July 16, 1940. S. RABUAZZO 2,208,228

ACCORDION

Filed Oct. 26, 1937 3 Sheets-Sheet 1

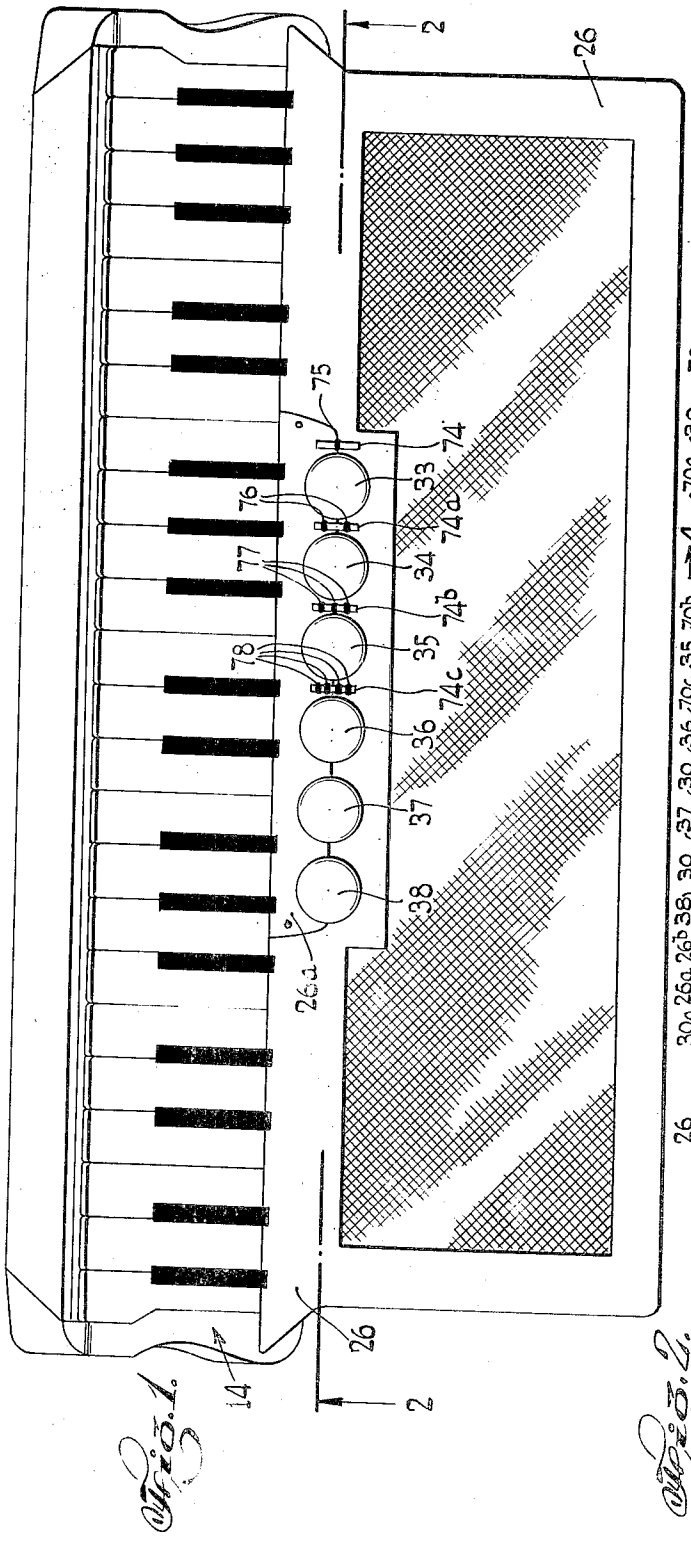


Fig. 1.

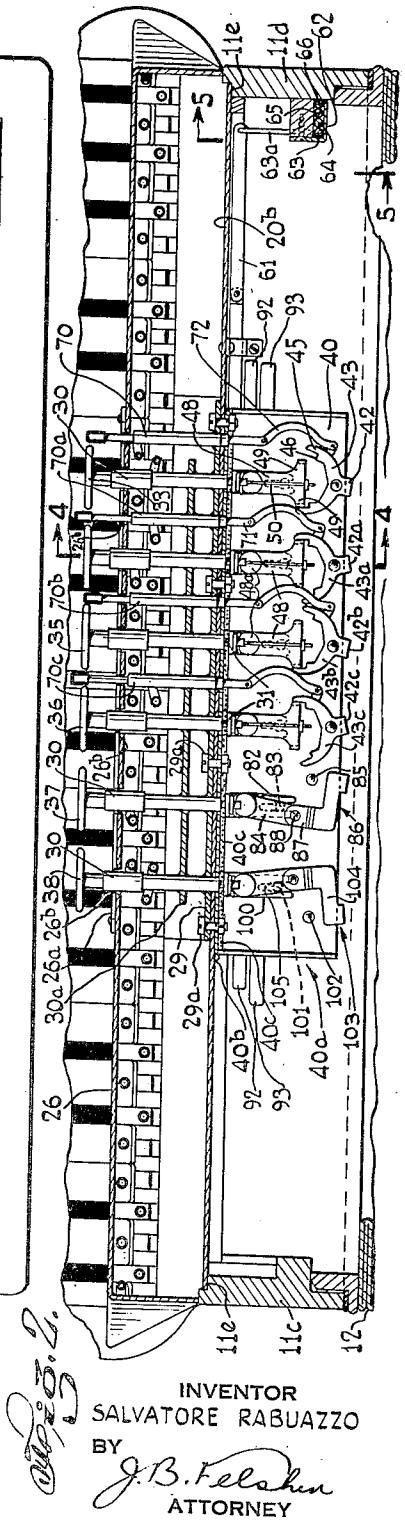


Fig. 2.

