Dec. 11, 1962 M. MOSCHINO 3,067,645

BASS SECTION FOR ACCORDION OR THE LIKE

Filed July 5, 1960 2 Sheets-Sheet 1

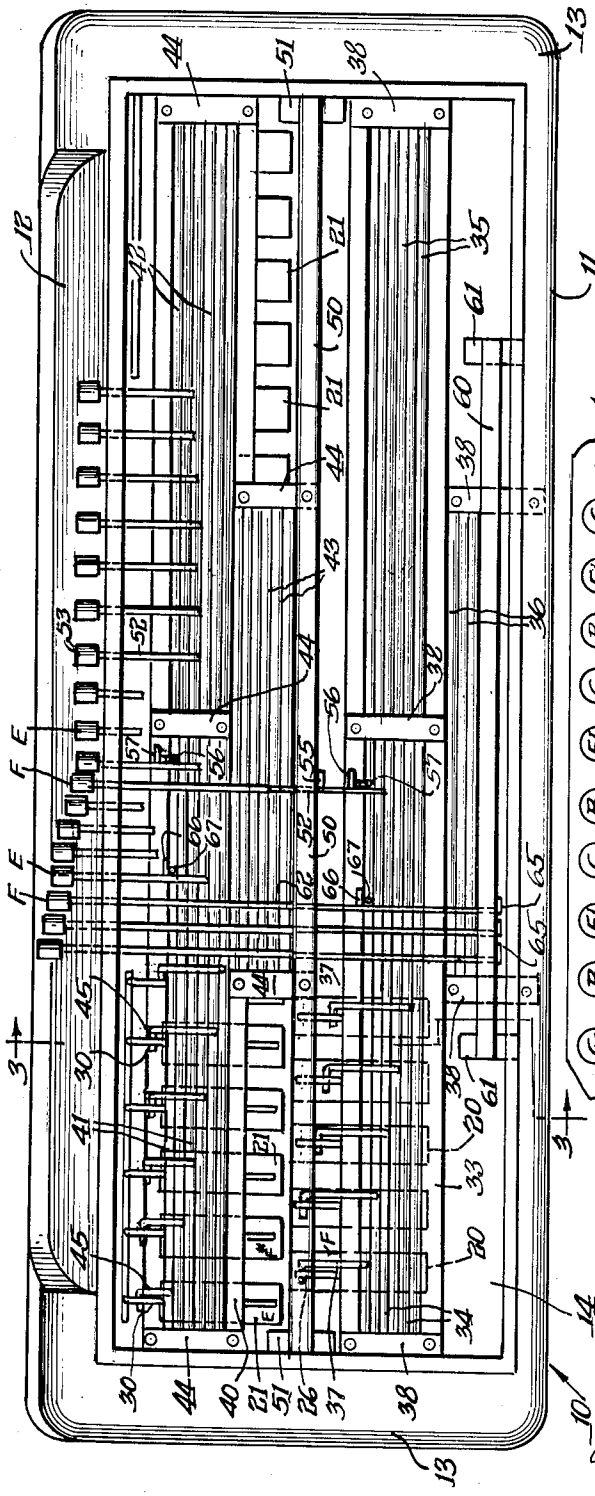


Fig. 1.

