

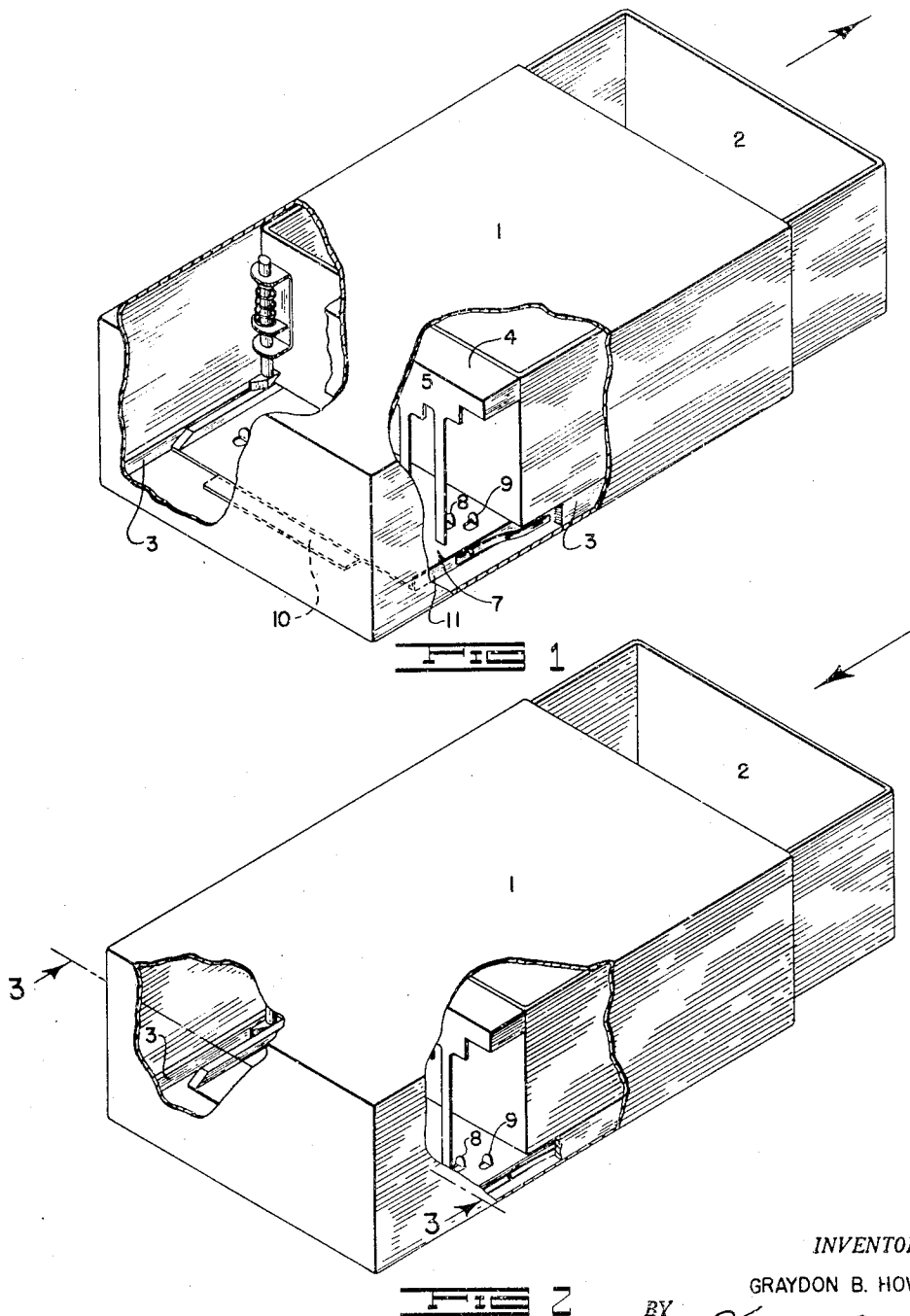
Nov. 8, 1949

G. B. HOWE
MUSICAL GIFT BOX

2,487,138

Filed Dec. 31, 1946

3 Sheets-Sheet 1



INVENTOR.

