Oct. 31, 1950 T. BUGARI 2,527,912

SHIFT MECHANISM FOR ACCORDIONS

Filed April 15, 1946 5 Sheets-Sheet 1

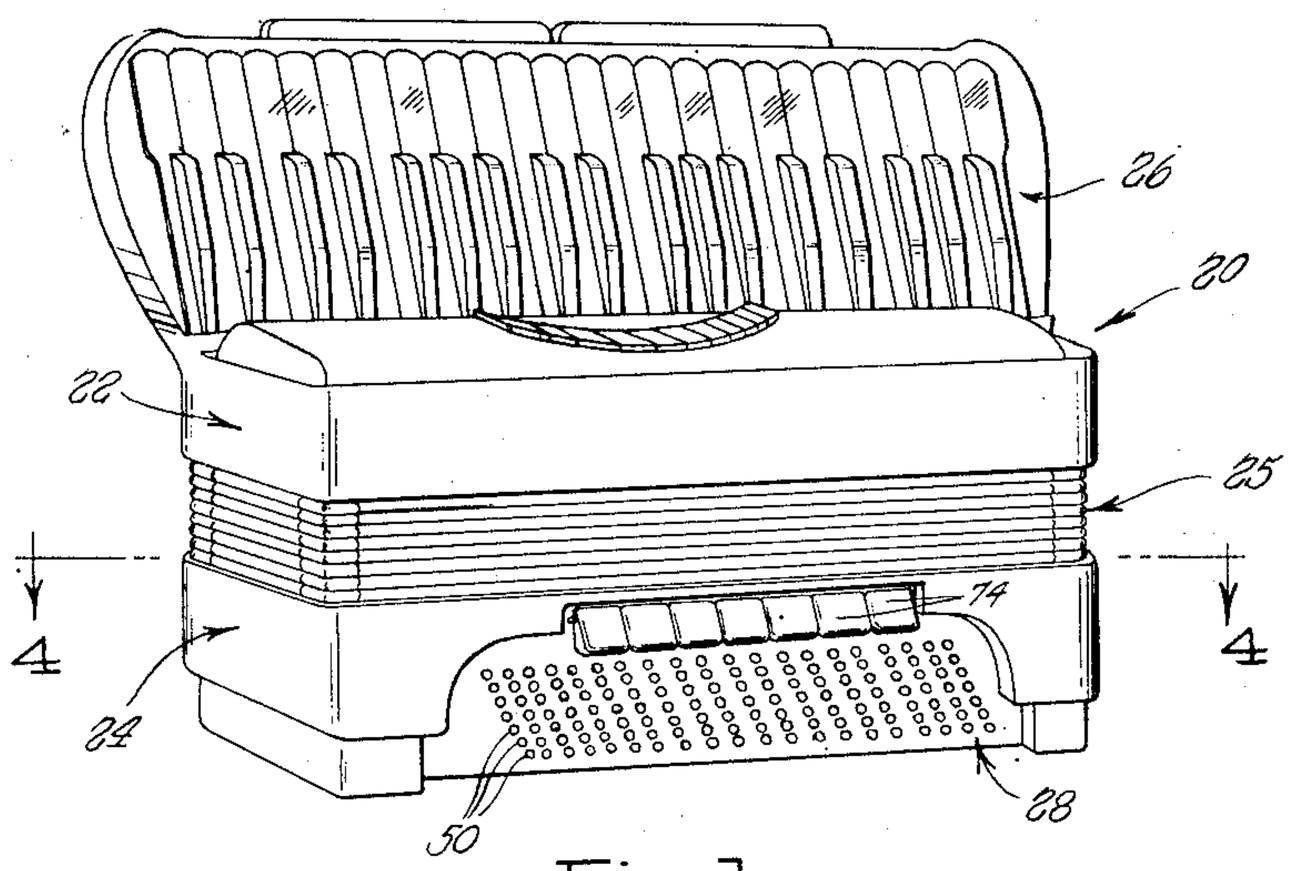

Fig. 1

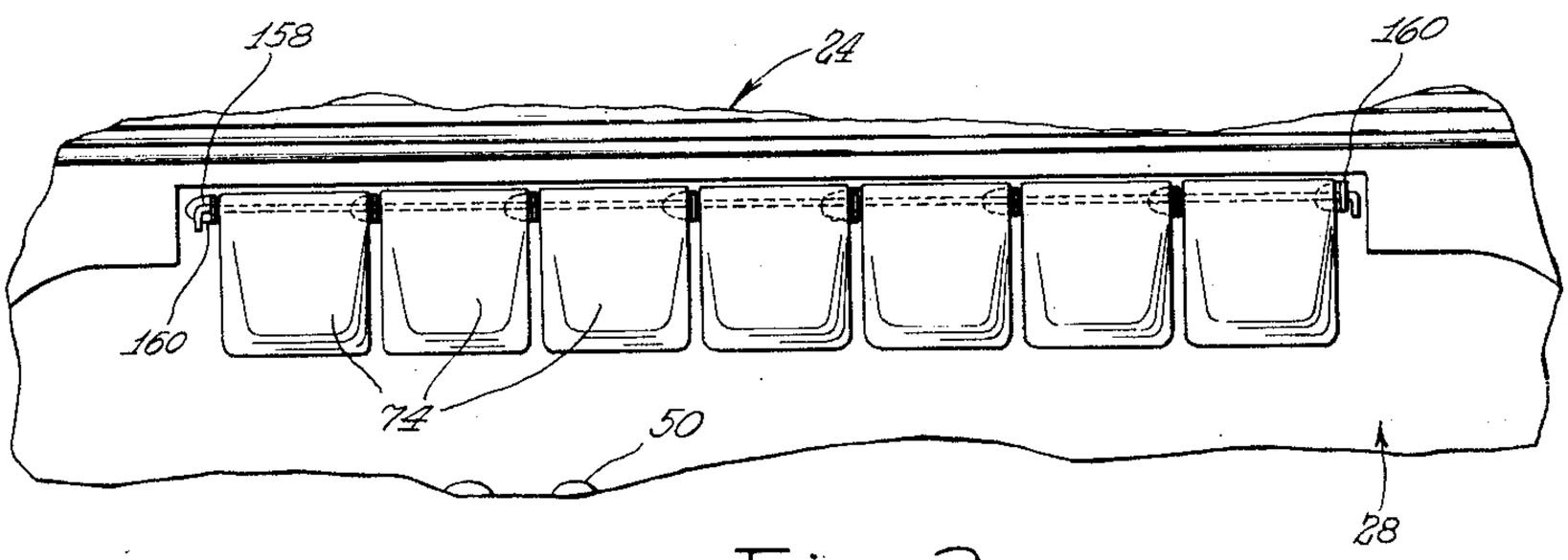

Fig. 2

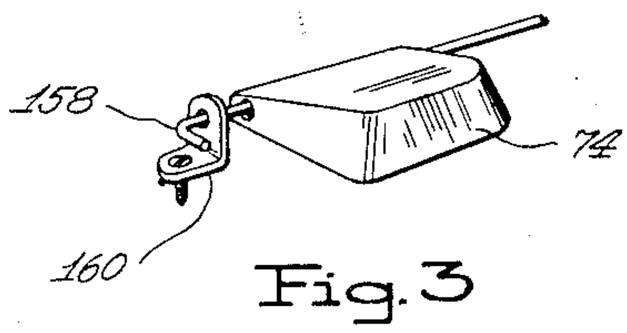

Fig. 3

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SHIFT MECHANISM FOR ACCORDIONS