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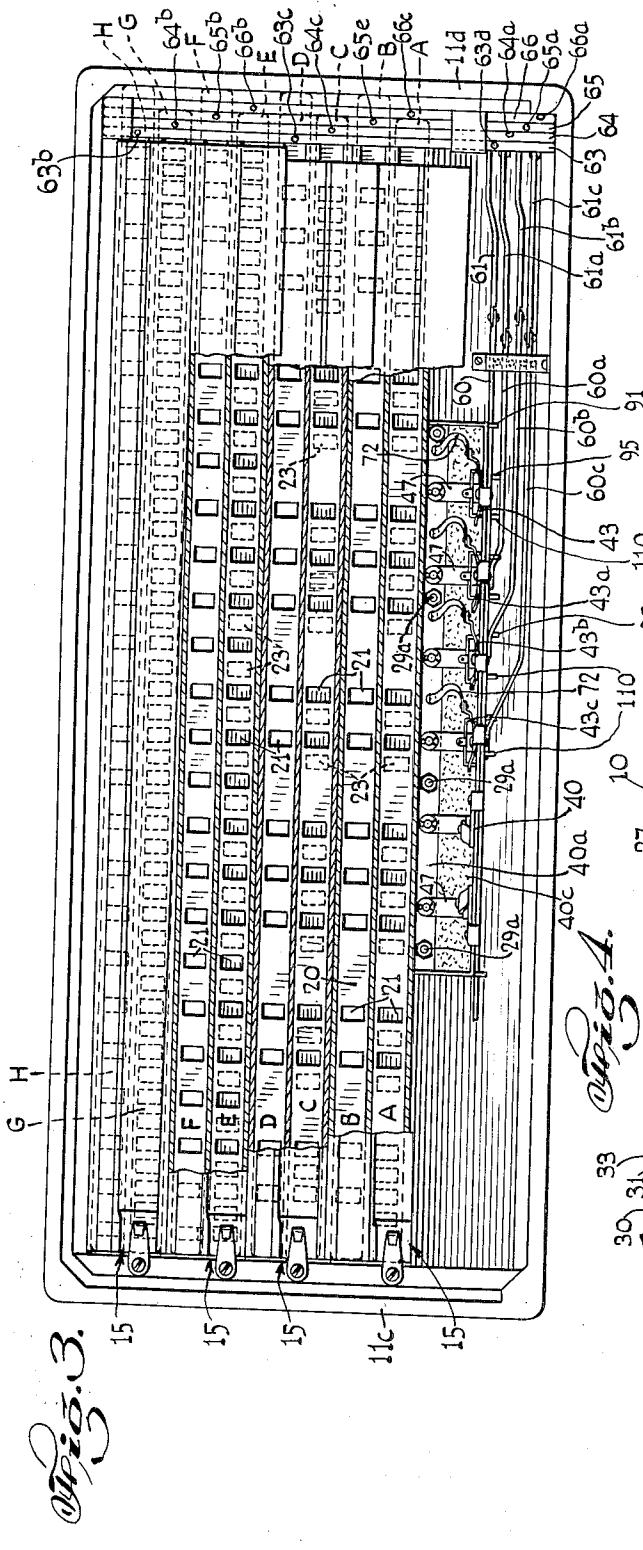


Fig. 3.

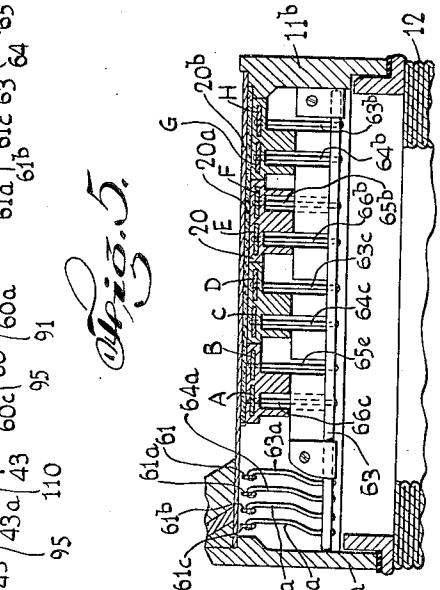


Fig. 5.

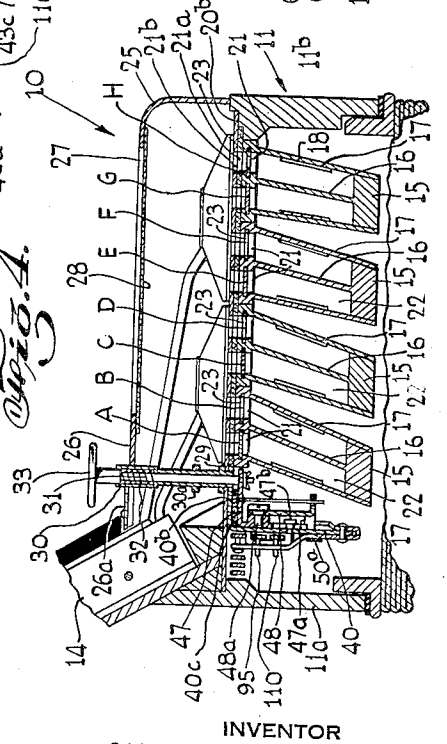


Fig. 4.

