

March 18, 1969

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3,433,112

CHORD-FORMING DEVICE FOR STRINGED INSTRUMENT

Filed June 23, 1965

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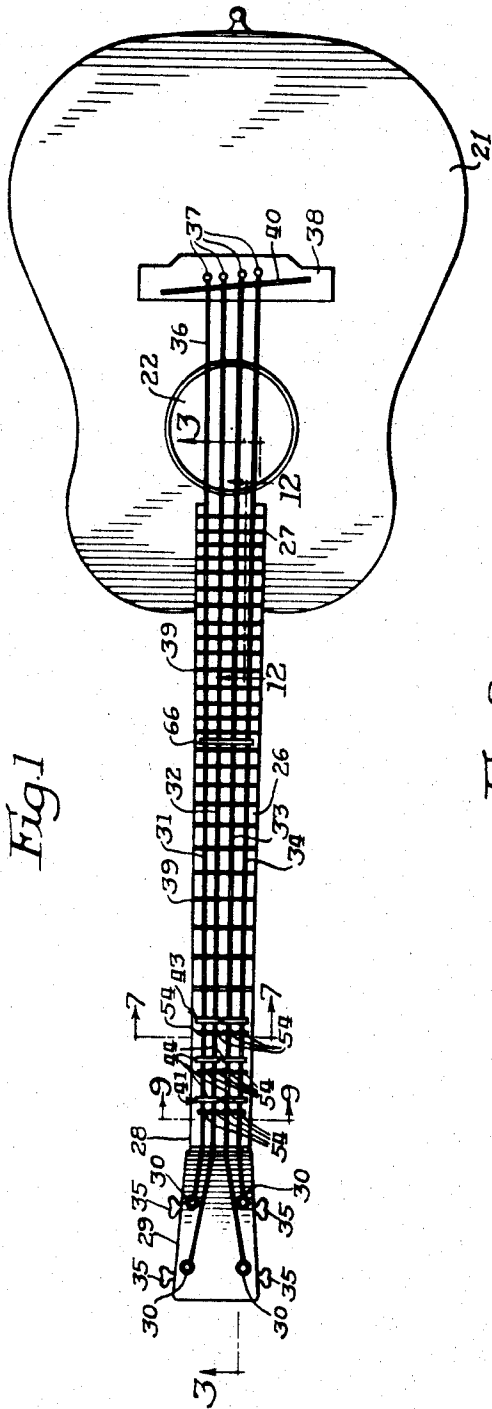