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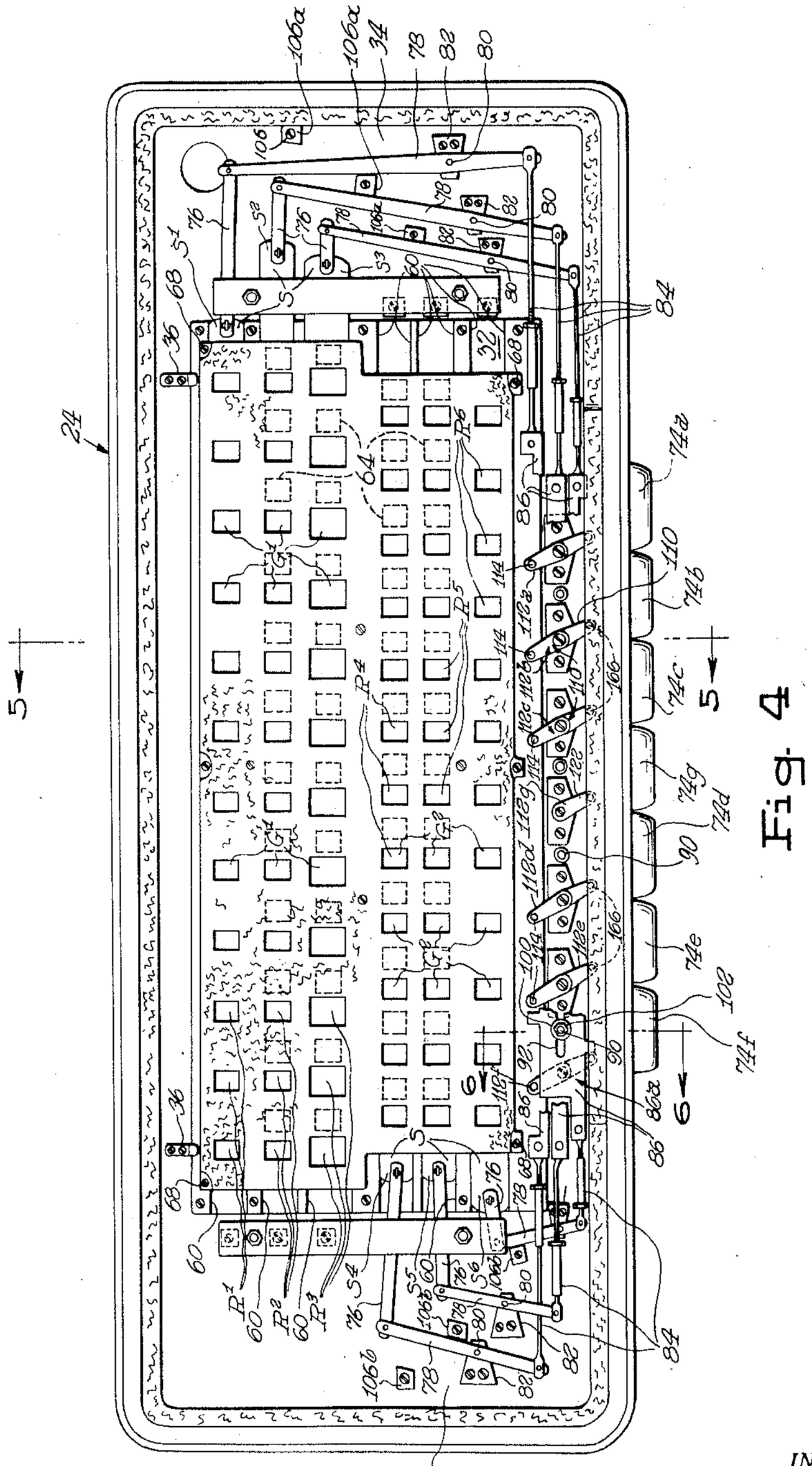

Fig. 4

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SHIFT MECHANISM FOR ACCORDIONS

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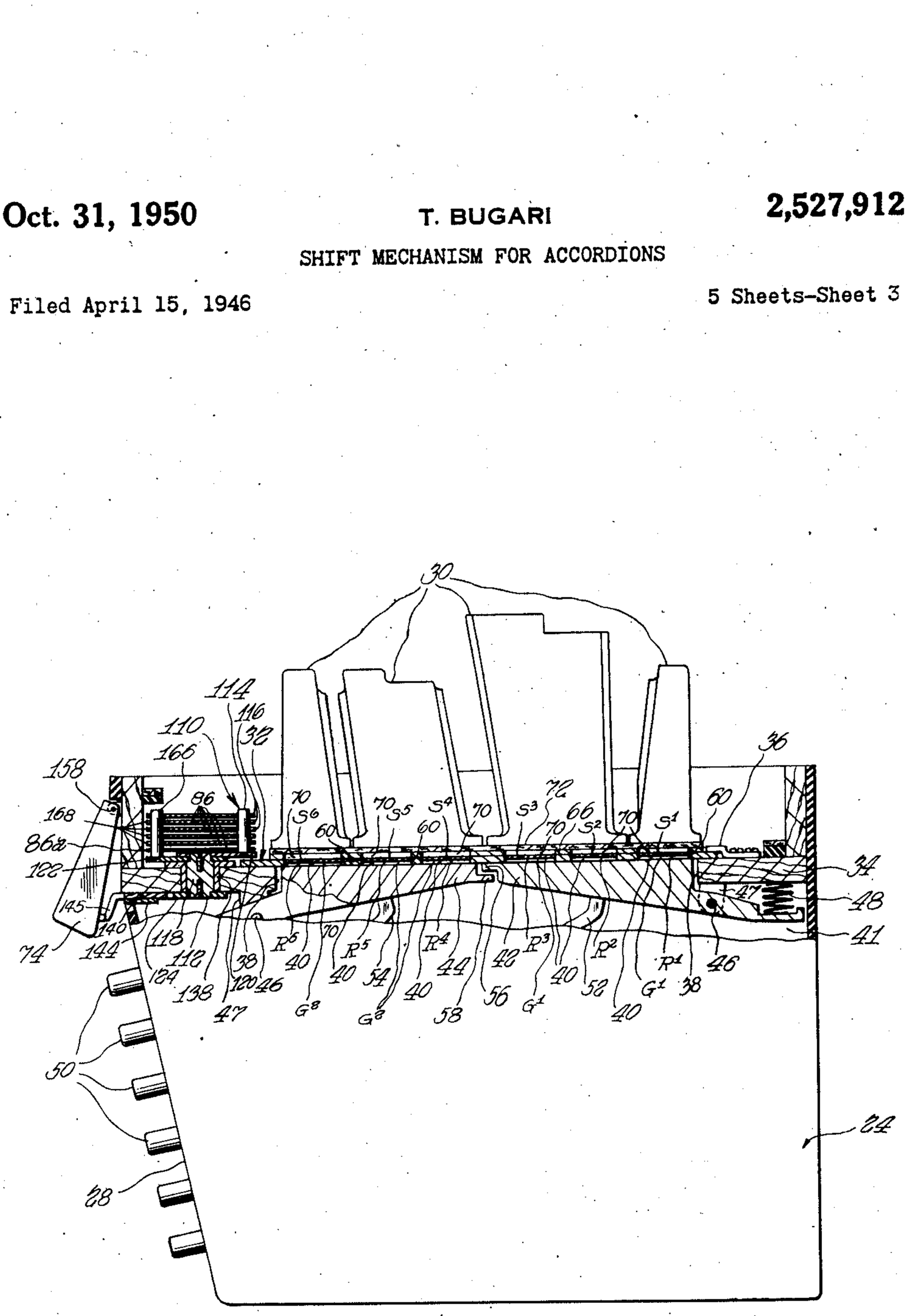

