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LeRoux

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(54) **CHROMATIC TAMBIN AND RELATED METHODS**

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(51) **Int. Cl.**
G10D 7/02 (2006.01)

(52) **U.S. Cl.**
USPC **84/384**; 84/330

(58) **Field of Classification Search**
USPC 84/384, 330
See application file for complete search history.

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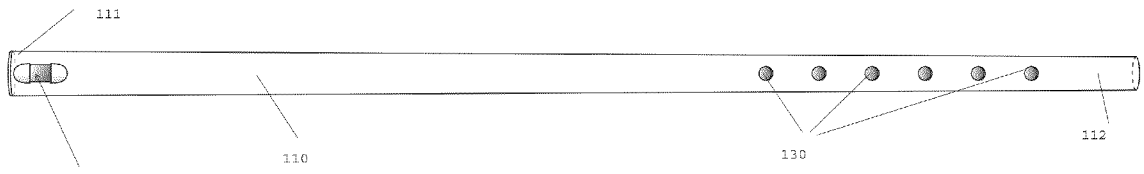
(57) **ABSTRACT**

The disclosed tambin generally features: a hollow tubiform body that is generally conical; a plug for blocking the wide end of the body; an embouchure that is adjacent to the wide end of the body; and six finger holes that are spaced along the body toward its pointed end.

