Nov. 17, 1931. W. F. LUDWIG 1,832,227

SNARE DRUM

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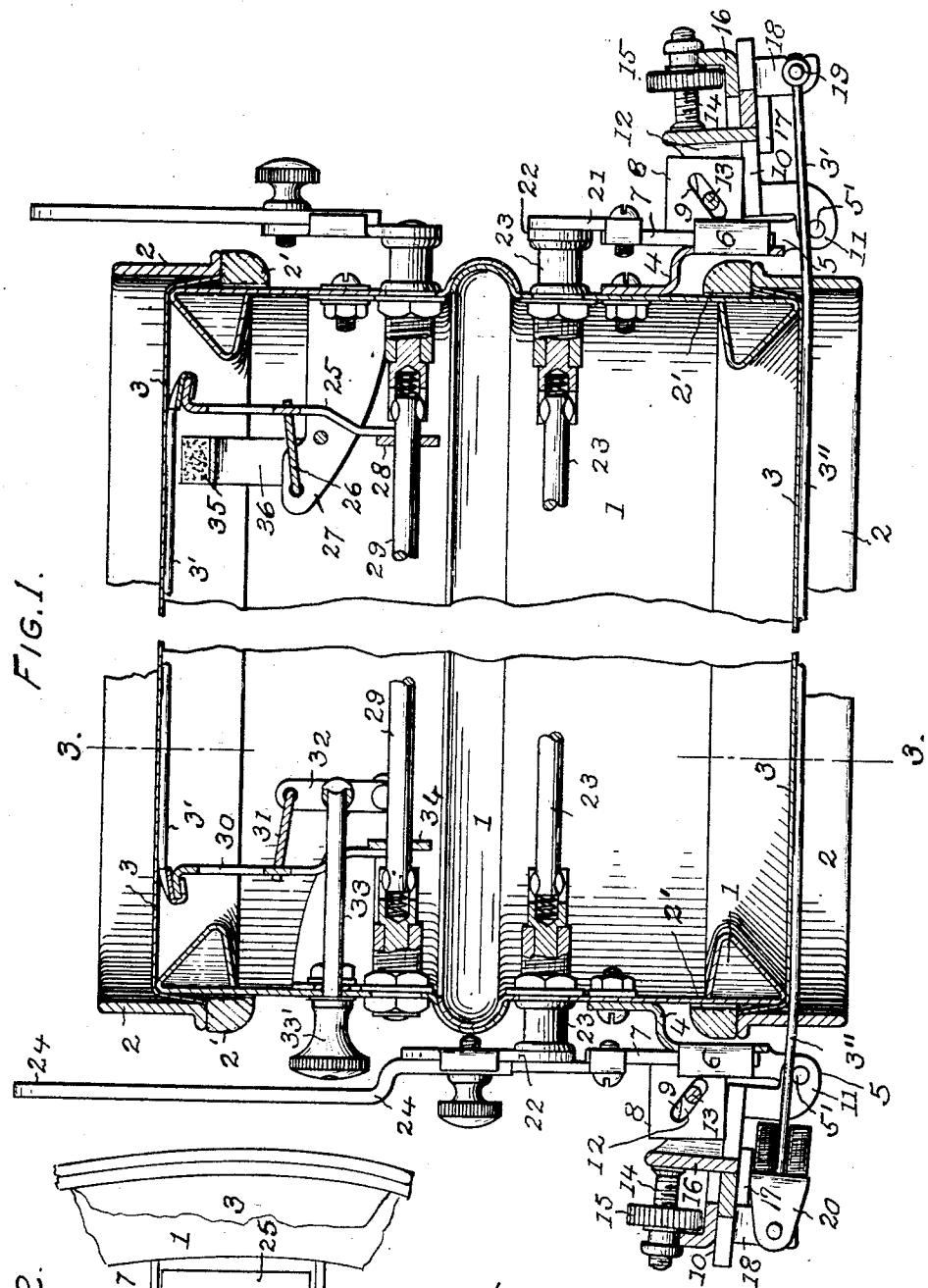


FIG. 1.

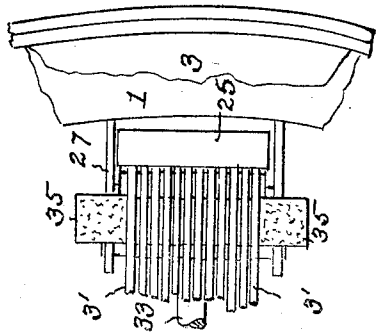


FIG. 2.