Fig. 5

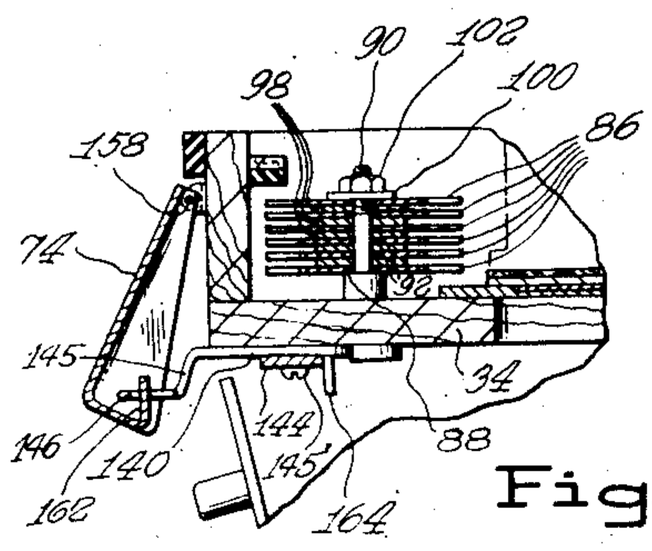

Fig. 6

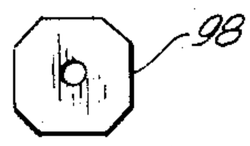

Fig. 7

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SHIFT MECHANISM FOR ACCORDIONS

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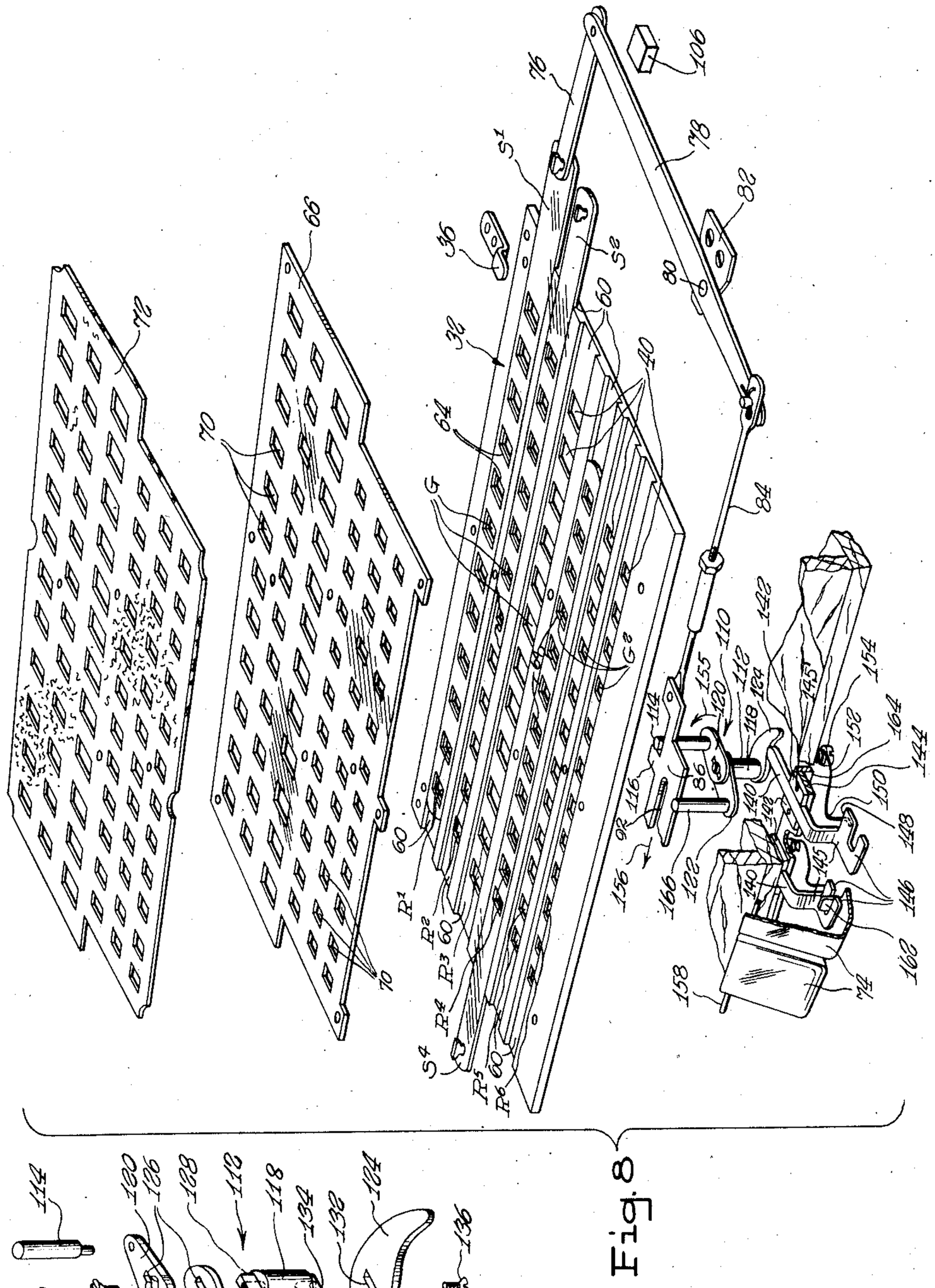

Fig. 8

Fig. 9

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SHIFT MECHANISM FOR ACCORDIONS