Fig. 1

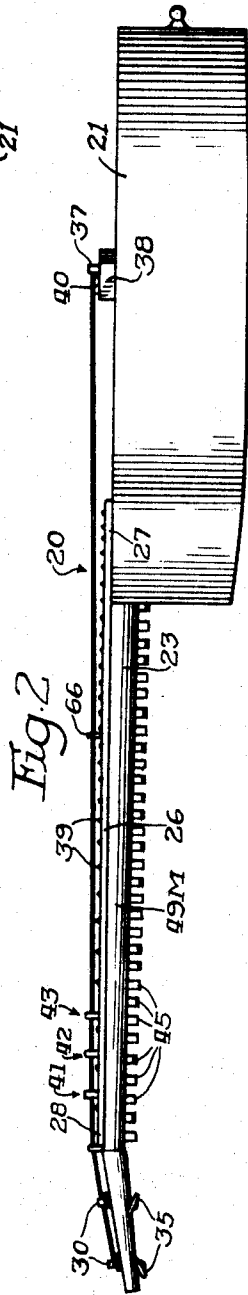


Fig. 2

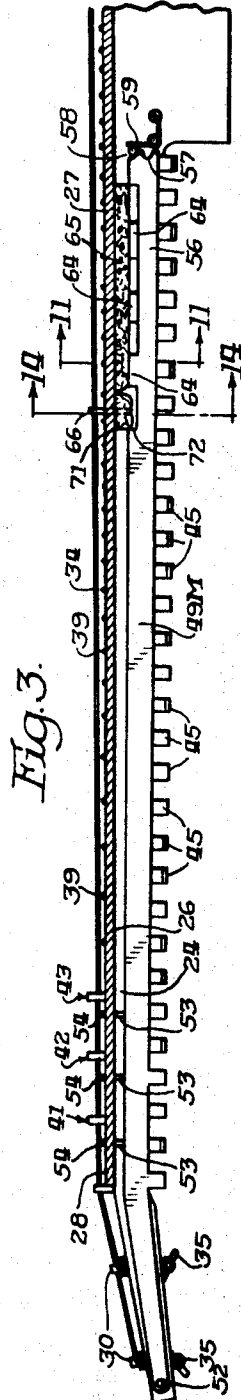


Fig. 3

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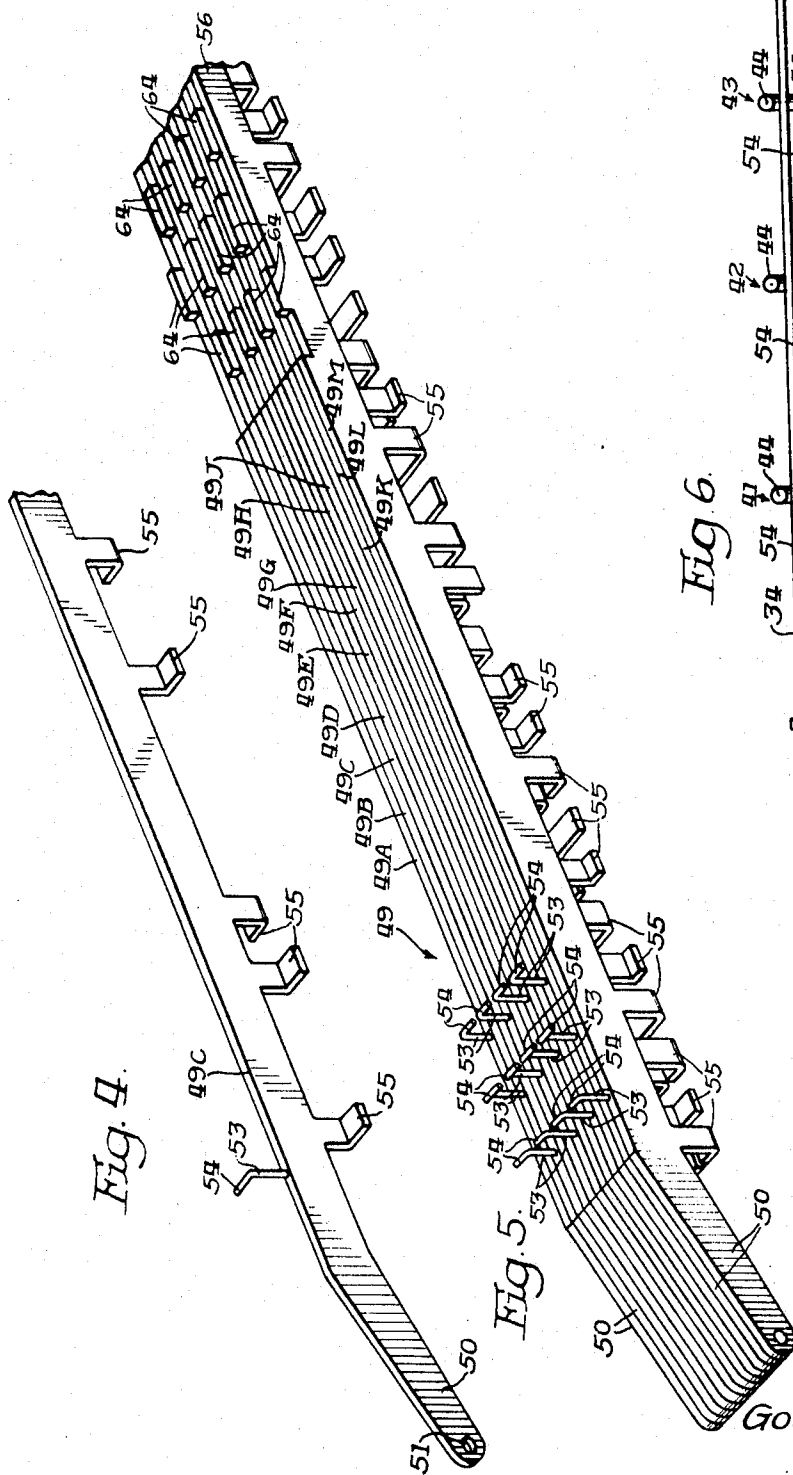


Fig. 6.

