

Sept. 26, 1967

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3,343,438

BASS SECTION OF ACCORDIONS

Filed April 13, 1964

4 Sheets-Sheet 1

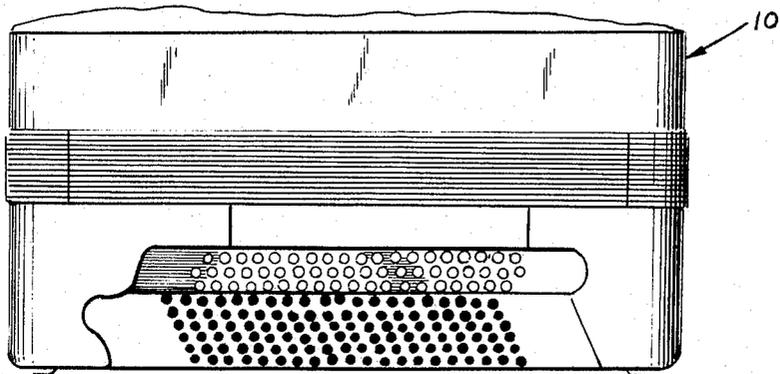


Fig. 1.

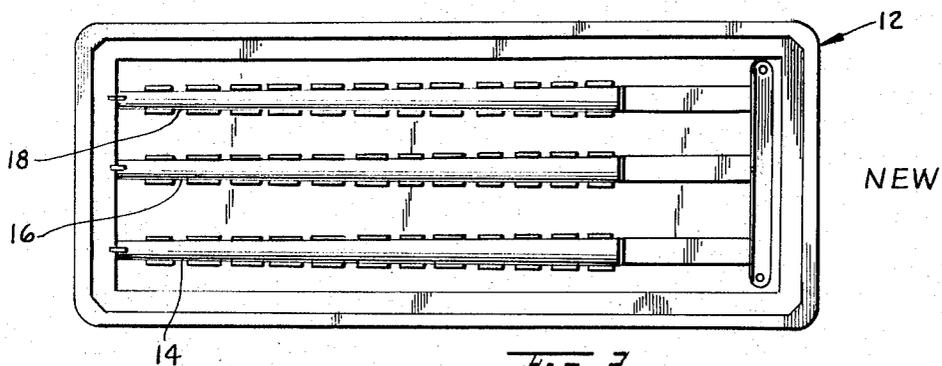


Fig. 2.

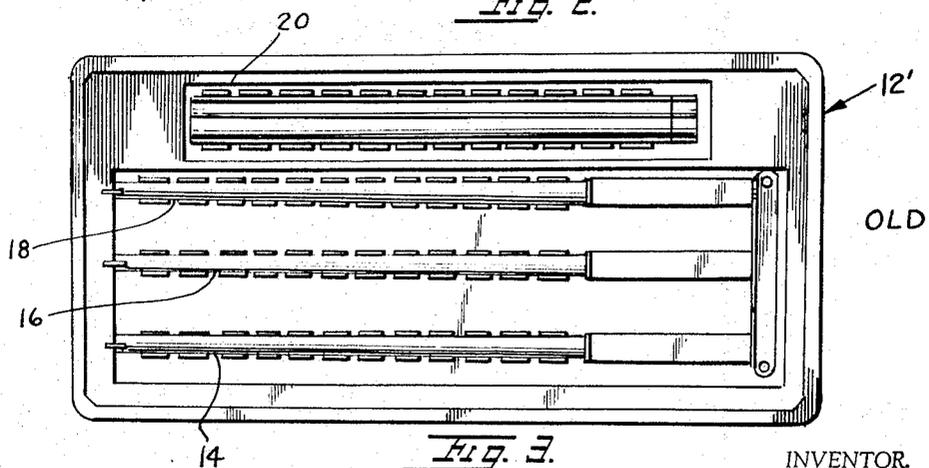


Fig. 3.