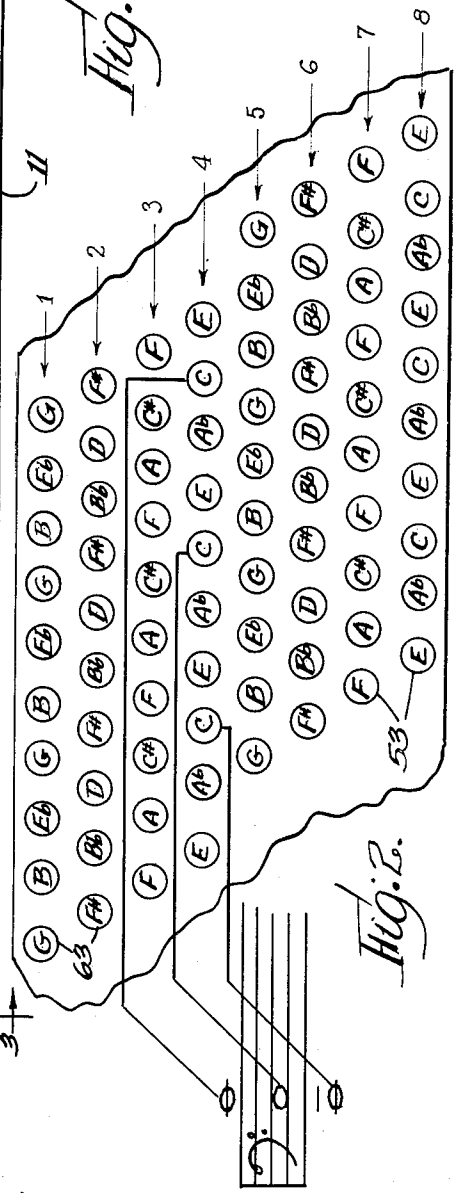


Fig. 2.

INVENTOR.
Mario Moschino
BY
Wallenstein & Spangenberg attys

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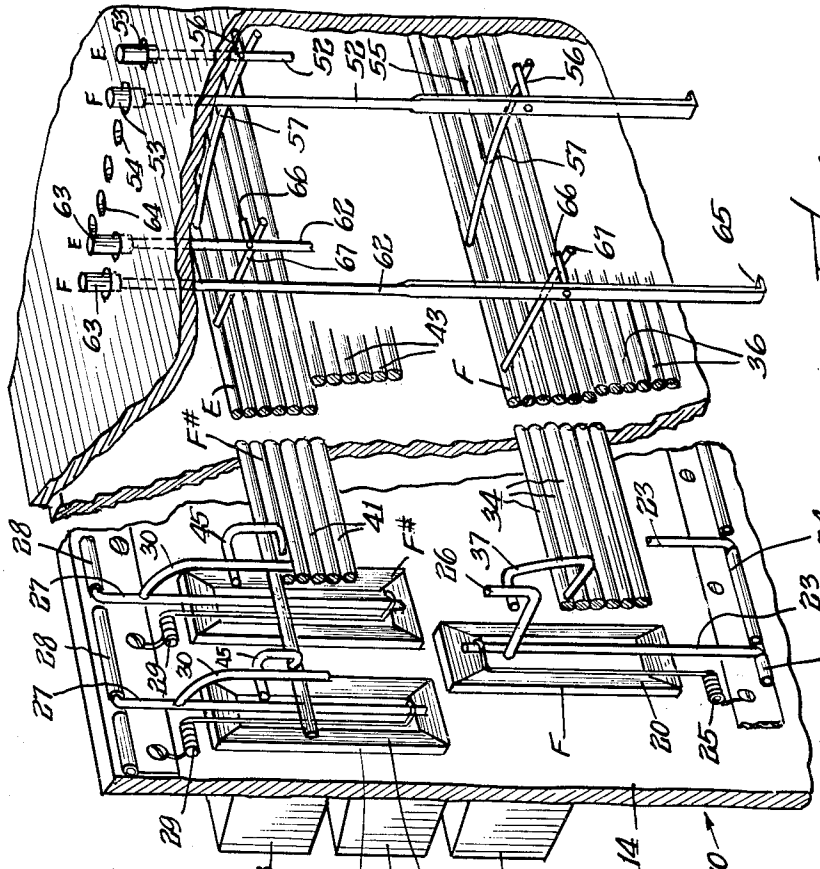


Fig. 4.

