Jan. 11, 1949. A. PFEIFFER 2,458,875

MUSIC BOX

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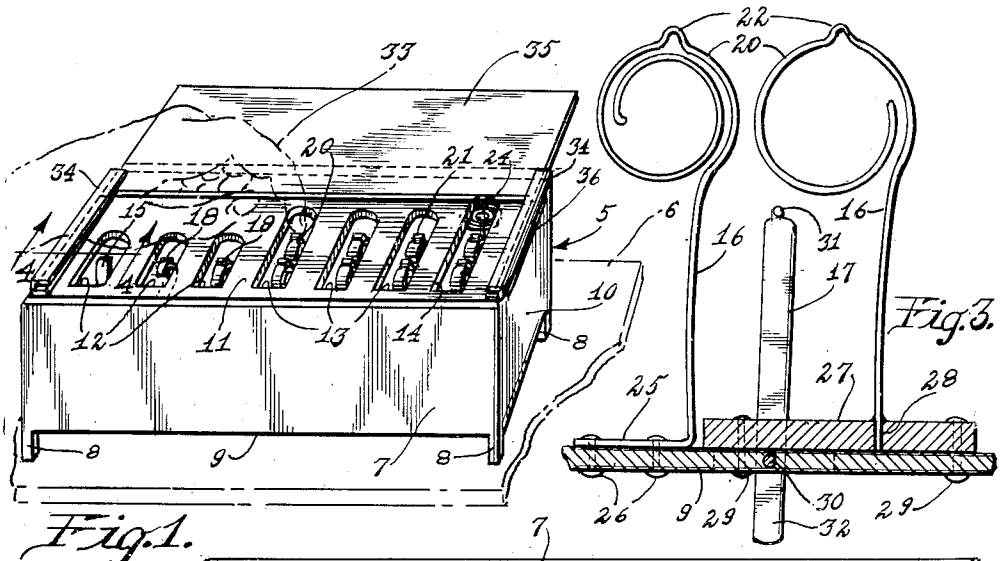


Fig. 1.

Fig. 3.

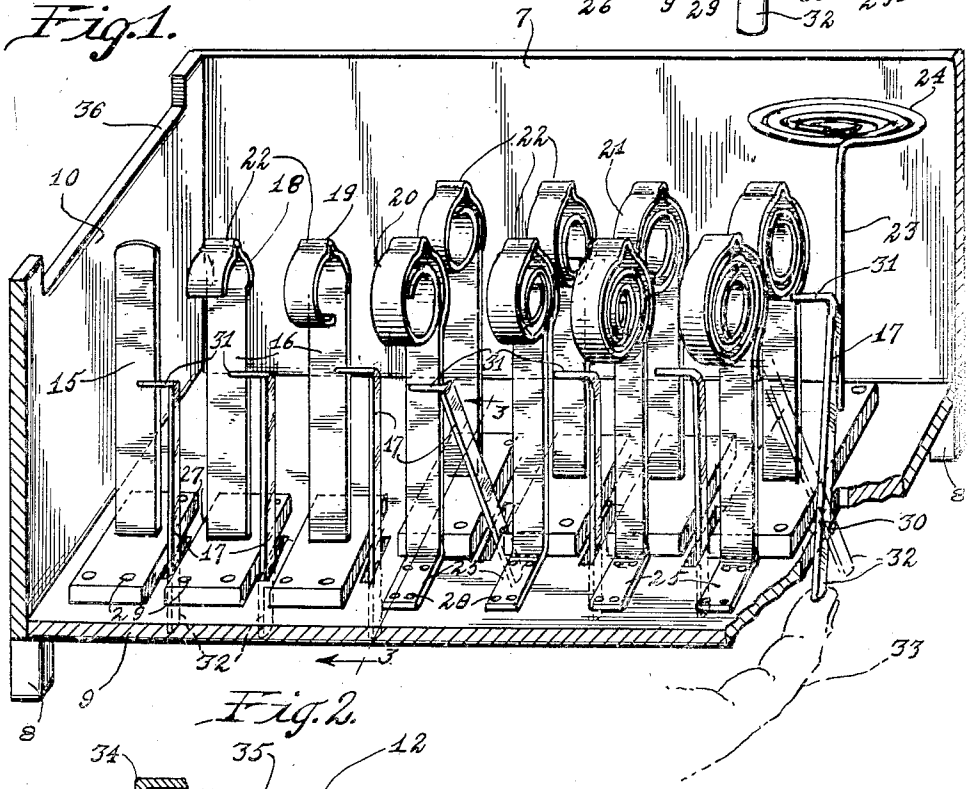


Fig. 2.

