Sept. 24, 1963 K. BERWIN 3,104,581

ELECTRIFIED ACCORDION

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Fig. 1

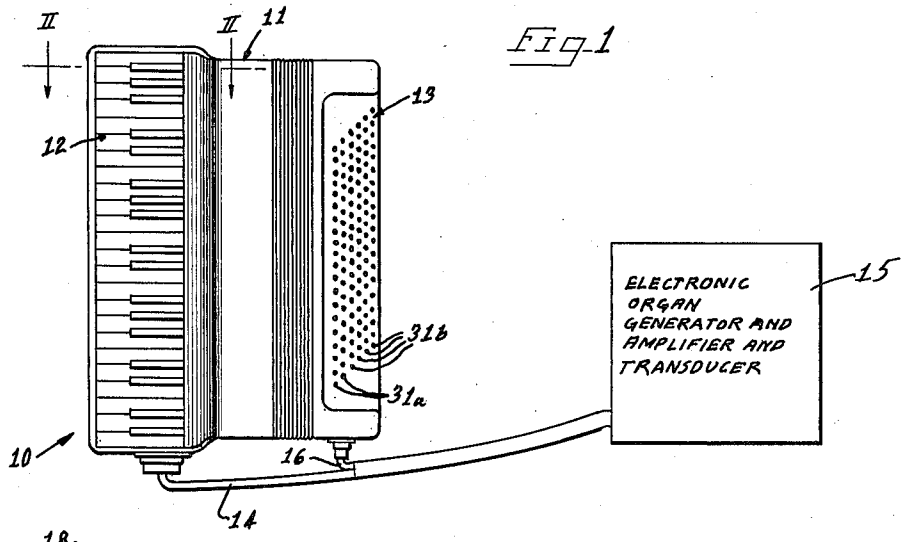


Fig. 2

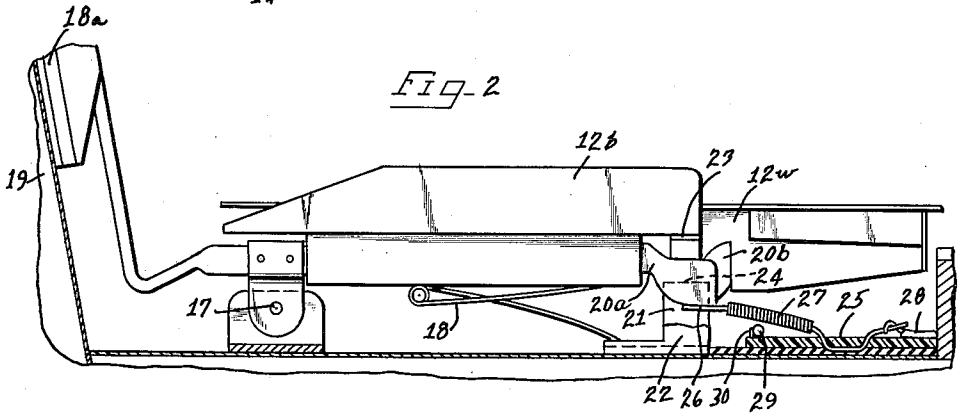
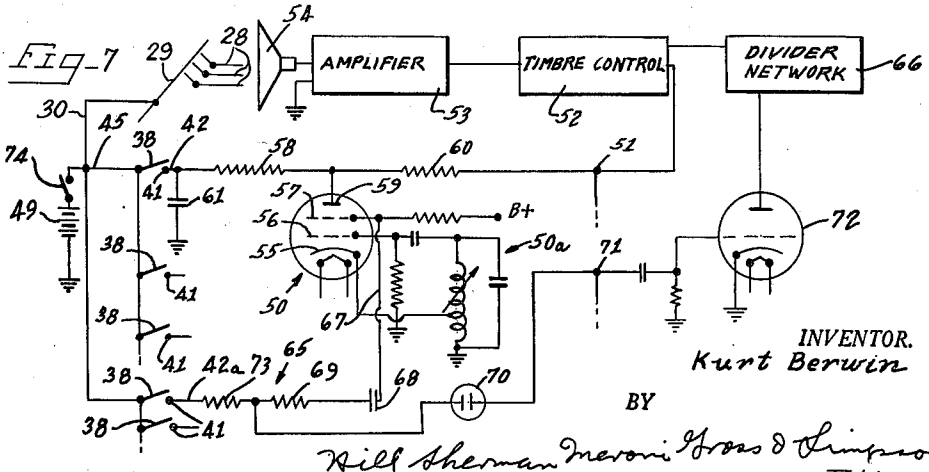