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FIG. 3A

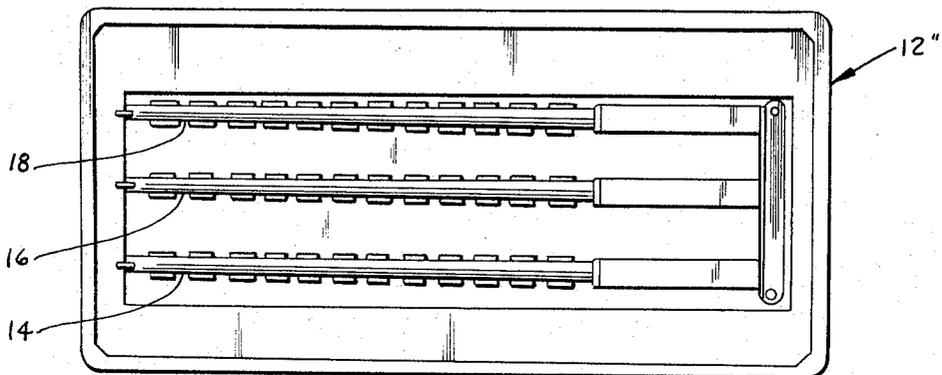
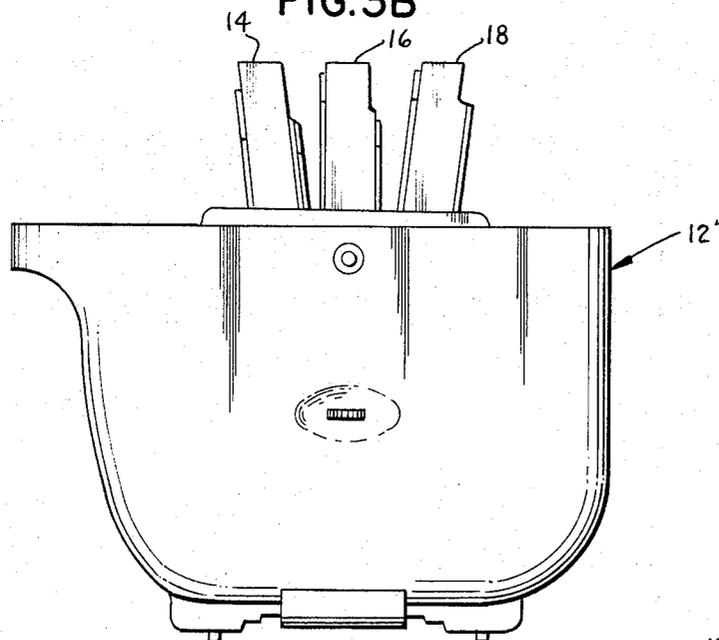