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ACCORDION

Filed Oct. 26, 1937 3 Sheets-Sheet 3

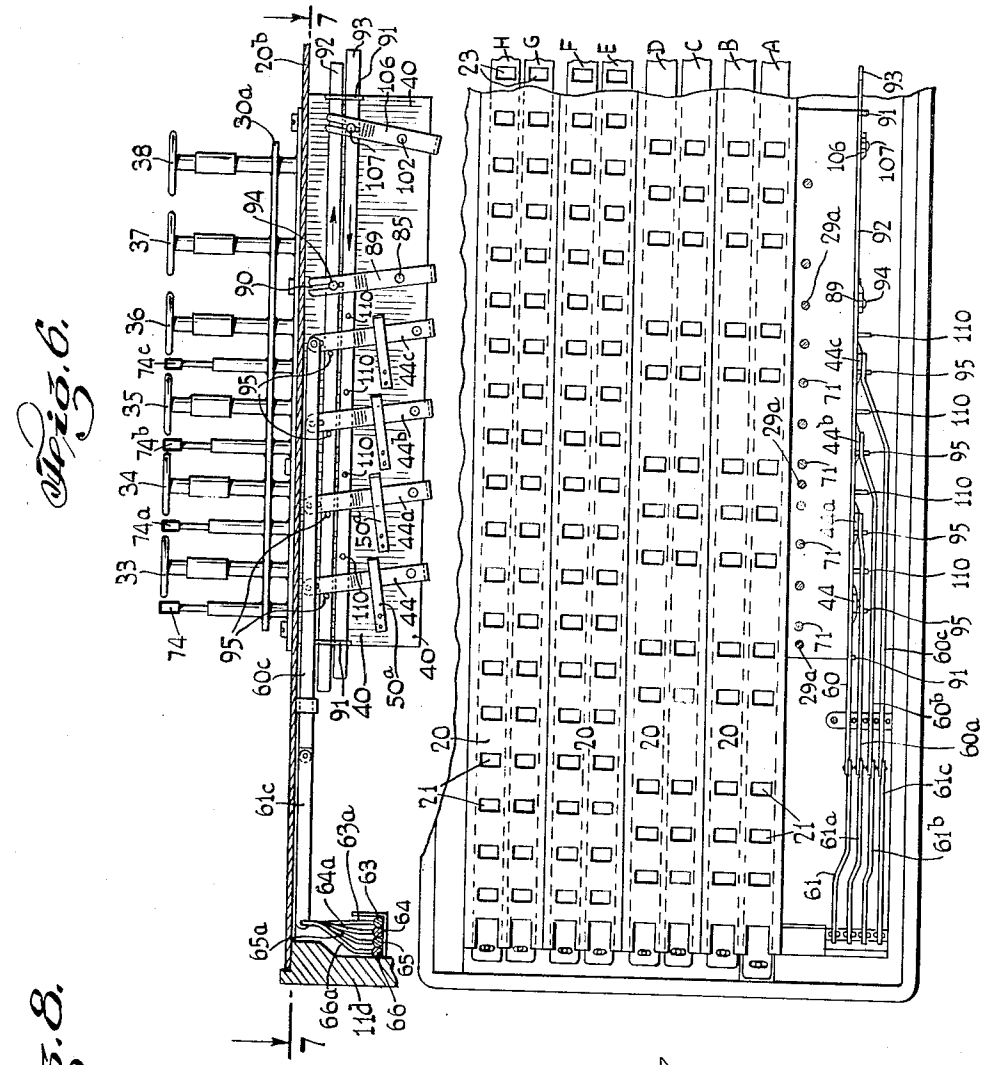


Fig. 6.

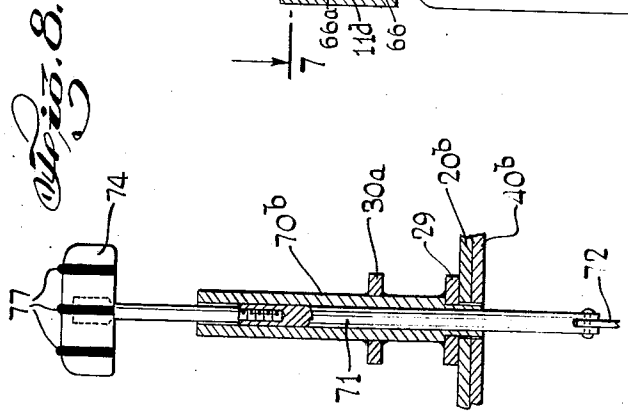


Fig. 8.



Fig. 7.

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Patented July 16, 1940

2,208,228

UNITED STATES PATENT OFFICE

2,208,228

ACCORDION

Salvatore Rabuazzo, New York, N. Y.

Application October 26, 1937, Serial No. 171,029

15 Claims. (Cl. 84—376)

This invention relates to accordions. It is particularly directed to means for controlling the slide valves for the wind cells of the accordion, and for indicating the positions of said valves.

An object of this invention is to provide in an accordion, highly improved means for controlling the slide valves to either open or close the same, in many combinations or all together, the control means being so located on the accordion as to be easily accessible to the fingers of the player without removing the hand from the keyboard while the accordion is being played.

A further object of this invention is to provide in an accordion of the character described highly improved means to indicate which of the slide valves are open or closed.

Yet another object of this invention is to provide in an accordion of the character described, a strong, rugged and durable mechanism for controlling the slide valves for the wind cells, which shall be relatively inexpensive to manufacture, positive and smooth in action, easy to manipulate, comfortable to use, and which shall yet be practical and efficient to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawings, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a top plan view of an accordion embodying the invention;

Fig. 2 is a partial, cross-sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a top plan view of the accordion with the top cover removed to show the interior construction;

Fig. 4 is a cross-sectional view taken on line 4—4 of Fig. 2;

Fig. 5 is a cross-sectional view taken on line 5—5 of Fig. 2;

Fig. 6 is a view similar to Fig. 2, but showing the opposite side of the control mechanism;

Fig. 7 is a cross-sectional view taken on line 7—7 of Fig. 6; and

Fig. 8 is an enlarged, vertical, cross-sectional view of one of the indicators.