17 Claims, 9 Drawing Sheets



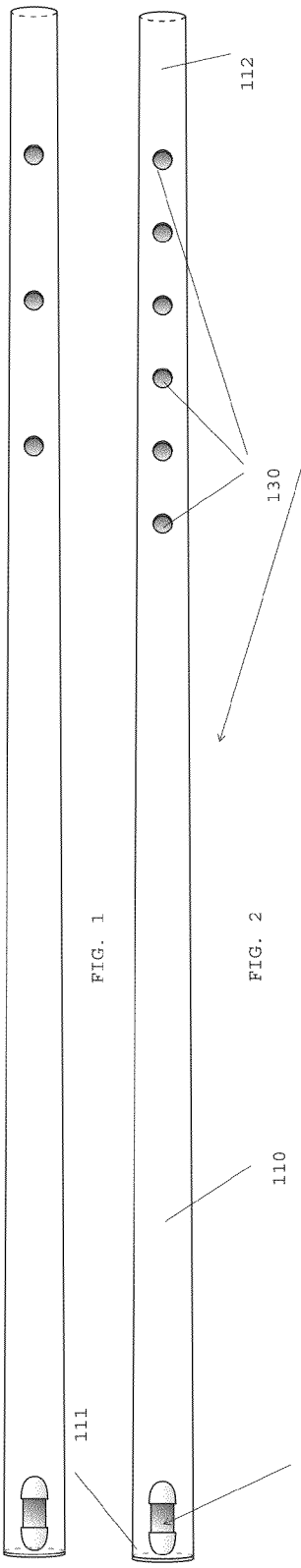


FIG. 1

FIG. 2

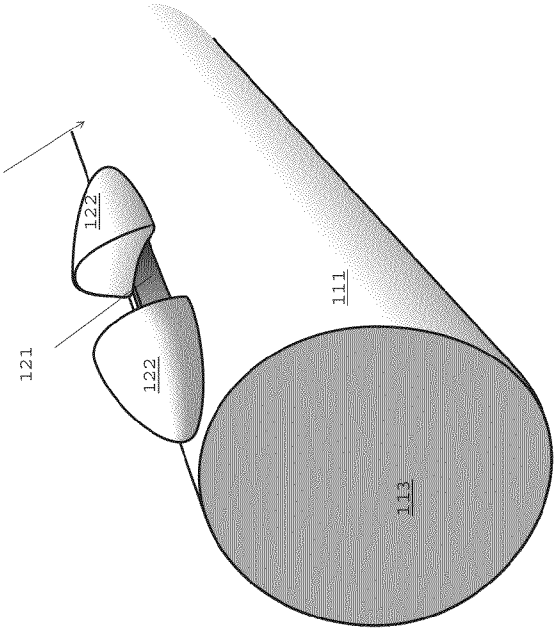


FIG. 3B

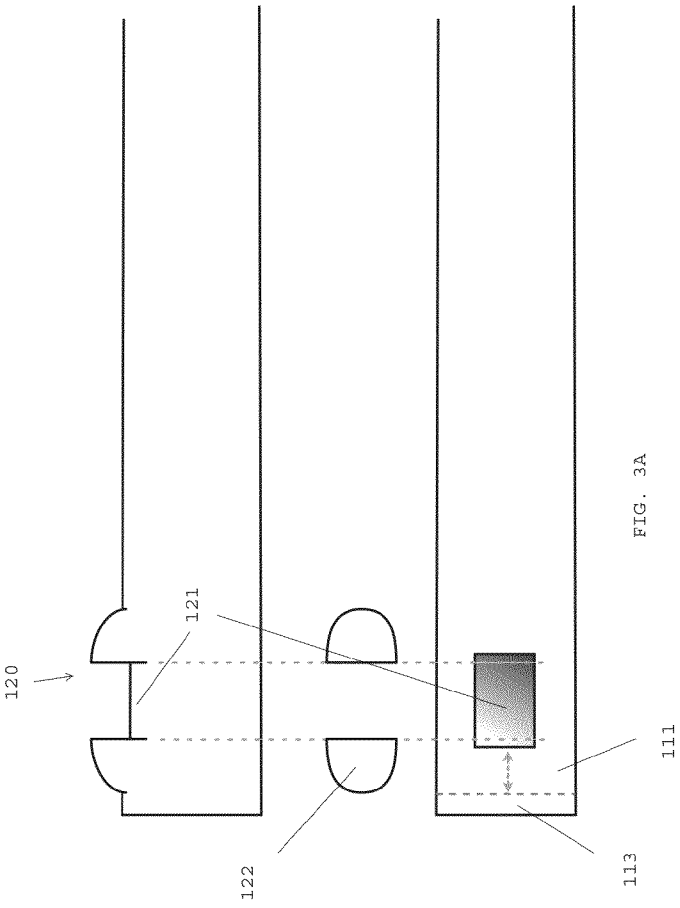


FIG. 3A

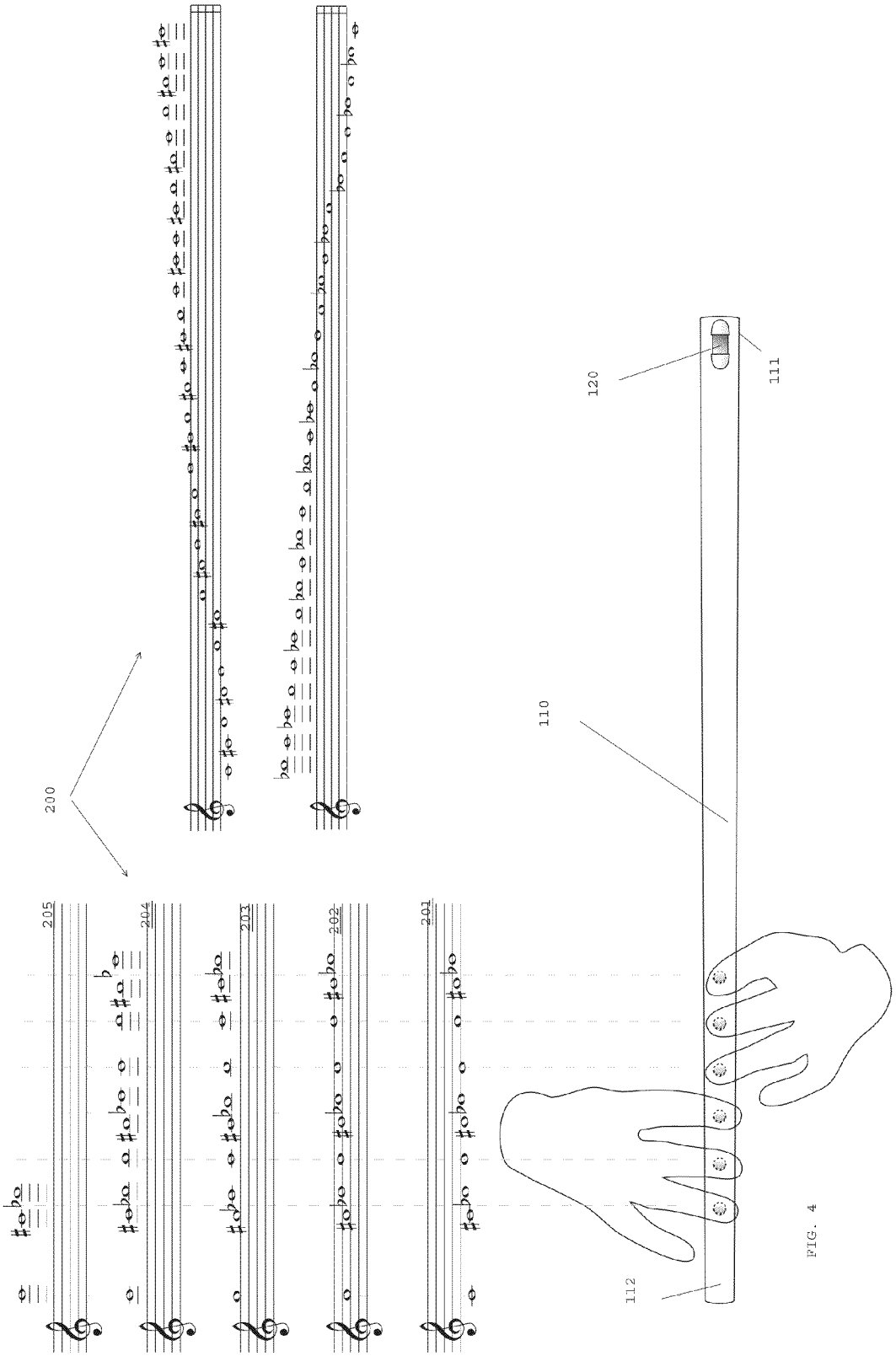


FIG. 4

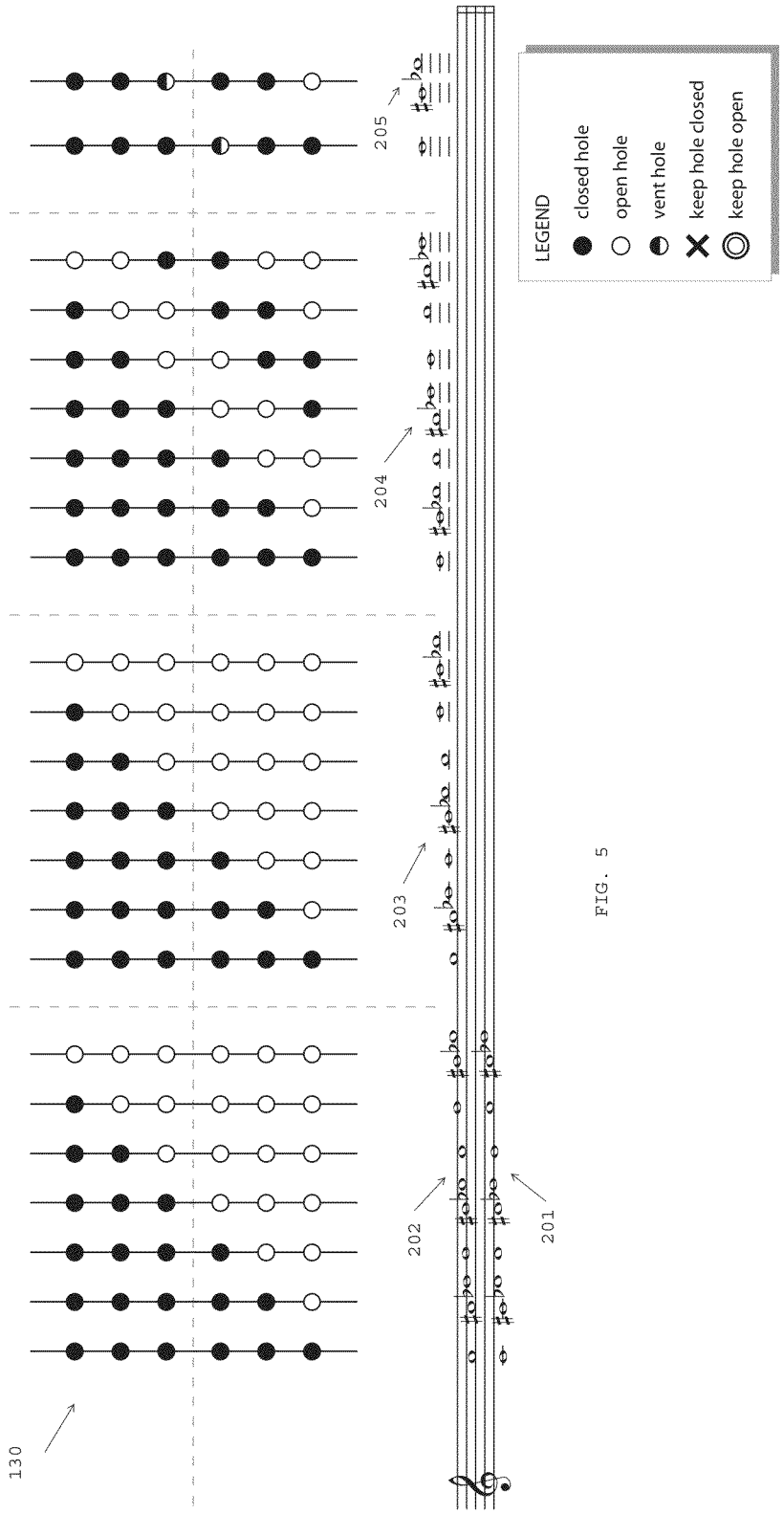

LEGEND
closed hole
open hole
vent hole
keep hole closed
keep hole open
130
201
202
203
204
205