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FIG. 3.

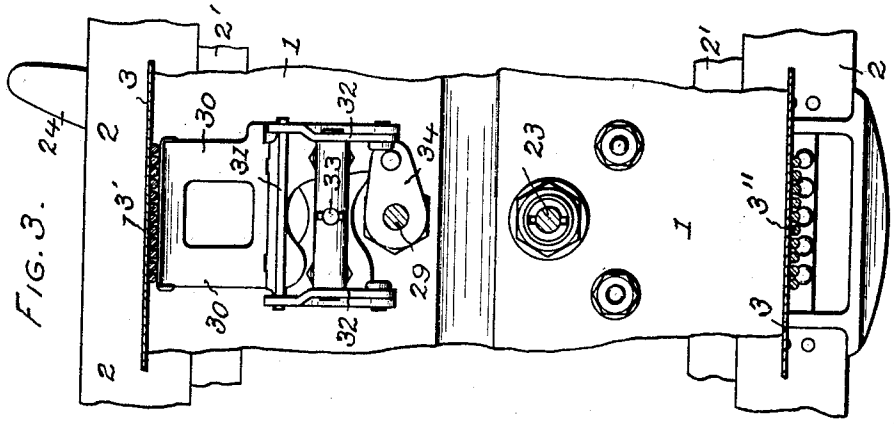


FIG. 4.

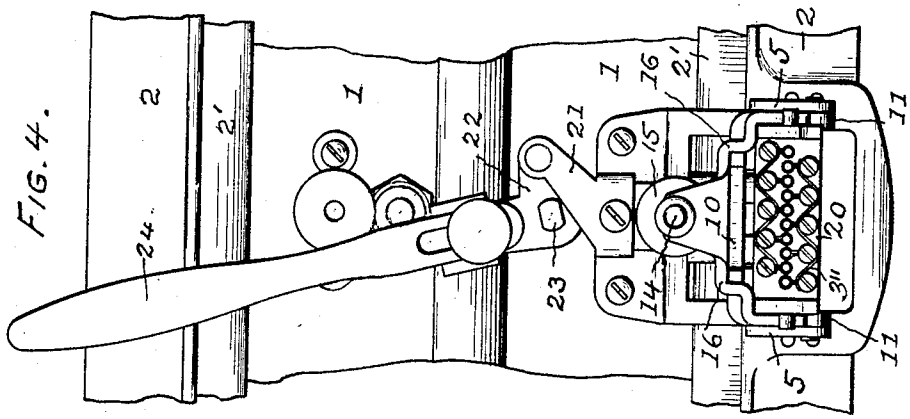
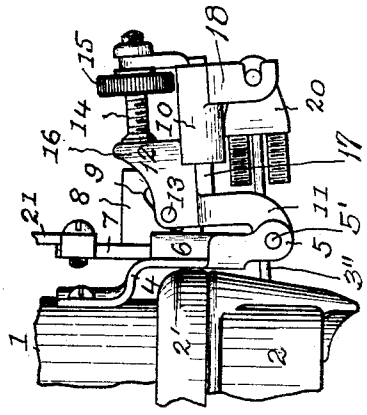


FIG. 5.



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UNITED STATES PATENT OFFICE

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SNARE DRUM

Application filed June 1, 1929. Serial No. 367,700.

This invention relates to the operating mechanism for the snares of snare drums, and more especially to the type of such mechanisms forming the subject matter of the Danly Patent No. 1,481,988 dated January 29, 1924, in which the snare member has simultaneous and uniform movement at its respective ends to and from the drum head. And this improvement has for its different objects:—

To provide a structural formation and relative arrangement of parts of a pair of interconnected snare adjusting mechanisms, whereby, with a minimum amount of manual force or exertion on the part of the operator, the snare can be shifted from an active position in direct contact with the drum head to an inactive position clear of such contact, and with which the final positions of such movements is automatically attained by the normal tension stress of the snare.

To provide, preferably, in connection with an externally arranged snare and controlling means therefor, and substantially alike to that of the aforesaid Danly Patent No. 1,481,988, an internally arranged snare and end carrying means therefor, adapted for simultaneous movement to and from an adjacent drum head in a ready and effective manner.