FIG. 3B



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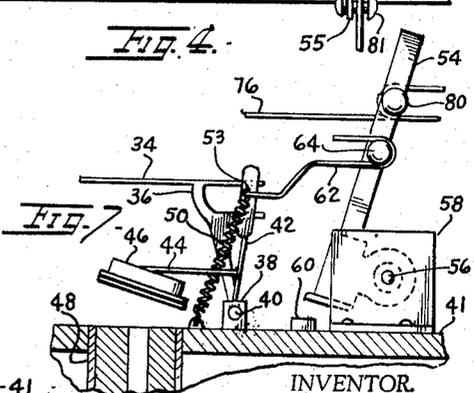
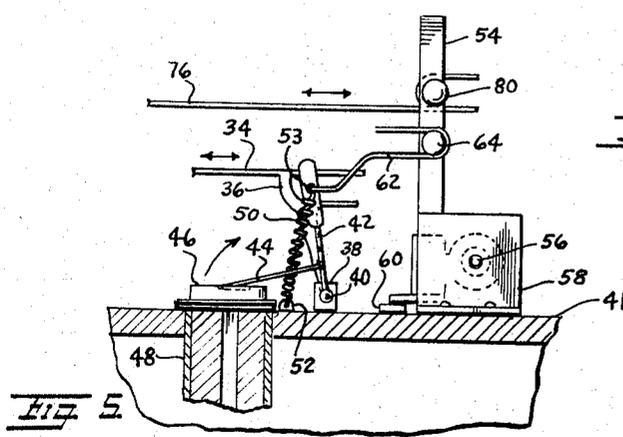
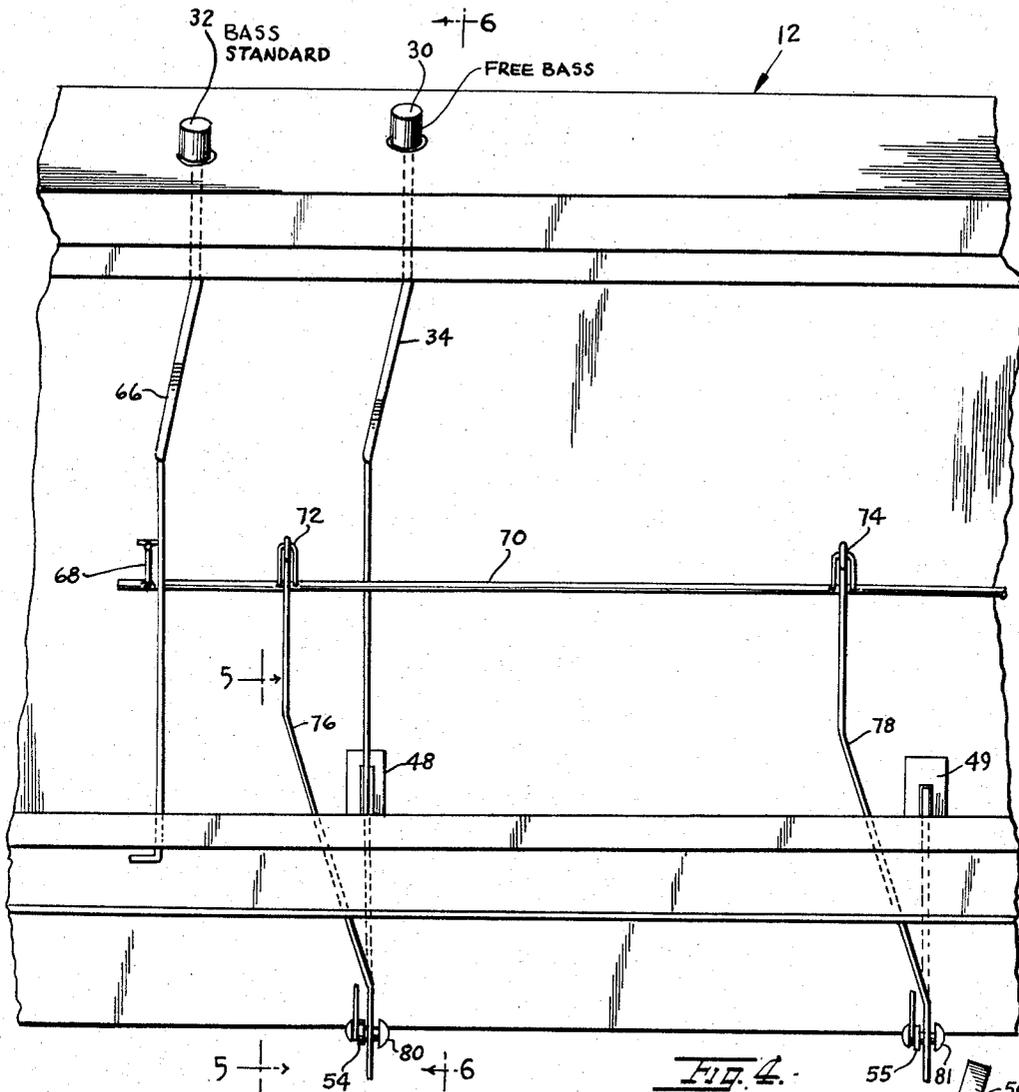
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BASS SECTION OF ACCORDIONS

