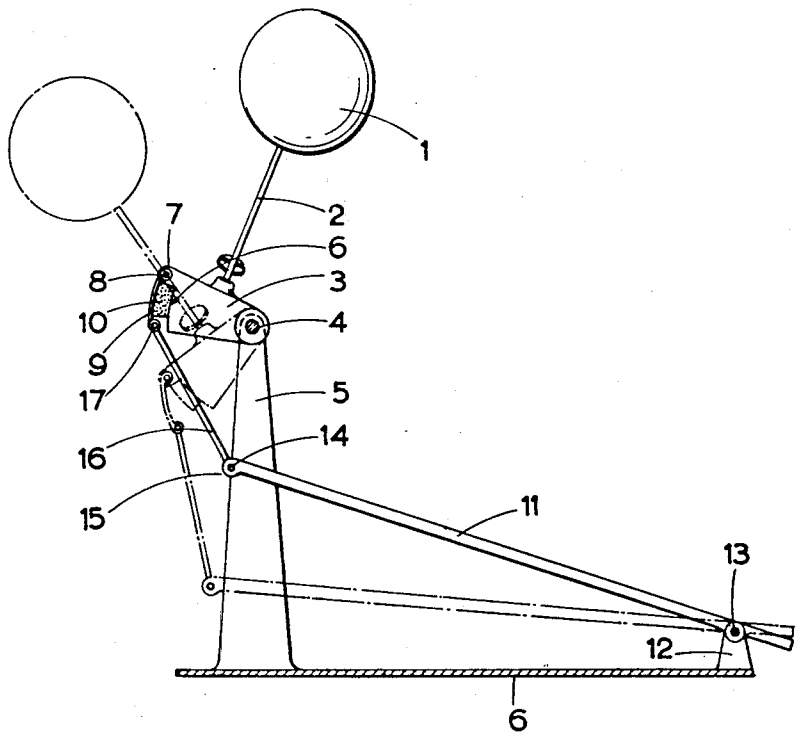
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PEDAL ACTUATED DRUM STICKS

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PEDAL ACTUATED DRUM STICKS

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This invention relates to foot pedal actuated drum sticks. The present form of foot pedal actuated drum stick usually comprises a bracket carrying a crank to which is attached one end of the drum stick, the crank having connected between its free end and the end of the pedal remote from its fulcrum, a link so that the depression of the inclined pedal pulls downward the crank and throws the free end of the drum stick forwardly against the drum.

It is found with this type of device, as the link and crank move downwardly and the angle between them increases, before the maximum desired depression of the pedal is effected, the angle between the link and crank in approaching towards the dead centre position tends to arrest or retard the movement of the pedal and consequently prevents smooth continuity and sensitive control of the beats of the drum stick and frequently produces a lag in the return of the drum stick, particularly when producing soft notes. The object of the present invention is to obviate these disadvantages.

According to the present invention a foot pedal operated drum stick is characterised in that a linkage connection for transmitting movement from the pedal to an oscillatable member carrying the drum stick includes a linkage element pivoted at one point to the oscillatable member and a linkage element connected to the pedal said two elements being pivotally connected together to provide an elbow joint beneath the point of pivotal connection of the first linkage element to the said oscillatable member, and buffer means between the linkage and the oscillatable element to cushion the completion of the return of the drum stick to its normal position.

Further in accordance with the present invention, instead, as at present adopted, of connecting the upper end of the said link directly to the free end of a crank carrying the drum stick, there is interposed between the crank and the said upper end of the link an auxiliary link which normally lies as an abutment across the free end of the crank. Thus the effect is to obtain an elbow action with the linkage connection between the pedal and the crank.

Still further, in accordance with the present invention, a pedal actuated drum stick comprises a pedal having a fulcrum near one end and inclined upwardly and forwardly from such end and having connected between its other end and a crank articulated at a position above such latter end a linkage including a joint with the section of the linkage above said joint having between it and the crank a buffer adapted to cushion the engagement of said section of the linkage with the crank upon the completion of the return of the drum stick to a normal position, the drum stick being carried by the crank and having its head normally disposed above and in rear of the vertical plane intersecting the axis of articulation of the crank.

In order that the present invention may be clearly understood and readily carried into effect, a drawing is appended herewith illustrating an embodiment thereof

and showing in full lines the normal position of the pedal actuated drum stick, and in broken lines the beat position of the drum stick.

Referring to the drawings the drum stick comprises the usual head 1 and stick portion 2, the latter being fixedly secured by any suitable means to a crank 3 pivoted by a pin 4 passed through the inner end of the crank and the upper end of a post or bracket 5 which can be an integral part of an aluminium or other suitable moulding incorporating a base plate 6.

The crank 3 can be bifurcated so that the limbs thereof lie opposite sides of the upper end of the vertical bracket 5 or it may be provided with a boss in common with a boss on the upper end of the bracket to afford adequate support for the pivot pin 4, the means of supporting the crank 3, if desired, following the existing practice.

