Nov 1, 1949. T. L. BONKOWSKI ET AL 2,486,549

MUSICAL TOY

Filed June 20, 1947

Fig. 1

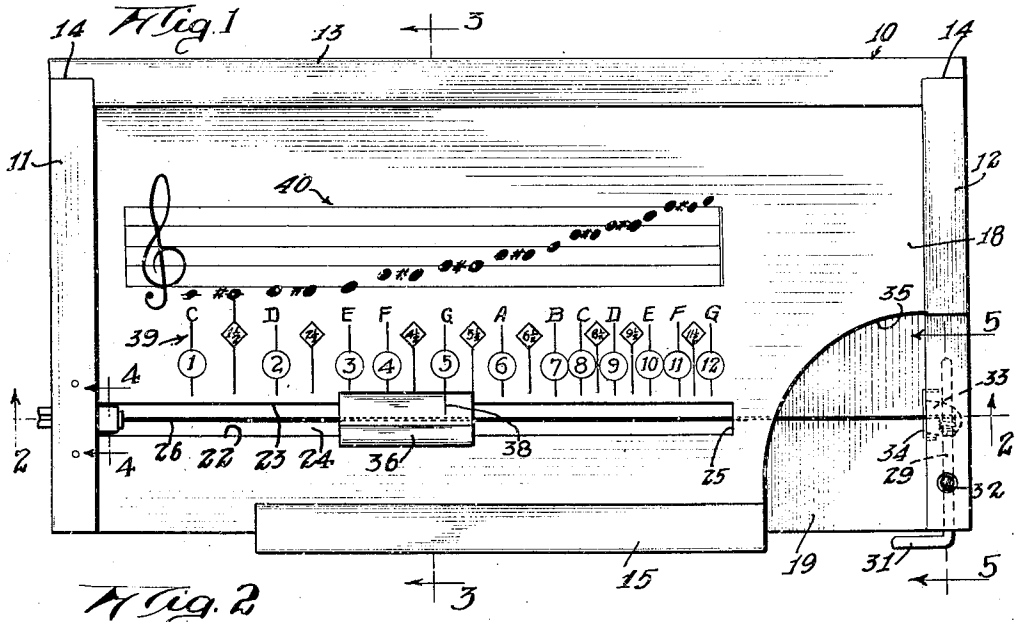


Fig. 2

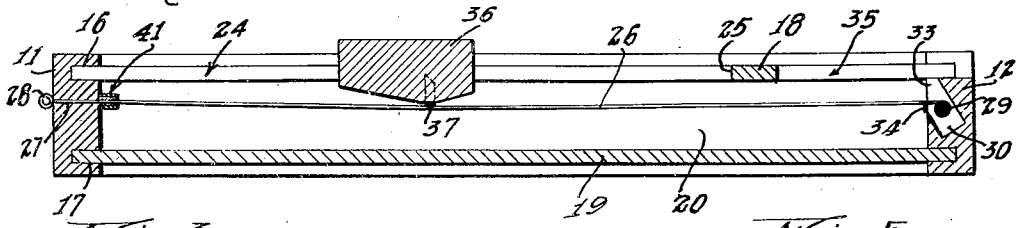


Fig. 3

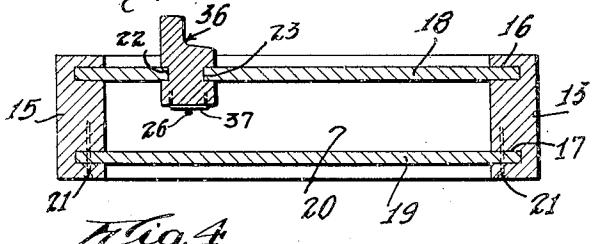


Fig. 5

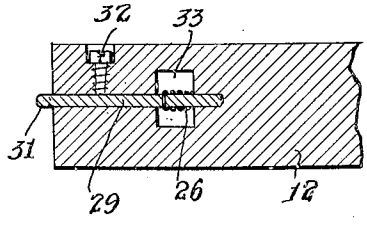


Fig. 4

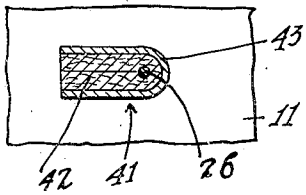
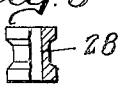


Fig. 6



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MUSICAL TOY

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6 Claims. (Cl. 84—173.1)

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This invention relates to a musical toy and is particularly directed to a single stringed instrument which is played after the manner of a lute.