Referring now in detail to the drawings, 10 designates an accordion embodying the invention and comprising a top main section 11 and bellows 12 connected thereto in the usual manner. Said section 11 has parallel side walls 11*a* and 11*b*, and parallel end walls 11*c* and 11*d*. The top rim edge of section 11 has an inner shoulder 11*e* supporting a metal plate 20*b* closing the top of said section.

Attached to the underside of plate 20*b*, and extending the length of section 11 is a layer of sheet 20*a* of felt or the like padding material. Sheet 20*a* extends at one side edge to wall 11*b* of section 11, but the other side edge thereof terminates short of wall 11*a*, as shown in Fig. 5. Extending from the main body 11 adjacent wall 11*a*, is a keyboard 14. Within the body 11 and beneath sheet 20*a* are blocks of wind cells 15 of usual construction, each being divided by a central partition 16. Each block of wind cells has side walls 17 carrying usual reeds 18. For the purpose of illustration, four blocks of wind cells are shown each divided by the partition 16, making altogether eight substantially parallel rows 22 of said wind cells. At the top of the wind cells is a plate 20 formed with eight rows of spaced openings 21 communicating with the eight blocks of wind cells 22. Sheet 20*a* and plate 20*b* have openings 21*a*, 21*b*, respectively, registering with openings 21.

Slidably mounted on the plate 20, are eight slide valves designated by the letters A, B, C, D, E, F, G and H respectively. The said slide valves are elongated, flat strips of metal, and each is formed with spaced openings 23 adapted to register with the openings 21. Each slide valve however may be moved, in the manner hereinafter described, longitudinally to cover the openings 21, the portions of the slide valves between the openings 23 in said slide valves being of sufficient area to cover said openings 21.

Means is provided for moving said slide valves in various combinations to open and closed positions and for simultaneously opening and closing all of said slide valves. To this end, there is mounted on the top of the body 11, a case 25, having a top wall 26 disposed above and parallel to wall 20*b*, and formed with an opening 27 covered by a perforated screen 28.

On plate 20*b* is an elongated bar 29 disposed parallel to wall 11*a*. Attached to the underside of plate 20*b* by bolts 29*a* is an angle shaped member 40*a* having a vertical downwardly extending wall 40, parallel to wall 11*a*, and a horizontal wall 40*b* contacting the underside of plate 20*b*. The attaching bolts 29*a* pass through registering openings in plate 20*b*, bar 29 and wall 40*b* of member 40*a*. Pasted to the underside of said

wall 40b is an elongated strip of felt or leather 40c.

Mounted in the top of the accordion and adjacent the foot of the keyboard 14, is a row of spaced, vertical, tubular members 30 extending through case 25 and projecting above wall 26. Said tubular members pass through openings in wall 40b, bar 29 and plate 20b.

Top wall 26 has a cut out adjacent keyboard 14 through which tubular members 30 project. A plate 26a fixed to the top of wall 26 and covering said cut out, has notches 26b to receive said tubular members. A bar 30a parallel to bar 29 has openings through which tubular members 30 pass as shown in Fig. 2. Within each tubular member 30 is a spring pressed plunger 31, a spring 32 within the tubular member serving to maintain the plunger in raised position. Each plunger has a button at the top. As shown in Fig. 1 of the drawings, there are six plungers and hence, six buttons, designated by numerals 33, 34, 35, 36, 37 and 38, respectively.

Pivoted to plate 40, and aligned with the keys 33, 34, 35 and 36, are similar levers 42, 42a, 42b and 42c, respectively, having portions 43, 43a, 43b, 43c, on one side of the wall 40 (between said wall and the wind cells), and upwardly extending arms 44, 44a, 44b, 44c on the other side of the wall 40 (between said wall and wall 11a of section 11). Portions 43, 43a 43b, 43c each have a pair of upwardly extending spaced symmetrical fingers 45 formed with inner shoulders 46.

Plungers 31 are aligned with the pivot points for levers 42, 42a, 42b, 42c, and fingers 45 are located on opposite sides of said pivot points.

Fixed to the bottom end of each plunger 31 is a foot 47 contacting felt strip 40c and having a slotted portion 47a receiving a guide pin 47b fixed to wall 40. Pivoted to each foot 47 is a lever 48 having at its lower end, a pair of oppositely extending feet 49. The lever 48 is held in normally vertical position by a piece of spring wire 50, fixed at its upper end to the foot 47 and engaging at its lower end the bottom end of the levers 49.

Looking at Fig. 2 of the drawings, it will be noted that the portion 43 of the lever 42 is tilted to the right. Upon depressing the button 33, the left foot 49 will engage the shoulder 46 of the left finger 45 and cause the lever 42 to rock in a counter-clockwise direction. This action will cause the lever 48 to rock about its pivot 48a in a clockwise direction. Upon releasing finger pressure from the button 33, its plunger will move up under the action of its spring 32, and the spring wire 50 will straighten the lever 48 or move the same back to vertical position. The above described movement of the lever 42 will move the same to the position of lever 42 as shown in Fig. 2. Should button 33 be thereafter again depressed, lever 42 will be caused to rock in an opposite direction back to its original position. Thus, as each of the keys 33, 34, 35 and 36 are repeatedly depressed their levers 42, 42a, 42b, 42c will be rocked first in one direction, and then in the opposite direction. Strip springs 50a attached to wall 40 engage lever arms 44, 44a, 44b, 44c to hold levers 42, 42a, 42b, 42c in the positions to which they are moved. Strip 40c serves as a shock absorber for feet 47 as the plungers move up.

As shown in Figs. 3 and 6, there is attached to the upper ends of arms 44, 44a, 44b, 44c, horizontal connecting rods 60, 60a, 60b, 60c, respectively. Pivotally connected to said connecting rods are links 61, 61a, 61b, 61c. The connecting rods and links are located between the walls 40 and 11a, just below plate 20b.

