showing the mechanical drum beater as it appears in normal position with the beater arms in retracted position, the drum being shown in dot and dash lines, as it would appear when clamped in place on the base board.

Fig. 2 is a top plan view showing the base board, double pedal arrangement and beater arms in retracted position as in Figure 1.

Fig. 3 is a fragmentary cross section of the front end of the base board showing the spring arrangement which controls the return movement of the beater arms and taken at the line 3—3 of Figure 4.

Fig. 4 is a longitudinal section taken at the line 4—4 of Figure 2 showing the beater arms in normal or retracted position, the dot and dash positions illustrating the movement of the beater arms at the limit of their drum stroke and the folded position when released from the spring tension to render it portable.

Fig. 5 is a front elevation of the device showing the cradle curvature formed in the front end of the base board for the reception of the drum rim, the beater arm bearings being shown in vertical section.

Fig. 6 is a detail view of the forward end of one of the foot pedals showing the slotted front end and adjusting mechanism for tightening the flexible connections between the foot pedals and beater arm bearings to which they are connected.

In the drawings I have shown a double foot pedal arrangement connected to a pair of beater arms but it is to be understood that the mechanism may be constructed with one pedal and single beater arm, but in practice the double arrangement is more practical and used to better advantage as it enables the drummer to vary the time, in the way of accelleration or retardation, through the use of both feet.

Referring more particularly to the drawings the device consists of a rectangular base board (1) having suitably arranged side bearings (2) and (2′) to which the foot pedals (3) and (3′) are pivotally connected by the spindle (4). The forward end of the base board is provided with similar bearing plates (5) and (5′) carrying a spindle (6) upon which the beater arm bearings (7) and (7′) are journalled and about which the beater arms (8) and (8′) swing.

The upper ends of the beater arms (8) and (8′) are provided with heads (9) and (9′) of ordinary construction to which the sheep wool and felt pads (10) and 10′) are attached and clamped in place by the screws and wing nuts (11) and (11′) extending through the heads (9) and (9′). The cymbal wires (12) are held in place by said wing nuts (11) and (11′) and may be adjusted to position as shown in Figure 4 or folded as shown in Figure 1 when not in use.

The beater arm bearings (7) and (7′) are preferably cylindrical sections of hard wood mounted upon the spindle (6) into which the beater arms (8) and (8′) extend and are seated and securely fastened. These beater arm bearings (7) and (7′) are connected to the foot pedals (3) and (3′) by means of flexible connections (13) and (13′), such as, strips of fabric belting, the outer ends of which are secured to the front sides of said bearings by means of wood screws or the like (14) and (14′). These strips extend around under the bearings (7) and (7′) as clearly shown in Figure 4 and pass over the bridges (15) and (15′) formed at the forward edges of the foot pedals (3) and (3′) and thence into slots (16) and (16′) formed in the forward upper faces of said foot pedals. The opposite ends of these strips (13) and (13′)

are adjustably secured to the foot pedals (3) and (3′) by means of screws (17) and (17′) fitting within slotted cross bars (18) and (18′), said screws (17) and (17′) being tapped into small blocks (19) and (19′) rigidly fastened to the ends of the strips (13) and (13′) by means of screws or rivets (20) and (20′).

The means for tensioning the beater arms (8) and (8′) against the holding strips (13) and (13′) consists of a front bar (21) extending across the front edge of the base board (1) and secured thereto by means of screws (22). Threaded shanks (23) and (23′) extend through openings in the front bar (21) and into slots formed in the base board and are adjustably held in place by means of wing nuts (24) and (24′). Threaded shanks (25) and (25′) are screw seated into the under faces of the beater arm bearings (7) and (7′) and extend downwardly in alignment with the shanks (23) and (23′) and coil springs (27) and (27′) connect these shanks together and tend to normally hold the beater arms tensioned against the strips (13) and (13′), which are supported by the bridges (15) and (15′) and hold said beater arms in normal position as shown in Figures 1, 2 and 4.

The forward end of the base board (1) is curved as shown in Figure 5 and the surface is provided with a felt strip (28) which conforms to the shape of the drum (29) shown in dot and dash lines. The drum clamp mechanism consists of a pair of oppositely disposed clamp members (30) and (30′) which are pivotally secured in the posts (31) and (31′) and provided at their upper ends with winged screw shanks (32) and (32′) adapted to be tightened down against the drum rim (33) to securely hold the drum in rigid position with the base board (1).

The spindles (4) and (6) are of similar construction and the spindle (4) extends between the bearings (5) and (5′) and is clamped therebetween by means of shoulders (34) and (34′) and nuts (35) and (35′), bearing against the bearing plates (5) and (5′) as shown in Figure 5.

The means for regulating the movement of the foot pedals (3) and (3′) consists of a plate (36) secured to the upper face of the base board (1) and provided with upwardly extending screws (37) having nuts (38) adapted to contact the felt strips (39) and (39′) mounted on the under faces of the foot pedals (3) and (3′).

The foot pedals (3) and (3′) are provided with bevelled under faces (40) and (40′) which extend from the pivot point (4) outwardly to the outer ends of said pedals thereby providing space between the base board (1) for free movement of said pedals. The upper faces of the pedals are provided with rubber mats (41) and (41′) which are secured thereto by means of small nails or tacks (42).

Narrow strips of felt (43) are fastened to the forward under faces of the foot pedals (3) and (3′) and form a cushion or bearing between said pedals and the base board (1).

The beater arm bearings (7) and (7′) are provided with oil holes (44) and (44′) extending from the outer faces thereof to the spindle (6) for the purpose of lubricating these bearings when necessary.

Claim:

A mechanical drum beater comprising a base board, a cradle formed at one end of said base board and adapted to receive a drum, a pair of beater-arms pivotally mounted upon said base board and having cylindrical bearing members, a spindle mounted upon one end of said base board and adapted to support said bearing members, foot pedals pivotally mounted upon said base board, slots in the inner ends of said pedals, said slots having bridges in one end and slotted cross-bars in the other, flexible strips of belting connected to the under faces of said beater-arm bearing members and extending over said bridges and into said slots, adjustable means for the attachment of the free ends of said strips to said slotted cross-bars, and spring means adjustably connected to one end of said base plate and to the under faces of said bearing members and adapted to normally return said beater arms to retracted positions.

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