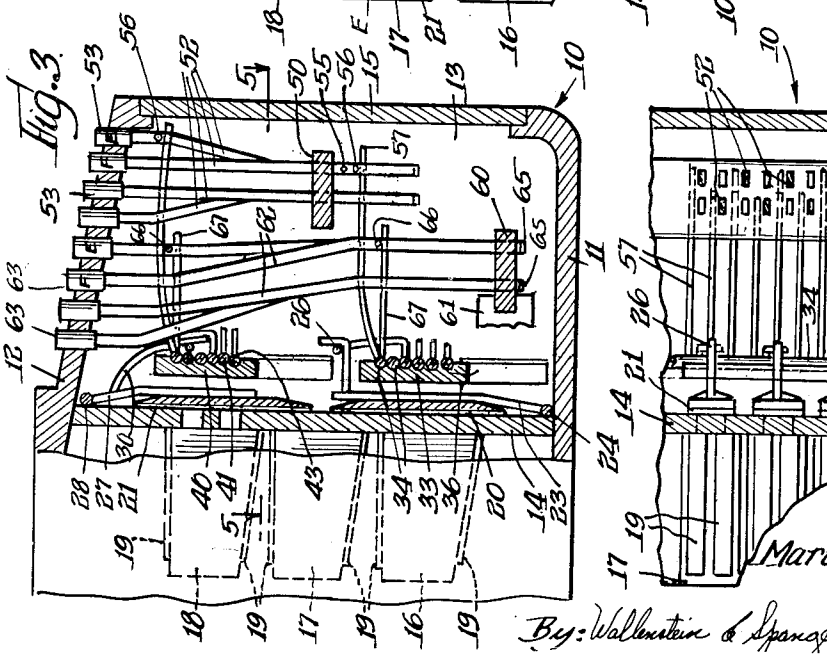


Fig. 5.

Fig. 3.

INVENTOR.

Mario Moschino

By: Wallenstein & Spangenberg Attys

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BASS SECTION FOR ACCORDION OR THE LIKE

Mario Moschino, 2005 N. Lamon, Chicago, Ill.

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4 Claims. (Cl. 84—376)

This invention relates to a bass section for a musical instrument, such as an accordion or the like.

The principal object of this invention is to provide a button type bass section for such a musical instrument wherein the buttons of the bass section control only single tones so that by manipulation of the buttons scales may be played and desired chords and chord positions may be composed at will, and wherein the buttons are so arranged that scales and chords in any key may be played with the same button fingering sequence.

Briefly, the musical instrument bass section of this invention includes a plurality of octave groups of chromatically related tone producing means, such as the reeds and valves of an accordion, and a plurality of longitudinally arranged repeating octave groups of buttons arranged in longitudinal and transverse rows, there being at least seven and preferably eight longitudinal rows of buttons. The intervals between the buttons in the longitudinal rows are in major thirds (two steps) and the intervals between the buttons in the transverse rows are in minor seconds (one-half step). Each three successive transverse rows of buttons form an octave group of buttons which contains two buttons which are common to each tone. There may be any desired number of octave groups. Means are provided for connecting the buttons in each octave group, including the buttons which are common to a tone, to the corresponding tone producing means of each octave group, respectively. As a result, scales and chords of any key may be played with the same button fingering sequence and without finger crossing or hopping from one button to another.

Further objects of this invention reside in the details of construction of the bass section and in the co-operative relationships between the component parts thereof.

Other objects and advantages of this invention will become apparent to those skilled in the art upon reference to the accompanying specification, claims and drawings, in which:

FIGURE 1 is a side elevational view of an accordion bass section with the cover thereof removed;

FIGURE 2 is an enlarged fragmentary plan view showing the arrangements of the buttons of the accordion illustrated in FIGURE 1;

FIGURE 3 is a vertical sectional view through the accordion bass section taken substantially along the line 3—3 of FIGURE 1;

FIGURE 4 is an enlarged fragmentary perspective view of a portion of the accordion bass section illustrated in FIGURES 1 and 3; and

FIGURE 5 is a horizontal sectional view taken substantially along the line 5—5 of FIGURE 3.

The bass section for the accordion or the like is generally designated at 10 and it includes a bottom wall 11, a top wall 12, end walls 13, and a removable cover 15 for enclosing the parts therein. It also includes a supporting wall 14 which is in communication with the conventional accordion bellows (not shown). Mounted on the supporting wall 14 is a plurality of boxes 16, 17, and 18 carrying the usual tone producing reeds 19. The passage of air past the reeds 19 for producing the desired tones is controlled by valves 20 and 21, the valves 20 controlling the reeds on the boxes 16 and 17 and the valve 21 controlling the reeds on the boxes 17 and 18.