Fig. 7



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Fig. 4

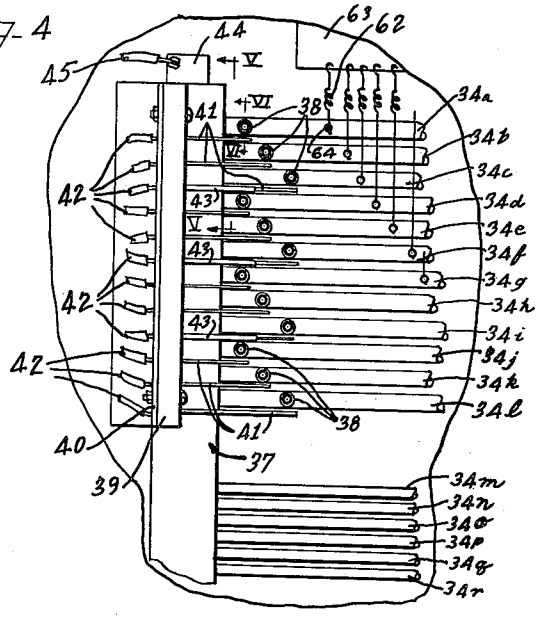


Fig. 5

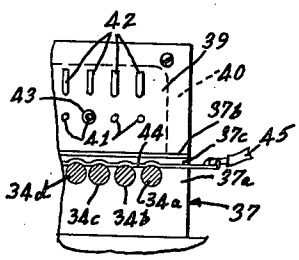


Fig. 6

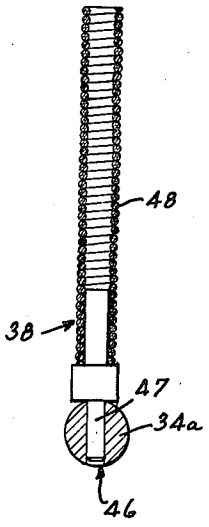
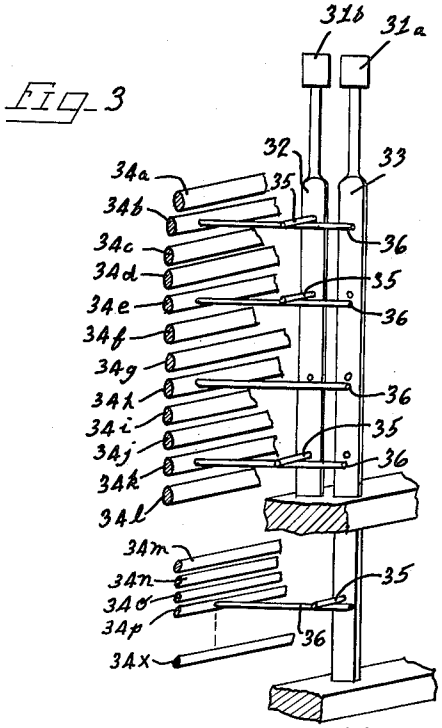


Fig. 3



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3,104,581
ELECTRIFIED ACCORDION

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Filed June 13, 1960, Ser. No. 35,470
13 Claims. (Cl. 84—171)

This invention relates generally to an electrified accordion, and more specifically to an improved bass action incorporated therein.

Although the principles of the present invention may be included in various accordion actions, a particularly useful application is made in accordion bass actions of the 120-key type, each of which actions operates at least twelve reed-valves. When such action is provided with the instant invention, the action also simultaneously operates a separate electrical instrument, such as a keyed organ or a keyless organ.

To this end, both the treble keys and the bass keys are provided with electrical switches which communicate through a cable with the separate instrument. The electrical switches do not interfere in any way with the operation of the accordion reeds, so that a musician may play duet-type of music from a single instrument. The various key-actuated switches are adapted to be connected into various note-producing branches of the electrical circuit of the electrical instrument, such as an organ, so that the organ requires no keys. Similarly, the instant electrified accordion of this invention is so constructed that it may have its cable plugged into an appropriate connector carried by a conventional organ wherein the keys of the conventional organ are by-passed. Thus the invention may be embodied in an instrument which is an accordion adapted to be plugged into a conventional electrical instrument, or the invention may be embodied in a combination instrument which includes an accordion and a keyless organ.