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Fig. 10

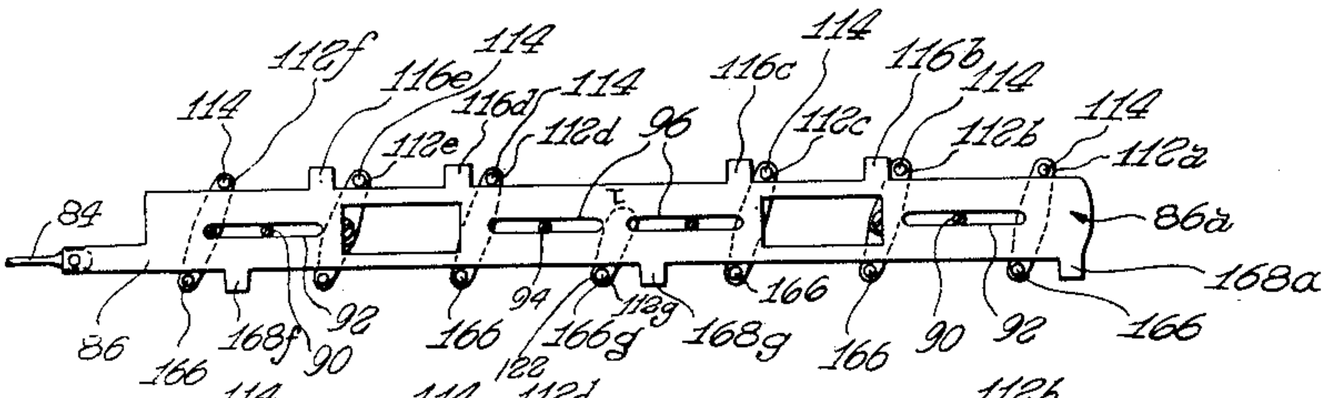


Fig. 11

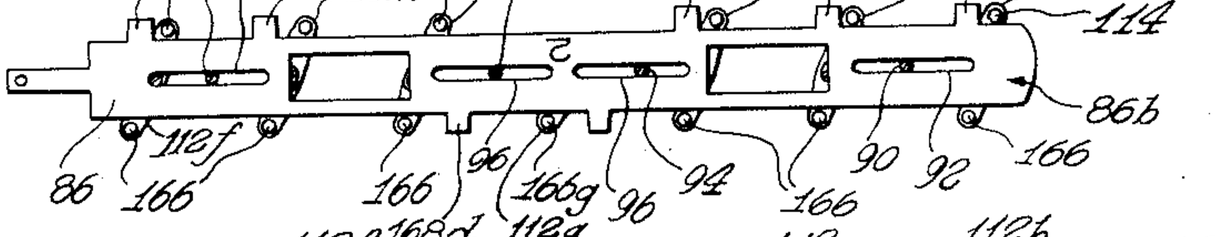


Fig. 12

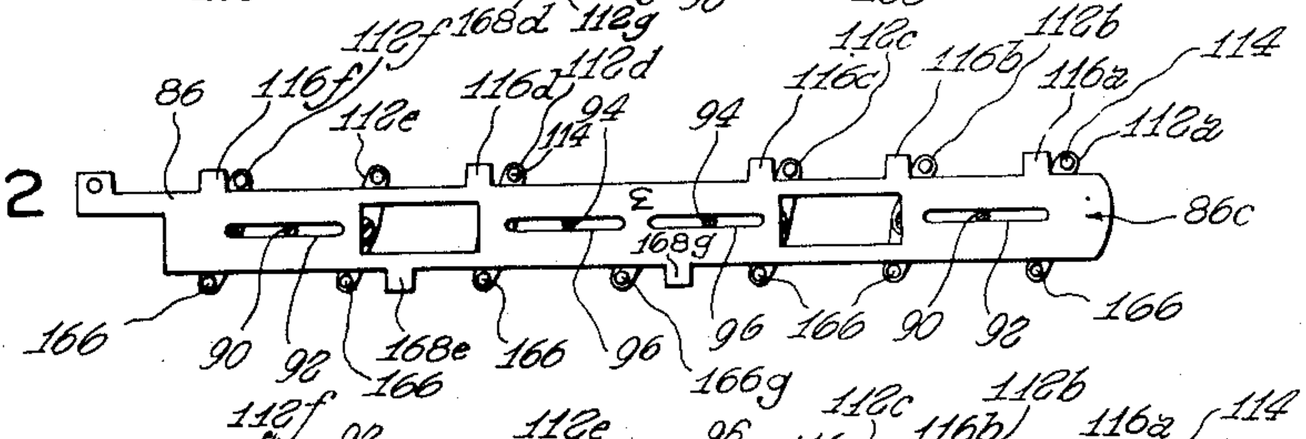


Fig. 13

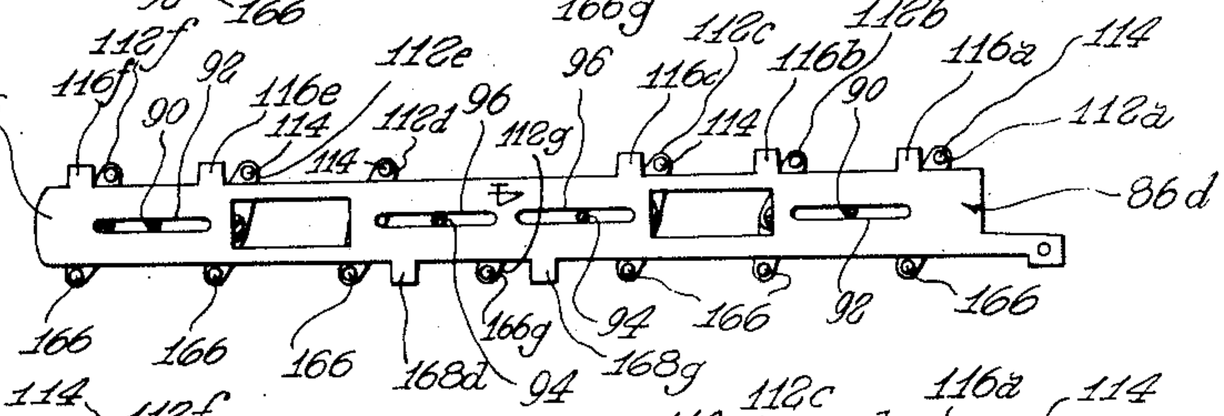


Fig. 14

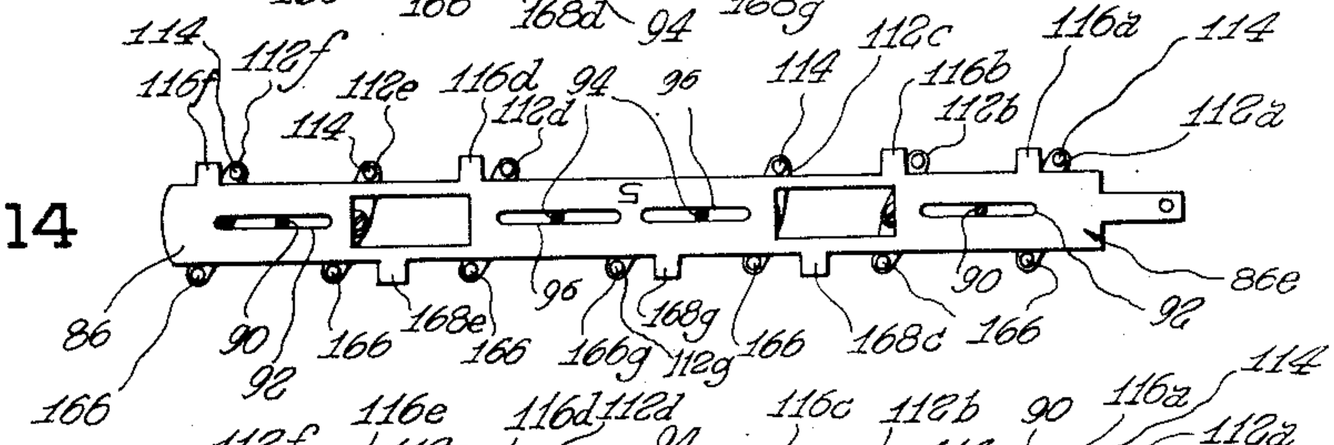
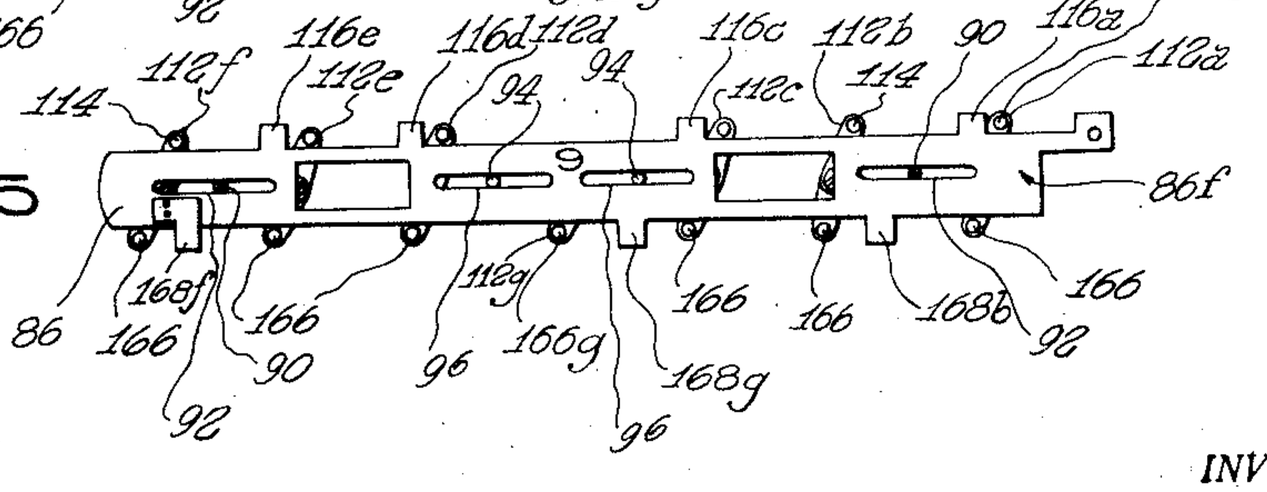


Fig. 15



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Patented Oct. 31, 1950 2,527,912

UNITED STATES PATENT OFFICE

2,527,912

SHIFT MECHANISM FOR ACCORDIONS

Torquato Bugari, Brooklyn, N. Y., assignor to Excelsior Accordions Inc., New York, N. Y., a corporation

Application April 15, 1946, Serial No. 662,305

3 Claims. (Cl. 84—376)

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This invention relates to musical instruments, and more particularly to piano accordions.

It is the primary object of the present invention to provide for a greater variation in tones, particularly in the bass range, from a piano accordion, than is afforded by the usual keys on the key board.

It is a more particular object of the present invention to provide in a piano accordion for selective modification of the action of the usual keys on the key board upon the valve mechanism of the accordion, particularly of the bass section thereof, and thereby obtain, through the operation of each single key, any one of a number of different tones.

The above and other objects, features and advantages of this invention will be fully understood from the following description considered in connection with the accompanying drawings.

In the drawings:

Fig. 1 is a perspective view of a piano accordion embodying the present invention;

Fig. 2 is an enlarged elevational view of a part of the bass key board of the accordion;

Fig. 3 is a perspective view of a detail of the key board;

Fig. 4 is a view as if looking into the bass base section when the same is removed from the rest of the accordion at the line 4—4 of Fig. 1;