GRAYDON B. HOWE

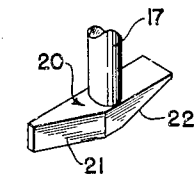
BY

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MUSICAL GIFT BOX

3 Sheets-Sheet 2



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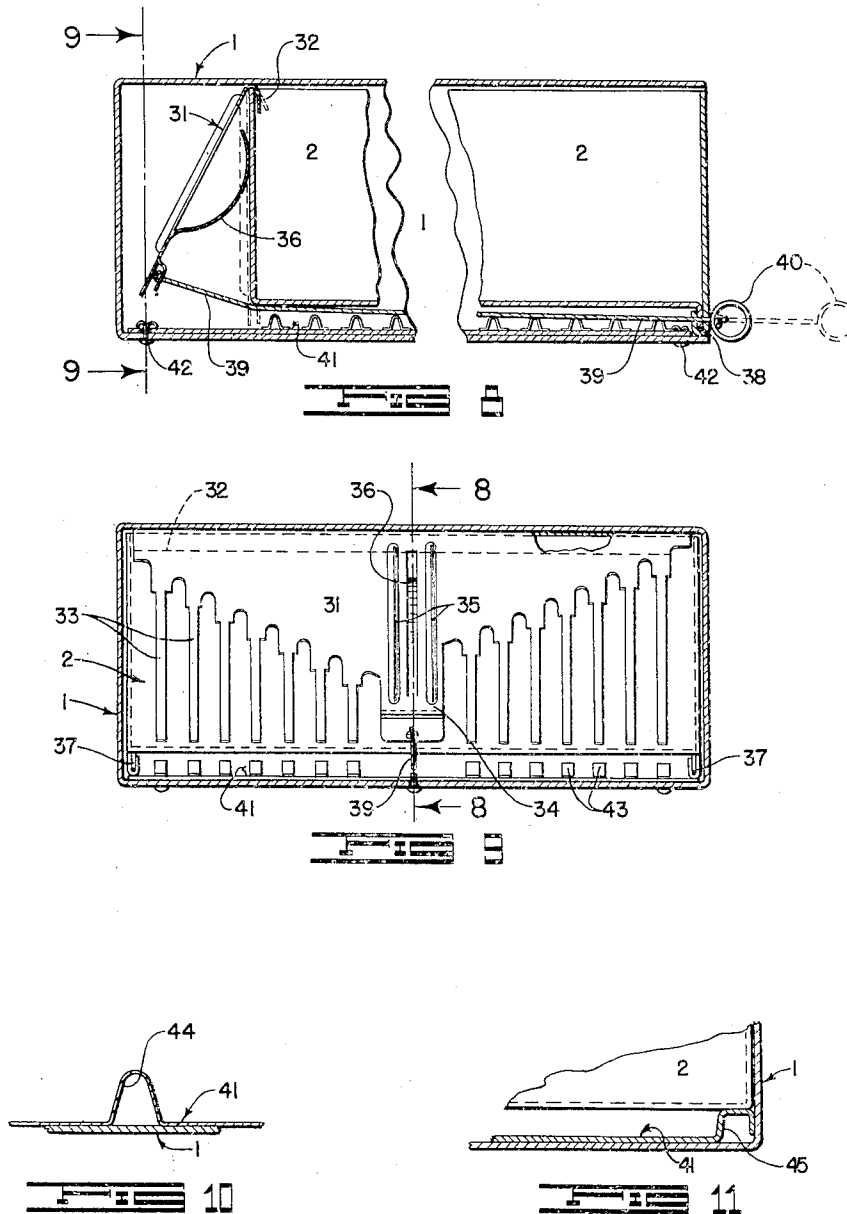
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3 Sheets-Sheet 3



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MUSICAL GIFT BOX

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11 Claims. (Cl. 84-95)

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My invention relates to musical gift boxes, that is to gift boxes such as are suitable for candy which are arranged to play a tune when the box is opened or closed, and included in the objects of my invention are:

First, to provide a musical gift box having a drawer which as it is withdrawn from its case causes a tune to be played and which may be so arranged that when the drawer is returned to its case the tune to continue or another tune to be played.

