

Oct. 31, 1950

R. F. KOPPEL
MUSICAL TOOTHBRUSH HOLDER

2,528,006

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2 Sheets-Sheet 1

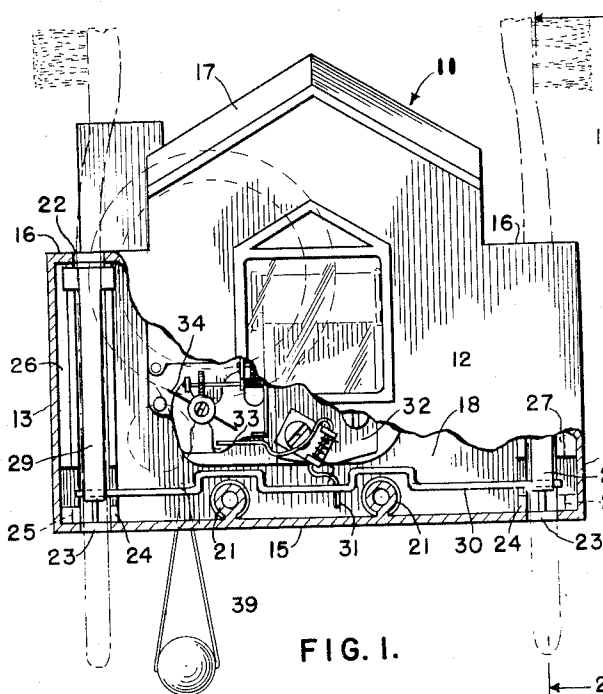


FIG. 1.

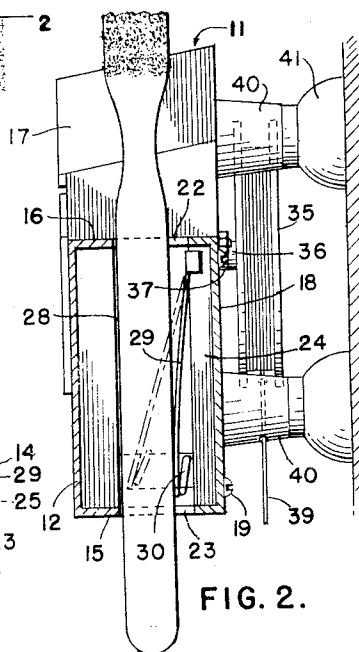


FIG. 2.

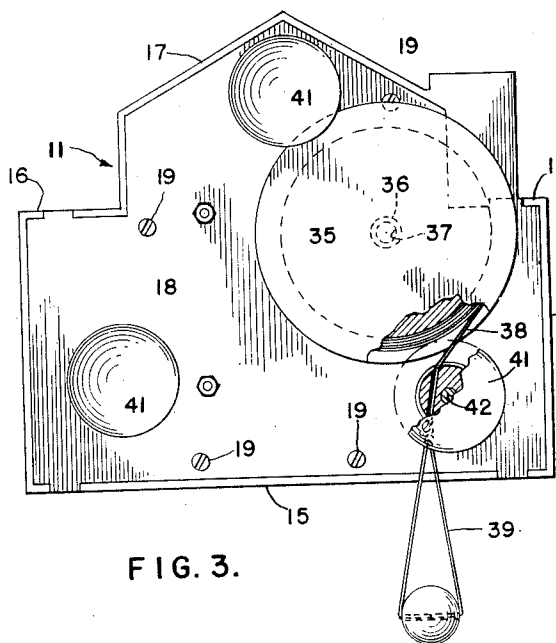


FIG. 3.

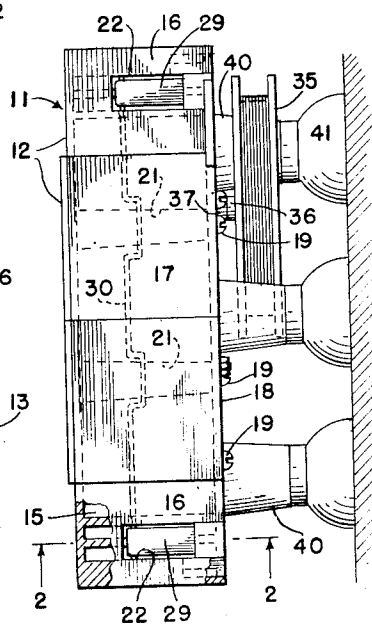


FIG. 4.