Fig. 5 is a side elevation, partly in section, of the bass base section of the accordion, the section thereof being taken along the line 5—5 of Fig. 4;

Fig. 6 is a fragmentary section taken on the line 6—6 of Fig. 4;

Fig. 7 is a plan view of a certain detail;

Fig. 8 perspectively illustrates certain disassembled parts of the valve mechanism of the bass base section;

Fig. 9 perspectively illustrates certain disassembled parts of an actuating member of the same mechanism;

Figs. 10 to 15, inclusive, show certain associated control elements of the same valve mechanism in plan view.

Referring now to the drawings, and particularly to Fig. 1 thereof, the accordion 20 comprises the usual treble and bass base sections 22 and 24, respectively, an interposed bellows section 25, and treble and bass key boards 26 and 28, respectively. The treble and bass base sections 22 and 24, which include chambers containing the customary reed blocks, are removably secured in any suitable manner (not shown) to the bellows section 25 to

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provide for ready access to the reed blocks for repair or replacement of the same.

The reed blocks 30 for the bass base section 24 (Fig. 5) are suitably located on top of a valve plate 32. The valve plate 32 is generally rectangular in shape and is secured with its marginal portions on a mounting board 34 by means of hold-down brackets 36 (Figs. 4 and 5). The mounting board 34 is suitably mounted in the bass base section 24 and is apertured at 38 to expose certain valve openings or passages 40 in the valve plate 32 to a chamber 41 (Fig. 5) into which air from the bellows 24 is delivered in a conventional manner (not shown). Each one of the valve passages 40 in the valve plate 32 is in alignment with an individual reed in one of the blocks 30 so as to direct air thereinto for vibrating the reed.