Each valve 20 is carried by an arm 23 pivoted to the supporting wall 14 at 24 and the valves 20 are normally

urged to a closed position by springs 25. Each valve 20 also carries an operating hook 26. In a similar manner each valve 21 is carried by an arm 27 pivoted to the supporting member 14 at 28 and the valves 21 are normally held in a closed position by springs 29. Each valve 21 is also provided with an operating hook 30. The hooks 26 and 30 operate selectively to open the valves 20 and 21.

A subframe 33 is carried at its ends through suitable spacers by the supporting wall 14 and a plurality of rods 34, 35, and 36 are rotatably mounted thereon, the rods being rotatably held in place against the subframe by plates 38 secured to the subframe. In a like manner, the supporting wall 14 carries a subframe 40 which in turn rotatably carries a plurality of rods 41, 42, and 43, the rods being rotatably held in place against the subframe by plates 44 secured to the subframe. The rods 34, 35 and 36 each carry an operating member 37 which engages the operating hook 26 of a related valve 20 and, likewise, the rods 41, 42, and 43 each carry an operating member 45 for engaging the operating hook 30 of the related valve 21. Thus there is one rod associated with each valve and rotation of that rod operates to open that valve and in this way the valves may be individually opened by rotating the corresponding rods.

A guide strip 50 is carried by the supporting wall 14 by means of brackets 51 and this guide strip 50 is provided with a plurality of slots therein for slidably receiving a plurality of pushers 52 which carry buttons 53 at their outer ends, the buttons 53 being slidably received in holes 54 in the top wall 12. The pushers 52 are provided with pins 55 which engage the underside of the strip 50 to limit the outward movement of the pushers. The pushers 52 also carry pins 56 which are adapted to engage levers 57 carried by the rods 34, 35, and 36 and rods 41, 42 and 43. Thus when a button 53 is depressed, the pusher 52 is depressed and the pin 56 carried thereby engages the lever 57 to rotate the associated rod for opening its associated valve 20 or valve 21.

In a like manner, a second guide strip 60 is secured to the supporting wall 14 by brackets 61 and this guide strip 60 is also provided with a plurality of slits for slidably receiving pushers 62 which have buttons 63 on their outer ends which are slidably received in holes 64 in the top wall 12. The bottom ends of the pushers 62 are provided with shoulders 65 which engage the bottom of the strip 60 for limiting outward movement of the pushers 62 and their buttons 63. The pushers 62 are provided with pins 66 which engage levers 67 carried by the rotatable rods 41, 42, and 43 and rods 34, 35 and 36. When a button 63 is depressed, its pusher 62 is depressed and the pin 66 carried thereby engages a lever 67 carried by one of the rods for opening its associated valve 21 or valve 20. It will be noted that some of the buttons 63 operate the valves 21 and others operate the valves 20 and also some of the buttons 53 operate the valves 20 and others operate the valves 21.

Referring now to FIGURE 2, it is seen that the buttons 63 and 53 are arranged in longitudinal and transverse rows and for purposes of illustration the buttons are lettered to designate the individual tones that are produced by depressing the buttons and the longitudinal rows are numbered 1 to 8. The intervals between the buttons in the longitudinal rows are in major thirds (two steps) and the intervals between the buttons in the transverse rows are in minor seconds (one-half step). It should also be noted that the bottom four rows of buttons 53 are offset with respect to the top four rows of buttons 63 and that the button designations of the buttons 53 repeat the button designations of the buttons 63. The buttons 53 and 63 are longitudinally arranged in repeating octave groups, each octave group comprising three successive transverse rows of buttons, there being 24 buttons in each octave

group and there being two buttons in each octave group for each single tone of the octave. For example, as illustrated in FIGURE 4, the E button 63 and the E button 53 both operate the E rod 41 for operating the E valve 21, and, likewise, the F button 63 and the F button 53 both operate the F rod 34 for operating the F valve 20. This is true for every valve in an octave and a particular tone in that octave may be produced by depressing one or the other of the corresponding buttons 53 and 63 in that octave group. As shown in FIG. 2, an octave group extends from one tone button in a longitudinal row to the next corresponding tone button in that same longitudinal row, for example, from one C button to the next C button in row 4, or from one F button to the next F button in row 3, or from one G button to the next G button in row 5, or from one D button to the next D button in row 2, or the like. These octave groups of buttons are longitudinally repeated, as shown in FIG. 2, and there may be any desired number of repeating octave groups. By reason of this arrangement of buttons, as illustrated in FIGURE 2, scales and chords of any key may be played with the same button finger sequence.

