

1

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REED MUSICAL INSTRUMENT WITH CHORD SELECTING MEANS

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ABSTRACT OF THE DISCLOSURE

A musical instrument having a cylindrically shaped air receiving chamber with reeds in the chamber for passing air therethrough to sound a predetermined tone and with chord selecting means rotatably mounted on the receiving chamber for preventing air from passing through predetermined reeds when the chord selecting means is in a predetermined position. Chord listing means can be attached to the chord selecting means for listing the chords sounded when the selecting means is in a predetermined position and a center air chamber, connected to the reeds, can be positioned in the air receiving chamber for limiting the air required to sound the instrument.

This invention relates to a musical instrument, and in particular, to a musical instrument provided with means for playing a plurality of preset musical chords.

Over the years a great variety of musical instruments have been devised which play a plurality of musical chords. However, most of these instruments are difficult to play; and in addition, require many hours of practice to learn the fingering which is required to play each individual chord. As a result, only a few people learn to play a sufficient number of chords to allow them to play a prearranged musical selection. In view of these difficulties, many people, and in particular, children, are often discouraged in their attempts to play these instruments.

It is accordingly an object of my invention to provide a musical instrument which overcomes the aforementioned disadvantages and objections heretofore encountered in such instruments.

It is a further object of my invention to provide a musical instrument which plays a plurality of preset chords.

A further object of my invention is to provide a musical instrument that plays a preset chord without special fingering of the instrument.

A still further object of my invention is to provide a musical instrument of simple design and which is inexpensive to construct.

Still further objects of my invention will become apparent to those skilled in the art as the invention is better understood by reference to the detailed description appearing hereinafter.

According to my invention, the foregoing objects and attendant advantages may be achieved by providing a musical instrument having an enclosed air receiving chamber with air intake means for passing air therinto. The chamber is also provided with a plurality of port means for passing air outwardly from said chamber. Each port is adapted with a reed which is designed to vibrate at a predetermined frequency when air passes therethrough. Finally, chord selecting means are slidably mounted on said chamber to coact with certain predetermined ports and to thus prevent air from passing therethrough when said chord selecting means is in predetermined position. When said selecting means is shifted to another predetermined position it coacts with a second group of ports, and in this fashion, a predetermined chord is sounded when the user of the instrument passes air into the receiving chamber. Thereafter, a new chord is sounded by

2

merely shifting the chord selecting means to another position.

So that the invention may be more readily understood and carried into effect, reference is made to the accompanying drawings which are offered by way of example only and are not to be taken as limiting the invention, the scope of which is defined by the appended claims, which obviously embrace equivalent structures and processes.

FIGURE 1 is a side view of the musical instrument of my invention having a transparent chord selecting means.

FIGURE 2 is a top view of the musical instrument with the chord selecting means removed therefrom.

FIGURE 3 is a sectional view of FIGURE 1 taken along line 3-3 showing a center air chamber positioned inside the air receiving chamber.

FIGURE 4 is an enlarged sectional view of the preferred port means of my invention with a reed positioned therein.

Referring now more particularly to the drawings, elongated air chamber 10 is provided with mouthpiece 12 at one end thereof. The opposite end of said chamber 10 is closed to prevent air from escaping therefrom. Chamber 10 is also provided with a plurality of air ports 14, each of which is provided with reed means 16, hereinafter described and shown in detail in FIGURE 4. Accordingly, when air is passed into chamber 10 through mouthpiece 12 it is exhausted therefrom through said reed means 16. While any number of air ports 14 and coacting reed means 16 may be used in my musical instrument, I prefer to use twelve such ports so that reeds covering the twelve tones in the chromatic scale can be placed therein. While said air ports 14 may be placed in said air chamber 10 in any position, I prefer to position said air ports in a substantially straight row. In the most preferred embodiment of my invention, receiving chamber 10 is an elongated cylinder, and air ports 14 are positioned in a row which is substantially parallel with the longitudinal axis of said cylinder, i.e., the center x-x of said cylinder shown in FIGURE 2.

Chord selecting means 18 is slidably mounted on receiving chamber 10 that it is in friction contact therewith. Said selecting means 18 is provided with a plurality of valve ports 20 which are positioned therein to coact with certain predetermined air ports 14. As shown in FIGURE 3, and as indicated, chord selecting means 18 forms a friction contact with receiving chamber 10 to prevent air from passing through air ports 14 in said chamber 10 which are not aligned with valve ports 20. Accordingly, by programming the position of said valve ports 20 in chord selecting means 18, air will pass through only a portion of said air ports 14 when said chord selecting means 18 is in a predetermined position to thus sound a predetermined chord. As indicated, receiving chamber 10 is preferably an elongated cylinder, and when this is the situation, chord selecting means 18 is also an elongated cylinder having an outside diameter slightly larger than the outside diameter of said receiving chamber 10. This design allows chord selecting means 18 to be rotatably mounted on said receiving chamber 10.