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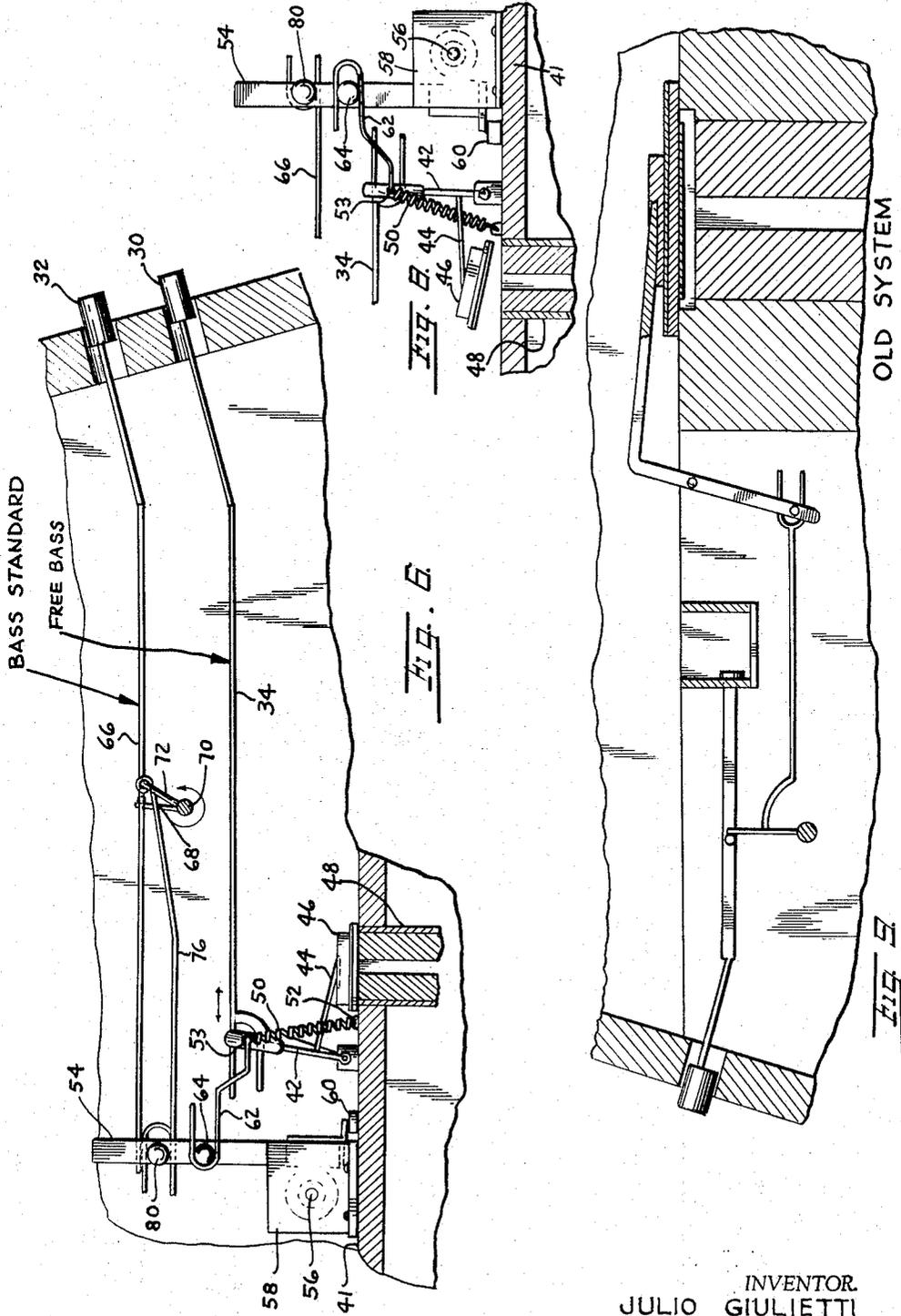
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BASS SECTION OF ACCORDIONS

Filed April 13, 1964

4 Sheets-Sheet 4



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BASS SECTION OF ACCORDIONS

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3 Claims. (Cl. 84—376)

The present invention relates to improvements in the bass section of accordions.

The large size and weight of present-day accordions is mainly attributable to the large width of the bass section thereof. This therefore necessitates the use of bellows and a treble section of the same width. The large size of the bass section is primarily due to the bass standard reed block and its corresponding valves, which are significantly larger than those associated with the free bass. Therefore, elimination of the bass standard reed block and its corresponding valves would permit construction of an accordion which is narrower and lighter than those presently in use.

It is, therefore, an object of the present invention to eliminate the bass standard reed block and the valves associated therewith, and to produce the bass standard tones by utilizing the valves and reed blocks associated with the free bass.

Another object of the present invention is to produce a bass section which is narrower and lighter in weight than those presently in use, thereby permitting construction of an accordion which is narrower and lighter than present day accordions.

A further object of the present invention is to produce a compact bass section wherein the fingers of the person playing said accordion have easy access to the buttons of said bass section and can easily and readily depress any of said buttons to produce the desired musical tones.

It is another object to provide a bass section in accordance with the present invention which can be used with accordions presently in use.

A fuller understanding of the invention and the manner in which its objectives and advantages may be realized will become apparent from the following detailed description thereof taken in connection with the accompanying drawings wherein:

FIGURE 1 is a front elevational view of an accordion in accordance with the present invention.

FIGURE 2 is a top view of the bass section of an accordion in accordance with the present invention.

FIGURE 3 is a top view of the bass section of a conventional accordion.

FIGURE 3A is a top view of a bass section of a conventional accordion which has been modified in accordance with the present invention.