Accordingly, it is an object of the present invention to provide an improved electrified accordion.

Another object of the present invention is to provide an improved electrified bass accordion action.

Yet another object of the present invention is to provide an improved switch structure for an electrified bass accordion action.

A still further object of the present invention is to provide an electrified accordion assembly which is so constructed as to be selectively employable with either a keyed electrical instrument or with a keyless electrical instrument.

A still further object of the present invention is to provide an improved switch structure which can be easily added to existing accordions without materially altering the appearance thereof.

Many other advantages, features and additional objects of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying sheets of drawings in which a preferred structural embodiment incorporating the principles of the present invention is shown by way of illustrative example.

On the drawings:

FIGURE 1 is an elevational view of an electrified accordion which may be constructed in accordance with the principles of the present invention, the view being partly schematic;

FIGURE 2 is an enlarged fragmentary sectional view taken through the treble keyboard of the accordion of FIGURE 1 along line II—II.

FIGURE 3 is an enlarged fragmentary perspective view of a conventional portion of the bass action of the accordion of FIGURE 1;

FIGURE 4 is an elevational view of an end portion of the bass action of FIGURE 3 constructed in accordance with the principles of the present invention;

FIGURE 5 is a fragmentary view, partly in cross-section taken along line V—V of FIGURE 4;

FIGURE 6 is a further enlarged cross-sectional view taken along VI—VI of FIGURE 4; and

FIGURE 7 is a schematic representation of a manner in which the various accordion switches can be employed in an electrical musical instrument.

As shown on the drawings:

The principles of this invention are particularly useful when embodied in an electrified accordion assembly such as illustrated in FIGURE 1, generally indicated by the numeral **10**. The musical instrument **10** includes an accordion **11** having a treble set of keys **12** and a bass set of keys **13**. The treble keys **12** actuate a conventional set of valves which regulate the vibration of reeds, and the bass keys **13** likewise conventionally operate valves which regulate bass reeds. An electric switch assembly is provided for the treble set of keys which communicates through a cable **14** with a separate electrical musical instrument **15**, further details of which are explained later herein in the discussion of FIGURE 7. Similarly, there is an electric switch provided which is closed with the actuation of each of the bass valves, such switches communicating through a cable **16** with corresponding notes in the electrical instrument **15**.

Referring now to FIGURE 2, there is illustrated a manner and means by which a conventional treble section of the accordion **11** can be electrified. A treble action typically includes black keys **12***b* and white keys **12***w*, each of which is pivoted on a rod or pin **17** and is biased counterclockwise as shown by a spring **18**. Each key is provided with a valve such as **18***a* which communicates with an opening (not shown) leading to a conventional reed chamber **19**, partly illustrated. At the opposite end of the keys, there is provided for each key a guide member **20***a* or **20***b* in the nature of a blade rigidly secured to the key, and received in guide slots defined by adjacent spaced ears **21**, **22**, the ear **22** being broken away to show the blade **20***a* in the slot. The downward travel of the key **12***b* is limited by a felt member **23** which is engageable with a stop surface **24** on one or both ears **21**, **22**.

To provide such an accordion action with electrical switching, an elongated insulative switch plate **25** is disposed beneath the white keys **12***w*. The switch plate **25** is provided with a number of resilient wire-like fingers **26**, a representative one of which is illustrated, and which extend respectively beneath each of the blades **20***a* and **20***b* and which are resiliently biased upwardly against such blades **20***a* and **20***b*. Actuation of a key **12** moves the corresponding blade **20***a* or **20***b* downwardly in its guide slot, and moves the corresponding resilient finger **26** downwardly with it. Upon release of the key, the resilient finger **26** moves upwardly. The resilient finger **26** is provided with a close wound wire helix, for example of fine silver wire, illustrated at **27**, which communicates through a wire **28** with a separate branch of the electric circuit of the instrument **15** to effect readout of a corresponding note. Deflection of the key **12** causes the helix **27** of the movable finger element **26** of the switch to engage an elongated stationary element **29** extending the length of the switch plate **25**, the stationary element **29** thus also being common to the various movable switch elements. The common stationary element **29** communicates through a conductor **30** with a common line in the electrical instrument circuit. The common stationary element **29** is shown in end elevation in FIGURE 2 and preferably is overlaid with a close wound conductive helix (not shown), similar to the winding **27** which forms a part of the movable element of the switch.