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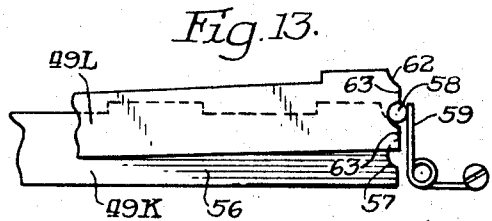
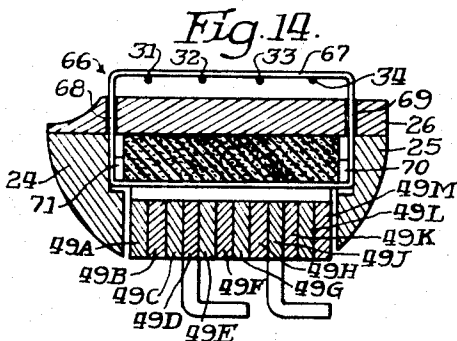
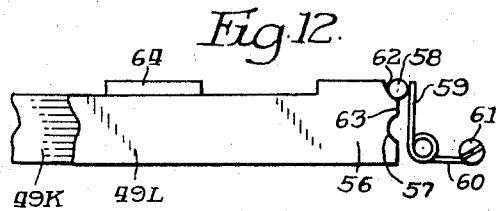
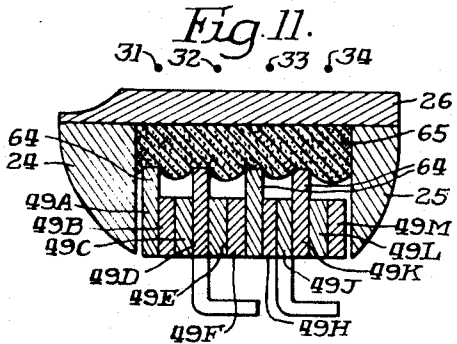
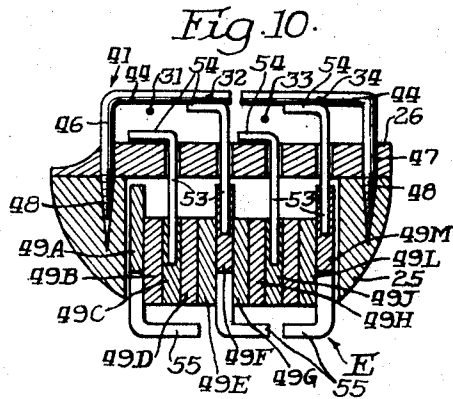
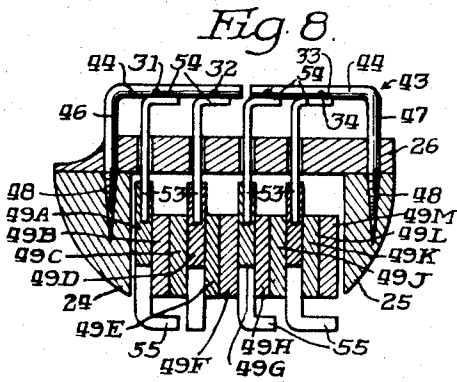
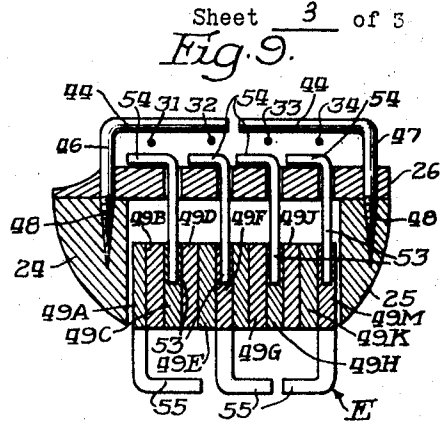
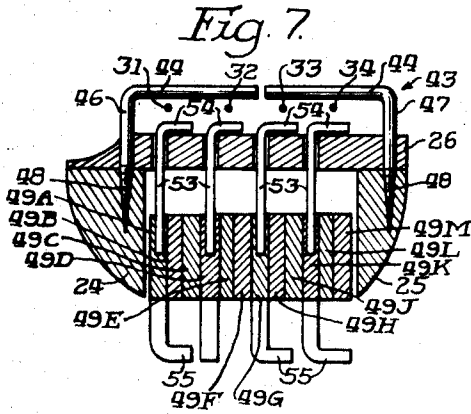
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3,433,112

**CHORD-FORMING DEVICE FOR
STRINGED INSTRUMENT**

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U.S. Cl. 84-317

13 Claims

Int. Cl. G10d 3/06

The present invention relates to chord-forming devices for stringed instruments. Particularly, the invention relates to stringed instruments of normally fingerable class having chord-forming means.

Principally, by reason of difficulties encountered in mastery of stringed instruments of the class with which the instant invention concerns itself, various mechanisms and apparatus have been developed to permit playing of such instruments by relatively unskilled persons. The mechanisms and apparatus which have been devised cause engagement of instrument strings for chord formation by mechanical means, whereby non-skilled persons are enabled to play the various chords capable of being formed by the mechanisms or apparatus without the requirement for fingering strings or learning the techniques relative thereto.

With respect to stringed instruments, such as guitars, ukuleles, banjos and the like, which characterize the class of instruments with which the instant invention principally is concerned, the chord-forming devices of the prior art are essentially the same in that common to all of such prior chord-forming devices are two classes of components, namely, chord bars and note bars.

The chord bars are components, which, in the prior art, comprise sliding plates or pivoted levers, the operation of which is adapted to facilitate reproduction of chords. That is to say, each chord capable of being reproduced by a prior chord-forming device has a corresponding chord bar. Each prior chord bar comprises a plurality of tabs or projections each of which corresponds to a note defining the chord represented by such chord bar. Upon actuation or operation of a chord bar, each of its various tabs or projections serves to define a note by causing blockage of a string at a position corresponding to such note.

The note bars of the prior devices conventionally do not directly engage the strings at the positions corresponding to the notes, but rather actuate lever or pressure arm assemblies which in turn cause engagement of springs at frets or levels corresponding to the notes represented by the note bars, respectively.

Because the constructions of the prior art contain many moving parts, they provide rather bulky appendments for the instruments on which they are used. For example, to provide a forty-chord device for a conventional six-stringed instrument, such as a guitar, requires a minimum of fifty-eight moving parts in the least complex of the prior devices to over one hundred moving parts in the more complicated apparatus. Such shortcoming tends to limit the number of chords available in marketable prior devices. That is to say, the bulk of the prior chord-forming devices is of such magnitude that it has been difficult to sell devices which are capable of forming more than three to eight chords. Accordingly, mass manufacture of prior devices capable of producing higher numbers of chords has been contra-indicated.

It is desirable to provide a chord-forming device for a normally fingered stringed instrument which minimizes the parts, to the end that the cost is minimized. Furthermore, it is desirable that a chord-forming device of the class described be provided in which the number of moving parts is minimized, to the end that the combined

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weight and size of the device and its instrument are minimized, whereby the number of chords capable of being formed by a product of merchantable physical character is maximized.

An approach to overcoming the shortcomings of the prior devices, hypothesized on the premise that each chord comprises a plurality of notes and thereby could be formable by note bars direct, compels a conclusion that the chord bars of the prior art could be unnecessary. Accordingly, a substantial number of components necessary in the prior art could be omitted. That is to say, a prior device capable of forty chords, for example, requires forty chord bars, that is, one chord bar for each chord. Such requirement results in forty pivoted levers or sliding plates. By providing a chord-forming device for stringed instruments which obviates chord bars, the number of moving parts could be reduced by forty, when compared with the prior art, as well as attendant bulk and weight.