The crank 3 is, as shown, preferably of segmental form so that its outer end is wider between the upper and lower edges of the crank than its inner end and is radiused to afford an arcuate face 6 for most of its area, this face 6 joining a forwardly directed lug 7 integral with the crank to receive the pivot pin 8 of an auxiliary link 9 bowed concentrically with the arcuate face 6 and normally abutting against a rubber or other suitable buffer 10, preferably fixed to the arcuate face 6 of the crank, although if preferred this buffer may be carried by the auxiliary link 9.

The food pedal 11 is supported in the usual manner by a lug 12 on the base plate 6 which receives the pivot pin 13 comprising the pedal fulcrum adjacent to rear end of the foot pedal, the foot pedal normally inclining upwardly away from its fulcrum and receiving pivotally by a pin 14 passed through a lug or fork 15 at the lower end of a link 16, the upper end of which is pivoted to the lower end of the auxiliary link 9 by a pivot pin 17.

The pivot pins 14 and 17 can comprise simple cranked ends of the link 16.

It will be seen that normally the head 1 of the drum stick lies in rear of the vertical plane containing the axis of the pivot pin 4 of the crank 3 and the dimensions of the links 9 and 16 are such that this normal positioning of the drum stick head brings the crank 3 above the horizontal plane with the auxiliary link 9 abutting firmly against the buffer 10. However, if desired, a spring may be provided with the pedal 11 or crank 3 to produce a positive return of the drum stick to the normal position.

Further it will be seen that the provision of the auxiliary link 9 provides a smooth elbow action across the pedal 11 and crank 3. This action continues up to a position as shown in broken lines where the two links are in substantial co-planar relationship, whereas in the present used devices, where the link 16 is pivotally connected to the crank 3, it is found as the angle between the crank and the link 16 increases there is a tendency for the pedal to become locked as it approaches its lowest position, and also for a certain amount of sluggishness or lag to be produced in the action of the appliance which detracts from the sensitive control of the beats of the drum stick.

I claim:

1. A foot pedal actuated drum stick comprising a base member adapted to be placed on the floor in front of the drum, a foot pedal extending lengthwise above said base member, a bracket upstanding from said base member near the front end of said base member, means pivotally connecting the foot pedal at its rear part to the rear part of the base member, whilst the front end of the foot pedal is close to said bracket between the base member and the top of said bracket, a crank pivoted to the top of said bracket, means to secure a drum stick to said crank, two links connecting the front end of the pedal to said crank and consisting of an upper one which is pivoted at its top

end to the crank with one face opposed to the free end of said crank, a resilient buffer between said face and the free end of the crank beneath the pivoted connection of said upper link to the crank, the lower end of said upper link being connected pivotally to the upper end of the lower link, and the latter being pivoted at its lower end to the front end of the pedal.

2. A foot pedal actuated drum stick comprising a base member adapted to be placed on the floor in front of the drum, a foot pedal extending lengthwise above said base member, a bracket upstanding from said base member near the front end of said base member, means pivotally connecting the foot pedal at its rear part to the rear part of the base member, whilst the front end of the foot pedal is close to said bracket between the base member and the top of said bracket, a crank pivoted to the top of said bracket, means to secure a drum stick to said crank, two links connecting the front end of the pedal to said crank and consisting of an upper one which is pivoted at its top end to the upper corner of the free end of the crank, a resilient buffer carried by said upper link to abut against the free end of the crank beneath the pivoted connection of such link to the crank, the lower link being pivoted at its lower end to the front end of the pedal and at its upper end to the lower end of the upper link close to the crank.

3. In a pivoted foot pedal operated drum stick, an upstanding bracket, a crank pivoted to said bracket and projecting forwardly from the bracket, means to connect the drum stick handle to said crank, linkage connecting the crank to the foot pedal and including an upper and a lower link the upper link being opposed to the front end of said crank and pivoted at its upper end to the crank, the front end of the crank being extended below said latter

pivoted connection and spaced rearwardly from the upper link, a resilient buffer between and maintaining the spacing of such link and crank when the drum stick is in the rest position, the said lower link being longer than the upper link and connected across the lower end of the shorter link and the end of the foot pedal remote from its pivot.

4. In a pivoted foot pedal operated drum stick, an upstanding bracket, a crank pivoted at one end to the top of said bracket, a resilient buffer extending across the other end of said crank, a link pivoted at one end to the crank above said buffer so that the buffer lies between said link and the crank acting as a cushion between the crank and link, another link inclining upwardly forwards from and pivoted to the end of the pedal remote from its pivot and at its upper end pivoted to the lower end of the first mentioned link close to said buffer.

5. A pivoted foot pedal operated link as claimed in claim 4 in which said crank is of substantially segmental form with its front near its apex and the said buffer comprising a body of resilient material extending along its end remote from said pivot, the link opposed to the crank being pivoted to the upper corner of the latter end of the crank and having a length not much greater than such end of the crank.

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