A typical bass action includes 120 keys or buttons arranged in two groups. The first group comprises the inner two rows of keys or buttons 31*a*, each of which opens only one valve or octavely related valves, and hence may be termed as solo buttons. The second group comprises the outer four rows of keys or buttons 31*b*, each of which operates three valves to produce a chord, and hence may be termed as chord buttons. The buttons 31*a* and 31*b* are hereinafter referred to jointly as buttons 31.

A representative sample from each group of buttons 31 is illustrated in FIGURE 3. Each of the buttons or keys 31 is carried by a reciprocable member 32, 33 appropriately guided and biased for manual actuation. A typical action of this type employs a first set of twelve rockable rods 34*a*–34*l* and a second set of twelve rockable rods 34*m*–34*x*, each of which when pivoted actuates at least one valve associated with bass reeds (not shown, but broadly similar to FIGURE 2). A further illustration of valve actuating structure is not necessary since such structure is old and known in the art. However, it appears to be helpful to indicate that each of the reciprocable members, such as 32, 33, is provided with a selected number of pins 35 which coact with lever-like rods 36 carried by the various rods 34 at various points. Thus, a reciprocable member such as 33 will actuate or rock only the rod 34*p* to produce a solo note, while a reciprocable member such as 32 will actuate a group of three rods, namely 34*b*, 34*e*, and 34*k* to produce a chord.

Referring now to FIGURE 4, it will be noted that all of the rods 34 are journaled at one end by a bearing assembly 37 in closely spaced parallel relation to each other. In accordance with the principles of this invention, the rods 34 comprise electrically conductive material, and to each rod 34*a*–34*l* there is secured an elongated electrical contact 38 which extends radially therefrom in a common direction, such direction in this view being perpendicular to the drawing. The instant invention further includes an insulative mounting block 39 carried by a mounting bracket 40 which is suitably apertured so that the mounting block 39 may support a corresponding number of elongated contacts 41 in a manner wherein they are insulated from each other and from the mounting bracket 40. Each of the contacts 41 typically comprises comparatively stiff wire, one end of which is stationarily supported. The contacts or wires 41 likewise extend in a common direction transverse to the direction of the contacts 38. It is apparent from this view, that rocking of each rod 34*a*–34*l* will bring its contact 38 into engagement with the adjacent stationary contact 41. Each of the contacts 41 is adapted through a lead wire 42 to be connected to a separate branch in the electric circuit of the instrument 15 to effect simultaneous readout of a chord of three corresponding electrically produced notes.

It will be noted that each of the various contacts 38 are secured to a rod 34*a*–34*l* at points which are staggered axially along the rod from the points at which the contact 38 in the directly adjacent rods are attached. If desired, insulating sleeves 43 may be provided for certain of the contacts 41 to insure against electrical engagement with an adjacent contact 38. The staggering, however, obviates the need for such insulators for most of the contacts 41, since, in this embodiment, two-thirds of the contacts 41 are engaged at a point which extends axially beyond an adjacent contact 41. Thus the contacts 41 also are of staggered length with respect to each directly adjacent parallel contact 41.

Referring now to FIGURE 5, the invention further includes a resilient shim-like member 44 which is clamped between blocks 37*a* and 37*b* and a felt 37*c* jointly comprising the bearing block assembly 37. The shim-like member 44 thus connects all the rods 34 and their contacts 38 together as a group. The shim-like member 44 is provided with a lead wire 45 which communicates with a common line in the electrical circuit of the instrument 15. The shim-like member 44 is thus a conductive resilient member which is clamped into rubbing electrical engagement with each of the rods 34. This rubbing engagement produces a drag or biasing force on the rods 34 which force is dependent in part upon the thickness or stiffness of the resilient member 44. In a conventional bass action, when one of the rods 34*m*–34*x* is rotated in response to playing of a solo button 31*a*, the corresponding octavely related one of the rods 34*a*–34*l* is freed to rotate in response to gravity acting on the pins 36. The biasing force from the member 44 thus precludes rotation of a chord rod 34*a*–34*l* during playing of a solo button 31*a*.