To provide a simple and effective structural formation and arrangement of a dampening pad or mute in the interior of the drum body against which an interally arranged snare automatically moves into contact in a movement into its normally inactive position, so that any sound emitting vibration of the snare is dampened and prevented, while the same is in such inactive position, all as will hereinafter more fully appear.

In the accompanying drawings:

Fig. 1 is a central sectional elevation of a snare drum with the preferred form of this invention applied.

Fig. 2 is a fragmentary top view of the drum, with a portion of the drum head or skin removed.

Fig. 3 is a detail sectional elevation on line 3—3, Fig. 1.

Fig. 4 is a detail elevation of the external manual operating mechanism of the externally arranged snare carrying heads or frames.

Fig. 5 is a detail side elevation of the manual operating mechanism of the internally arranged snare of the drum.

Like reference numerals indicate like parts in the several views.

In this invention the drum may be of any ordinary construction embracing a shell or body 1 having at each end a straining hoop 2 which extends beyond the skin head of the drum to afford protection for the same, and which in addition has bearing against the usual skin carrying hoop 2′ to attain the usual tensioning of the skin head of a drum, and in the present construction the straining hoop 2, at one end of the drum is formed with the usual diametrically opposed openings to provide for the passage and movement of the externally arranged snare 3″ of the drum.

The snare 3″ is preferably formed of a plurality of gut, coiled wire, or like strings arranged side by side and secured together by end holding heads hereinafter described.

In adjacent relation to openings in the straining hoop 2 above described, and at opposite sides of the drum body 1, counterpart guide and pivot brackets 4 are fixedly secured to the drum body with their free portions offset to provide clearance space for the movement of the straining hoop 2 and skin hoop 2′, aforesaid, in the usual adjustments of the same. The offset portion of each bracket 4 is formed at its free end with a pair of pivot knuckles 5 in laterally spaced relation for pivotal conection of corresponding pivot knuckles of the hereinafter described rocker frame, and adjacent to said pivot knuckles with guide flanges 6 to provide guiding engagement with a track formation of the carrier or slide now to be described.

The carrier or slide above referred to comprises a rectangular plate portion 7 adapted for sliding engagement in the aforesaid guide flanges 6 of a bracket 4, and also at its midlength with a pair of side plates 8, which in turn are formed with inclined cam slots 9 for operative engagement with a cross pin 13 on

an associated rocker frame 10. The arrangement being such that as the carrier is moved vertically the cam groove 9 moving against the pin 13 will impart a corresponding rocking movement to the rocker frame 10, said rocker frame having a detail construction and arrangement of parts as follows:—

Main plate portion 10 provides a guide way for a hereinafter described adjustable snare carrying head. The main portion 10 of the rocker head is provided on one face with a pair of spaced and angularly extending knuckles 11, for pivotal connection with the pivot knuckles 5 of the fixed bracket 4 aforesaid. The spaced relation of the pivot knuckles 5 and 11, providing clearance for the drum snare 3″ in its normal movement between the same.

On the other face of said main portion 10 of the rocker frame a centrally arranged web 12 having movement between the aforesaid side plates 8 of the body portion 7 of the slide or carrier aforesaid, with said web carrying in turn the cross pin 13 for operating engagement in the inclined cam slots 9 of said plates, so that with an independent movement of the rocker frame in relation to said carrier or slide and by intermediate mechanism hereinafter described, a rocking adjustment of the rocker frame will be attained, to in turn attain a proper tensioning and adjustment of a drum snare 3″ in relation to the skin head of the drum.

The primary and manually actuated means for initially attaining a proper tensioning of the drum snare, comprises a screw shaft 14 fixedly carried by the rocker frame and having operative engagement with an operating sleeve nut 15 revolubly mounted in a carrying flange of the snare carriage constructed and arranged as follows:

The snare carriage comprises a main portion 16 of a plate form having side flanges 17 for sliding engagement with the side margins of the main plate portion 10 of an aforesaid rocker frame. In addition said main portion 16 of the snare carriage is provided with the carrying flange for the revoluble sleeve nut 15 above referred to, and with a pair of laterally spaced pivot posts 18 for pivotal mounting of one of the hereinafter described holding heads or yokes on the end of an external drum snare 3″.