Second, to provide a music producing means for gift boxes which may be compactly arranged in the back of the drawer and bottom of the box.

Third, to provide a musical gift box which may incorporate bells or chimes to produce a novel musical effect.

Fourth, to provide a musical gift box in which the element which determines the tune to be played is inexpensive and easily interchanged so that a choice may be offered the purchaser enabling a selection of a tune in keeping with the occasion.

With the foregoing and other objects in view, reference is directed to the accompanying drawings in which:

Figure 1 is a perspective view of my musical gift box with portions thereof broken away to illustrate the arrangement of parts as the box is being opened.

Figure 2 is a similar perspective view showing the arrangement of the parts as the box is being closed.

Figure 3 is a sectional view through 3-3 of Figure 2 showing the parts in position assumed as the box is being closed.

Figure 4 is a similar but fragmentary sectional view showing the parts in the position assumed when the box is being opened as in Figure 1.

Figure 5 is a perspective view of the music plate removed from the music box.

Figure 6 is a fragmentary perspective view of the cam shoe employed to shift the music plate.

Figure 7 illustrates a modified form of my music box in which bells or chimes are operated as the box is opened or closed.

Figure 8 is a longitudinal sectional view of a modified form of my musical gift box taken substantially along the line 8-8 of Figure 9.

Figure 9 is a transverse sectional view thereof taken through 9-9 of Figure 8.

Figure 10 is a detailed sectional view of a modified form of trip lug.

Figure 11 is a fragmentary sectional view simi-

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lar to Figure 9 showing a modified form of track or guide for the drawer.

My musical gift box includes a case 1, closed except for one end, and a drawer 2 open at its upper side. I employ the movement of the drawer as it is withdrawn from or moved into the case 1 to actuate music producing means. The drawer 2 rides on rails 3 located along the bottom of the case 1 adjacent its sides. The rear end of the drawer 2 is provided along its upper margin with a bracket 4 to which is secured a reed plate 5. Depending from the reed plate 5 are reeds 6 of different predetermined lengths, their lower extremities however being spaced an equal distance from the bottom of the case 1.

Mounted on the bottom of the case 1 is a music plate 7 having sets of trip lugs 8 and 9 extending upwardly therefrom. As will be brought out hereinafter the music plate is adapted to be shifted laterally so that either of the set of trip lugs 8 or 9 may be brought into registry with the series of reeds 6. The trip lugs may be formed by cutting U-shaped slits in the music plate and bending the tongues thus formed upwardly as shown best in Figure 5. The rows or sets of lugs are so disposed along the length of the plate 7 that the reeds 6 may be engaged in any desired sequence as the drawer 2 is pulled from the case 1. By selecting the arrangement of the trip lugs a wide variety of simple tunes may be played as the drawer is opened or closed.

The music plate 7 may be fixed to the bottom of the case 1. If this is done, only one set of trip lugs is required, but the tune will be played backwards as the drawer is closed. In order to avoid this and at the same time enable one to play a continuation of the tune or a different tune as the drawer is being closed it is preferred to arrange the music plate 7 so that it may be shifted laterally in a manner to present one set of lugs for engagement by the reeds when the drawer is withdrawn and to present another set when the drawer is closed.

For this purpose the music plate 7 is mounted between transversely extending guide strips 10 secured to the bottom of the case 1 so that the reed plate is held against forward and rearward movement but is capable of lateral movement. One longitudinal margin of the music plate 7 is provided with an upturned flange 11 which confronts one of the rails 3. Leaf springs 12 tend to hold the music plate away from this rail and against the opposite rail 3, that is, in the position shown in Figures 1 and 4. The margin of the music plate opposite from the flange 11 is

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provided with a rib 13 which forms a cam track. The rear extremity of the cam track is provided with a downwardly sloping bevel 14, whereas the forward extremity of the cam track is provided with a laterally sloping bevel 15.