As best shown in Figs. 5 and 8, the valve passages 40 in the valve plate 32 are arranged in longitudinal rows R1 to R6, of which the adjacent valve passages 40 in the rows R1, R2, R3, and R4, R5, R6, are laterally aligned to form groups G1 and G2, respectively, which are controlled by the usual or main valves 42 and 44, respectively. The main valves 42 and 44 are pivotally mounted in the usual manner at 46 on suitable brackets 47 on the mounting board 34 (Fig. 5), and are normally urged by springs 48 into closing engagement with their respective groups G1 and G2 of valve passages in the valve plate 32. The main valves 42 and 44 are individually controlled and operated by the usual keys 50 on the bass key board 28 through suitable operating linkage which is indicated in part at 52 and 54, respectively, in Fig. 5, and which may in all essential respects be as shown, for instance, in the patent to Stratton, No. 370,218, issued September 20, 1887.

As is usual in piano accordions of the present type, the series of main valves 42 are operatively associated with the other series of main valves 44 so that, on opening either one of the former valves, the associated valve of the other series is also opened. To this end, each valve 42 is provided at its end with a nose 56 which overlaps a cutaway shoulder 58 on its associated valve 44 in the manner shown in Fig. 5.

The present invention contemplates secondary or additional valve mechanisms associated with the various valve passages 40 in the valve plate 32. To this end, the valve plate 32 is provided with guideways 60 longitudinally of the valve rows R1 to R6 (Figs. 4, 5 and 8), in which valve slides S are movable. The valve slides S1 to S6

are associated with the rows R1 to R6 of valve passages 40, respectively, in the valve plate 32 (see also Fig. 4). The valve slides S1 to S6 are provided with openings 64 which are of the same shape as the valve passages 40 of their corresponding rows R1 to R6 in the valve plate 32, and are spaced longitudinally like the latter valve passages so as to be movable to and from alignment with the same. Thus, in sliding either one of the valve slides S1 to S6 in its guideway 60, all of its openings 64 are either in alignment, or out of alignment, with the valve passages 40 of the associated row in the valve plate 32, and thus provide, respectively intercept, communication through the valve passages 40 to the reeds of the various blocks 30.

The top surfaces of the valve slides S1 to S3 are flush with the top surface of the valve plate 32 (Figs. 5 and 8), and are retained in their guideways 60 by means of a plate 66 which is secured to the valve plate 32 by screws 69 (Fig. 4) and provided with apertures 70 that are shaped like, and in alignment with, the valve passages 40 in the valve plate 32. The reed blocks 30 are removably mounted in any suitable manner on the plate 66, a perforated felt lining 72 being preferably interposed between the reed blocks 30 and the plate 66.

The valve slides S1 to S6 are shifted in different combinations from open to closed position by means of shift keys 74 on the bass key board 28 (Figs. 1 and 2), through intermediation of certain operating mechanisms to be described presently.

Each one of the sliding valves S1 to S6 is connected by a link 76 with a lever 78 (see particularly Fig. 4) which is pivotally mounted intermediate its ends at 80 to a bracket 82 on the mounting board 34. Each one of the levers 78 is also connected by a lengthwise adjustable link 84 with actuating slides 86 which are shown in detail in Figs. 10 to 15, inclusive. More particularly, the slides 86 rest on annular shoulders 88 of spaced studs 90 (Fig. 6), which are mounted in the mounting board 34 and extend upwardly through spaced longitudinal slots 92 in said slides 86 to guide the latter for longitudinal movement (Figs. 4, 6 and 10 to 15). Mounted on the mounting board 34 are further guide pins 94 which project upwardly through additional longitudinal slots 96 in the actuating slides 86 (Figs. 10 to 15). Surrounding the studs 90, and interposed between the actuating slides 86, are spacers 98 (Figs. 6 and 7), while washers and nuts 100 and 102, respectively, on said studs 90 retain the slides 86 on their supporting shoulders 88 (Fig. 6).

It is obvious from the foregoing that, on longitudinally sliding either one of the actuating slides 86, its associated valve slide S is shifted to open or closed position, through intermediation of the connecting parts 84, 78 and 76. Suitable stops 106 are provided on the mounting board 34 (Figs. 4 and 8), of which the stops 106*a* will be engaged by their respective levers 78 when the corresponding slides S1 to S3 are in closed position, i. e., when the openings 64 in the latter slides are out of alignment with, and, hence, intercept communication through, the associated valve passages 40 in the valve plate 32. Thus, the slides S2 and S3 are, in the present instance, shown in Fig. 4 in their respective closed positions, while the slide S1 is shown in its open position. The other stops 106*b* will be engaged by their respective levers 78 when the corresponding slides S4 to S6 are in their normal open position. Thus, the slides S4 and S5 are, in the present instance, shown in Fig. 4 in their respective closed positions, while the slide S6 is shown in its open position.

The shift-key operated mechanisms for the valve slides S further include actuators 110 which are under the direct control of the shift keys 74. Each of the actuators 110 comprises a rocker 112 which carries an upright pin 114, adapted to engage and push a lateral shift lug 116 on an actuating slide 86 and shift the latter from a position in which its associated valve slide S is open into a position in which its associated valve slide is closed. Each rocker 112 is made up of the several parts shown in Fig. 9, which are a post 118, an arm 120 on which the pin 114 is suitably mounted as by riveting, another arm 122, and an arm or finger 124. The arms 120 and 122 are provided with rectangular slots 126 (Fig. 9) which fit over the adjacent flattened end 123 of the post 118 and are held thereon in diametrically opposite relation by a screw 130 which is received by the adjacent flattened end 128 of the post 118. The finger 124 is also provided with a rectangular slot 132 which fits over a flattened portion 134 at the other end of the post 118 and is retained thereon by a screw 136, threadedly received by said flattened portion 134 of the post. The post 118 of each rocker 112 is journalled in a bushing 138 in the mounting board 132, as best shown in Fig. 5.

Adapted to cooperate with the finger 124 of each rocker 112 is a push bar 140 (Figs. 6 and 8) for actuating the rocker to shift its associated actuating slide 86 on depressing the associated shift key 74. Each push bar 140 is guided between blocks 142 for movement on the under side of the mounting board 34 and in operative alignment with the finger 124 of its associated rocker 112, at right angles to the actuating slides 86, and is retained between said blocks 142 by a strap 144. The strap 144 and the guide blocks 142 are secured to the mounting board 34 in any suitable manner, as by screws 145', for instance (Figs. 6 and 8). The forward end of each push bar 140 is offset as at 145 (Fig. 8) and provided with a fork 146 and a shoulder 148, the latter being engaged by the end 150 of a torsion spring 152 which is suitably anchored on a screw 154 in the mounting board 34. The spring 152 normally urges the push bar 140 into its foremost position (Fig. 8) in which a depending lug 164 of the latter engages the strap 144. When the push bar 140 is in its foremost position, the associated rocker 112 and its pin 114 may be turned into the position shown in Fig. 8 in which they permit movement of the associated actuating slide 86 into the position shown in the same figure. In this position of the actuating slide 86, the associated valve slide S is in its normal open position (Fig. 8). On shifting the push bar 140 inwardly, against the tendency of the spring 152 to hold it in its foremost position, its inner end engages the finger 124 of the rocker 112 and turns the latter in the direction of the arrow 155 in Fig. 8, whereby the pin 114 pushes the adjacent shift lug 116 on the actuating slide 86, thereby shifting the latter in the direction of the arrow 156 in Fig. 8. On thus shifting the actuating slide 86, the associated valve slide S is shifted from normally open position (Fig. 8) into closed position.