The principal object of this invention is to provide an educational musical toy having certain novel features of construction, of rugged design and adapted to withstand hard usage.

Another object of this invention is to provide a box structure employing a musical string extending within the box enclosure in tension between end members thereof, together with a slot in the top or cover of the box adapted to receive a slider which engages the musical string.

Another object is to provide such a device in which an opening is also provided in the top or cover in the box in order that access may be had to the string for the purpose of sounding it by means of a pick or similar instrumentality.

Another object is to provide a device of this type in which the tension of the musical string is resisted by the structure of the box.

A further object is to provide a single stringed instrument having an improved form of muffler for dampening vibrations of one portion of a musical string.

Other objects and advantages will appear hereinafter.

In the drawings:

Figure 1 is a top plan view of a musical toy embodying our invention.

Figure 2 is a sectional elevation taken substantially on the line 2—2 as shown in Figure 1.

Figure 3 is a sectional end elevation taken substantially on the line 3—3 as shown in Figure 1.

Figure 4 is a sectional detail taken substantially on the line 4—4 as shown in Figure 1.

Figure 5 is a partial sectional elevation taken substantially on the line 5—5 as shown in Figure 1.

Figure 6 is an enlarged detail, partly in section, illustrating the ring employed for anchoring one end of the musical string.

Referring to the drawings, the box structure generally designated 10 includes a pair of spaced end members 11 and 12 connected by a back wall 13. Recesses 14 may be provided at the ends of the back wall 13 to receive the corresponding portions of the end members 11 and 12. A front wall 15 is provided but the front wall preferably does not extend continuously between the end members 11 and 12. The members 11, 12, 13 and 15 each is provided with an upper groove 16 and a lower groove 17 for reception of the edges of the top member 18 and the bottom member 19. The top and bottom members 18 and 19 are preferably formed of sheet material of uniform thickness.

It will be understood from the above description that the front and back walls 15 and 13, the end members 11 and 12, and the top and bottom 18 and 19 cooperate to form an enclosure. This enclosure may be designated by the numeral

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20. The various members which cooperate to form the box structure 10 and to define the enclosure 20 may be joined by any suitable means such as, for example, the fastener elements 21, glue, etc.

The top member 18 is provided with parallel edges 22 and 23 defining a slot 24, which extends from the extreme boundary of the top member 18 on the left side thereof as viewed in Figures 1 and 2 and terminates at 25. Positioned directly below the slot 24 within the enclosure 20 is a musical string 26. This string may be formed of any suitable material and we have found the piano wire to be very satisfactory. The string 26 extends through an aperture 27 provided in the end member 11 and forms a loop around the anchor ring 28. Tension in the string 26 holds the anchor ring against the outer surface of the end member 11 and thus serves effectively to anchor one end of the string 26. The other end of the string 26 is wound around the bar 29 which extends within the end member 12 and is turnably mounted therein. A recess 30 is provided in the end member 12 and the bar 29 extends across this recess 30. A crank element 31 is provided on the outer end of the bar for turning it within the end member 12.

The musical string 26 is secured to the bar 29 by any convenient means and is wrapped thereabout by turning the bar 29. Means are provided for securing the bar 29 at any desired angular position and as shown in the drawings, this means includes a set screw 32 threaded within the end member 12 and adapted to bear against the bar 29. The recess 30 communicates with the enclosure 20 within the box structure 10 by way of the opening 33. A bridge member 34 is secured to the end member 12 and extends across the opening 33 in contact with the string 26.

An opening 35 is provided in the top or cover 18 and at one end of the front wall 15 in order that access may be had to one end of the string 26. A pick, such as that employed for playing a mandolin, then may be used within the opening 35 to sound the musical string 26. In order that the tone of the musical string 26 may be varied as desired a slider 36 is provided which has a contact element 37 adapted to rest on the musical string 26. The slider 36 is provided with oppositely formed grooves 38 for reception of the edges 22 and 23 of the top member 18 and the slider therefor is adapted to move longitudinally within the slot 24. A reference mark 38 is provided on the upper surface of the slider and a series of indicia 39 is placed on the upper surface of the top or cover 18. If desired, a musical scale 40, corresponding to the indicia 39, also may be provided on the upper surface of the top member 18. The scale 40 and indicia 39 are laid out in such a manner that tones of the

musical scale may be produced when the reference mark **38** is aligned with the indicia **39** or notes of the scale **40**, the musical string **26** being sounded by means of a pick or other instrumentality.