The inner end of the drawer 2 is provided over the cam track 13 with a guide bracket 16 which slidably supports a vertical stem 17. The stem is provided with a collar 18 and a spring 19, so arranged as to urge the stem 17 downwardly. The lower extremity of the stem 17 carries a cam shoe 20 having a rearwardly directed wedging bevel 21 and a forwardly and upwardly sloping elevating bevel 22. The coaction of the cam shoe and cam track to effect movement of the music plate 7 is as follows:

When the drawer is closed, the shoe is located rearwardly of the music plate 7 so that the springs 12 urge the music plate to the left as viewed in the several drawings. When the drawer is withdrawn, the cam shoe 20 by reason of the beveled portions 22 and 14 rides upwardly onto the top of the cam track 13 as shown in Figures 1 and 4. During outward movement of the drawer 2 the set of trip lugs 9 are in alignment with the reeds 6. When the drawer has been withdrawn, almost, but not quite to the point of clearing the case 1, the cam shoe 20 clears the forward or outer end of the cam track 13 and drops downward. When the drawer 2 is subsequently returned into the case, the cam shoe by means of the beveled portions 21 and 15 wedges between the cam track 13 and adjacent rail 3 to move the music plate 7 to the right as viewed in the drawings bringing the trip lug set 8 into registry with the reeds 6. When the drawer 2 is closed, the cam shoe clears the music plate allowing it to return to its initial position.

The number of reeds, their sizes and lengths, are chosen to produce the range of notes desired and various music plates may be substituted one for the other to provide predetermined tunes. It will be observed that the music plate may be easily inserted or removed from the case when the drawer 2 is withdrawn so that various tunes may be selected.

With reference to Figure 7, tines 23 may be substituted for the reeds 6. The tines 23 are not designed, of themselves, to produce notes, but are arranged to support bells 24 selected as to size to produce the various notes. When the tines are tripped by the lugs 8 or 9, the bells carried thereby are caused to ring and by this means a tune may be played by the bells as the drawer is opened or closed.

Reference is now directed to the structure shown in Figures 8 to 11 inclusive.

In this embodiment of my invention, a reed plate 31 is provided, the upper margin of which is folded as indicated by 32 so that the reed plate may be hooked over the upper edge of the inner end of the drawer 2 so that when the drawer is within the case 1 the plate is, in effect, hinged to the drawer and capable of limited pivotal movement.

The reed plate is provided with a plurality of depending reeds 33 and a tongue 34 which, when the reed plate lies against the inner wall of the drawer 2, as shown by dotted lines in Figure 8, protrude slightly below the bottom of the drawer. The tongue 34 may be bordered by stiffening ribs 35. A leaf spring 36 is formed by cutting an appropriate slit in the reed plate, and this spring is bent forwardly to engage the back wall of the

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drawer 2 so as to hold the reed plate 31 in the inclined position shown by solid lines in Figure 8.

The drawer 2, as shown in Figures 8 and 9, is provided with side flanges 37 which support the bottom of the drawer upwardly from the bottom of the case 1. The space thus formed is closed by a front flange 38. A pull cord 39 is secured to the lower end of the tongue 34 and extends forwardly under the drawer 2 and through the front flange 38. The protruding end of the pull cord is attached to a pull ring 40. Thus, when the drawer is opened by pulling on the ring 40, the reed plate is moved from the inoperative solid line position shown in Figure 8 to the operative dotted line position.

A music plate 41 is secured to the bottom of the case 1. This may be done by suitable staples 42 which may also serve as glides for the case 1. The staples may be such that they may be fastened by hand so that the music plate may be inserted at the time of purchase of the gift box.

The music plate may be provided with trip lugs such as shown in the first described structure. By way of variation, these lugs are shown as spot welded lugs 43. Alternatively, the lugs may be unbroken upwardly pressed members as indicated by 44 in Figure 10.