It is an object of the instant invention to provide an improved chord-forming device for fingerable stringed instruments.

It is another object of the invention to provide in a device of the class indicated a chord-forming apparatus capable of producing a multiplicity of chords, up to forty or more, without adding significantly to the weight of the instrument in connection with which the apparatus is employed.

It is a further object of the present invention to provide a chord-forming device for instruments of the class indicated which does not essentially change the appearance of the instrument in connection with which such chord-forming device is employed.

It is an additional object of the instant invention to provide a chord-forming device for a stringed instrument having a body and a therefrom extending neck supporting a finger board over which strings extend, said device being inconspicuously integrated along the instrument's neck without adding substantially to its bulk or detracting from its sleek appearance.

Yet another object of this invention is the provision of a chord-forming device for stringed instruments and the like which has note bars employing only directly operable string-engaging bosses or the like, arranged to provide for quick, logical and simple selection of chords.

Still another object of the instant invention is the provision of a chord-forming device characterized by a plurality of stations along the neck of a stringed instrument corresponding to the various chords the instrument is capable of forming and having manually operable aligned lugs disposed at each such station with each lug connected to a note bar corresponding to a note of the chord represented at such station, whereby the note bars corresponding to all of the notes of each chord can be actuated by a single finger.

Still a further object of the instant invention is the provision of a chord-forming device for stringed instruments of the class indicated characterized by a plurality of note bars, each corresponding to one note comprising the chords which are to be formed, each note bar having an extension or lug for selectively engaging a string of an instrument directly each time the device is actuated to play the chord of which the note corresponding to such note bar is a component.

The foregoing and other objects, features and advantages of the present invention will become more apparent upon consideration of the following description and appended claims, when considered in conjunction with the accompanying drawings wherein the same reference character or numeral refers to like or corresponding parts throughout the several views.

On the drawings:

FIG. 1 is a top plan view of a stringed instrument embodying one form of the invention.

FIG. 2 is a side elevational view of the instrument shown in FIG. 1.

FIG. 3 is an enlarged view of a longitudinal section taken substantially on the line 3—3 of FIG. 1 and looking in the direction of the arrows.

FIG. 4 is a perspective view of a portion of a note bar.

FIG. 5 is a perspective view of a stack of note bars illustrating the relationship thereof as they are positioned for assembly inside the neck of an instrument.

FIG. 6 is an enlarged sectional view of a forward end of the neck of the stringed instrument and taken on the plane of the view of FIG. 3.

FIG. 7 is a transverse sectional view taken substantially on the line 7—7 of FIG. 1 and looking in the direction of the arrows.

FIG. 8 is a view similar to FIG. 7 except that the disposition of parts in connection with the formation of a selected chord is shown.

FIG. 9 is a transverse sectional view taken substantially on the line 9—9 of FIG. 1 and looking in the direction of the arrows.

FIG. 10 is a view similar to FIG. 9 except that the disposition of parts upon formation of another chord is shown.

FIG. 11 is a transverse sectional view taken substantially on the line 11—11 of FIG. 3 and looking in the direction of the arrows.

FIG. 12 is a vertical sectional view taken substantially on the line 12—12 of FIG. 1 and looking in the direction of the arrows.

FIG. 13 is a view similar to FIG. 12, however showing a note bar locked in chord-forming position.

FIG. 14 is a transverse sectional view taken substantially on the line 14—14 of FIG. 3 and looking in the direction of the arrows.

Referring now more particularly to the drawings, in FIGS. 1 and 2 there is seen a stringed instrument generally designated as 20 and having substantially the conventional design of a guitar. The instrument 20 comprises a sound box 21 having a customary upper opening 22 providing access to the sound chamber defined by the box 21. The neck 23 of the instrument is projected outwardly or forwardly from one end thereof, and comprises a pair of elongated opposed side or limiting rails 24 and 25 which are spaced apart transversely of the longitudinal axis of the neck, the disposition of said rails 24 and 25 being clearly illustrated in FIGS. 7—11 and 14.

Lateral or side portions of an elongated fingering board 26 are secured to the top of the rails 24 and 25, and a fingering board extension 27, as illustrated in FIGS. 1, 2 and 3, extends longitudinally beyond the neck 23 onto the surface of the box 21 on which said extension 27 is rigidly secured. The outer end portion or part 28 of said fingering board distal from box 21 terminates adjacent a string mounting peg plate, as illustrated in FIG. 1, said peg plate 29 being supported on the top of the outer end portions of the rails 24 and 25.

A plurality of rotatable string adjusting or tensioning pins or pegs 30 extend through the plate 29 and have outer portions projected upwardly from said peg plate 29 to provide anchors for the outer end portions of a plurality of strings 31, 32, 33 and 34, respectively, in a usual manner. The opposite end portions 36 of said strings 31, 32, 33 and 34 extend over a conventional bridge 40, and are releasably anchored on or secured to connectors 37. The connectors 37 are carried by a plate 38 from which said connectors project outwardly, said mounting plate being rigidly connected to the box 21. By reason of the foregoing construction, manually operable adjusting members 35 which rotate pegs 30, respectively, are employed to tension and loosen the strings in a usual manner.