In order to dampen the vibrations in that portion of the string **26** between the slider contact **37** and the end member **11**, a muffler element generally designated **41** is mounted on the string **26** adjacent the end member **11**. This muffler element may comprise a length of nonmetallic material such as, for example, the felt pad **42**, which is enclosed within the U-shaped metallic clip **43**. We have found this form of muffler element to be very efficient in operation and susceptible of production at economical cost.

In the initial assembly of parts the slider **36** is positioned within the slot **24** by inserting it axially thereof from the left, as viewed in Figure 1, before the end member **11** is assembled into the box structure **10**.

It will be noted that the tension of the musical string **26** is resisted by compression in the top and bottom members **18** and **19** and that this arrangement provides a rugged educational toy which is adapted to withstand hard usage and is not easily rendered inoperative. The single string **26** is sounded by means of a pick or other instrumentality extending through the opening **35** and the slider **36** is moved back and forth in the slot **24** to produce the desired musical tone. The pitch of the musical string **26** also may be varied by adjusting the bar **23** as described.

Having fully described our invention, it is to be understood that we do not wish to be limited to any of the details herein set forth, but our invention is of the full scope of the appended claims.

We claim:

1. In a musical toy, the combination of: a frame having a top member, a bottom member, and spaced ends, the members and ends defining an enclosure, a musical string tensioned between the spaced ends of said frame and extending intermediate the top and bottom members within the enclosure, the top member having edges defining a slot therein parallel to said musical string, a slider provided with parallel grooves to receive the edges of the slot and adapted to move longitudinally in the slot, means on the slider adapted to contact the musical string, the top member having an opening therein near one of the ends of the frame to permit access to the musical string for sounding it.

2. In a musical toy, the combination of: a rectangular frame having a top member, a bottom member, and spaced ends, the members and ends defining an enclosure, a musical string anchored on one end of said frame and extending intermediate the top and bottom members to the other end of the frame within the enclosure, means on the latter said end of the frame to secure the musical string thereto and to adjust the tension thereof, the top member having edges defining a slot therein parallel to said musical string, a slider provided with parallel grooves to receive the edges of the slot and adapted to move longitudinally in the slot, means on the slider adapted to contact the musical string, the top member having an opening therein near one of the ends of the frame to permit access to the musical string.

3. In a musical toy, the combination of: a rectangular box having parallel top and bottom members and spaced parallel ends, a musical string anchored on one end of said box and extending intermediate the top and bottom members to the other end of the box, means on the latter said end of the box to secure the musical string thereto and to adjust the tension thereof, the top member having edges defining a slot therein parallel to said musical string, a slider adapted to move longitudinally in the slot, means on the slider adapted to contact the musical string, the top member having an opening therein near one of the ends of the box to permit access to the musical string.

4. In a musical toy, the combination of: a box structure including a top member, a bottom member, and spaced ends defining an enclosure, a musical string tensioned between the spaced ends of said box structure and extending intermediate the top and bottom members within the enclosure, the top member having edges defining a slot therein parallel to said musical string, a slider provided with parallel grooves to receive the edges of the slot and adapted to move longitudinally in the slot, means on the slider adapted to contact the musical string, the top member having an opening therein near the other end of the box structure to permit access to the musical string for sounding it.

5. In a musical toy, the combination of: a box structure including parallel top and bottom members and spaced parallel ends defining an enclosure, a musical string tensioned between the spaced ends and extending intermediate the top and bottom members within the enclosure, the top member having edges defining a slot therein parallel to said musical string, and having an opening therein to permit access to the musical string for sounding it, the slot extending from one of the spaced ends but terminating short of said opening, and a string-contacting slider adapted to move longitudinally in said slot.

6. In a musical toy, the combination of: a box structure including parallel top and bottom members and spaced parallel end members defining an enclosure, a musical string anchored on the first of the spaced end members and extending intermediate the top and bottom members within the enclosure to the second spaced end member, an element turnably mounted on the second end member to secure the musical string and to adjust the tension thereof, the second end member having an opening therein through which the musical string extends, and a bridge element on the second end member spanning the opening and adapted to contact the musical string.

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