In the drum structure shown in Fig. 1, the externally arranged drum snare 3″ is directly attached at one end to a transverse head 19 pivotally mounted in a pair of pivot posts 18 aforesaid, and at the other end said snare is attached in an adjustable manner to a transverse head 20, of the clamp type, with a view to an initial even adjustment of the plurality of strands comprising the preferred form of drum snare shown in Fig. 1.

In this improvement the pivot axis 5′ of each of the pair of opposed rocker frames of the externally arranged drum snare 3″ of the structure shown in Fig. 1, is on a plane closely adjacent to the plane or surface of the head of the drum and of the snare itself when in contact with the drum head. In such arrangement as the drum snare 3″ in its movements to and from the head of the drum moves past a line cutting the pivot axis 5′ of knuckles 5 and 11 of the carrier or slide and rocker frame, the tensional or contractile stress in the snare acts automatically and in a "snap" manner to complete the movement of the snare towards or away from the drum head and under such stress the parts will be maintained in the desired position against accidental disturbance.

At one end the main portion 6 of each of the carriers or slides heretofore described, has operative engagement through an arm 21 with a crank arm 22 of an intermediate connecting rock shaft hereinafter described, that is common to the crank arms 22 of a pair of opposed snare carrying mechanisms, and is adapted to effect the simultaneous operation of such mechanisms in unison one with the other.

In the preferred construction shown the intermediate rock shaft 23 above referred to has a diametric arrangement in the body of the drum, and is supported in journal bushings in the walls of the drum body in manner similar to that described in the aforesaid Danly Patent No. 1,481,988. One of the crank arms 22 is provided with an operating handle or lever 24 in angular relation to said crank arm for the convenient manual actuation of the pair of opposed snare carrying mechanisms.

The foregoing description relates solely to the mechanisms for carrying and operating the externally arranged snare 3″ at one end of the drum. In the companion mechanisms for carrying and operating the internally arranged snare 3′ for the other head of the drum, the heretofore described mechanisms will be changed and modified in the following particulars.

The internally arranged snare 3′ is attached at one end to one end of a rocker frame 25 of a plate form, the fulcrum of which is near its mid-length on a pivot arm or link 26, journalled in turn on a bracket 27 fixedly secured to the inner face of the wall of the drum body. The other end of said rocker frame 25 being in operative engagement with a crank arm 28 of an intermediate connecting rock shaft 29, similar in arrangement to the heretofore described rock shaft 23 of the externally arranged drum snare 3″.

At its other end the aforesaid internal drum snare 3′ is attached to one end of a companion rocker frame 30, which is similar in construction to the aforesaid rocker frame 25, with the exception, that its pivot link or arm 31 has pivotal support in a secondary rocker lever 32, with said secondary rocker

lever receiving its adjustment from a screw shaft 33, moving in the wall of the drum body, and having an operating sleeve nut 33′ abutting against the wall body for effecting its adjustment.

In the construction shown in Figs. 1 and 3, the rocker frame 30 has operative connection with a crank arm 34 fixed in the intermediate connecting rock shaft 29 above referred to. In other particulars the operating accessories of the rock shaft 29 is the same as that of the rock shaft 23.

With a view to prevent a sound emitting vibration of the internally arranged snare 3′ when the same is in its inactive position away from its associated drum head, means is provided as follows.

A dampening pad or mute 35 of felt or the like is fixedly carried on the end of a supporting plate 36, in position to have contact with the snare 3′ when in its above mentioned inactive position. With said supporting plate 36 fixedly attached or forming an integral part of the heretofore described bracket 27 of an end supporting means of the snare 3′.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a fixed bracket on the side of the drum body and having a journal extension the pivot axis of which is in a plane closely adjacent to the plane of the skin head of the drum, an external snare, a snare carrying member pivoted to said bracket on a plane parallel to the snare with its end remote from the drum body having operative attachment to an end of snare, so that in a movement of the snare towards the skin head of the drum the natural contractility of the snare is utilized to perfect the contact of the snare with said skin head, and means for imparting rocking movements to said carrying means to alternately carry the external snare to a plane above and to a plane below the pivot axis of said carrying means.

2. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a fixed bracket on the side of the drum body and having a journal extension the pivot axis of which is in a plane closely adjacent to the plane of the skin head of the drum, an external snare, a rocker frame pivoted to said bracket on a plane parallel to the snare with its end remote from the drum body having operative connection with an end of the snare, a snare carriage slidingly mounted on said rocker frame, means for effecting an adjustment of said carriage on the rocker frame, and means for imparting a rocking movement to the rocker frame to alternately carry the snare to planes above and below the pivot axis of the rocker frame.

3. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a fixed bracket on the side of the drum body and having a journal extension the pivot axis of which is in a plane closely adjacent to the plane of the skin head of the drum, an external snare, a rocker frame pivoted to said bracket on a plane parallel to the snare with its end remote from the drum body having operative connection with an end of the snare, a snare carriage slidingly mounted on said rocker frame, a screw shaft fixed on said rocker frame, a revoluble nut journalled in said carriage and having operative engagement with said screw shaft, and means for imparting a rocking movement to the rocker frame to alternately carry the snare to planes above and below the pivot axis of the rocker frame.

4. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a fixed bracket on the side of the drum body and having a journal extension the pivot axis of which is in a plane closely adjacent to the plane of the skin head of the drum, an external snare, a rocker frame pivoted to said bracket on a plane parallel to the snare with its end remote from the drum body having operative connection with an end of the snare, a snare carriage slidingly mounted on said rocker frame, a transverse snare holding head mounted on said carriage, means for effecting an adjustment of said carriage on the rocker frame, and means for imparting a rocking movement to the rocker frame to alternately carry the snare to planes above and below the pivot axis of the rocker frame.

5. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a fixed bracket on the side of the drum body and having a journal extension the pivot axis of which is in a plane closely adjacent to the plane of the skin head of the drum, an external snare, a rocker frame pivoted to said bracket on a plane parallel to the snare with its end remote from the drum body having operative connection with an end of the snare, a snare carriage slidingly mounted on said rocker frame, means for effecting an adjustment of said carriage on the rocker frame, and means for imparting a rocking movement to the rocker frame, the same comprising a slide on the fixed bracket and having side plates formed with inclined slots, the rocker frame carrying a cross pin having engagement in said slots and adapted in an adjustment of said plates to receive a rocking movement therefrom and in turn impart such movement to the rocker frame.

6. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a fixed bracket on the side of the drum body and having a journal extension the pivot axis of which is in a plane closely adjacent to the plane of the skin head of the

drum, an external snare, a rocker frame pivoted to said bracket on a plane parallel to the snare with its end remote from the drum body having operative connection with an end of the snare, a snare carriage slidingly mounted on said rocker frame, a transverse snare holding head mounted on said carriage, means for effecting an adjustment of said carriage on the rocker frame, the same comprising an adjusting screw shaft arranged intermediate of the parts, and means for imparting a rocking movement to the rocker frame to alternately carry the snare to planes above and below the pivot axis of the rocker frame.

7. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a fixed bracket on the side of the drum body and having a journal extension the pivot axis of which is in a plane closely adjacent to the plane of the skin head of the drum, an external snare, a snare carrying member pivoted to said bracket on a plane parallel to the snare with its end remote from the drum body having operative connection to an end of the snare, and means for imparting rocking movements to said carrying means to alternately carry the external snare to a plane above and to a plane below the pivot axis of said carrying means, the same comprising a crank arm journalled on the drum body, a sliding head operatively connected to said crank arm, and formed with inclined slots, the rocker frame having a cross pin for engagement in said slots, and a fixed guide for said head carried on the drum body.

8. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of snare carrying members pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connection with the ends of the snare, and means for imparting simultaneous rocking movement to said carrying means to alternately move the external snare to planes above and below the aforesaid pivot axes of said carrying means.

9. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of rocker frames pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connections to the ends of the snare, a pair of snare carriages slidingly mounted on said rocker frames, means for effecting adjustments of said snare carriages in the rocker frames, and means for imparting simultaneous rocking movements to the rocker frames and snare carriages to alternately move the external snare to planes above and below the pivot axes of the rocker frames.

10. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of rocker frames pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connections to the ends of the snare, a pair of snare carriages slidingly mounted on said rocker frames, a screw shaft fixed on each rocker frame, a revoluble nut journalled on each snare carriage and having operative engagement with a screw shaft, and means for imparting simultaneous rocking movements to the rocker frames and snare carriages to alternately move the external snare to planes above and below the pivot axes of the rocker frames.

11. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of rocker frames pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connections to the ends of the snare, a pair of snare carriages slidingly mounted on said rocker frames, means for effecting adjustments of said snare carriages on the rocker frames, a pair of holding heads mounted on said snare carriages, and means for imparting simultaneous rocking movements to the rocker frames and snare carriages to alternately move the external snare to planes above and below the pivot axes of the rocker frames.

12. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of snare carrying members pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connection with the ends of

the snare, and means for imparting simultaneous rocking movement to said carrying means, the same comprising a pair of crank arms mounted on opposite sides of the drum body and operatively connected to said pair of snare carrying means, a connecting rod having fixed connection with said crank arms, and an operating handle associated with one of said crank arms.

13. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of rocker frames pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connections to the ends of the snare, a pair of snare carriages slidingly mounted on said rocker frames, means for effecting adjustments of said snare carriages on the rocker frames, and means for imparting simultaneous rocking movements to the rocker frames, the same comprising a pair of crank arms mounted on opposite sides of the drum body and operatively connected to said pair of rocker frames, a connecting rod having fixed connection with said crank arms, and an operating handle associated with one of said crank arms.

14. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of rocker frames pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connections to the ends of the snare, a pair of snare carriages slidingly mounted on said rocker frame, a screw shaft fixed on each rocker frame, a revoluble nut journalled on each snare carriage and having operative engagement with a screw shaft, and means for imparting simultaneous movement to the rocker frame, the same comprising a pair of crank arms mounted on opposite sides of the body and operatively connected to said pair of rocker frames, a connecting rod having fixed connection with said crank arms, and an operating handle associated with one of said crank arms.

15. In a snare adjusting mechanism, the combination with a drum body and its skin head, of a pair of fixed brackets secured in diametrically opposed relation on the drum body and having journal extensions the pivot axes of which are arranged on a plane immediately adjacent to the plane of the skin head of the drum, an external snare, a pair of rocker frames pivoted to said brackets on a plane parallel to the snare with their ends remote from the drum body having operative connections to the ends of the snare, a pair of snare carriages slidingly mounted on said rocker frames, a screw shaft fixed on each rocker frame, a revoluble nut journalled on each snare carriage and having operative engagement with a screw shaft, and means for imparting simultaneous rocking movements to the rocker frames, the same comprising a pair of crank arms mounted on opposite sides of the drum body and operatively connected to said pair of rocker frames, a connecting rod having fixed connection with said crank arms, and an operating handle associated with one of said crank arms.

16. In a snare adjusting mechanism, the combination with a drum body, its skin head and internally arranged snare, of a pair of snare carrying members in spaced relation at opposite sides of the drum body and connected to the respective ends of the drum snare, means for imparting a simultaneous movement to said carrying members to and from the skin head of the drum body, dampening pad secured in the interior of the drum body in a position to contact with said snare when the same is in an inactive position.

17. In a snare adjusting mechanism, the combination with a drum body, its skin head and internally arranged snare, of a pair of counterpart brackets attached in diametrically opposed relation on the inner wall of the drum body, a carrying frame attached to one end of the snare and having a pivot link connection with an adjacent bracket, a second carrying frame attached to the other end of the snare and having pivot link connection at its mid-length with an adjustable rock arm that has in turn pivotal connection with the other bracket, an operating shaft journalled in the wall of the drum body and having operative engagement with said rock arm, and means for imparting simultaneous movement to said snare carrying frames to and from the skin head of the drum.

18. In a snare adjusting mechanism, the combination with a drum body, its skin head and internally arranged snare, of a pair of counterpart brackets attached in diametrically opposed relation on the inner wall of the drum body, a carrying frame attached to one end of the snare and having a pivot link connection with an adjacent bracket, a second carrying frame attached to the other end of the snare and having pivot link connection at its mid-length with an adjustable rock arm that has in turn pivotal connection with the other bracket, an operating shaft journalled in the wall of the drum body and having operative engagement with said rock arm, a dampening pad secured in the interior of the drum body in a position to contact with

the snare when the same is in inactive position, and means for imparting simultaneous movement to said snare carrying frames to and from the skin head of the drum.

In testimony whereof I hereunto affix my signature.

WILLIAM F. LUDWIG.