Attached to the inner surface of wall 11a of section 11 are a pair of horizontally aligned brackets 62. Rotatably mounted in said brackets adjacent the end wall 11d of the body 11, and below the plate 20a are four coextensive horizontally aligned shafts 63, 64, 65 and 66. Attached to the shaft 63, is an arm 63a pivotally connected to link 61a. An arm 64a fixed to the shaft 64 is pivotally connected to the link 61a. An arm 65a fixed to the shaft 65, is pivotally connected to the link 61b. An arm 66a fixed to the shaft 66, is pivotally connected to the link 61c.

Fixed to the shaft 63 are upwardly extending arms 63b and 63c pivotally engaging adjacent ends of the slide valves H and D, respectively. Fixed to the shaft 64, are arms 64b and 64c, pivotally connected to adjacent ends of the slide valves C and G, respectively. Fixed to the shaft 65 are arms 65b and 65c, pivotally connected to adjacent ends of the slide valves F and B respectively. Fixed to the shaft 66 are arms 65b and 66c pivotally connected to adjacent ends of the slide valves E and A respectively.

The movement of the slide valves will now be described. Beginning with the slide valves all in closed position, (the portions between the openings 23 in said slide valves covering said openings 21, 21a, 21b at the top of the wind cells), should the button 33 be depressed, the lever 42 will be rocked from the position shown in Fig. 2 to cause connecting member 60 and the link 61 to be moved longitudinally for rocking the shaft 63 and shifting the slide valves H and D to open position uncovering openings 21, 21a, 21b. Upon thereafter again depressing the key 33, lever 42 will be rocked back to its original position and slide valves H and D will again shift to closing position. The button 34 controls the slide valves G and C. Button 35 controls the slide valves F and B, whereas, button 36 controls the slide valves E and A. In the drawings levers 43a and 43c are shown in position for closing valves C, G, A, E. Thus, each button controls a pair of slide valves. Upon depressing a button once its two slide valves open, and upon thereafter depressing the same button, its two slide valves close. In this manner the tonal harmony of the accordion may be regulated by the player.

Means is provided to indicate which pairs of the slide valves are open and which pairs are closed. To this end, there is fixed within the accordion, four similar, vertical tubes 70, 70a, 70b and 70c, located parallel and adjacent one of the tubular members 30. Within each tube is a rod 71 connected through a link 72 to one of the levers 42, 42a, 42b and 42c. The rods 71 slide within their tubes, and fixed to the upper ends of each is a button. There are four buttons designated by numerals 74, 74a, 74b, 74c. The first button 74, adjacent button 33, has a single marker 75. The second button 74a, adjacent button 34, has two markers 76. The third button, 74b, adjacent button 35, has three markers 77, and the fourth button 74c, adjacent button 36, has four markers 78. The positions of the levers 42, 42a, 42b and 42c will control the positions of the buttons 74, 74a, 74b and 74c. When said levers are tilted in one direction, said buttons will be down indicating open valves, and when tilted in the opposite direction, said buttons will be up indicating closed valves. The buttons 74, 74a, 74b, 74c with their markers thus

indicate to the player which valves are closed and which are open. Thus, when button 74 is down it indicates that valves D and H are open. When button 33 is depressed to close said valves, button 74 goes up.

Means is provided for simultaneously opening all of the slide valves and for simultaneously closing all of said slide valves. To this end, there is fixed to the plunger or rod carrying the button 37, a bifurcated downwardly extending plate 82, receiving a guide pin 83, fixed to the wall 40. Pivoted to the upper end of plate 82 is a link 84. Pivoted to the wall 40 as at 85, is a lever 86 having an arm 87 on one side of the wall 40, and an arm 89 on the other side of the wall 40. The arm 87 is offset with respect to the pivot 85 and is pivotally connected as at 88 to the lower end of the link 84.

The arm 89 has a slot 90 at its upper end, for the purpose hereinafter appearing. Slidably mounted on a pair of aligned brackets 91, fixed to the wall 40, are a pair of parallel, horizontal coextensive bars 92 and 93, disposed side by side, closely adjacent said wall. On bar 92 is a pin 94 engaging within the slot 90 of the arm 89. As shown in the drawings, the arm 89 is normally inclined toward the end wall 11*d* of the accordion. When the valves are open, the lever arms 44, 44*a*, 44*b* and 44*c* are also tilted upwardly toward the end wall 11*d*. On bar 92 are four spaced pins 95 adapted to substantially contact the lever arms 44, 44*a*, 44*b* and 44*c* when the slide valves are open. Upon depressing the button 37, the lever 86 will be caused to rotate about its pivot 85 in a counter-clockwise direction, looking at Fig. 2, or in a clockwise direction, looking at Fig. 6. This operation will cause bar 92 to shift to the right (looking at Fig. 6) to rotate the lever arms 44, 44*a*, 44*b* and 44*c* in a clockwise direction looking at Fig. 6 of the drawings, to close all of the slide valves due to engagement of pins 95 with said lever arms.

Attached to the lower end of the plunger or rod which carries the button 38, is a slotted member 100, receiving a guide pin 101 fixed to the wall 40. Pivoted to said wall, as at 102, is a lever 103 symmetrical relative to lever 86, and having an offset arm 104. A link 105 connects the upper end of the offset arm 104 with the lower end of the slotted member 100. Lever 103 also has an arm 106 on the opposite side of the wall 40 slotted at its outer end to receive a pin 107 on the bar 93.