The shift keys 74 are pivotally mounted on a rod 158 which, as best shown in Fig. 2, is mounted with its ends in suitable brackets 160 on the bass key board 28. The shift keys 74 are preferably

pressed from sheet metal stock into the shape shown in Figs. 3 and 8, and are provided with inwardly turned tabs 162 (Figs. 6 and 8) which project into the forked ends 146 of the push bars 140. In this manner, each shift key 74 is operatively connected with its push bar 140.

Each rocker 112 also carries on its arm 122 an upright pin 166 which is adapted to cooperate with retainer lugs 168 on the actuating slides 86 for a purpose to be described hereinafter.

The operation of the individual shift keys 74 and the corresponding action of their respective rockers 112 on the actuating slides 86, is best explained in connection with Figs. 4 and 10 to 15, inclusive. The actuating slides 86 are shown in Figs. 10 to 15 in the normal relative position which they assume when their respective valve slides S are in normal, open position. In the normal relative position of the actuating slides 86 as shown in Figs. 10 to 15, the shift lugs 116 and the retainer lugs 168 thereof, which are shown in lateral alignment in these several figures, are superposed in groups.

Thus, when the shift key 74*a* is depressed, the rocker 112*a* is turned counterclockwise as viewed in Figs. 10 to 15, whereby the pin 114 thereof engages the grouped shift lugs 116*a* of the actuating slides 86*b* to 86*f*, inclusive, and shifts the latter into closing position in which their respective valve slides S5, S4, S3 , S2 and S1 are closed. The described turning movement of the rocker 112*a* does not result in shifting movement of the actuating slide 86*a*, since the same is not provided with a shift lug 116*a* in operative relation with the pin 114 of said rocker 112*a*, as appears clearly from Fig. 10. Hence, by depressing the shift key 74*a* (Fig. 4), all the valve slides S are shifted into closing position, with the single exception of the valve slide S6 which is drivingly connected with the actuating slide 86*a*, the latter being the lowermost, or the one nearest to, the bass board 34 among the stacked actuating slides 86. Hence, by depressing the shift key 74*a*, all the valve passages 40 in the valve plate 32 are closed, with the exception of those in the row R6.

The other pin 166 of the rocker 112*a* will, on turning movement of the latter in consequence of the depression of the shift key 74*a*, move into engagement with the retainer lug 168*a* on the slide 86*a* and thereby compel the latter to remain in its open position. The pin 166 on the actuating slide 112*a* does not interfere with the described shift of the actuating slides 86*b* to 86*f*, since the latter do not have retainer lugs 168*a* in operative relation with said pin 166, as follows clearly from Figs. 11 to 15.

On depressing the shift key 74*b* (Fig. 4), the pin 114 of the associated rocker 112*b* (Figs. 10 to 15) engages the adjacent grouped shift lugs 116*b* of the actuating slides 86*a* to 86*e*, inclusive, and shifts the latter into closing position, whereby their respective valve slides S6, S5, S4, S3, and S2 are shifted from normal, open position into closing position. The described turning movement of the rocker 112*b* does not affect the actuating slide 86*f*, since the same is not provided with a shift lug 116*b* in operative relation with the pin 114 of the rocker 112*b*, as follows clearly from Fig. 15. Hence, when shift key 74*b* is depressed, all the valve passages 40 in the valve plate 32 are closed, with the exception of those in the row R1 which remain open, as will be readily understood. The described turning movement of the rocker 112*b* also brings the other pin 166 thereof into engagement with the retainer lug 168*b* on the actuating slide 86*f* to retain the latter in its normal open position, such movement of the pin 166, however, does not interfere with the described shift of the actuating slides 86*a* to 86*e*, since the latter fail to have retainer lugs 168*b* in operative relation with the pin 166 of the rocker 112*b*, as follows clearly from Figs. 10 to 14.

On depressing the shift key 74*c* (Fig. 4), the associated rocker 112*c* is turned counterclockwise as viewed in Figs. 10 to 15, whereby its pin 114 engages the adjacent, grouped shift lugs 116*c* of the actuating slides 86*a* to 86*d*, inclusive, and 86*f*, and shifts the latter slides into closing position, whereby their associated valve slides S6, S5, S4, S3 and S1 are moved into closing position. The referred turning movement of the rocker 112*c* does not affect the actuating slide 86*e*, since the same is not provided with a shift lug 116*c* in operative relation with the pin 114 of the rocker 112*c*, as appears clearly from Fig. 14. The referred turning movement of the rocker 112*c* also brings the other pin 166 thereof into retaining engagement with the adjacent retainer lug 168*c* on the actuating slide 86*e*, but such movement of said pin 166 does not interfere with the shift of the other actuating slides into closing position, since they fail to have retainer lugs 168*c* in operative relation with the pin 166 of the rocker 112*c*, as appears clearly from Figs. 10 to 13, inclusive, and 15.

On depressing the shift key 74*d* (Fig. 4), the associated rocker 112*d* is turned counterclockwise as viewed in Figs. 10 to 15, whereby its pin 114 engages the adjacent grouped shift lugs 116*d* of the actuating slides 86*a*, 86*c*, 86*e* and 86*f*, and shifts the latter slides into closing position, whereby their respective valve slides S6, S4, S2 and S1 are closed. The referred turning movement of the rocker 112*d* does not affect the actuating slides 86*b* and 86*d*, since these slides have no shift lugs 116*d* in operative relation with the pin 114 of the rocker 112*d*, as appears clearly from Figs. 11 and 13. Hence, on depressing the shift key 74*d*, all the valve passages 40 in the valve plate 32 are closed, with the exception of those in the rows R3 and R5. The referred turning movement of the rocker 112*d* also brings the other pin 166 thereof into engagement with the adjacent retainer lugs 168*d* on the actuating slides 86*b* and 86*d* which are not shifted on depression of the key 74*d*, and retains the latter slides in their normal open position. Such movement of the pin 166 of the rocker 112*d*, however, does not interfere with the shift of the remaining actuating slides 86*a*, 86*c*, 86*e* and 86*f* into closing position, since the latter slides do not have retainer lugs 168*d* in operative relation with the pin 166 of the rocker 112*d*, as appears clearly from Figs. 10, 12, 14 and 15.

It follows from the above description of the action of the shift key 74*d* that the same leaves more than one row R of valve openings 40 in the valve plate 32 open, in contrast to the action of the shift keys 74*a*, 74*b* and 74*c* which leave only one row R of said valve openings 40 open. The remaining shift keys 74*e* and 74*f* will, like the shift key 74*d*, leave different combinations of rows R of valve openings 40 in the valve plate 32 open.

