Nov. 3, 1931. W. BORZAGE 1,830,086

COMBINED MUSICAL INSTRUMENT

Filed Nov. 24, 1930 4 Sheets-Sheet 1

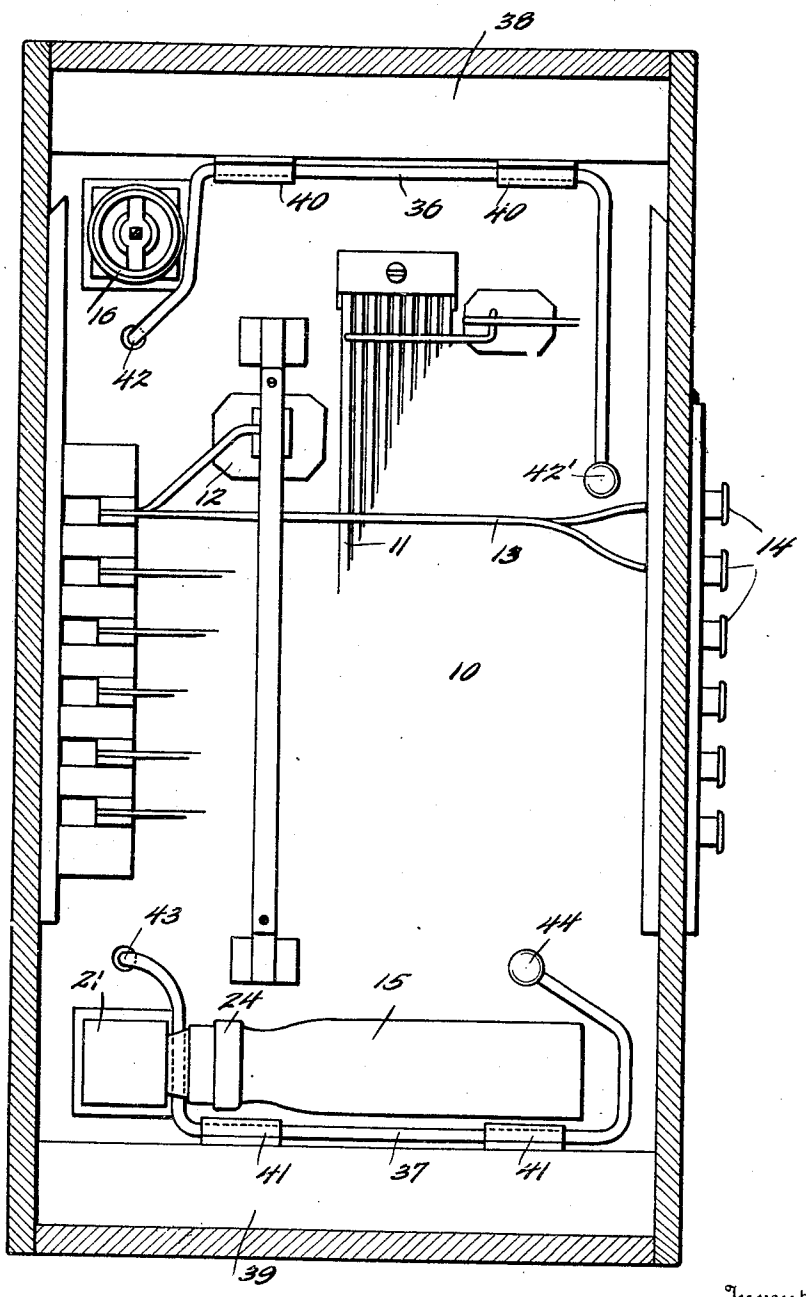


Fig. 1.

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Filed Nov. 24, 1930 4 Sheets-Sheet 2