While FIGURE 2 illustrates an arrangement utilizing eight longitudinal rows of buttons, rows 1 to 8, the bottom row 8 of buttons 53 may be omitted so that there would be three rows of longitudinal buttons 1 to 3 and 5 to 7 on each side of the central row 4. In such an arrangement the buttons in the central row 4 would not be repeated, although the buttons in all of the other rows would be repeated. With such an arrangement utilizing seven longitudinal rows of buttons 1 to 7, it is still possible to play scales and chords of any key with the same button fingering sequence and such an arrangement is also within the purview of this invention.

Also by reason of the button arrangement of this invention it is possible to play scales in any desired key with continuous fingering without finger crossing or the need for hopping from one button to another and, as a result, an even and pleasing flow or progression of tone changes may be brought about.

While for purposes of illustration, one form of this invention with a variation thereof has been disclosed, other forms of this invention may become apparent to those skilled in the art by reference to this disclosure and, therefore, this invention is to be limited only by the scope of appended claims.

I claim as my invention:

1. A bass section for a musical instrument comprising a plurality of octave groups of chromatically related tone producing means, a plurality of longitudinally arranged repeating octave groups of buttons arranged in longitudinal and transverse rows, each group consisting of tweny-four buttons arranged in eight longitudinal rows and three transverse rows and including two buttons which are common to each tone in the octave, the intervals between the buttons in the longitudinal rows being in major thirds and the intervals between the buttons in the transverse rows being in minor seconds, and means for connecting the two buttons which are common to each tone in each

octave group to the corresponding tone producing means of each octave group, respectively, whereby scales and chords of any key may be played with the same button fingering sequence.

2. A bass section for a musical instrument comprising a plurality of octave groups of chromatically related tone producing means, a plurality of buttons arranged in at least seven longitudinal rows and in a plurality of transverse rows, the intervals between the buttons in the longitudinal rows being in major thirds, the intervals between the buttons in the transverse rows being in minor seconds, and each three successive transverse rows of buttons forming an octave group of buttons containing two buttons which are common to a tone, and means for connecting the buttons in each octave group, including the buttons which are common to a tone, to the corresponding tone producing means of each octave group, respectively, whereby scales and chords of any key may be played with the same button fingering sequence.

3. A bass section for a musical instrument comprising a plurality of octave groups of chromatically related tone producing means, a plurality of buttons arranged in seven longitudinal rows and in a plurality of transverse rows, the intervals between the buttons in the longitudinal rows being in major thirds, the intervals between the buttons in the transverse rows being in minor seconds, each three successive transverse rows of buttons forming an octave group of buttons, and there being two buttons in the longitudinal rows of buttons in each octave group which are common to each tone except for the tones of the central longitudinal row of buttons, and means for connecting the buttons in each octave group, including the buttons which are common to a tone, to the corresponding tone producing means of each octave group, respectively, whereby scales and chords of any key may be played with the same button fingering sequence.

4. A bass section for a musical instrument comprising a plurality of octave groups of chromatically related tone producing means, a plurality of buttons arranged in eight longitudinal rows and in a plurality of transverse rows, the intervals between the buttons in the longitudinal rows being in major thirds, the intervals between the buttons in the transverse rows being in minor seconds, each three successive transverse rows of buttons forming an octave group of buttons, and there being two buttons in each octave group of buttons which are common to each tone, and means for connecting the two buttons which are common to each tone in each octave group to the corresponding tone producing means of each octave group, respectively, whereby scales and chords of any key may be played with the same button fingering sequence.

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