Referring again to FIGURE 4, there is illustrated an alternate or additional resilient means for providing a biasing force on the rods 34*a*–34*l*. Each rod 34*a*–34*l* is provided with a radially extending pin 64 to which is secured one end of a light extension spring 62, the other end of which engages a conductive plate 63. The springs yieldably rotatably bias the rods 34*a*–34*l* against their respective stops (not shown), to preclude unwanted rotation, and freely yield in response to normal driven rod rotation. If the member 44 is omitted, the leadwire 45 may be connected to the plate 63 since in the action construction, the rods 34*m*–34*x* are not insulated from the rods 34*a*–34*l*.

The solo rods 34*m*–34*x*, at their ends opposite those shown in FIGURE 4, are provided with a switch assembly such as illustrated in FIGURE 4 for the chord rods 34*a*–34*l*, except that the member 44 is omitted. Thus each rod 34*m*–34*x* also has a contact 38 extending radially therefrom in a common direction, which cooperates with another set of staggered elongated contacts 41 insulatedly carried by a suitably supported insulating block, a portion of the additional contacts 41 being provided with insulating sleeves 43 as shown. Each contact 41 of the second set is adapted by means of a leadwire 42*a* (FIGURE 7) to be connected to a separate branch in the electric circuit of the instrument 15 to effect readout of a single electrically produced note which corresponds to the reed tone being simultaneously produced.

Referring now to FIGURE 6, the detailed structure of each contact assembly 38 is illustrated. Each of the rods 34 is provided with an aperture 46 which receives a pin 47 which projects radially from the rod 34. On the exposed end of the pin 47, there is provided a close-wound conductive helix of flexible wire, such as silver, illustrated at 48, where it is seen that it is supported coaxially on the short rigid pin 47 and that it projects axially therebeyond to provide a portion which is flexible in any direction including the direction of engagement.

In electronic organs, a known structure includes twelve master oscillator stages, each tuned to the uppermost frequency of the respective octavely related notes. Each of these stages is provided with a readout point or element coupled to a key-actuated switch. Each of these stages is also coupled to a cascaded frequency divider network which has a number of readout points or elements coupled to the sub-octavely related key-actuated switches. Thus each key communicates with a different circuit branch. An example of such an arrangement is shown in the patent to Larsen et al. No. 2,568,644. This general arrangement may be provided using master oscillators as taught in the Anderson Reissue Patent No. 24,743, each of which employs a readout circuit which is electronically coupled to the oscillator by switching of a B+ voltage, to drive a divider network having corresponding readout elements. In the instant invention, each of treble keys 12 through its movable element 26 is connected by the contactor 28 to a readout point in such a circuit, such point having a frequency corresponding to the reed-note frequency. In like manner, each of the bass buttons 31*b* is connected by its contacts 38, 41 through the conductor 42 to a readout point in such circuit of corresponding frequency.

In electric organs, a further known circuit structure includes an additional divider or solo network which is driven at a selected solo frequency by an amplified signal which is obtained selectively from any one of the foregoing twelve oscillators in response to key-actuated electronic switching. An example of such an arrangement is shown in the patent to Anderson et al. No. 2,811,887. In the instant invention, each of the solo bass buttons 31*a* is connected by its contacts 38, 41 through the conductor 42*a* to a readout point which governs the electronic switching of driving or controlling signals for the added divider network.

A fragmentary schematic representation of the foregoing bass key circuits is shown in FIGURE 7. Each of the radially extending contacts 38 communicates with the conductor 45 which communicates with a common line in the electrical circuit of the instrument 15. In a representative embodiment of this invention, the line 45 communicates with a source of B+ voltage 49. This places all the metallic portions of the mechanical bass action at a B+ potential, the same being fully enclosed by the housing of the accordion and the insulative keys 31.

Each of the stationary contacts 41 operated by the chord buttons 31*b* communicates through a line 42, through a separate branch 50 of the electric circuit of the instrument 15, with a separate readout element. Although only one branch is illustrated, it will be understood that a circuit branch is coupled with an individual master oscillator or divider stage for each contact 41, and the output frequencies of the various branches are combined as at 51 to feed through a timbre control 52 to an amplifier 53 and thence to a loudspeaker 54. The branch 50 includes an indirectly heated cathode 55, a control grid 56, and a further grid 57 serving as a plate. The triode including the elements 55–57 comprise parts of a stable oscillating circuit which oscillates continuously at a preselected tuned frequency determined by a tank circuit 50*a*. When a chord button 31*b* is played, the three corresponding switch elements 38 are closed, thereby bringing B+ voltage through a resistor 58 in each branch to an additional plate 59 which thereby becomes electronically coupled to the oscillator without placing a load thereon so that three chordally related oscillation frequencies are impressed on the point 51 through a resistor 60. In this manner, the electrically produced signal within an oscillator or divider stage is read out by the closing of the accordion key. The details of the disclosed oscillator are known in the art, and are disclosed, for example, in the Anderson Reissue Patent No. 24,743. It is to be understood that the particularly disclosed readout circuit is representative, and is not disclosed by way of limitation. Other sources of audio frequency may be employed, such as different oscillators, cascaded divider circuits, etc., each of which may have one or more readout points.