While the drawings disclose a stringed instrument comprising four strings 31, 32, 33 and 34 which extend longitudinally of the longitudinal axis of the finger board 26 in a conventional manner, the invention is not limited to an instrument having four strings, and may be employed with an instrument having, for example, four, five, six and even more strings, as will be presently apparent.

In the illustrated embodiment, the finger board 26 is divided longitudinally of its longitudinal axis by a plurality of conventional transversely extending frets 39, only some of which have been numbered to minimize crowding of the drawings; said frets 39 are disposed in spaced apart relationship and mounted on the finger board in a conventional manner.

In addition to the conventional frets 39, there are employed a plurality of frets 41, 42 and 43 which differ from the conventional frets 39, as more clearly illustrated in FIGS. 6—10, inclusive. That is to say, each of the frets 41, 42 and 43 may comprise a pair of associated right angular sections 46 and 47, each of said sections 46 and 47 having a fret bar or rod part 44. Each fret bar or rod part 44 of each of said frets 41, 42 and 43 is aligned with the other bar or rod part thereof transversely of the finger board 26, whereby the fret members 41, 42 and 43 are disposed transversely of the strings 31, 32, 33 and 34. Furthermore, said fret parts 44 are spaced outwardly from the finger board 26 and above said strings, whereby said strings are disposed between the finger board 26 and said fret parts 44, as illustrated in FIGS. 7, 8, 9 and 10. As illustrated in FIGS. 1, 2, 3 and 6, the frets 41, 42 and 43 are spaced longitudinally of the neck 23 from each other, and function to releasably engage the strings 31, 32, 33 and 34 at various levels to cause the strings to produce associated tones in a manner which will hereinafter become apparent.

For anchoring each of the sections 46 and 47 of each of the frets 41, 42 and 43 in operative alignment with the other thereof, each of said sections 46 and 47 may have a threaded anchoring member 48 which extends from the outer end of an associated fret bar or rod part 44. Each anchoring member 48 of the instant embodiment is projected through the finger board 26 and threaded in a respective of rails 24 and 25, as illustrated in FIGS. 7—10, inclusive.

It is appreciated that construction of the frets 41, 42 and 43 in pairs of sections 46 and 47 is for the purpose of facilitating fret anchoring, and that the frets 41, 42 and 43 need not be constructed in sections that may be integral members each comprising a single unsegmented or separated fret bar or rod.

A plurality of elongated note bars, each of which may be designated in a non-differentiated sense as 49 and particularly designed and distinguished from each other as 49A, 49B, 49C, 49D, 49E, 49F, 49G, 49H, 49J, 49K, 49L and 49M, are disposed in side by side relationship between the rails 24 and 25, as clearly illustrated in FIGS. 5, 7—11, inclusive, and 14. As in FIGS. 3—6, inclusive, each of the note bars has an outer end extension 50, only some of which have been numbered in FIG. 5. Each end extension 50 defines an end aperture 51 which is aligned with corresponding apertures 51 in the other note bars to rockably mount said note bars on a fixed pin 52. The pin 52 extends transversely of the rails 24 and 25 and provides a fixed axis about which each of said note bars is rockable, to the end that each of the note bars may be rocked between the rails 24 and 25 independently of the other.

Each of the note bars 49 corresponds to, and is adapted to cause engagement of a string at a level calculated for production of, a single note which may be different from each of the others. To the end that such result is achieved, the note bars extend between rails 24 and 25 longitudinally thereof and are disposed below the finger board 26 and thereover extends strings 31, 32, 33 and 34. Each of said note bars has rigidly secured thereto a push pin,

extension or boss 53 which may extend normally from its respective note bar toward a string thereby to be engaged. As illustrated, particularly in FIG. 5, each of said push pins comprises a string-engaging lug 54 extending in a direction adapted to result in engagement of a corresponding string.

In the instant embodiment of the invention, there are provided twelve note bars. Twelve note bars are not limiting but were selected for the purpose of illustration because most of the chords generally employed when playing an instrument 20 may be formed by employing various selected combinations of twelve notes on a four-stringed instrument corresponding to such twelve note bars.

Each push pin 53 extends upwardly from its respective note bar through the finger board 26. Each push pin 53 is disposed at a level longitudinally of the strings such that its lug 54 is aligned with a string to enable production of an assigned note upon engagement of such string by such lug as a result of operating its note bar. Operation of said note bars comprises rocking thereof counterclockwise with respect to FIGS. 4, 5 and 6 about pin 52 to cause strings to be impinged against the frets 41, 42 or 43 in a manner such that the strings are cut by the frets at a level adapted for production of notes corresponding to the note bars rocked. Restated, each note bar carries an upwardly extending push pin 53 which is projected through the finger board 26. Each push pin 53 has a lug 54 which is aligned with one of the four strings, each such lug being disposed at a level longitudinally of the finger board such that such lug will cause impingement of its aligned string against one of the frets 41, 42 and 43 to enable production of a note characteristic of such lug and its associated note bar. Accordingly, as each note bar is rocked counterclockwise with respect to FIGS. 4, 5 and 6, its push pin 53 becomes elevated to cause its associated lug 54 to push upwardly on an associated string at a predetermined level longitudinally thereof to cause such string to be driven into engagement with an adjacent fret rod or bar part 44 of the frets 41, 42 and 43.