FIG. 5

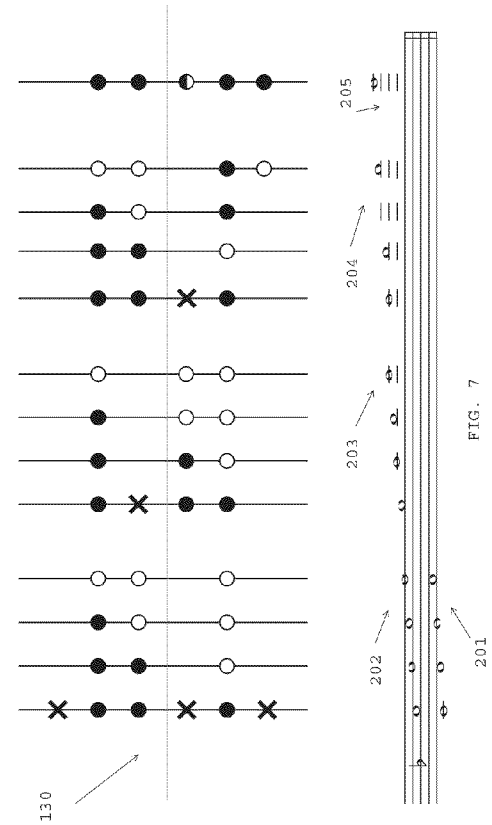


FIG. 7

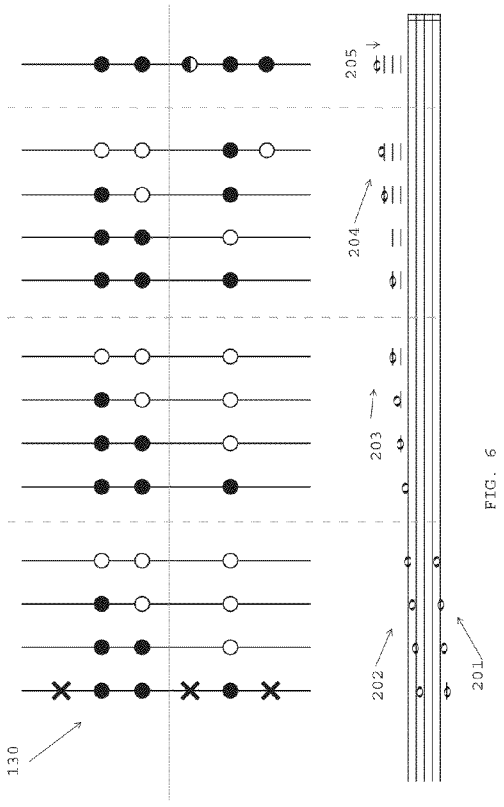


FIG. 6

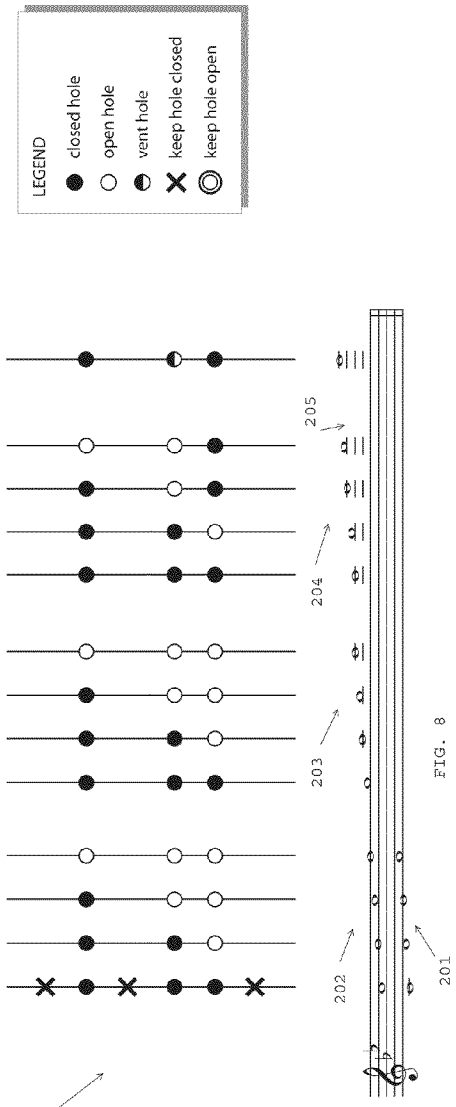


FIG. 8

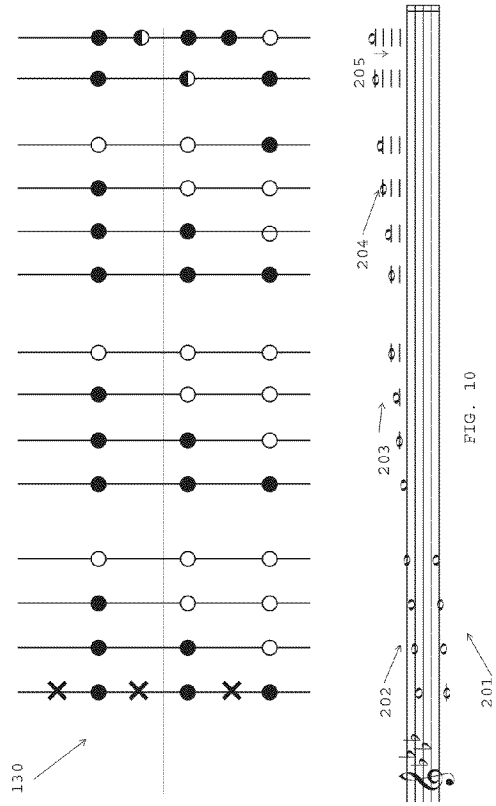


FIG. 10

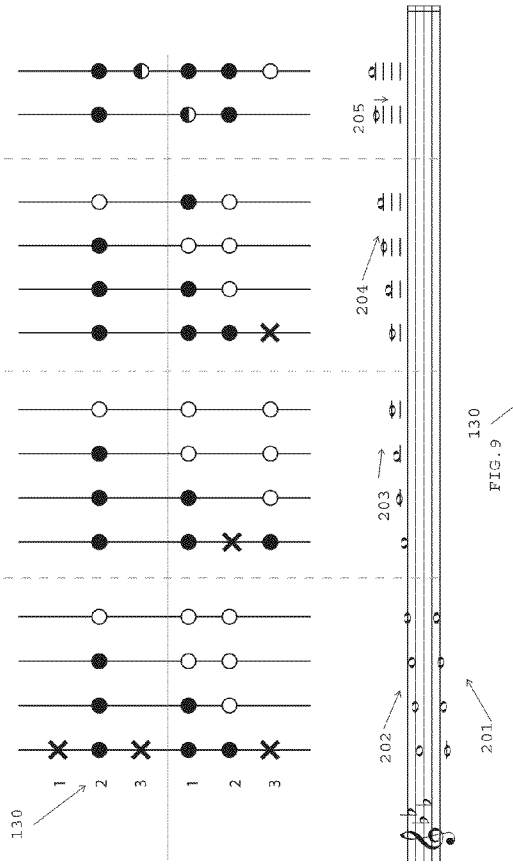
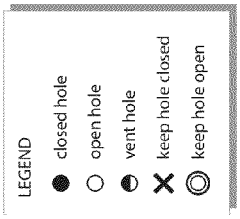