Similarly, the conductor 30 of FIGURE 2 may be connected to the source of B+ voltage 49 and the various conductors 28 may be connected to various branches 50 of the electrical circuit of the instrument 15. If desired, a capacitor 61 may be employed to delay the initiation of readout electrically by a time corresponding to that required by the accordion reeds to vibrate audibly after the corresponding valve has been opened.

Each of the stationary contacts 41 operated by the chord buttons 31*a* communicates through a line 42*a* through a separate branch 65 of the electric circuit of the instrument with a separate readout element. Although only one branch 65 is illustrated, it will be understood that a circuit branch for each contact 41 is electronically coupled with or switched into circuit with a divider network 66 which feeds through the timbre control 52 to the amplifier 53 and loudspeaker 54. The branch 65 includes a conductor 67 connected to the plate-screen 57 from which a control signal is obtained. The control signal passes through a blocking capacitor 68, through a resistor 69 to one side of a cold cathode gas discharge tube 70. The other side of the tube 70 joins with the other eleven solo branches at a point 71 which is coupled to an amplifier tube 72. The amplifier tube 72 is connected to the divider network 66 to control its frequency of oscillation. Normally the voltage across each of the electronic switching tubes 70 is below the ignition potential thereof so that the voltage at the point 71 is negligible. When the contacts 38, 41 are closed by depressing a solo button 31*a*, a B+ voltage is conducted through the resistor 73 to ignite the tube 70, thereby rendering it conductive. This condition couples readout circuit 65 with the divider network 66 to produce a corresponding solo note.

A plurality of branches 50 may be simultaneously actuated to produce chords, but since the divider network is stably responsive to only one control frequency at a time, only one of the branches 65 can properly be coupled to the divider network 66 at a time. However, one of the branches 65 may be coupled to the divider network 66 concurrently with operation of one or more of the branches 50, as may be desired.

The accordion 11 may be operated in a conventional manner with the cables 14 and 16 disconnected. Further, the accordion 11 may be operated with one or both of the cables 14 and 16 connected as shown to a keyless organ, or to corresponding points which bypass key-operated switches of a keyed organ. Still further, electrical connection and disconnection of the cables 14 and/or 16 may be effected by turning the B+ supply 49 on or off by means of a switch 74. When the B+ supply 49 is connected to both of the treble and bass keyboards, depression of a treble key 12 or a bass key 13 not only effects sounding of the corresponding accordion reed notes, but also effects readout of a corresponding electrical signal or signals which are suitably filtered and amplified and then converted to sound by the loudspeaker 54. It is now apparent that depression of any treble key 12 or bass key 31*a* closes the readout circuit for a single circuit branch, and that depression of any bass key 31*b* effects simultaneous readout of a number, such as three, of harmonically related audio frequency sources to produce a chord.

Although various minor modifications might be suggested by those versed in the art, it should be understood that I wish to embody within the scope of the patent warranted hereon all such embodiments as reasonably and properly come within the scope of my contribution to the art.

I claim as my invention:

1. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a number of electrically conductive rockable rods each adapted to operate a different accordion valve, and each adapted to be rocked in response to reciprocation of at least one of said members; means for connecting said rods as a group to a common line in an electrical circuit; an elongated electrical contact carried by each of said rods and extending radially therefrom; and a number of substantially stationary contacts insulated from each other, adapted to be connected to separate branches in said electrical circuit, and adapted to be respectively engaged by one of said elongated contacts when the corresponding rod is rocked.

2. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a number of rockable rods each adapted to operate a different accordion valve, and each adapted to be rocked in response to reciprocation of at least one of said members; an elongated electric contact carried by each of said rods and extending radially therefrom; means connecting said elongated contacts together electrically as a group, said group being adapted to be connected to a common line in an electrical circuit; and a number of other contacts, each having stationary individually insulated support, and each

adapted to be connected to separate branches in said electrical circuit, and to be engaged by one of said elongated contacts in response to rocking of the corresponding rod.

3. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a number of rockable rods each adapted to operate a different accordion valve, and each adapted to be rocked in response to reciprocation of at least one of said members; an elongated electric contact carried by each of said rods and extending radially therefrom in a common direction; means connecting said elongated contacts together electrically as a group, said group being adapted to be connected to a common line in an electrical circuit; and a number of other elongated contacts extending in a common direction transverse to the first named common direction, each having stationary individually insulated support, and each adapted to be connected to separate branches in said electrical circuit, and to be engaged by one of said elongated contacts in response to rocking of the corresponding rod, the contacts extending in one of said common directions being flexible in the direction of engagement.

4. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a number of closely spaced parallel rockable rods each adapted to operate a different accordion valve, and each adapted to be rocked in response to reciprocation of at least one of said members; an elongated electric contact carried by each of said rods and extending radially therefrom in a common direction, each contact being secured to its rod at a point staggered in an axial direction along its rod from the contacts of each directly adjacent rod; means connecting said elongated contacts together electrically as a group, said group being adapted to be connected to a common line in an electrical circuit; and a number of other elongated contacts extending in a common direction transverse to the first named common direction, each having a length staggered in extent from that of each directly adjacent parallel contact, each having stationary individually insulated support, and each adapted to be connected to separate branches in said electrical circuit, and to be engaged by one of said elongated contacts in response to rocking of the corresponding rod, the contacts extending in one of said common directions being flexible in the direction of engagement.

5. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a number of parallel rockable rods each adapted to operate a different accordion valve, and each adapted to be rocked in response to reciprocation of at least one of said members; an elongated electric contact carried by each of said rods and extending radially therefrom; a conductive resilient shim-like member clamped into rubbing electrical engagement with each of said rockable rods, said shim-like member being adapted to be connected to a common line in an electrical circuit; and a number of other contacts, each having stationary individually insulated support, and each adapted to be connected to separate branches in said electrical circuit, and to be engaged by one of said elongated contacts in response to rocking of the corresponding rod.

6. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a number of rockable rods each adapted to operate a different accordion valve, and each adapted to be rocked in response to reciprocation of at least one of said members; an elongated electrical contact comprising a close-wound flexible helix carried by each of said rods and extending radially from each of said rods; means connecting said elongated contacts together electrically as a group, said group being adapted to be connected to a common line in an electrical circuit; and a number of other contacts, each having stationary individually insulated support, and each adapted to be connected to separate branches in said electrical circuit, and to be engaged by one of said elongated contacts in response to rocking of the corresponding rod.

7. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a number of rockable rods each adapted to operate a different accordion valve, and each adapted to be rocked in response to reciprocation of at least one of said members; a short rigid pin carried by each of said rods and extending radially therefrom; an elongated electrical contact comprising a close-wound conductive flexible helix supported coaxially on each of the rigid pins and extending therebeyond away from the supporting rigid pin; means connecting said elongated contacts together electrically as a group, said group being adapted to be connected to a common line in an electrical circuit; and a number of other contacts, each having stationary individually insulated support, and each adapted to be connected to separate branches in said electrical circuit, and to be engaged by one of said elongated contacts in response to rocking of the corresponding rod.

8. A musical instrument comprising in combination: an accordion having a treble set and a bass set of keys, the treble keys being connected to operate a set of valves to the several treble reeds, and the bass keys being connected to a bass action to operate a set of valves to the several bass reeds; a separate switch for each of the treble keys, each of the switches having a movable element; each of the treble keys being also connected to operate respectively said movable element of the corresponding switch; a common stationary element engageable by the movable elements when any of the corresponding treble keys are actuated; said bass action including a number of rockable rods each adapted to be rocked in response to actuation of at least one of the bass keys; an elongated electric contact carried by each of said rods and extending radially therefrom; means connecting said elongated contacts together electrically as a group, said group and said common stationary treble element being adapted to be connected to a common line in an electric organ circuit; and a number of other contacts, each having stationary individually insulated support, and adapted to be engaged by one of said elongated contacts in response to rocking of the corresponding action rod; each of said other stationary contacts and each of said movable treble switch elements being adapted to be connected to separate branches in the electric organ circuit for effecting readout of corresponding organ notes.