It will be observed that when the drawer 2 is opened by pulling on the ring 40, the reed plate is held adjacent the back of the drawer 2 so that the reeds are engaged in sequence by the trip lugs or actuating elements. It should be observed, of course, that the reeds should be held sufficiently away from the back of the drawer 2 to prevent engagement therewith as they vibrate. This is accomplished by offsetting the reeds slightly from the reed plate or by providing an offset in the tongue 34.

Reference is directed to Figure 11. Here, the side flanges 37 of the drawer are omitted and, instead, the side margins of the music plate 41 are provided with upwardly offset tracks 45.

Many other embodiments of the invention may be resorted to without departing from the spirit of the invention.

I claim:

1. A musical gift box comprising: a case; a drawer; a plurality of sound producing elements disposed across the inner end of said drawer and adapted to trace parallel courses along and contiguous to a wall of said case as the drawer is opened and closed; a music producing member removably mounted along said wall and including a plurality of actuating elements arranged in a predetermined order in rows corresponding to the paths of said sound producing elements whereby, on moving said drawer relative to said case, said sound producing elements are engaged to produce a tune.

2. A musical gift box comprising: a case; a drawer; a plurality of reeds of different natural vibration frequencies mounted along the inner end of said drawer and having free extremities in proximity to a wall of said case to trace parallel courses along said wall as said drawer is moved; a plate member mounted along said wall and having projections arranged in rows corresponding to the paths of said reeds for momentarily engaging said reeds as said drawer is moved relative to said case.

3. A sound producing means adapted to be incorporated in a gift box including a case and a drawer, said sound producing means comprising: a mounting plate pivotally connected with the inner end of said drawer; a plurality of sound

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producing elements carried thereby; yieldable means for holding said elements in an inoperative position; a music plate installed in said case and having means for actuating said elements; and means accessible from the exterior of said box for moving said sound producing elements into operative rotation with said music plate as said drawer is opened.

4. A sound producing means adapted to be incorporated in a gift box including a case and a drawer, said sound producing means comprising: a music plate secured in said case and having a plurality of actuators; a reed plate pivotally connected with the inner end of said drawer and including a plurality of reeds engageable with said actuators, and means normally holding said reed plate in a position to cause said reeds to clear said actuators; and means accessible from the exterior of said drawer for moving said plate to effect engagement of said reeds by said actuators as said drawer is opened.

5. A musical gift box comprising: a case open at one end; a drawer; a plurality of sound producing elements disposed across the inner end of said drawer; a removable plate containing a set of actuating elements engageable by said sound producing elements to produce sounds; selective means for causing operative engagement of said elements when said drawer is moved in one direction and disengagement when the drawer is moved in the opposite direction.

6. A musical gift box comprising: a case open at one end; a drawer; a plurality of sound producing elements disposed across the inner end of said drawer; a removable plate containing a set of actuating elements engageable by said sound producing elements to produce sounds; and means accessible from the front of said drawer to move said sound producing elements between an inoperative position and an operative position relative to said set of actuating elements.

7. A musical gift box as set forth in claim 1 wherein: said sound producing elements include bells and means for shaking them, and said ac-

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tuating elements momentarily engage said means to shake said bells.

8. A musical gift box as set forth in claim 1 wherein: said sound producing elements include reeds having preset natural periods of vibration and said actuating elements momentarily engage said reeds to set them vibrating at their natural frequencies.

9. A musical gift box comprising: a case; a drawer; a plurality of sound producing elements disposed across the inner end of said drawer and adapted to trace parallel courses along and contiguous to a wall of said case as the drawer is opened and closed; a plate member mounted along said wall and having two sets of projections each arranged in rows; yieldable means for normally positioning said plate to register one of said sets of projections with said sound producing elements; cam and cam operating means carried by said plate and said drawer for shifting said plate to register the other set of projections with said sound producing elements.

10. A musical gift box as set forth in claim 9 wherein: said sound producing elements include reeds having preselected natural periods of vibration.

11. A musical gift box as set forth in claim 9 wherein: said sound producing elements include bells, and means for shaking them.

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