It will be noted that normally the lever arm 106 tilts in a direction opposite to the lever arm 89. On the bar 93 are four pins 110 located on the opposite sides of the lever arms 44, 44*a*, 44*b* and 44*c*. Each of said lever arms is disposed between a pin 95 on bar 92 and a pin 110 on bar 93.

As shown in Fig. 6 of the drawings, when the slide valves are all open, the levers 44, 44*a*, 44*b* and 44*c* contact the pins 95 but are spaced from the pins 110. However, when the button 37 is depressed to close the valves, said lever arms will move through an angle substantially into contact with the pins 110, to close the valves. When the valves are closed and the button 38 is depressed, the lever arm 106 will move in a counterclockwise direction looking at Fig. 6 of the drawings to shift bar 93 to the left, to rotate the lever arms 44, 44*a*, 44*b* and 44*c* in a counter-clockwise direction due to engagement of pins 110 of said bar with said lever arms, to again open all of the valves. When either of the buttons 37 or 38 is released after being depressed, it moves upwardly to normal position, and its lever likewise moves back to normal position, as shown in Fig. 6.

There is thus provided means for simultaneously opening all of the valves and for simultaneously closing all of the valves.

It will be noted that upon depressing the button 37 to close all of the slide valves, the levers 42, 42*a*, 42*b* and 42*c* will be rocked to valve closing position, if not already in such position, causing the buttons 74, 74*a*, 74*b* and 74*c* to move up, if said buttons are not already in the up positions, to indicate that all of the valves are closed. Also upon depressing the button 38, to open all of the valves, all of the levers 42, 42*a*, 42*b* and 42*c* will be rocked to valve open position, if not already in such position, and the buttons 74, 74*a*, 74*b* and 74*c* will be pulled down, if not already in down position, to indicate that all of the valves are open.

It will be understood that upon depressing the button 37 only those valves which are open will be closed, and the valves which are already closed will not be affected. Similarly, upon depressing the button 38 only the valves which are closed will be open and the other valves will not be changed.

It will also be understood that the buttons 33, 34, 35 and 36 may be operated without affecting the buttons 37, 38 or levers 86, 103 or the bars 92, 93. As shown in Fig. 6, the lever arms 44, 44*a*, 44*b* and 44*c* may be oscillated back and forth by depressing buttons 33, 34, 35 and 36, from valve opening to valve closing position, between the pins 95 and 110 without moving the bars 92, 93.

Keys pivoted to plate 26*a* and to rods or plungers 31 may be substituted for buttons 33, 34, 35 and 36.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. An accordion having a main section, a block of wind cells thereon, a slide valve controlling the same, a plunger slidably mounted on said section, a lever pivoted to said section, means on the plunger to rock said lever alternately in opposite directions upon successively depressing said plunger, a shaft rotatably mounted within said accordion and extending at right angles to said slide valve, an arm on said shaft engaging said slide valve, a second arm on said shaft, and means for connecting said second arm to said lever, and means operable upon depressing said plunger to indicate the position of said lever.

2. An accordion having a main section, a block of wind cells thereon, a slide valve controlling the same, a wall fixed within said section, a tubular member fixed to said main section, a plunger slidably mounted in said tubular member, a button on said plunger disposed above said main section, a lever pivoted to said wall, means on the plunger to rock said lever alternately in opposite directions upon successively

depressing said plunger, a shaft rotatably mounted within said accordion and extending at right angles to said slide valve, an arm on said shaft engaging said slide valve, a second arm on said shaft, means for connecting said second arm to said lever, a second tubular member fixed within said accordion and disposed parallel to the first tubular member, a rod slidably mounted therein, a button at the top of said rod, and a link connecting said rod to said lever.

3. An accordion having a main section, a block of wind cells thereon, a slide valve controlling the same, a wall fixed within said section, a tubular member fixed to said main section, a plunger slidably mounted in said tubular member, a button on said plunger disposed above said main section, a lever pivoted to said wall, means on the plunger to rock said lever alternately in opposite directions upon successively depressing said plunger, a shaft rotatably mounted within said accordion and extending at right angles to said slide valve, an arm on said shaft engaging said slide valve, a second arm on said shaft, means for connecting said second arm to said lever, a second tubular member fixed within said accordion and disposed parallel to the first tubular member, a rod slidably mounted therein, a button at the top of said rod, a link connecting said rod to said lever, a pair of tubular members fixed within said accordion and disposed parallel to said first tubular members, a pair of spring pressed rods therein, buttons at the upper ends of said last mentioned rods, a pair of symmetrical levers pivoted to said wall, and having arms offset in opposite directions, one connected by a link to one of said pair of rods, and the other connected by a link to the other of said pair of rods, said pair of levers having arms inclined in opposite directions, a pair of parallel bars slidably mounted on said wall, one having a pin and slot connection with the inclined arm of one of said pair of levers, and the other having a pin and slot connection with the inclined arm of the other of said pair of levers, and pins on said bars disposed on opposite sides of the arm of said first mentioned lever.

4. In an accordion, a block of wind cells, a slide valve controlling said block of wind cells, a spring pressed button on said accordion, means for alternately opening and closing said slide valve upon successive depressions of said spring pressed button, a second spring pressed button on said accordion, means for closing said valve each time said last mentioned spring pressed button is depressed, if said valve is not already in closed condition, and a third spring pressed button on said accordion, and means controlled by said third button for opening said slide valve upon depressing said third button, if said slide valve is not already in open condition.

5. In an accordion, a block of wind cells, a slide valve controlling said block of wind cells, a spring pressed button on said accordion, means for alternately opening and closing said slide valve upon successive depressions of said spring pressed button, a second spring pressed button on said accordion, means for closing said valve each time said last mentioned spring pressed button is depressed, if said valve is not already in closed condition, and a third spring pressed button on said accordion, means controlled by said third button for opening said slide valve upon depressing said third button, if said slide valve is not already in open condition, a fourth spring pressed button, means for moving said fourth spring pressed button to one predetermined position when said valve is moved to open position, and to another predetermined position when said valve is moved to closed position.