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2 Sheets-Sheet 2

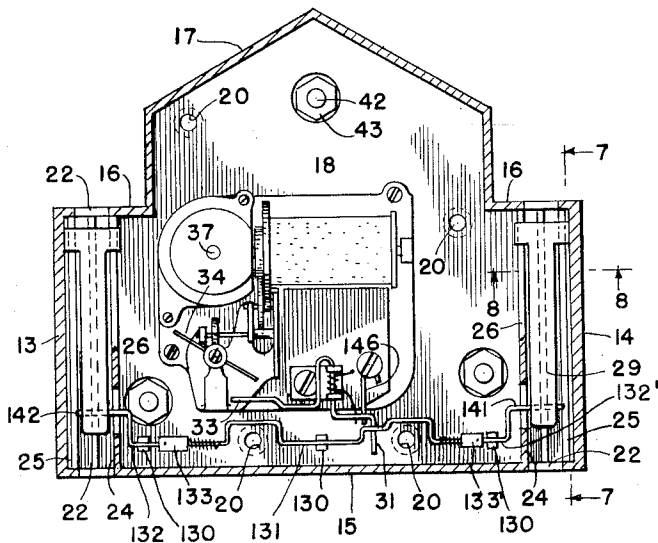


FIG. 5.

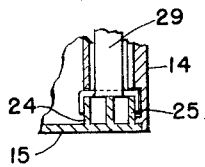


FIG. 8.

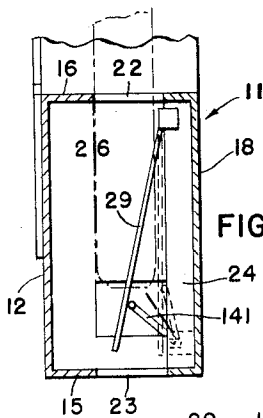


FIG. 7.

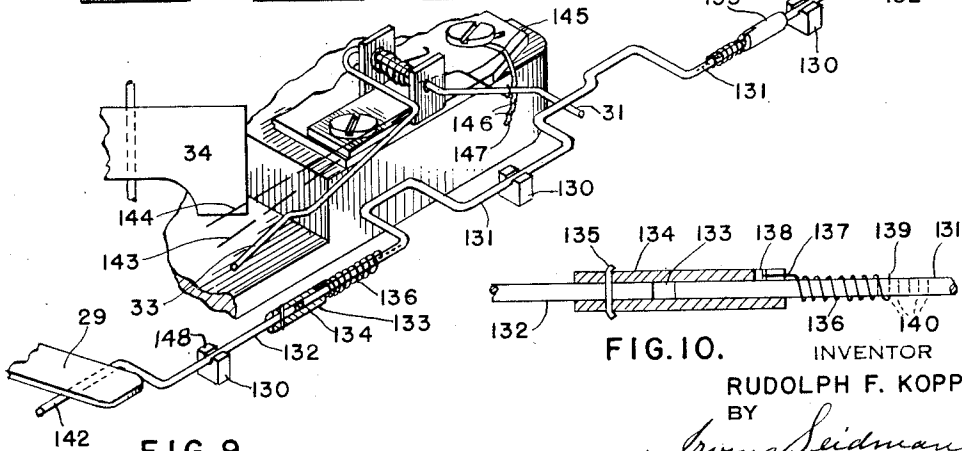
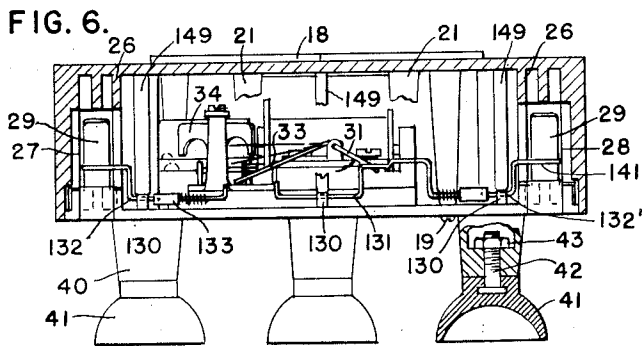


FIG. 10.