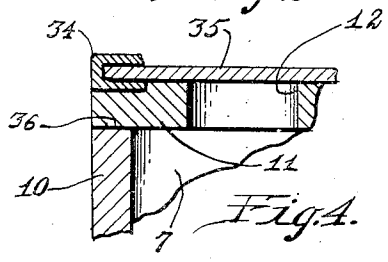


Fig. 4.

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MUSIC BOX

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4 Claims. (Cl. 84—408)

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My invention relates to musical instruments and, more particularly, to what are characterized as music boxes.

An important object of my invention is to provide a musical instrument of the aforementioned character, which comprises an enclosure, and a multiplicity of spring-like elements mounted therein, so as to have a free-vibrating end available for plucking with the fingers, or with a mechanical pick, or in any suitable manner in which such instruments are usually played.

A further object of my invention is to provide, in a music box enclosure, a multiplicity of sound producing reed-like elements secured at one end; the other end remaining free to produce vibration and emission of sound as a result of vibration.

A further object of my invention is to provide a multiplicity of tone-producing vibrating elements, which have the vibrating end coiled about in spiral formation varying the number of turns so as to produce varied tonal effects.

A further object of my invention is to provide a music box of the aforementioned character, equipped with articulately secured picks at the bottom of the said music box, so that the various tonal effects may be produced by manipulation of the handle portions provided on the said picks.

A still further object of my invention is to provide a music box of the aforementioned character, which has its bottom soundboard positioned on suitable legs or spacers, so that the same may be placed on an auxiliary soundboard of larger measurement, in order to effectuate a greater intensity of tonal sound effect by virtue of the sympathetic vibration engendered between the bottom of the music box and the said auxiliary soundboard on which it may be supported or positioned.

A still further object of my invention is to provide a cover means in order to protect the exposed portions of the tone producing elements to prevent the same from accumulating dust and foreign matter from the atmosphere.

A further object of my invention is to provide a cover means of the aforementioned character protecting the interior confines of the music box structure, and which may be variably positioned to cover partially the sound emission openings exposing the vibrating portions of the tonal elements, so that the said cover will also function as a mute in reducing or increasing, within minimum and maximum ranges, the sound intensity emitted therefrom.

Other objects and advantages, inherent in my invention, will be more clearly understood by reference to the accompanying drawings, and elucidated further in the ensuing description, wherein like numerals are used to designate like parts, and in which:

Fig. 1 represents a perspective view of a device,

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made and constructed in accordance with the teachings of my invention, positioned on an auxiliary soundboard, shown in phantom.

Fig. 2 is a sectional view in perspective showing the interior structural arrangement of the tonal vibrating elements, mounted in accordance with the practices of my invention.

Fig. 3 is a sectional view taken substantially on the lines 3—3 of Fig. 2, and indicates various manners of mounting the tonal elements.

Fig. 4 is a fragmentary sectional view taken substantially on the lines 4—4 of Fig. 1.

Referring to the various views, my invention is generally designated 5, and consists of a box-like enclosure, having walls 7 and 10, a bottom 9, and a top element 11 secured removably to the said box within the slotted or recessed end portions 36 in the walls 10. The enclosure is provided with feet 8 on which it is supported.

The said top element 11 is provided with three openings 12 under which are mounted individual tonal vibrating elements, with the vibrating portions exposed through the said openings 12. Three openings 13 of larger magnitude are provided, so as to expose three sets of two tonal elements, each mounted thereunder and having their vibrating portions exposed for plucking with the fingers 33 when it is desired to play the instrument. One larger opening 14 is provided covering three tonal elements.

Channels 34 are provided in which is slidably secured a cover and mute element designated 35, slidably attachable and removable by virtue of the said slides or channels 34.

In the first opening 12, a tonal element 15 is exposed which comprises a piece of springy or resilient metal, which when plucked will be caused to vibrate, in view of the fact that it is moored at its other end to the bottom 9 of the musical instrument; thus its vibration is transmitted to the bottom 9 acting as a soundboard.

The elements 16 are similar to the element 15 with the exception that one of them has a curved portion at the top 18; the other one a more extensive circular or curved portion 19. The remaining elements have various spiral formations of greater or smaller magnitude, as indicated at 20 and 21. This feature provides variance to the tonal effects, or the pitch of the tonal elements. The tonal elements may also be made of resilient wire material 23, having coiled portions 24 in a horizontal formation.

The elements 16 are preferably provided with a hump portion 22 which is accessible and readily engageable by the nail of the fingers 33, or which may be engaged by a mechanical pick or other instrumentality used for exerting flexing pressure thereon, to cause vibration and incidental pitch and tonal effects produced therefrom.