6. In an accordion, a plurality of blocks of wind cells, a slide valve for each of said blocks, said valves being located in the same plane, a plurality of parallel shafts, perpendicular to the longitudinal axes of said slide valves, means for connecting each shaft to a pair of said slide valves, a wall fixed within said accordion, and disposed in a plane perpendicular to said slide valves and said shafts, a plurality of similar levers pivoted to said wall, and having arms, means connecting said arms of said levers to said shafts, for oscillating the latter upon oscillating said levers, said levers each having a portion formed with a pair of spaced fingers located on opposite sides of the pivot point for said lever, a plunger adapted to be depressed by the finger of the player, associated with each lever, and slidably mounted on said accordion, a member pivoted to each plunger and having feet between said fingers, and adapted to alternately engage said fingers to oscillate said lever in opposite directions, upon said plunger being successively depressed, said pivoted members being adapted to oscillate with said levers and oppositely thereto, due to engagement of the feet of said members with the fingers of said levers, spring means for returning said plungers to normal position upon releasing finger pressure from said plungers after depressing the same, and spring means, actuable upon return of each plunger to normal position, for oscillating the members pivoted thereto, from engagement with one finger of the lever associated therewith into engagement with the other finger of said lever.

7. In an accordion, a plurality of blocks of wind cells, a slide valve for each of said blocks, said valves being located in the same plane, a plurality of parallel shafts, perpendicular to the longitudinal axes of said slide valves, means for connecting each shaft to a pair of said slide valves, a wall fixed within said accordion, and disposed in a plane perpendicular to said slide valves and said shafts, a plurality of similar levers pivoted to said wall, and having arms, means connecting said arms of said levers to said shafts, for oscillating the latter upon oscillating said levers, said levers each having a portion formed with a pair of spaced fingers located on opposite sides of the pivot point for said lever, a plunger adapted to be depressed by the finger of the player, associated with each lever, and slidably mounted on said accordion, a member pivoted to each plunger and having feet between said fingers, and adapted to alternately engage said fingers to oscillate said lever in opposite directions, upon said plunger being successively depressed, said pivoted members being adapted to oscillate with said levers and oppositely thereto, due to engagement of the feet of said members with the fingers of said levers, spring means for returning said plungers to normal position upon releasing finger pressure from said plungers after depressing the same, spring means, actuable upon return of each plunger to normal position, for oscillating the members pivoted thereto, from engagement with one finger of the lever associated therewith into engagement with the other finger of said lever, and an indicator connected with each lever.

8. In an accordion, a plurality of blocks of wind cells, a slide valve for each of said blocks, said valves being located in the same plane, a

plurality of parallel shafts, perpendicular to the longitudinal axes of said slide valves, means for connecting each shaft to a pair of said slide valves, a wall fixed within said accordion, and disposed in a plane perpendicular to said slide valves and said shafts, a plurality of similar levers pivoted to said wall, and having arms, means connecting said arms of said levers to said shafts, for oscillating the latter upon oscillating said levers, said levers each having a portion formed with a pair of spaced fingers located on opposite sides of the pivot point for said lever, a plunger adapted to be depressed by the finger of the player, associated with each lever, and slidably mounted on said accordion, a member pivoted to each plunger and having feet between said fingers, and adapted to alternately engage said fingers to oscillate said lever in opposite directions, upon said plunger being successively depressed, said pivoted members being adapted to oscillate with said levers and oppositely thereto, due to engagement of the feet of said members with the fingers of said levers, spring means for returning said plungers to normal position upon releasing finger pressure from said plungers after depressing the same, and spring means, actuable upon return of each plunger to normal position, for oscillating the members pivoted thereto, from engagement with one finger of the lever associated therewith into engagement with the other finger of said lever, means for simultaneously rotating all of said levers in one direction, and means for simultaneously rotating all of said levers in an opposite direction.

9. In an accordion, a plurality of blocks of wind cells, a slide valve for each of said blocks, said valves being located in the same plane, a plurality of parallel shafts, perpendicular to the longitudinal axes of said slide valves, means for connecting each shaft to a pair of said slide valves, a wall fixed within said accordion, and disposed in a plane perpendicular to said slide valves and said shafts, a plurality of similar levers pivoted to said wall, and having arms, means connecting said arm of said levers to said shafts, for oscillating the latter upon oscillating said levers, said levers each having a portion formed with a pair of spaced fingers located on opposite sides of the pivot point for said lever, a plunger adapted to be depressed by the finger of the player, associated with each lever, and slidably mounted on said accordion, a member pivoted to each plunger and having feet between said fingers, and adapted to alternately engage said fingers to oscillate said lever in opposite directions, upon said plunger being successively depressed, said pivoted members being adapted to oscillate with said levers and oppositely thereto, due to engagement of the feet of said members with the fingers of said levers, spring means for returning said plungers to normal position upon releasing finger pressure from said plungers after depressing the same, and spring means, actuable upon return of each plunger to normal position, for oscillating the members pivoted thereto, from engagement with one finger of the lever associated therewith into engagement with the other of said lever, means for simultaneously rotating all of said levers in one direction, means for simultaneously rotating all of said levers in an opposite direction, and an indicator connected with each lever.