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2,528,006

MUSICAL TOOTHBRUSH HOLDER

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Application December 8, 1949, Serial No. 131,775

1 Claim. (Cl. 84-95)

1

This invention relates to a musical tooth brush holder and has particular reference to a tooth brush holder of the type set forth which contains, within its housing, a spring motored musical unit of a standard type, and pockets for tooth brushes which, upon removal from the pockets, will release a locking means and set the music producing mechanism in motion.

An object of this invention is to provide a device of the character described with tripping mechanism, engageable with the pocketed tooth brushes for locking the music producing mechanism out of operation and for releasing same to actuate the music producing mechanism when one or more tooth brushes are removed from the pocket or pockets.

A still further object of this invention is the provision of an organization in which the constituent elements are so arranged structurally and functionally as to assure improved results with materials and members which may be manufactured at reasonable cost, may be easily assembled and which will be efficient in operation with minimum wear to the parts.

The best embodiment of the invention has been chosen for illustrative purposes, but this embodiment should be viewed as being illustrative only and not as limiting because obviously the invention is capable of other embodiments having revised details of construction, so long as they fall within the ambit of the appended claim.

The invention itself, however, both as to its organization and its method of operation, will best be understood from the following description of a specific embodiment when read in connection with the accompanying drawing, in which:

Fig. 1 is a front view of the device with a portion of the front wall of the casing broken away.

Fig. 2 is a vertical sectional elevation of same taken along a plane indicated by lines 2-2 in Figs. 1 and 4.

Fig. 3 is an elevational view showing the rear wall of same.

Fig. 4 is a top or plan view of same showing parts broken away.

Fig. 5 is a view of the interior, looking toward the rear wall and shows the outer casing or housing in section and a modified form of a part of the control mechanism.

Fig. 6 is a view of the interior showing a part of the casing or housing in section.

Fig. 7 is an elevational section of a tooth brush pocket and is taken substantially along line 7-7 of Fig. 5.

2

Fig. 8 is a fragmentary detail, in elevation, and is taken in a plane along line 8-8 of Fig. 5.

Fig. 9 is an enlarged isometric view of a trigger operating means and shows the part withdrawn from the housing, and

Fig. 10 is a detail, partly in section, of a part of the control mechanism.

Referring in detail to the parts, 11 designates a casing or housing having a front wall 12, side walls 13 and 14, a base 15, a top and roof portion 16 and 17 respectively and a detachable rear wall 18 which is attached to the housing 11 by means of screws 19 engaging through orifices 20 in the rear wall 18. The screws 19 engage within threaded bores in pedestals 21 integrally formed upon the front wall 12 of the housing and extending therethrough to the rear wall 18.

The top portions 16 of the housing are formed with openings 22 which are in vertical alignment with similar openings 23 formed in the base 15. Ridges or low walls 24 and 25 are integrally formed upon the rear wall 18. (Figs. 1, 2 and 6) and are aligned with walls 26 integrally formed upon the housing and extending through same to meet the ridges 24. The walls 26 upon the housing and the aligned ridges 24, together with the side walls 13 and 14, form pockets 27 and 28 through which the handle of a tooth brush may engage and are shown by dot and dash line in Figs. 1 and 7 and by full lines in Fig. 2.

Seated at one end, upon the ridges 24 and 25, in the pockets 27 and 28, there is a flat spring like member 29 which normally, when the tooth brushes are not in the pockets 27 and 28, assumes a position diagonally across the pockets as shown by the dot and dash line in Fig. 2 and by the full lines in Fig. 7. When a tooth brush is inserted through the openings 22 and 23 and the pockets 28, the flat spring 29 is depressed against the rear wall 18, as shown in the above mentioned figures. A cross bar 30, extending from side to side, is secured to the free ends of the flat spring and is depressed when a tooth brush is inserted in the pockets 27 or 28.

The cross bar 30 makes contact with a trigger arm 31 which is pivotally mounted upon the frame of a music playing unit 32 which is secured to the rear wall 18. The trigger arm 31 is prolonged to form a finger 33, the end of which is adapted to be moved into the path of a governor 34 to stop the operating mechanism of the music producing unit or out of the path of same to allow the mechanism to operate.