FIG. 9



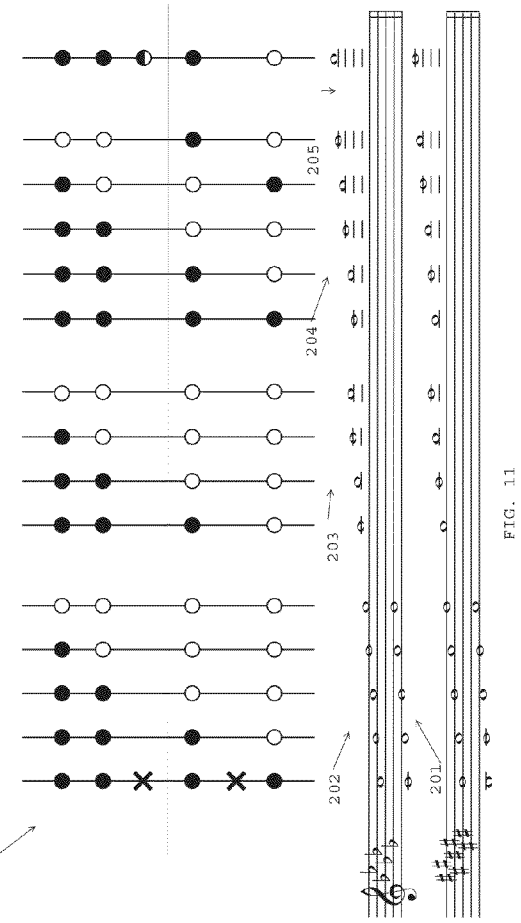


FIG. 11

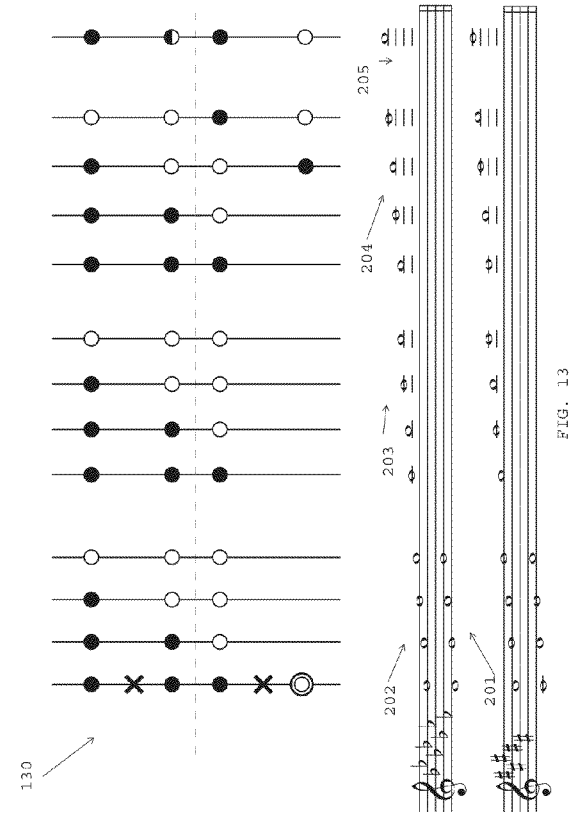


FIG. 13

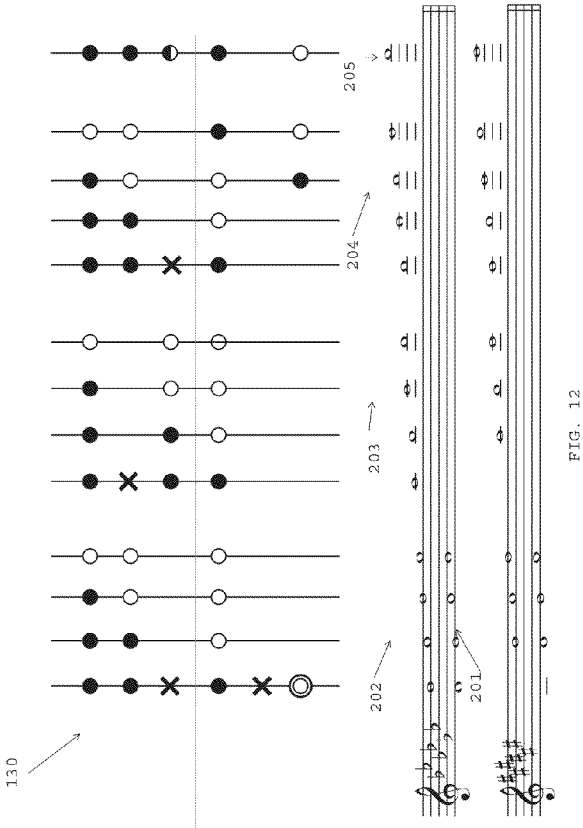


FIG. 12

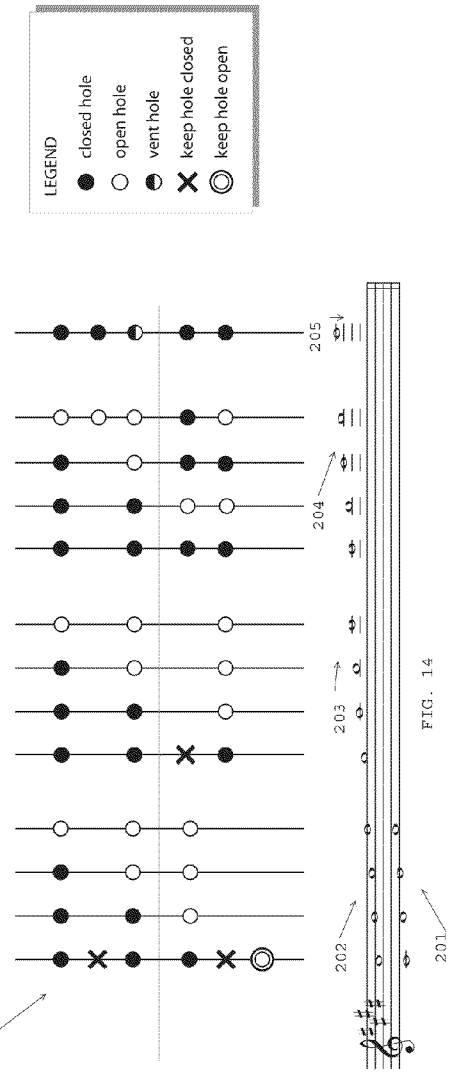


FIG. 14

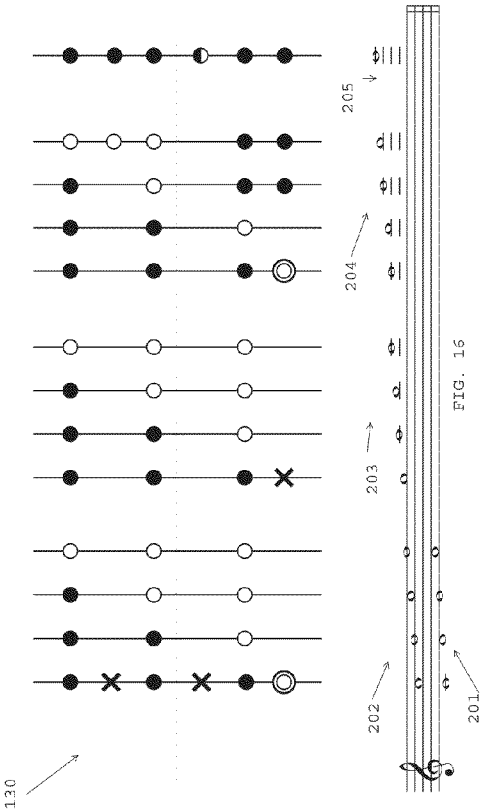


FIG. 16