The elements 16 may be mounted in different

ways, as indicated in Fig. 3. One method is to form a foot 25 and have the same secured to the soundboard 9 by virtue of escutcheon pins 26. Another means is to have a blunt end on the element 16 engaged or positioned in the slot 28 of a supporting strut 27 which, in turn, is secured by means of escutcheon pins 29 to the soundboard 9.

Another means of producing sound emission from the tonal elements is to use the mechanical picks 17 provided and mounted at the bottom of the instrument; the said picks 17 consisting of a metallic element, having a prong 31 which will releasably engage and pluck the elements 16, the said picks being pivoted at 30, and having a manipulating portion 32 extending through the base at the bottom so that the instrument may be inverted with its upper face downwardly, and these picks operated by means of the handles 32 with the fingers in various permutations and combinations producing tone, harmony, or melody.

The elements 16 may also be made of different widths and/or different thicknesses in order to provide different pitch and tonal effects. They may also be made in various lengths so as to vary the amplitude or vibration and the incidental tone or pitch effects.

To play the instrument by plucking with the fingers at the top, the cover 35 having first been removed, the fingers reach, through the openings 12, 13, and 14, the elements 16 and pluck at the humps 22, or at the top portion 15 thereof, in order to produce various tonal effects.

When the instrument 5 is placed on the auxiliary soundboard 6, the vibration is increased depending on the size of the soundboard 6, and thus a greater volume of sound is produced. The auxiliary soundboard 6 being larger intensifies the sound effects produced by the sympathetic vibration of the soundboard 9 at the bottom of the instrument acting in consonance with the auxiliary soundboard 6.

It may be desired to play the instrument not directly with the fingers, but through the picks 17. In that event, the cover 35 may be utilized as a mute by having its forward edge cover partially the openings 12, 13, and 14; thus varying the sound emitted from the music box and which, in turn, may be amplified by the auxiliary soundboard 6. The cover may also be manipulated in the slides 34 simultaneously with the plucking of the picks 31, thus causing a continual variation in the volume or muting effects produced by the cover. Or, the cover may be placed in a preferred position in order to give the desired soft or loud sound intensity.

The invention is susceptible of various changes in its form, proportions, and minor details of construction, and the right is herein reserved to make such changes as properly would fall within the purview and scope of the appended claims.

Having thus described and disclosed my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. A music box of the character described comprising, a box structure open at the top, a top grill element removably secured to the said box structure and provided with a multiplicity of sound emission openings, a plural number of reed-like elements fixedly mounted at their lower termini to the base of the said box structure, their upper termini extending upwardly to be accessible to vibration producing means, slotted means on the bottom of the said box structure, and pick means articulately confined in the said slotted means and provided with prong means releasably engaging the free termini of the said reed-like elements.

2. A music box of the character described comprising, a box structure open at the top, a top grill element removably secured to the said box structure and provided with a multiplicity of sound emission openings, a plural number of reed-like elements fixedly mounted at their lower termini to the base of the said box structure, their upper termini extending upwardly to be accessible to vibration producing means, foot means secured to the said base of the said box structure to effectuate sympathetic vibration between the bottom of the said box structure and auxiliary soundboard means resulting in increased sound intensity, slotted means on the bottom of the said box structure, and pick means articulately confined in the said slotted means and provided with prong means releasably engaging the free termini of the said reed-like elements.

3. A music box of the character described comprising, a box structure open at the top, a top grill element removably secured to the said box structure and provided with a multiplicity of sound emission openings, a plural number of reed-like elements fixedly mounted at their lower termini to the base of the said box structure, their upper termini extending upwardly to be accessible to vibration producing means, channel means secured to the said top grill element, cover and mute element means slidably confined within the said channel means to effectuate sound emissions of varied intensity, slotted means on the bottom of the said box structure, and pick means articulately confined in the said slotted means and provided with prong means releasably engaging the free termini of the said reed-like elements.

4. A music box of the character described comprising a box structure open at the top, a top grill element removably secured to the said box structure and provided with a multiplicity of sound emission openings, a plural number of reed-like elements fixedly mounted at their lower termini to the base of the said box structure, their upper termini extending upwardly to be accessible to vibration producing means, foot means secured to the said base of the said box structure to effectuate sympathetic vibration between the bottom of the said box structure and auxiliary sound-board means resulting in increased sound intensity, channel means secured to the said top grill element, cover and mute element means slidably confined within the said channel means to effectuate sound emissions of varied intensity, slotted means on the bottom of the said box structure, and pick means articulately confined in the said slotted means and provided with prong means releasably engaging the free termini of the said reed-like elements.

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