As hereinbefore stated, with tooth brushes in both pockets 27 and 28, the cross bar 30 is in de-

pressed position and maintains the finger 33 up into the path of the governor 34 thereby holding the music producing mechanism inoperative. Upon withdrawing a tooth brush from its pocket, one end of the cross bar 30 will be released and move outwardly and sufficiently raise the bar 30, at its point of contact with trigger 31, to allow the finger 33 to drop and clear the governor 34 thereby permitting the music producing mechanism to operate. Upon withdrawing the second tooth brush from its pocket the finger 33 will drop still further. Thus, it will be observed, that when either one or both tooth brushes are withdrawn, the music producing unit will operate to produce a musical tune. The operation will stop when both tooth brushes are nested in both pockets.

The music producing mechanical unit is a standard equipment, known to the trade as a Swiss movement, or music box unit, the power spring of which may be wound by means of a winding wheel 35 having a hub 36 secured to the shaft 37 of the spring motor. A pull cord 38 having a tassel 39 is provided to turn the winding wheel. Lugs 40 are integrally formed upon the rear wall 18 and extended outwardly therefrom. Suction cups 41 are attached to the lugs 40 by means of bolts 42 and screws 43 (Fig. 6).

In Figs. 5 to 10, inclusive, there is shown a modified type of cross bar comprising a rocking shaft which is pivotally mounted upon studs 130 integrally formed upon the rear wall 18. The rocking shaft is made in three sections, namely a central section 131 and two end sections 132 and 132' and have swivel connections 133 and 133' at their opposing ends. The swivel connectors 133 and 133' each comprise a tubular sleeve 134 (see Fig. 10) which is fixed to the shaft sections 132 and 132' by pins 135 while the opposing ends of the central shaft section 131 partially rotates within the tubular sleeve 134. A helical spring 136 having one end 137 engaging in a slot 138 while the other end 139 of the spring engages through one of a series of spaced perforations 140 in the shaft section 131. The tension of the spring 136 may be regulated by connecting the end 139 of the helical spring in one of the spaced perforations 140.

A partial rotation is given to the shaft 131 by the flat spring 29, when same is depressed by a tooth brush, as already described, and which is accomplished in this modified form by the engagement of the flat spring 29 with crank end 141 formed upon the outer ends of the shaft section 132'. A similar crank end 142 is formed upon the shaft section 132 which may be depressed by its contact with a flat spring 29. By

depressing the crank 141 the shaft section 132' will partially rotate to raise the finger 33 to a position shown by the heavy broken line 143 (Fig. 9), the opposite crank end 142 upon the shaft section 132 being held stationary and the shaft section turning in the swivel connections 133 and 133' against the pressure of the conical springs 136 which are adjusted to limit the rotative movement to bring the finger 143 to the position shown in Fig. 9. An additional pressure by the depression of the flat spring 29 against the crank end 142 upon the shaft section 132 will bring additional pressure upon the shaft section 131 to give it additional rotary movement and bring the finger 33 up to the position shown by the heavy broken line 144, into the path of the spinning governor 34 and stop the operation of the music producing mechanism. A biasing spring 145 is provided to urge the finger 33 to its normally lowest position. A spring 146, arcuate in shape and having notches 147 corresponding to the three positions of the finger 33, is provided.

The lugs 130 are formed with recesses 148 and are closed by contact with the ends of projecting rod formations 149 upon the housing.

I claim:

In a musical tooth brush holder comprising a housing containing a music producing unit having a locking and releasing trigger thereon, pockets upon the ends of the housing for receiving tooth brushes, actuating means within the pockets, operable by an inserted or withdrawn tooth brush, a rotatable cross bar engageable with the actuating means in the pockets and with trigger of the music producing unit, adapted to be actuated when one or both brushes are inserted within or withdrawn from the pockets, the said rotatable cross bar comprising three sections having swivel connecting means, one end section being fixed to the swivel and the opposing section being pivoted within the swivel, and a helical spring one end of which is attached to the swivel while the other end of the helical spring is secured to the opposing section of the cross bar to allow a limited rotary movement of one section of the cross bar respectively with the opposing section of the cross bar.

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