For the purpose of convenience, the push pins 53 on a four-stringed instrument comprising twelve note bars 49 may be arranged in three sets spaced apart longitudinally of said strings, each of said sets corresponding to four notes, as illustrated in FIG. 5. To that end, note bars 49C, 49F, 49J and 49M have push pins 53 which form one set and the lugs 54 of which are adapted to impinge the four strings 31, 32, 33 and 34, respectively, against the fret 41. The note bars 49B, 49E, 49H and 49L have push pins 53 which form another set and whose lugs 54 are adapted to impinge the four strings, respectively against the fret 42, whereas the note bars 49A, 49D, 49G and 49K have push pins 53 which form a third set, the lugs 54 of which are adapted to push the four strings 31, 32, 33 and 34, respectively, in a manner such that the strings will be cut by the fret 43.

From the foregoing description, it is apparent that the number of notes from which chords may be formed by the instant invention may be increased. Such could be effected by adding one or more note bars, each of which would have a push pin and a string-engaging lug. Additionally, one or more frets would be added, whereby the strings could be cut at additional levels.

Each note comprises a tone or sound in a plurality of chords. That is to say, each chord comprises a plurality of notes, some of which are used in a plurality of chords. As previously indicated, the most often used chords of four notes or less can be constructed from twelve notes. The illustrated device has been constructed to mechanically produce thirty-one chords from varying combinations of twelve notes available. In accordance with the instant invention, a plurality of stations 45 are provided, only several of which have been numbered in FIGS. 2 and 3 and each of which corresponds to a single chord. As illustrated in FIG. 6, the stations 45 there shown cor-

respond to chords in C, C minor, C7, G, G minor, G minor 7, and G7. Each of such stations in FIG. 6 has been labeled by a corresponding abbreviated chord designation.

As illustrated in FIG. 4, each note bar 49 may have a plurality of chord-actuating lugs or tabs 55, each of such tabs corresponding to a chord in which the note or tone capable of being produced by such note bar or corresponding thereto forms a part. The tabs 55 of each note bar are aligned with the tabs 55 of other note bars in a manner such that the tab of a note bar for a given chord will be disposed in alignment transversely of the rails 25 and 24, with a tab of each of the other note bars corresponding to a note in the given chord. Each of such transversely aligned tabs 55 comprises a station 45. That is to say, if a note is a component of more than one chord, as, for example, the note corresponding to note bar 49C, as illustrated in FIG. 4, the note bar will have a tab 55 corresponding to each chord in which the associated note forms a tone. All of the tabs 55 corresponding to notes in a given chord will be disposed in transverse alignment, thereby enabling the player of the instrument 20 to cause formation of a selected chord merely by pushing a single finger across the tabs 55 at a station 45 corresponding to the chord to be produced. In this latter regard, have reference to FIG. 6. Each note bar corresponding to a note which is part of the C major chord will have a tab 55 at the station designated C, to the end that a single finger or thumb extended transversely of the rails 25 and 24 across the tabs at the C station can be pressed simultaneously by a single digit. Likewise, each of the note bars corresponding to a note involved in the C minor chord will have a tab 55 disposed at station Cm in alignment with the tabs of other note bars, which will be involved in the Cm chord, whereby a single finger or the thumb of a player may be used to simultaneously engage all the tabs 55 associated with the C minor chord to rock the corresponding note bars to cause cutting of the strings by an associated fret in the manner heretofore described. In a like manner, the tabs corresponding to each of the available chords will be disposed in transverse alignment at a station 45 corresponding to each of such chords, whereby each chord may be reproduced by a simultaneous depression of associated tabs 55 by employment of a single digit extended across respective tabs 55 transversely of the rails 25 and 24.

By having reference to FIGS. 2 and 3, it is seen that the stations 45 are spaced longitudinally of the neck of the instrument 20, and, as illustrated in FIG. 6, such stations 45 are organized in a sequence calculated for convenience of the player of the instrument in connection with which the instant invention is employed. The invention is not limited by specific station 45 arrangement, as any desired organization of stations is available.

An enhanced appreciation for the manner in which the invention operates may be had by referring to FIGS. 7-10. In FIG. 7 there is seen the disposition of the tabs 55 involved in the production of a Gm7 chord, such tabs being disposed at the Gm7 station. When the strings are not engaged for the production of such Gm7 chord, the tabs 55 corresponding to such Gm7 chord will be extended; that is to say, they will be disposed in the position illustrated in FIG. 7. However, when the tabs 55 corresponding to said Gm7 chord are depressed or pressed toward the neck of the instrument, the four note bars 49A, 49D, 49G and 49K will be rocked to cause cutting or engagement of the strings 31, 32, 33 and 34 by appropriate of the frets 41, 42 and 43 to enable production of the various notes of the Gm7 chord. As illustrated in FIG. 8, in the production of the Gm7 chord all four strings, namely 31, 32, 33 and 34, will be driven into note-producing engagement with fret 43.

For further illustration, in FIGS. 9 and 10 the station 45 for the production of the Cm chord is shown. By having reference to FIG. 10, it is seen that only three notes

are involved in the Cm chord, namely, the notes produced by employment of the note bars 49A, 49F and 49M controlling the strings 31, 32 and 34. The other string 33 is played open, that is to say, it is not cut to produce a note. For that purpose, only three tabs 55 are disposed at the Cm station. When such tabs 55 are depressed, the lugs 54 connected with the note bars of said Cm chords will move from the position illustrated in FIG. 9 to the position shown in FIG. 10, it being appreciated that, upon reproduction of the chord, string 33 will be played open. By having reference to FIG. 10 it is seen that while the note bar 49A is in note-forming position, the string 31 does not engage the fret 41. That is because lug 54 corresponding to note bar 49A will be caused to engage fret 43 and such engagement is not seen at the level of the section of FIG. 10.