On depressing the shift key 74*e* (Fig. 4), the associated rocker 112*e* will be turned counterclockwise as viewed in Figs. 10 to 15, and its pin 114 will engage the adjacent grouped shift lugs 116*e* on the actuating slides 86*a*, 86*b*, 86*d* and 86*f*

and shift the latter slides into closing position, whereby their respective valve slides S6, S5, S3 and S1, are moved into closing position. The actuating slides 86*c* and 86*e* are not affected by the referred turning movement of the rocker 112*e*, since they do not have shift lugs 116*e* in operative relation with the pin 114 of said rocker, as follows clearly from Figs. 12 and 14. Hence, on depressing the shift key 74*e*, all the valve passages 40 in the valve plate 32 are closed, with the exception of those in the rows R2 and R4. The referred turning movement of the rocker 112*e* brings the other pin 166 thereof into retaining engagement with the adjacent retainer lugs 168*e* on the actuating slides 86*c* and 86*e* which are not shifted by the depression of the shift key 74*e*. However, such movement of the pin 166 of the rocker 112*e* does not interfere with the shift of the remaining actuating slides 86*a*, 86*b*, 86*d* and 86*f*, inasmuch as the latter slides are not provided with retainer lugs 168*e* in operative relation with the pin 166 of said rocker 112*e*.

Finally, depression of the shift key 74*f* (Fig. 4), causes counterclockwise turning movement of its associated rocker 112*f* as viewed in Figs. 10 to 15, whereby its pin 114 engages the adjacent grouped shift lugs 116*f* of the actuating slides 86*b*, 86*c*, 86*d* and 86*e* and shifts the latter slides into closing position, whereby their associated valve slides S5, S4, S3 and S2 are moved into closing position. The referred turning movement of the rocker 112*f* does not affect the actuating slides 86*a* and 86*f* since they fail to have shift lugs 116*f* in operative relation with the pin 114 of said rocker 112*f*. Hence, on depressing the shift key 74*f*, all the valve passages 40 in the valve plate 32 are closed, with the exception of those in the rows R1 and R6. The valve slides S are shown in Fig. 4 in the corresponding positions. The referred turning movement of the rocker 112*f* also brings the other pin 166 thereof into engagement with the retainer lugs 168*f* on the actuating slides 86*a* and 86*f* which are not shifted by the depression of the shift key 74*f*. However, such movement of the pin 166 of the rocker 112*f* does not interfere with the shift of the remaining actuating slides 86*b*, 86*c*, 86*d* and 86*e* into closing position, since the latter slides do not have retainer lugs 168*f* in operative relation with the pin 166 of the rocker 112*f*, as appears clearly from Figs. 11 to 14, inclusive.

It follows from the preceding description that, while the main valves 42 and 44 under the control of the keys 50 on the bass key board 28 open the grouped valve passages G1 and/or G2 in the valve plate 32, the valve slides S1 to S6 under the control of the shift keys 74 afford a number of variations in the valve openings 40 of any group G1 or G2, thus considerably increasing the number of variations in tones that may be obtained by the operation of the keys 50 on the bass key board 28.

Provision is also made to return any combination of actuating slides 86 and their associated valve slides S into their normal, open positions. To this end, the median shift key 74*g* (Fig. 4) is designated a return shift key which, through a push bar 140 and a rocker 112*g* of the type shown in Fig. 8, for instance, returns any actuating slides 86 that are in closed position into their normal, open position. With this in view, the rocker 112*g* (Fig. 4) is made exactly like any of the other rockers 112, with the exception that it does not require an arm 120 and a pin 114, but does have the arm 122 and an upright pin 166*g* which is the same as the pin 166 on any of the other rockers 112. Adapted to cooperate with the return pin 166*g* of the rocker 112*g* is a return lug 168*g* on each of the actuating slides 86 (Figs. 10 to 15, inclusive). On shifting any one of the heretofore described combinations of actuating slides 86 into closing position, through operation of the corresponding shift key 74, their return lugs 168*g* are brought adjacent the return pin 166*g* so that, on the following depression of the return shift key 74*g*, the return pin 166*g* engages the adjacent return lugs 168*g* and returns the corresponding slides 86 to their normal, open position.

It will be understood that various changes in the details of construction and in the arrangement of parts may be made without departing from the underlying idea or principles of my invention within the scope of the appended claims.

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

1. In an accordion having reeds, the combination with a chamber having a wall provided with openings for the passage therethrough of air to vibrate the reeds, of a plurality of valve slides for said openings movable into two different positions to cover and uncover the latter, respectively, superposed actuating slides individually longitudinally movable in the same opposite directions into two different positions and drivingly connected with said valve slides, respectively, for moving the latter into their two positions, said actuating slides having on one side longitudinally spaced first lateral lugs arranged, in one position of said actuating slides, in longitudinally spaced first groups composed of superposed lugs of different combinations, respectively, of said actuating slides, and having on the other side longitudinally spaced, second lateral lugs arranged, in said one position of the actuating slides, in longitudinally spaced second groups of superposed lugs adjacent, and associated with, said first groups, respectively, each of said second groups being composed of second lugs of those actuating slides which are not included in the combination of actuating slides of which the associated first lugs compose the associated first group, and mechanism for each associated first and second group of lugs manually operable to engage and push said first group and move the corresponding actuating slides into the other position, and to engage said associated second group to retain the corresponding actuating slides in said one position, each mechanism comprising a pivoted rocker having two pins spaced from, and extending parallel to, the pivot axis of said rocker and straddling the sides of said actuating slides, one of said pins engaging and pushing the lugs of its associated first group to move the corresponding actuating slides into said other position, and the other pin engaging the lugs of the associated second group to retain the corresponding actuating slides in said one position, on rocking said rocker in one direction, and means operable to rock said rocker in said one direction.

2. In an accordion shift mechanism, a series of control buttons, a plurality of actuating bars, mounting lugs integral therewith upon their upper and lower edges, the whole being held by a fixed frame, means to slidably move said actuating bars, comprising T-shaped levers and pins thereon to push said lugs upon rotation of said levers to secure desired tonal combinations and means carried by said bars and co-operating with said levers to reset said control buttons after use.

3. In an accordion shift mechanism, a series of control buttons, a plurality of actuating bars mounting lugs integral therewith upon their upper and lower edges, the whole being held by a fixed frame, means to slidably move said actuating bars, comprising T-shaped levers and pins thereon to push said lugs upon rotation of said levers to secure desired tonal combinations and means to reset said control buttons after use, comprising the coaction of the said T levers and lugs whereby each moved lever restores any previously disturbed lever to its original position, thereby resetting the control button attached thereto.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,070,853	Berlin	Feb. 16, 1937
2,208,228	Rabuazzo	July 16, 1940
2,208,375	Lindeberg	July 16, 1940
2,247,200	Lindeberg	June 24, 1941
2,410,897	Osenberg	Nov. 12, 1946

FOREIGN PATENTS

Number	Country	Date
366,425	Italy	Dec. 27, 1938