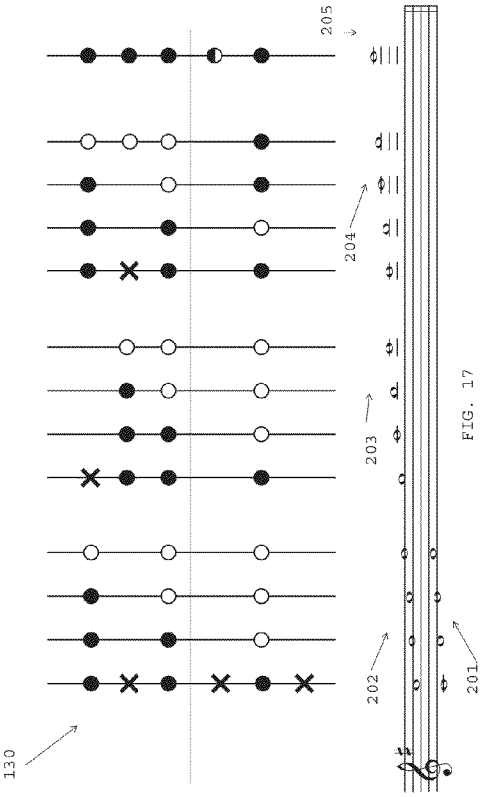


FIG. 17

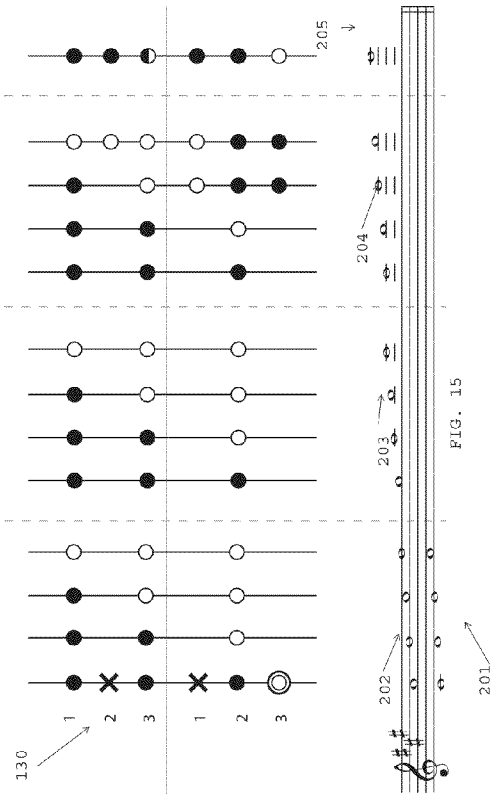


FIG. 15

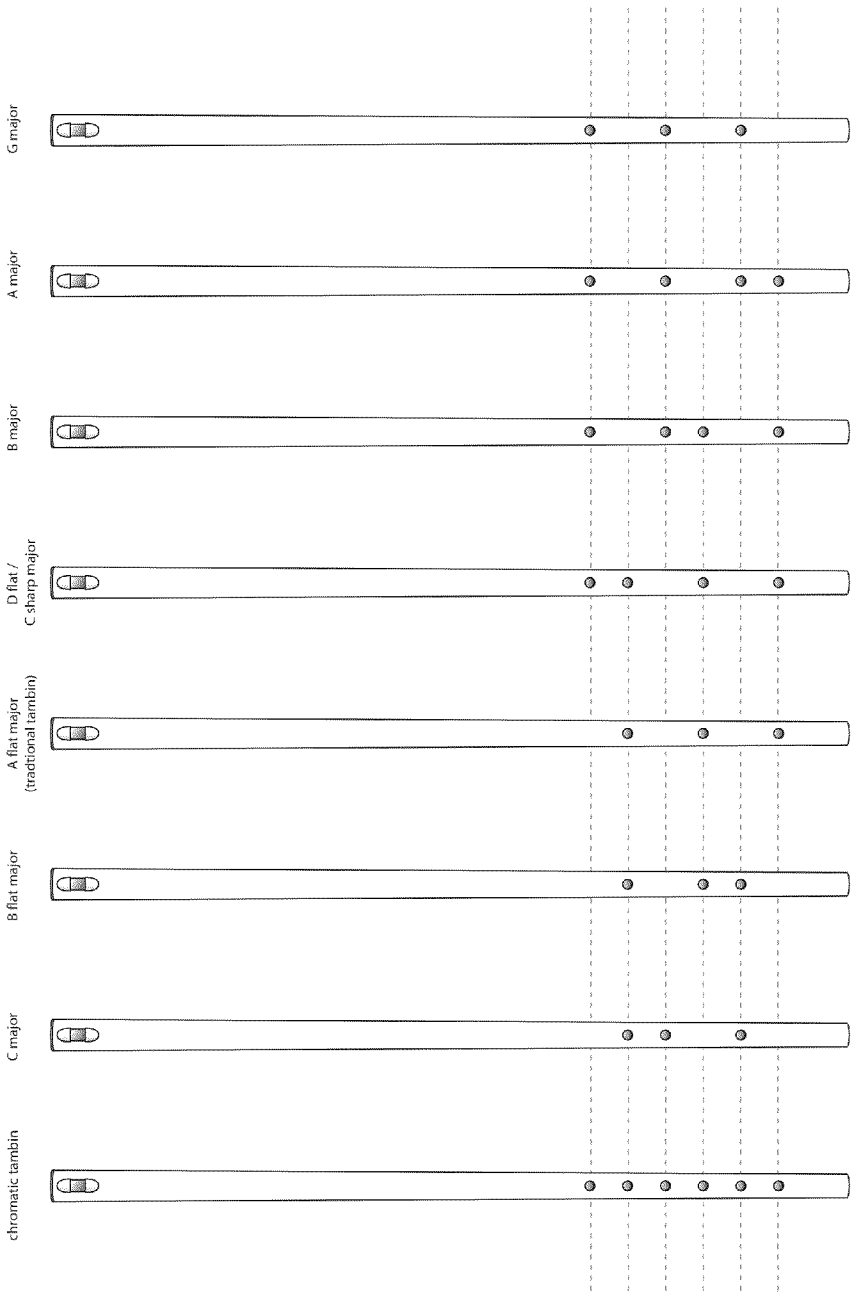

G major
A major
B major
D flat / C sharp major
A flat major (traditional tambin)
B flat major
C major
chromatic tambin