10. In an accordion, a plurality of blocks of wind cells, a slide valve for each of said blocks, said valves being located in the same plane, a plurality of parallel shafts, perpendicular to the longitudinal axes of said slide valves, means for connecting each shaft to a pair of said slide valves, a wall fixed within said accordion, and disposed in a plane perpendicular to said slide valves and said shafts, a plurality of similar levers pivoted to said wall, and having arms, means connecting said arms of said levers to said shafts, for oscillating the latter upon oscillating said levers, said levers each having a portion formed with a pair of spaced fingers located on opposite sides of the pivot point for said lever, a plunger adapted to be depressed by the finger of the player, associated with each lever, and slidably mounted on said accordion, a member pivoted to each plunger and having feet between said fingers, and adapted to alternately engage said fingers to oscillate said lever in opposite directions, upon said plunger being successively depressed, said pivoted members being adapted to oscillate with said levers and oppositely thereto, due to engagement of the feet of said members with the fingers of said levers, spring means for returning said plungers to normal position upon releasing finger pressure from said plungers after depressing the same, and spring means, actuable upon return of each plunger to normal position, for oscillating the members pivoted thereto, from engagement with one finger of the lever associated therewith into engagement with the other finger of said lever, a pair of coextensive parallel bars disposed side by side and slidably mounted on said wall, pins on one of said bars located on one side of said arms of said levers, pins on the other of said bars located on the other side of said arms of said levers, a pair of plungers slidably mounted on said accordion and adapted to be depressed by the fingers of the player, spring means for returning said pair of plungers to normal positions upon releasing finger pressure therefrom, after depressing the same, means on one of said pair of plungers for longitudinally shifting one of said bars in one direction, upon depressing said plunger, to simultaneously rotate all of said levers in one direction, due to engagement of the pins on said bar with said arms of said levers, and means on the other of said pair of plungers for longitudinally shifting the other bar in an opposite direction, upon depressing said plunger, to simultaneously rotate all of said levers in an opposite direction due to engagement of the pins of said other bar with the arms of said levers.

11. In an accordion having a plurality of parallel blocks of wind cells and a slide valve for each of said blocks, a plurality of levers, means for interconnecting said levers to said slide valves, a spring pressed plunger associated with each lever and adapted to be depressed by the finger of the player, means for oscillating each lever in opposite directions upon successively depressing the plunger associated therewith, a pair of parallel bars, means for supporting said bars for longitudinal reciprocation, means on one of said bars adapted to rotate all of said levers in one direction upon slidably moving said bar longitudinally in one direction, means on the other bar to rotate said levers in an opposite direction, upon slidably moving said second bar longitudinally in a direction opposite to the direction of movement of the first bar, a pair of spring pressed plungers, means on one of said pair of plungers for slidably moving one of said bars, and means on the other of said pair of plungers for slidably moving the other of said pair of bars.

12. In an accordion, a slide valve, a depressible member, a lever, means to rock said lever alternately in opposite directions upon successively depressing said depressible member, a shaft rotatably mounted within said accordion, an arm on said shaft engaging said slide valve, a second arm on said shaft, means for connecting said second arm to said lever, a second depressible member, a link connecting said second depressible member to said lever, a pair of spring pressed rods, a pair of symmetrical levers, one connected to one of said pair of rods, and the other connected to the other of said pair of rods, a pair of parallel bars slidably mounted on said accordion, one having a lost motion connection with one of said pair of levers, and the other having a lost motion connection with the other of said pair of levers, means on one of said bars to move the first mentioned lever in one direction only, and means on the other of said bars to move said first mentioned lever in an opposite direction only.

13. In an accordion, a block of wind cells, a slide valve therefor, a depressible member on said accordion, a lever pivoted to said accordion, means on said depressible member to rock said lever alternately in opposite directions upon successively depressing said member, a shaft rotatably mounted within said accordion and extending at right angles to said slide valve, an arm on said shaft engaging said slide valve, a second arm on said shaft, means for connecting said second arm to said lever, an indicator member movably mounted on said accordion, and means to connect said indicator to said lever.

14. In an accordion having a block of wind cells and a slide valve therefor, a shaft perpendicular to said slide valve, means for connecting said shaft to said slide valve, a lever pivoted to said accordion, means for connecting said lever to said shaft for oscillating the latter when said lever is oscillated, said lever having a pair of spaced fingers located on opposite sides of the pivot point for said lever, a member on said accordion adapted to be depressed by the finger of the player, a member pivoted to said depressible member and having feet disposed between said fingers and adapted to alternately engage said fingers, to oscillate said lever in opposite directions, upon said depressible member being successively depressed, said pivoted member being adapted to oscillate with said lever, and oppositely thereto, due to engagement of the feet of said pivoted member with the fingers of said lever, spring means for returning said depressible member to normal position upon releasing finger pressure therefrom after the same has been depressed, and spring means actuable upon return of each depressible member to normal position for oscillating the pivoted member from engagement with one finger of the lever into engagement with the other finger of said lever.

15. In an accordion having a block of wind cells and a slide valve therefor, a shaft perpendicular to said slide valve, means for connecting said shaft to said slide valve, a lever pivoted to said accordion, means for connecting said lever to said shaft for oscillating the latter when said lever is oscillated, said lever having a pair of spaced fingers located on opposite sides of the pivot point for said lever, a member on said accordion adapted to be depressed by the finger of the player, a member pivoted to said depressible member and having feet disposed between said fingers and adapted to alternately engage said fingers, to oscillate said lever in opposite directions, upon said depressible member being successively depressed, said pivoted member being adapted to oscillate with said lever, and oppositely thereto, due to engagement of the feet of said pivoted member with the fingers of said lever, spring means for returning said depressible member to normal position upon releasing finger pressure therefrom after the same has been depressed, spring means actuable upon return of each depressible member to normal position for oscillating the pivoted member from engagement with one finger of the lever into engagement with the other finger of said lever, a pair of depressible members on said accordion, means for rotating said lever in one direction upon depressing one of said depressible members, and means for rotating said lever in an opposite direction upon depressing the other of said pair of depressible members.

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