FIGURE 3B is a side view of the bass section shown by FIGURE 3A.

FIGURE 4 is a partial interior view of the bass section of an accordion embodying the present invention.

FIGURE 5 is a sectional view taken on the line 5—5 of FIGURE 4.

FIGURE 6 is a sectional view taken on the line 6—6 of FIGURE 4.

FIGURE 7 is a sectional view taken on the line 5—5 of FIGURE 4 after the bass standard actuating button has been depressed.

FIGURE 8 is a sectional view taken on the line 5—5 of FIGURE 4 after the free bass actuating button has been depressed.

FIGURE 9 is a partial sectional view of the bass section of a conventional accordion depicting a bass standard valve assembly.

Referring now to the drawings,

FIGURE 1 depicts an accordion 10; the top view of

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the bass section 12 of said accordion, which is the subject of the present invention, is shown in FIGURE 2. The bass section 12' of a conventional accordion, of the type presently in use, is shown in FIGURE 3. Therein, reed blocks 14, 16 and 18, in conjunction with their corresponding valves (not shown), produce the musical tones of the free bass range. Another reed block 20, of much larger size, in conjunction with its corresponding valves (not shown) produce the musical tones of the bass standard range. The bass section 12 of the present invention eliminates the need for the bass standard reed block 20 and its corresponding valves, and utilizes the free bass reed blocks 14, 16 and 18 to produce the bass standard musical tones; the manner in which this is accomplished will be described in detail hereinafter.

The narrower and lighter bass section 12, depicted by FIGURE 2, results from the elimination of the bass standard reed block 20.

The present invention may also be practiced with conventional accordions. This embodiment is depicted in FIGURES 3A and 3B, wherein a bass section 12', similar to that shown in FIGURE 3, contains only the free bass reed blocks 14, 16 and 18. The front wall of the bass section can then be tapered inwardly, thereby permitting an accordionist to freely and easily depress the actuating buttons of said bass section without having to extend his hand around the larger width at the top of the bass section, as viewed in FIGURE 3B.

FIGURE 4 depicts actuating buttons 30 and 32 which when depressed produce tones in the free bass and bass standard ranges, respectively. As seen in FIGURES 4 and 5, a valve actuating wire element 34 having a bifurcated member 36 at one end thereof, has its other end connected to button 30; the bifurcated member 36 being pivotally connected to a bracket 38 by a stud or rivet 40; said bracket being secured to a platform 41. A bell crank 42 having an arm 44 connected to the valve cover 46 of a valve 48, is also pivotally connected to the bracket 38 by the stud 40. A spring 50 has its lower end connected to a bracket 52 which is secured to the platform 41 at a point adjacent said valve 48, and the upper end of said spring engages the bell crank 42 by projecting through an opening 53 in the upper part thereof, thereby keeping the valve 48 in a normally closed position.

A post 54 located to the right of valve 48, as viewed in FIGURES 5, 7 and 8, is pivotable about a stud 56 which connects the post to a bracket 58. A stop block 60 is provided to limit the counterclockwise rotation (as viewed in FIGURE 5) of said post, both the stop block 60 and the bracket 58 being secured to said platform 41.

A wire element 62 having a U-shaped configuration at one end thereof is slidably mounted by means of said U-shaped configuration on a stud 64 which is connected to the post 54, the other end of said wire element projects through an opening 53 in the upper end of said bell crank 42, and engages said bell crank. Another wire element 66 having one end connected to the bass standard actuating button 32 and the other end free has one end of a bell crank 68 connected approximately midway between the ends of said wire element, the other end of the bell crank being connected to a rotating shaft 70, said shaft having two wire members 72 and 74 connected thereto. Two valve actuating wire elements 76 and 78 have one of their ends connected to the wire members 72 and 74, respectively, the other ends of said wire elements 76 and 78 have U-shaped configurations and are slidably mounted on studs 80 and 81 which are connected to posts 54 and 55, respectively. The post 55 is similar to post 54 and is operatively associated with valve

49 in the same manner as is post 54 with respect to valve 48.

The operation of the present invention will now be discussed with particular reference to FIGURES 4 through 8. It should be noted herein that a particular tone in the bass standard range is equivalent to that same tone in the free bass range in conjunction with its octave higher complement. For example, if it is desired to play a middle C, the middle C and high C of the free bass range when played together result in the middle C of the bass standard range.