9. In a bass action for an accordion, said action including a valve-actuating rod, which is rockably supported, for each note, the improvement of an electric switch structure for coupling said action to an electrical musical instrument, said switch structure comprising in combination therewith: an elongated electric contact secured to said rod and extending radially therefrom; a stationary contact insulatedly supported to be engaged by said elongated contact in response to rocking of said rod; and means for connecting said elongated contact and said stationary contact into an electrical note-producing circuit of the electrical musical instrument.

10. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a first and a second group of parallel rockable rods each adapted to operate one of a group of accordion valves, each of said rods in said first group being adapted to be rocked in response to reciprocation of one of said members, and said rods in said second group being adapted to be rocked three at a time in response to reciprocation of other of said members; a pair of switch assemblies respectively associated with each of said groups of rods, each of said switch assemblies comprising an elongated contact carried by each of said rods in one of the groups of rods, and extending radially therefrom, and a number of other contacts having stationary individually insulated support, and adapted to be engaged by one of said elongated contacts in response to rocking of the corresponding rod;

means connecting all said elongated contacts together electrically for connection to a common line in an electrical circuit; means for connecting said other contacts of one of said switch assemblies to separate branches in the electrical circuit; and means for connecting said other contacts of the other of said switch assemblies to other separate branches in the electrical circuit.

11. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a first and a second group of parallel rockable rods each adapted to operate one of a group of accordion valves, each of said rods in said first group being adapted to be rocked in response to reciprocation of one of said members, and said rods in said second group being adapted to be rocked three at a time in response to reciprocation of other of said members; resilient means continually acting on said rods of said second group to preclude inadvertent rotation thereof while a corresponding rod of said first group is rocked; a switch assembly for at least said second group of rods, said switch assembly comprising an elongated contact carried by each of said rods in said second group of rods, and extending radially therefrom, and a number of other contacts having stationary individually insulated support, and adapted to be engaged by one of said elongated contacts in response to rocking of the corresponding rod; means connecting all said elongated contacts together electrically for connection to a common line in an electrical circuit; and means for connecting said other contacts of said switch assembly to separate branches in the electrical circuit.

12. A bass action for an accordion comprising in combination: a set of key-actuated reciprocable members; a first and a second group of parallel rockable rods each adapted to operate one of a group of accordion valves, each of said rods in said first group being adapted to be rocked in response to reciprocation of one of said members, and said rods in said second group being adapted to be rocked three at a time in response to reciprocation of other of said members; resilient means continually acting on said rods of said second group to preclude inadvertent rotation thereof while a corresponding rod of said first group is rocked; a switch assembly for at least said second group of rods, said switch assembly comprising an elongated contact carried by each of said rods in said second group of rods, and extending radially therefrom, and a number of other contacts having stationary individually insulated support, and adapted to be engaged by one of said elongated contacts in response to rocking of the corresponding rod; said resilient means also being adapted to connect all said elongated contacts to a common line in an electrical circuit; and means for connecting said other contacts of said switch assembly to separate branches in the electrical circuit.

13. A musical instrument comprising in combination: an accordion having a treble set and a bass set of keys, the treble keys being connected to operate a set of valves for the treble reeds, and there being two groups of bass keys, the first group of bass keys being connected to a first bass action section to operate individual-note valves for the several bass reeds, and the second group of bass keys being connected to a second bass action section to operate chordally related valves for the several bass reeds; each of the treble keys being also connected to operate respectively the movable element of a switch; a common stationary element engageable by the movable elements when any of the corresponding treble keys are actuated; said first bass action section including a number of rockable rods adapted to be rocked individually in response to actuation of said first group of bass keys, and said second bass action section including another number of rockable rods adapted to be rocked three at a time in response to actuation of said second group of bass keys; an elongated electric contact carried by each of said rods and extending radially therefrom; a number of other contacts each having stationary individually insulated support and adapted to be engaged by one of said elongated contacts in response to rocking of the corresponding rod; means connecting all said elongated contacts and said common stationary treble element together and to a common line in an electric organ circuit; each of said movable treble switch elements and each of such other stationary contacts as are associated with said second bass action section rods being adapted to be connected to separate branches in the electric organ circuit for effecting simultaneous readout of corresponding organ notes; and each of such other stationary contacts as are associated with said first bass action section rods being adapted to be connected to separate branches in the electric organ circuit for effecting readout of only one corresponding organ note at a time.

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