FIG. 18

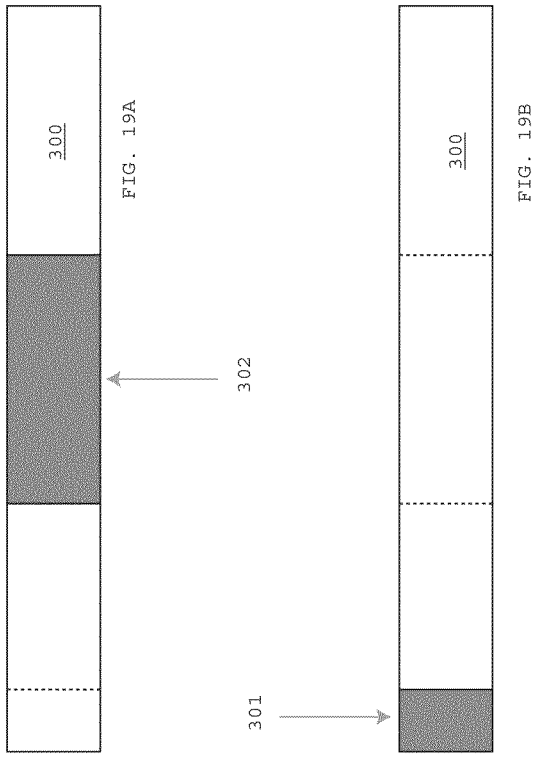


FIG. 19A

FIG. 19B

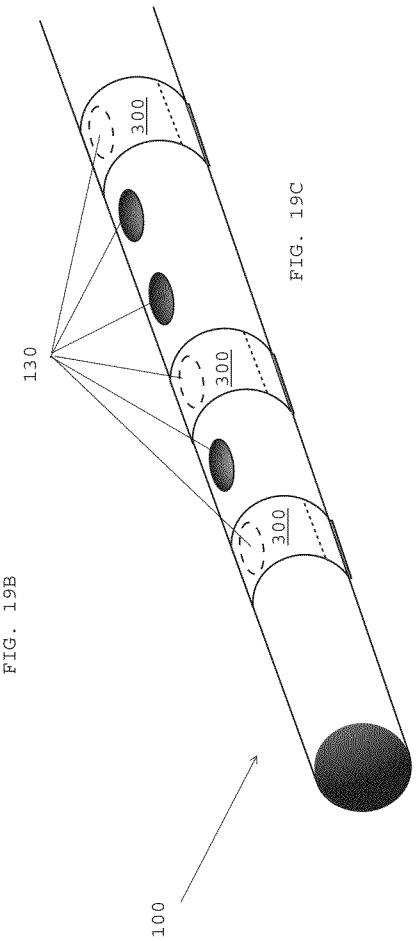


FIG. 19C

CHROMATIC TAMBIN AND RELATED METHODS

CROSS-REFERENCE TO RELATED APPLICATIONS

Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable.

BACKGROUND OF THE INVENTION

1. Field of Invention

This application is in the field of musical instruments, including woodwind instruments.

2. Background.

The classic tambin (depicted in FIG. **1**) is a woodwind instrument from Guinea, West-Africa. Structurally, the classic tambin has a conical (or cylindrical) and tubiform body with a plugged wide end (typically of one inch diameter), known colloquially as the "head," and an open pointed end (typically of five eighths inch diameter), known colloquially as the "foot". The classic tambin typically features: a large, winged, and rectangular embouchure with a bee's wax chamber adjacent to the head and three finger holes toward the foot. Operably, the classic tambin produces one complete diatonic scale with seven notes over one and a half octaves, wherein the notes are typically within the second to fourth registers.

The classic tambin produces powerfully haunting and "organic" sounds which may be incorporated into musical compositions. Regardless of the quality or character of classic tambin sounds, music composers may not be able to introduce tambin sounds into their musical compositions since the tambin is limited by its diatonic scale and register range. Said limitations are particularly evident to composers of Jazz, Blues, and other contemporary or non-african music styles. The tambin is, thus, not entirely a satisfactory woodwind instrument for some musical composers since such composers must either prepare tambin specific musical compositions or forgo introducing tambin sounds into their music whenever the composition is beyond the tambin's register or scale.

Other unsatisfactory aspects of the classic tambin also exist with regard to tambin tuning. Typically a tambin's tune is defined by either (a) the specific location of the finger holes along its body or (b) the length of the body. As a result, tambin tuning may be problematic for a musician since the musician must either carry multiple tambins of different tuning (i.e., tambins with different hole placement or lengths) or carry a single tambin whereby the musician is restricted to a single tambin tune.

SUMMARY OF THE INVENTION

In view of the foregoing, it is an object of this application to disclose a woodwind instrument that produces tambin sounds over a chromatic scale and beyond the fourth register. It is also an object of this application to disclose a woodwind instrument that may be tuned. It is a further object of this application to disclose a woodwind instrument that may be used to produce all the chromatic notes with only six finger holes. It is yet still an object of the invention to disclose a tambin which produces a chromatic scale without resorting to half-holes and forked fingerings, unlike other woodwind instruments with six or seven finger holes. In one preferable embodiment, the wood wind instrument disclosed herein features: a hollow tubiform body that is generally lengthwise conical; a plug for blocking the wide end of the body; an embouchure that is adjacent to the wide end of the body; between four and six finger holes that are spaced along the body toward its pointed end. Operably, the disclosed instrument may be tuned by selectively blocking one or more of the holes (e.g., by covering the hole with tape or other decorative ornamentation).

BRIEF DESCRIPTION OF THE FIGURES

The manner in which these objectives and other desirable characteristics can be obtained is better explained in the following description and attached figures in which:

FIG. **1** is a plan view of a traditional or classic tambin;

FIG. **2** is a plan view of a chromatic tambin **100**;

FIG. **3**A is a cross-section and exploded view of the head **200** of the tambin **100** of FIG. **2**;

FIG. **3**B is a perspective view of the head **200** of the tambin **100** of FIG. **2**;

FIG. **4** is an illustration of a right-handed position for holding a tambin; and,

FIGS. **5** through **17** respectively illustrate finger placements for the notes in the chromatic scale (FIG. **5**), the C major scale (FIG. **6**), the F major scale (FIG. **7**), the B flat major scale (FIG. **9**), the E flat major scale (FIG. **10**), the A flat major scale (FIG. **11**), the D flat major scale (FIG. **12**), the G flat/F sharp major scale (FIG. **12**), the C flat/B major scale (FIG. **13**), the F major scale (FIG. **14**), the A major scale (FIG. **15**), the D major scale (FIG. **16**), and the G major scale (FIG. **17**);

FIG. **18** is a diagram of variously tuned tambins; and,

FIG. **19**A through **19**C are respectively top, bottom, and environmental views of a plug for a finger hole of a tambin.