Chord listing means 22, which indicates or lists the various chords that the musical instrument of my invention has been programmed to play, is preferably attached to one end of chord selecting means 18. Preferably said chord listing means 22 is in the form of an outwardly extending ring which is attached proximate the end of chord selecting means 18 positioned furthest away from mouthpiece 12 of said instrument. The face of listing means 22 which is positioned towards said mouthpiece 12 is marked at a position along each row of valve ports,

e.g., *a—a*, *b—b*, *c—c*, etc., with predetermined lettering or signs which are intended to form the user of the instrument what chord will be sounded when each row of valve ports is aligned with air ports row *x—x*. Indicator 24 is attached to receiving chamber 10 at a position aligned with said row *x—x*. Accordingly, when a particular lettering shown on listing means 22 is aligned with said indicator 24, the chord represented by said lettering will be sounded when air is passed into the instrument of my invention. As shown in the drawings, chord selecting means 18 is prevented from sliding longitudinally on air receiving chamber 10 by indicator 24, which is positioned proximate one end of said receiving chamber 10, and by stop button 26, which is positioned proximate the other end of said receiving chamber 10. Said stop button 26 may be depressed and in this fashion chord selecting means 18 may be longitudinally removed from air receiving means 10, and another chord selecting means 18 may be placed thereon which is programmed to play different chords.

As indicated, the preferred reed means 16 of my invention are shown in detail in FIGURE 4. Sleeve 28, having an outside diameter approximately the same as the diameter as air port 14, is fixedly positioned in said port 14 by friction contact therebetween. Reed positioner 30 with air passage 32 is mounted inside sleeve 28 and reed 34 is attached to said reed positioner 30 so that air passing through port 32 vibrates said reed 34. By controlling the frequency of the vibration of reed 34 various tones can be obtained when air passes through sleeve 28. As shown in FIGURE 4, all air that passes through sleeve 28 must pass through port 32 to vibrate said reed 34.

It is often desirable for air receiving chamber 10 to have a diameter between 1-6 inches so that chord selecting means 18 can be programmed with a large variety of chords. When an air receiving chamber is used having such a large diameter, large quantities of air are required to play my instrument. Accordingly, it is often desirable to use center air chamber 36, as shown in FIGURE 3, which is positioned inside air receiving chamber 10. Preferably center air chamber 36 has an inside diameter of about ¼-1 inch. When this is done, said center air chamber 36 is attached to mouthpiece 12 at its one end and its other end is closed so that air cannot escape therefrom into air receiving chamber 10. Sleeve 28 of reed means 16 passes through air ports 14 positioned in said center air chamber 36 and in this fashion, air passes directly from mouthpiece 12 into center air chamber 36 and then through reed means 16. As indicated, this arrangement has the advantage of not requiring the user of the instrument to pass substantial amounts of air into the air receiving chamber while said instrument is being played.

To operate the musical instrument of my invention, mouthpiece 12 is placed in the mouth of the user of the instrument. Air is then passed into receiving chamber 10 or center air chamber 36, depending upon the construction of the instrument, which air is then exhausted through

reed means 16 which are in coacting relationship with valve ports 20. In this fashion, a predetermined chord is sounded for a particular setting of chord selector 18. To change the chord, said chord selector 18 is rotated or moved, depending upon the construction of the instrument, so that a second group of reed means 16 are aligned with valve ports 20. In this fashion, any musical selection can be played by merely rotating chord selector 18 according to the requirements of the selection.

Whereas there is here illustrated and specifically described a certain preferred construction of apparatus which is presently regarded as the best mode of carrying out the invention, it should be understood that various changes may be made and other construction adopted without departing from the inventive subject matter particularly pointed out and claimed.

I claim:

1. A musical instrument comprising a cylindrically shaped receiving chamber having air receiving means connected thereto for passing air into said air receiving chamber; a plurality of port means positioned in said air receiving chamber for passing air out of said chamber; reed means positioned in each of said port means for sounding a predetermined tone when air passes therethrough; and chord selecting means rotatably mounted on said air receiving chamber and in friction contact therewith for preventing air from passing through predetermined port means when said chord selecting means is in a first position and for preventing air from passing through other predetermined port means when said chord selecting means is rotated to another predetermined position.

2. The musical instrument of claim 1 wherein chord listing means are attached to said chord selecting means for listing the chord sounded when said chord selecting means is in a predetermined position.

3. The musical instrument of claim 1 wherein said port means are positioned in a row substantially parallel with the center axis of said air receiving chamber.

4. The musical instrument of claim 1 wherein a center air chamber is placed inside said air receiving chamber and said air receiving means and said reed means are connected to said center air chamber for passing air into said center air chamber and out through said reed means.

5. The musical instrument of claim 4 wherein chord listing means are attached to said chord selecting means for listing the chord sounded when said chord selecting means is in a predetermined position.

6. The musical instrument of claim 5 wherein said port means are positioned in a row substantially parallel with the center axis of said air receiving chamber.

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