As illustrated in FIGS. 3, 12 and 13, the inner end portion 56 of each of the note bars is recessed as at 57 to provide a seat for a detent 58 which may be a rod or pin the longitudinal axis of which extends transversely of the longitudinal axes of note bars 49. The detent 58 is urged toward the end portion 56 of the note bars by means of a resilient member, such as spring 59 one end portion 60 of which may be anchored by a fastener 61 to the body of the instrument 20 in any suitable manner. The level of the detent 58 is such that when note bars 49 are not disposed for reproduction of notes, the detent 58 will rest against upper cam faces 62 of such note bars. The cam faces 62 are transversely aligned and angularly disposed. Said cam faces 62 terminate in noses or bosses 63 which are projected toward the spring 59 and define the upper ends of the recesses 57, respectively, as illustrated in FIGS. 12 and 13.

When a note bar, for example note bar 49L, is depressed, that is, rocked from inactive to string cutting position, its inner end portion 56 will move in a manner such that such note bar will move from the position illustrated in FIG. 12 to the position illustrated in FIG. 13. That is to say, the inner end portion 56 of each depressed note bar will rock counterclockwise to cause engagement of the detent 58 in the recess 57 of each of such note bars as a result of the biasing of detent 58 by spring 59 to thereby lock such depressed or played note bars in note-playing positions.

The note-playing position of each played note bar, for example of the note bar 49L, as illustrated in FIGS. 12 and 13, will be maintained until another note bar or set of note bars is depressed or rocked toward string-cutting position. Upon such occurrence, the nose 63 of each newly depressed note bar will rock counterclockwise with respect to FIGS. 12 and 13 to unseat the detent 58. For example, in the event the note bar 49K is a newly depressed note bar, its nose 63 will cam the detent 58 from the recess 57 of each then detent-held note bar. Each such last mentioned or previously held note bar will be permitted to drop from the position of FIG. 13 to the position of FIG. 12 while each newly depressed note bar becomes held in string-cutting position by the detent 58 as the detent seats in the recesses 57 of each such last mentioned note bars.

As illustrated in FIGS. 3, 5, 11 and 12, each of the note bars has or carries a lug, boss or projection 64 medially of its opposite ends. Preferably the lugs, bosses or projections 64 are integral with the respective inner end portions 56 of the note bars and engage a resilient pad or an elastomer block 65 which is mounted above said note bars beneath the finger board 26 between the rails 24 and 25, as illustrated in FIGS. 3 and 11. In the instant embodiment, as illustrated in FIG. 5, the lugs or bosses 64 are arranged in three banks spaced longitudinally of the note bars, the lugs or bosses 64 in each bank being connected to every third note bar. Accordingly, each lug or boss 64 is sufficiently isolated from adjacent thereof that its compressing force on the elastomer block 65 will not affect any area of said elastomer block adapted to

be engaged by other lugs or bosses 64. Accordingly, upon release of each note bar, de-compression of the elastomer block 65 will result only in the areas compressed by each such note bar.

By reason of the foregoing construction, once a note bar or group of note bars has been depressed, it will be held in such depressed position by the detent 58. As illustrated in FIG. 11, the bosses 64 will then cause the resilient pad 65 to compress, the compression not being released until the detent 58 is freed from the recesses 57 of such depressed note bars in the manner heretofore described. Once detent-held note bars are released, the resilient pad 65 will decompress and urge each theretofore depressed note bar back to non-playing position.

Attention is now invited to FIGS. 3 and 14 which disclose a mute or damper 66 which may be in the form of a rigid encircling rectangular loop or bail disposed medially of the rails 25 and 24 and mounted about the strings 31, 32, 33 and 34. The mute or damper 66 has an upper string-engageable portion or section 67 which extends transversely of said strings. Said mute or damper 66 has a pair of integral side members 68 and 69 extending through and slidable in the finger board 26, as illustrated in FIG. 14. The side members 68 and 69 are integral with a transversely extending bottom section or portion 70 which engages the lower surface of a compressible fabric or resilient block or member 71 which is mounted beneath the finger board 26 and extends transversely of the strings in aligned recesses 72 which are provided in the note bars forwardly of bosses 64, as illustrated in FIG. 3.

The bottom section 70 of mute 66 is normally tensioned in the direction of the note bars by the resilient block 71 to cause the mute portion 67 to engage the strings, as illustrated in FIG. 14, to curtail vibrations thereof. When a note bar or group thereof is depressed to chord-forming position, each of such depressed note bars will engage the mute portion 70 to elevate the mute 66 and disengage part 67 from the strings to thereafter permit a chord to be struck. Upon depression or actuation of a subsequent note bar or group thereof, the previously held note bars will return to inactive position, as hereinbefore described, to thereby allow the resilient block to decompress and return the mute to the position of FIG. 14. The same is possible because the device is designed to permit return of the mute 66 to damper position before the newly depressed note bars are fully actuated which would cause the mute to be raised again. By reason of the foregoing, the mute or damper 66 is biased to string engagement to stop the vibrations of a previous chord as subsequent note bars are actuated until the new note bars have been rocked sufficiently far to again disengage said mute 66 and said strings.