When it is desired to produce a tone in the free bass range, the actuating button 30 is depressed causing the valve actuating wire element 34 to move longitudinally (as seen by FIGURE 8), thereby causing the bifurcated member 36 to engage the end of wire element 62 causing said element to slidably move on said stud 64, concomitantly therewith, the bell crank 42 which is engaged by said wire element 62 pivotally rotates about the stud 40 causing the valve cover 46 which is connected to the arm 44 of said bell crank, to move upwardly thereby activating the valve 48. When the actuating button 30 is released the spring 50 causes the bell crank 42 to return to its normal position, thereby returning the valve cover 46 and the wire element 62 to their normal positions. This deactivates the valve 48 and returns the wire element 34 to its deactivated position. When the bass standard actuating button 32 is depressed, the wire 66 moves downwardly (as viewed in FIGURE 4) causing the bell crank 68 to rotate thereby rotating shaft 70. Rotation of the shaft 70 causes the valve actuating wire elements 76 and 78 to actuate the valves 48 and 49. The operation of the valves in this instance will be discussed only with reference to the valve actuating wire element 76 and its associated valve 48. However, it will be apparent that the same results are simultaneously obtained by the action of the valve actuating wire element 78 with respect to valve 49, which is the octave higher complement of valve 48.

As viewed in FIGURE 7 when the valve actuating wire element 76 moves longitudinally, the U-shaped configuration at the end thereof engages the stud 80 connected to the post 54 causing the post 54 to pivotally move about the stud 56. This in turn causes the wire element 62, which is engaged by the stud 64 connected to the post 54, to also move longitudinally in the same direction as said element 76. Since the bell crank 42 is engaged by element 62, the longitudinal movement of the element 62 causes the bell crank 42 to pivotally move about the stud 40 thereby causing the valve cover 46 to move upwardly; the upward movement of the valve cover 46 activating valve 48. When the actuating button 32 is released, the spring 50 causes the bell crank 42 to pivotally move back to its normal position, thereby deactivating the valve 48 and simultaneously causing the wire element 62 to return the post 54 to its normal position, and the return movement of said post returns the valve actuating wire element 76 to its normal position.

It is thus seen, that the bass standard button produces the same tone previously produced by the bass standard valve of conventional accordions, as illustrated by FIGURE 9, by simultaneously playing the same tone and its octave higher complement in the free bass range. The present invention, therefore, has eliminated the need for the bulky bass standard structure presently employed in conventional accordions.

Although the present invention has been described with

reference to the particular embodiments herein, it will be apparent to those skilled in the art that various modifications may be made in the invention without deviating therefrom as defined in the appended claims.

What is claimed is:

1. In an accordion bass section, free bass reed blocks and valves associated therewith for producing tones in the free bass range, free bass actuating buttons and bass standard actuating buttons, valve actuating elements connected to each of said valves and its corresponding free bass actuating button, whereby depression of one of said free bass actuating buttons produces a tone in the free bass range; two such valve actuating elements also being connected to each of said bass standard actuating buttons, the tone produced by a second valve so connected being the octave higher complement of the tone produced by a first valve so connected, whereby depression of one of said bass standard buttons produces a tone in the bass standard range which corresponds to the tone produced in the free bass range by said first valve in conjunction with the octave higher complement thereof.

2. An accordion bass section in accordance with claim 1 wherein each of said valves has a bell crank, a post and a spring connected thereto, wherein the valve actuating elements connected to the free bass actuating button has one end thereof connected to said button and the other end thereof engaging the bell crank when said button is depressed thereby causing said bell crank to actuate said valve, the spring being connected to said bell crank to cause said bell crank to deactivate said valve when said button is released, and said two valve actuating elements connected to said bass standard actuating button each having one of their ends connected to said bass standard actuating button and the other of their ends connected one to each of the posts of said first and second valves when said bass standard actuating button is depressed thereby causing the bell cranks, which are connected to said posts, to actuate both of said valves, the springs being connected to said bell cranks to deactivate both of said valves when the bass standard actuating button is released.

3. A bass section of an accordion in accordance with claim 2, wherein said valve actuating elements are connected to said bass standard actuating button by means of a shaft and another bell crank, said other bell crank being connected to said bass standard actuating button and to said shaft, said shaft being rotated by said other bell crank when said bass standard actuating button is depressed, and said valve actuating elements having said first mentioned ends thereof connected to said shaft.

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