It is to be noted, however, that the appended figures illustrate only a typical embodiment of the invention. As a result, the figures are not to be considered limiting of the scope of the underlying invention. That is to say, the disclosed invention may admit to other equally effective embodiments that will be appreciated by those reasonably skilled in the relevant arts and the drawings are not necessarily drawn to scale.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

This specification discloses a tambin that produces sounds over a chromatic scale and beyond the fourth register. The disclosed tambin generally features: a hollow tubiform body that is generally conical; a plug for blocking the wide end of the body; an embouchure that is adjacent to the wide end of the body; and between three and six finger holes that are spaced along the body toward its pointed end. Operably, the disclosed instrument may be tuned by selectively blocking one or more of the holes (e.g., by covering the hole with tape or other decorative ornamentation). The more specific structural and operable details of the tambin are disclosed with reference to the figures.

FIG. **2** is a plan view of a chromatic tambin **100**. As seen in the figure, the tambin **100** is defined by (1) a body **110** with a head **111** and a foot **112**, (2) a embouchure **120** (defined by a blow-hole **121** and wings **122**) adjacent to the head **111**, and (3) finger holes spaced along the foot **112** of the body **110**.

Referring still to FIG. **2**, the body **110** is a conical tubiform with the head **111** defining the widest end and the foot defining the narrowest end **110**. Suitably: a "C" scale tambin **100** may feature a body **110** that is twenty-six and six hundred and

seventy-five thousandths inches in length, is one inch in diameter at the head **111**, and is three-quarters of an inch in diameter at its foot; a "B" scale tambin **100** may feature a body **110** that is twenty-five and one hundred and twenty-five thousandths inches in length, is one inch in diameter at the head **111**, and is three-quarters of an inch in diameter at its foot; a "A#" scale tambin **100** may feature a body **110** that is twenty-seven and eight hundred and seventy-five thousandths inches in length, is one inch in diameter at the head **111**, and is three-quarters of an inch in diameter at its foot; and, a "A" scale tambin **100** may feature a body **110** that is twenty-nine and six hundred and seventy-five thousandths inches in length, is one inch in diameter at the head **111**, and is three-quarters of an inch in diameter at its foot. Suitably, the body **110** may be formed of wood, metal, plastic, or glass. Preferably the head **111** of the body is plugged with a plug **113**. In the "C" scale tambin **100**, the plug **113** is preferably only configured to extend from the head to within the body's **110** tubiform for a distance of one hundred and twenty-five thousandths inches in length. As discussed further below, the body **110** is provided with an embouchure **120** and finger holes **130**.

FIGS. **3**A and **3**B are respectively a diagram and perspective view of the embouchure **120** adjacent to the head **111** of the body **110**. As seen in the figure, the embouchure **120** is defined by a blow-hole **121** and wings **122**. The blow-hole **121** may preferably be a rectangular cut-out through the wall of the body **110**. The wings **122** may be preferably positioned on either side of the blow-hole **121**. Operably, a musician may put his or her mouth over the blow-hole **121** so that the wings **122** interact with the musician's lips to create a chamber at the mouth of the player, which chamber enables the clear production of notes (without the wings sound would be unfocused and unstable). In the "C" scale tambin **100**: the blow-hole **121** is rectangular (three-hundred and seventy-five thousandths of an inch by one half of an inch) positioned lengthwise on adjacent to the head **111** of the body **110** one-half of an inch from the edge of the body **110**; and, the wings **122** are made of bees wax (or similar material like molded plastic, metal, glass, integrated with the body of the flute, and etcetera), semi elliptical, one quarter inch high (relative to the outer surface of the body **100**), and six-hundred and twenty-five thousandths of an inch in length, and just wider than the blow-hole **121**.

Referring once again to FIG. **2**, the tambin **100** preferably features finger holes **130** along the foot **112** side of the body **110**. Suitably, the finger holes **130** may be defined by round cut-outs through the wall of the body **110**. In a preferable embodiment, six finger holes **130** are provided to the tambin **100**. In a "C" scale tambin **100**. The finger holes **100** may be five sixteenths of an inch in diameter and spaced approximately one inch apart with the center of the first hole being positioned two inches from the foot **130**-side edge of the body **110**. Operably, the finger holes **130** are configured to be covered (in whole or in part (i.e., partially covered or vented)) by the finger tips of a musician. Alternatively, a finger hole may be continuously covered by tape or another type of plug.

Operably, a musician may play the tambin **100** via blowing into the embouchure **120** while selectively covering the finger holes **130** to change the note and/or pitch of the sound emitted from the tambin **100**. FIG. **4** is a diagram for right-handed placement on a tambin **120**. As shown in the drawings, a preferable finger placement is: with the right index finger on the third finger-hole **130** from the foot **112**, the right middle finger on the second finger hole **130** from the foot **112**, and the right ring finger on the closest finger hole to the foot; and, with the left index finger on the sixth finger hole from the foot, the left middle finger on the fifth finger hole **130** from the foot **112**, and the left ring finger on the fourth finger hole **130** from the foot **112**. Although not shown in the drawing, a musician's thumb may be positioned underneath the tambin **100** to support the instrument while it is being played.

The range **200** of a "C" scale tambin **100** is also depicted in FIG. **4**. Above the finger holes in the drawings, the range **200** is broken down into registers with the first register **201** being shown underneath the second register **202**, the second register **202** being shown underneath the third register **203**, the third register being shown underneath the fourth register, and the fourth register **204** being shown beneath the fifth register **205**. The notes capable of being achieved within each register using the tambin **100** are illustrated in the usual manner known in the industry (it should be noted: however that the last two notes of the third register have the same pitch as the first two notes of the fourth register because c sharp and d flat are the same note).

FIGS. **5** through **17** are diagrams of finger placements for all the notes of a variously scaled tambins **100**. In the figures, the six finger holes **130** are represented above the note with the finger hole closest to the foot positioned closest to the scale and wherein the particular configuration of the finger holes results in the corresponding note. The applicable configuration of the finger holes **130** of a tambin **100** are represented by: (1) a black circle for a closed finger hole **130**; (2) a white circle for an open hole; (3) a half black circle for a vented (e.g., partially closed) finger hole **130**; an "X" for a continuously closed finger hole **130**; and a double circle for a continuously open finger hole **130**. FIGS. **5** through **17** respectively illustrate finger placements for the notes in the chromatic scale (FIG. **5**) (note: some pitches in the fourth **204** and fifth **205** registers may require the use of forked fingerings and vented holes), the C major scale (FIG. **6**) (note: when the holes are marked with an X the hole is preferably plugged and the finger corresponding to the blocked finger hole may be placed on the plug or the tambin), the F major scale (FIG. **7**), the B flat major scale (FIG. **9**), the E flat major scale (FIG. **10**), the A flat major scale (FIG. **11**), the D flat major scale (FIG. **12**), the G flat/F sharp major scale (FIG. **12**), the C flat/B major scale (FIG. **13**), the F major scale (FIG. **14**), the A major scale (FIG. **15**), the D major scale (FIG. **16**), and the G major scale (FIG. **17**). In the figures, the basic finger positions are represented by the first finger-hole column on the far left and the notes of each scale are grouped according to the applicable register (**201** through **205**). FIG. **18** is a diagram of tambins configured to the various scales (from left to right the chromatic, the C major, the B flat, the A flat major (traditional), D flat or C sharp major, B major, A major, and G major).