As used in this description, "up," "above," "down" and "below" have been referenced with respect to FIG. 1, while "forward" refers to the direction in which the neck 23 extends from the body of instrument 20. Additionally, "depression" of the note bars 49 refers to that actuation by reason of which such note bars are rocked counterclockwise relative to FIG. 3 about pin 52.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A chord-forming mechanism for a musical instrument having a body and a therefrom extending neck with thereover extended strings disposed in adjacent relationship, said neck having frets disposed therefrom against which said strings may be selectively impinged, the chord-forming mechanism comprising a plurality of actuatable note bars extending longitudinally of said neck and having lugs mounted adjacent said strings, respectively, for selective engagement therewith, and a plurality of manually engageable members extending from each note bar for actuation thereof, a manually engageable member of each note bar aligned transversely of said strings with a manually engageable member of other note bars, wherein,

upon manual engagement of said manually engageable members at a selected station the instrument strings are impinged by said lugs against one or more of said frets for chord formation.

2. A chord-forming mechanism for a musical instrument having a body over which strings extend in parallel relationship and comprising a plurality of elongated operable note bars mounted adjacent the strings and extending longitudinally thereof; a string engageable lug connected to each note bar and extending therefrom toward one of said strings; a fret or plurality of frets lying oppositely of said strings from said plurality of lugs; a plurality of note bar operating manually engageable members extending from each note bar, each manually engageable member disposed in alignment with manually engageable members connected to other note bars and defining a station at which manually engageable members can be simultaneously engaged by one finger of an operator to operate associated note bars to cause corresponding lugs into string-engaging chord-forming position.

3. A chord-forming mechanism for stringed instruments as defined in claim 1 in which the note bars are elongated and have end portions pivotally mounted, and means disposed opposite said end portions for releasably holding said lugs against said strings in chord-forming engagement therewith.

4. The device defined in claim 1 in which each note bar has a single of said lugs, whereupon engagement of a manually engageable member extending from such note bar, only that lug connected to said note bar will be caused to move into string engagement.

5. The device defined in claim 4 in which each note bar is elongated, a plurality of said manually engageable members extending from each note bar longitudinally thereof and defining, respectively, a plurality of stations from which each note bar is selectively operable.

6. The device defined in claim 5 in which each station corresponds to a chord and is characterized by a plurality of selected manually engageable members disposed transversely of said note bars, manually engageable members of each station extending from a different note bar and corresponding to the notes of a chord.

7. In a chord-forming mechanism for stringed instruments having a body with a plurality of thereon mounted parallel strings and having a therefrom extending neck over which said strings are extended, on which frets are mounted against which said strings are selectively impinged, means defining a plurality of elongated note bars having pivotally connected outer end portions and extending longitudinally of said strings; means defining lugs connected to said note bars for disengageably engaging said strings at selected levels longitudinally of said neck; manually operable means for selectively moving said note bars to cause selected of said lugs into string engagement; means for holding selected of said lugs in string-engaging position; and means for releasing such held lugs from string-engaging position upon movement into string engagement of other lugs.

8. The device defined in claim 7 in which the note bars have opposite end portions, said last mentioned means comprising a yieldable lock mechanism disposed adjacent the opposite end portions for releasably holding pivoted note bars in string-engaging position, and cam means

carried by said note bars for engagement with said lock mechanism to release held note bars.

9. The device defined in claim 7 in which said last mentioned means is characterized by a yieldable lock mechanism, said note bars having recessed end portions opposite said outer end portions, said yieldable lock means being removably seated in the recessed end portions of note bars connected to string-engaged lugs to hold such string-engaged lugs in string engagement, said recessed end portions defining cams engaging said yieldable lock mechanism as lugs are moving into string-engaging position to disengage the yieldable lock mechanism from the recessed end portions in which said lock mechanism is then engaged.

10. The device defined in claim 1 further characterized by a plurality of note-forming frets spaced longitudinally of said neck and having portions disposed outwardly from and transversely of said strings, said lugs adapted to impinge said strings against said frets for note formation upon operation of said note bars.

11. The device defined in claim 7 in which said last mentioned means comprises a yieldable lock mechanism for holding the lugs of moved note bars in string engagement; lock release means connected to the note bars of lugs being moved toward string engagement to release the held lugs, and resilient means operably bearing against the note bars of released lugs to impel released lugs away from said strings.

12. In a chord-forming mechanism for stringed instruments having a body and a therefrom extending neck with a plurality of strings mounted longitudinally of said neck in side by side relationship, said neck having a plurality of frets against which said strings may be selectively impinged, said chord-forming mechanism comprising a plurality of note bars extending longitudinally of said neck and having thereto pivotally connected end portions; lugs extending stringward from said note bars for disengageably engaging said strings at selected levels longitudinally of said neck; manually and selectively operable members extending from said note bars and extending oppositely from said lugs, said operable members when manually operated being adapted to cause pivoting of corresponding of said note bars to cause corresponding lugs into string engagement, and a mute carried by said note bars and normally disposed in string engagement, said mute disengaging said strings upon pivoting of note bars into string-playing position.

13. The device defined in claim 12 in which the mute comprises a string-girding member having an outer part normally disposed against said strings and an inner part bearing against said note bars, whereby said outer part disengages said strings upon operation of each of said note bars, and resilient means biasing said outer part into string engagement.

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