As a discussed above, a musician using the disclosed tambin **100** may be desirous of continuously covering a finger hole **130** by tape (e.g., electrical tape) or another type of plug rather than continuously positioning his or her finger over the hole. In one embodiment a plug for continuously covering a finger hole **130** may be defined by a strap **300** with hooks **301** and loops **302** (e.g., Velcro®) as a means for securing the strap over a finger hole. FIGS. **19**A through **19**C are respectively front, back, and environmental views of such a strap. As shown in FIGS. **19**A and **19**B, the strap **300** is preferably a rubber ribbon with a plurality of loops **302** adhered to its midsection on one side and a plurality of hooks **301** adhered to one of its tips on the other side. Operably, the strap **300** may be: first, wrapped around a tambin **100** with the hoops **300** facing outward and so that the strap **100** is positioned over one of the finger holes **130**; second, the strap **300** may be pulled taut so that the finger hole **130** and strap **100** interface is

air-tight; and third, the hooks may be coupled with the loops to hold the strap **300** taut. The result of said operation is depicted in FIG. **19**C wherein three of the depicted tambin's **100** finger holes **130** are covered by the straps **300**.

This specification and the appended figures illustrate only typical embodiments or principles disclosed in this application, and therefore, are not to be considered limiting of its scope, for the invention may admit to other equally effective embodiments that will be appreciated by those reasonably skilled in the relevant arts. Any invention disclosed by this specification is defined by the claims.

I claim:

1. A tambin comprising:
a body that is configured with
a conical tubiform,
a head defining the widest end,
a foot defining the narrowest end; and
wherein the body is from any of the group of materials consisting essentially of:
wood, metal, plastic, or glass;
a plug for the wider side of the conical tubiform of the body;
a chambered embouchure adjacent to the plug wherein said embouchure is defined by:
a blow-hole rectangular cut-out through the wall of the body, and
two wings positioned on either side of the blow-hole wherein said wings are:
integrated with the body of the flute,
raised relative to the outer surface of the body,
semi elliptical,
wider than the blow-hole, and
comprised from any of the group of materials consisting essentially of:
bees wax,
plastic,
metal, or
glass; and,
six finger holes positioned along the length of the conical tubiform of the body wherein said finger holes are:
enabled for the production of a full chromatic scale over a range of one and a half octaves,
defined by round cut-outs through the wall of the body, and
configured to be at least partially covered by any of:
finger tips,
tape, or
plug.

2. A method of tuning a tambin comprising the steps of:
obtaining a tambin with:
a body that is configured with
a conical tubiform,
a head defining the widest end,
a foot defining the narrowest end, and
wherein the body is from any of the group of materials consisting essentially of:
wood,
metal,
plastic, or
glass,
a plug for the wider side of the conical tubiform of the body,
a chambered embouchure adjacent to the plug wherein said embouchure is defined by:
a blow-hole rectangular cut-out through the wall of the body, and
two wings positioned on either side of the blow-hole wherein said wings are:
integrated with the body of the flute,
raised relative to the outer surface of the body,
semi elliptical,
wider than the blow-hole, and
comprised from any of the group of materials consisting essentially of:
bees wax,
plastic,
metal, or
glass; and,
six finger holes positioned along the length of the conical tubiform of the body wherein said finger holes are:
enabled for the production of a full chromatic scale over a range of one and a half octaves,
defined by round cut-outs through the wall of the body, and
configured to be partially or completely covered by any of:
finger tips,
tape, or
plug; and,
placing an air-tight plug over one or more of the six finger holes of the tambin.

3. The method of claim **2** wherein the plug is defined by electrical tape.

4. The method of claim **2** wherein the plug is defined by a rubber ribbon with hoops one side, and hooks on the other side, wherein the hooks and loops for locking engagement.

5. The method of claim **2** wherein said tambin is:
twenty-six and six hundred and seventy-five thousandths inches in length;
one inch in diameter at the head; and,
three-quarters of an inch in diameter at its foot.

6. A tambin comprising:
a body that is configured with a conical tubiform;
a plug for the wider side of the conical tubiform of the body;
a chambered embouchure adjacent to the plug; and,
six finger holes positioned along the length of the conical tubiform of the body to enable the production of a full chromatic scale over a range of one and a half octaves.

7. The tambin of claim **6** wherein said body that is configured with:
a head defining the widest end;
a foot defining the narrowest end; and,
wherein the body is from any of the group of materials consisting essentially of either:
wood,
metal,
plastic, or
glass.

8. The tambin of claim **7** wherein said chambered embouchure is defined by:
a blow-hole rectangular cut-out through the wall of the body; and,
two wings: positioned on either side of the blow-hole wherein said wings are:
integrated with the body of the flute,
raised relative to the outer surface of the body,
semi elliptical,
wider than the blow-hole, and
comprised from any of the group of materials consisting essentially of either:
bees wax,
plastic,

metal, or
glass.

9. The tambin of claim **8** wherein said six finger holes are:
enabled for the production of a full chromatic scale over a range of one and a half octaves;
defined by round cut-outs through the wall of the body; and,
configured to be partially or completely covered by:
finger tips,
tape, or
plug.

10. The tambin of claim **9** wherein said tambin is:
twenty-six and six hundred and seventy-five thousandths inches in length;
one inch in diameter at the head; and,
three-quarters of an inch in diameter at its foot.

11. The tambin of claim **10** wherein said plug is configured to extend from the head to within the body's tubiform for a distance of one hundred and twenty-five thousandths inches in length.

12. The tambin of claim **11** wherein said blow-hole is three-hundred and seventy-five thousandths of an inch by one half of an inch positioned lengthwise on adjacent to the head of the body one-half of an inch from the edge of the body.

13. The tambin of claim **12** wherein said wings are:
one quarter inch high relative to the outer surface of the body;
six-hundred and twenty-five thousandths of an inch in length; and,
just wider than the blow-hole.

14. The tambin of claim **13** wherein said finger holes are:
five sixteenths of an inch in diameter;
spaced one inch apart; and,
wherein the center of the first hole being positioned two inches from the foot-side edge of the body.

15. The tambin of claim **6** wherein said tambin is:
twenty-five and one hundred and twenty-five thousandths inches in length;
one inch in diameter at the head; and,
three-quarters of an inch in diameter at its foot.

16. The tambin of claim **6** wherein said tambin is:
twenty-seven and eight hundred and seventy-five thousandths inches in length;
one inch in diameter at the head; and,
three-quarters of an inch in diameter at its foot.

17. The tambin of claim **6** wherein said tambin is:
twenty-nine and six hundred and seventy-five thousandths inches in length;
one inch in diameter at the head; and,
three-quarters of an inch in diameter at its foot.

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