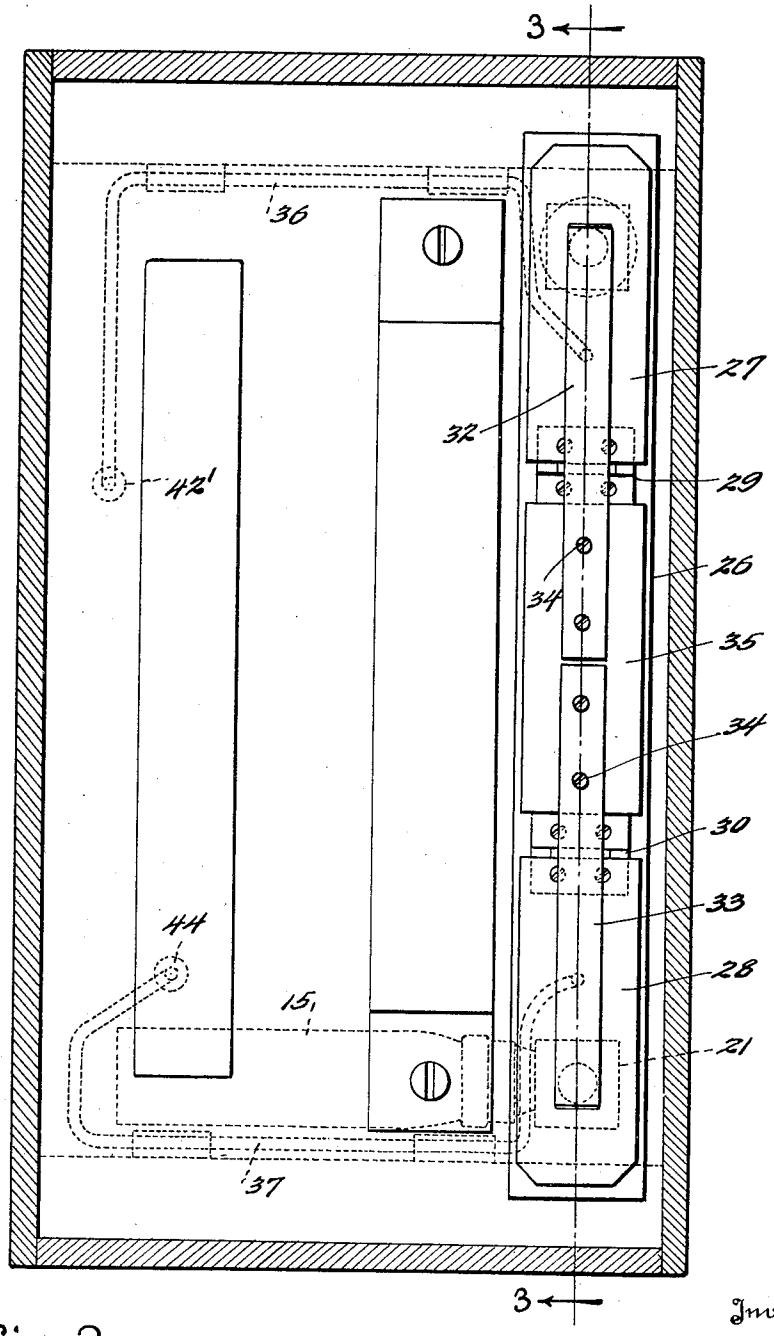


Fig. 2.

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COMBINED MUSICAL INSTRUMENT

Filed Nov. 24, 1930 4 Sheets-Sheet 3

Fig. 5.

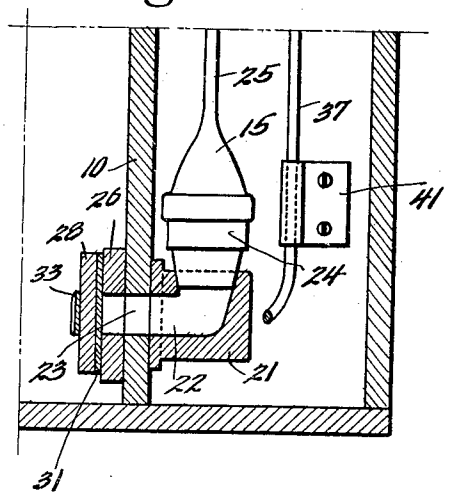


Fig. 4.

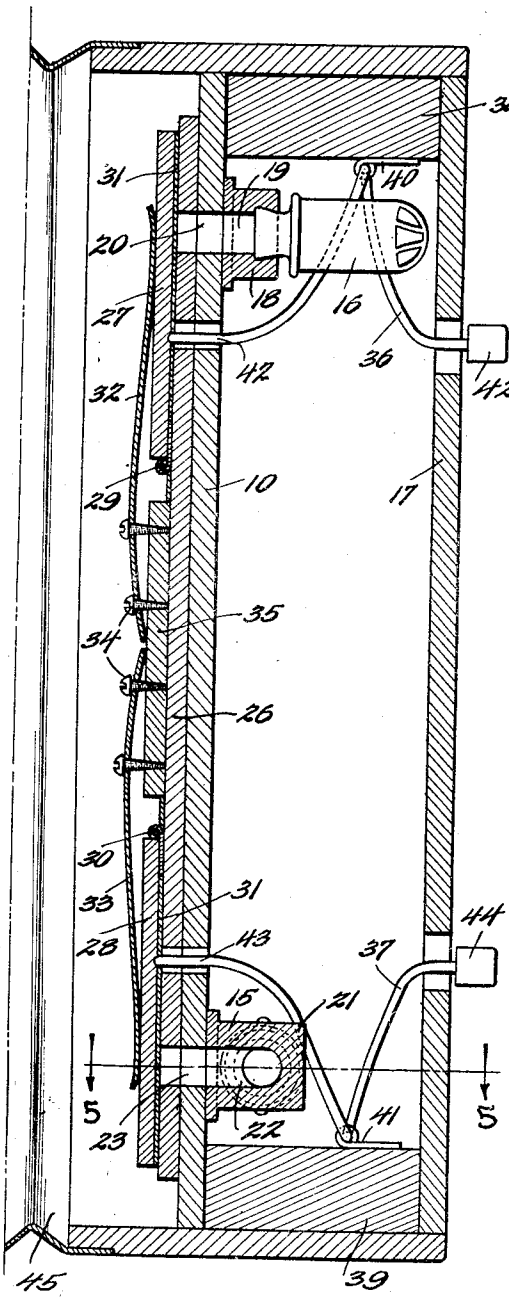
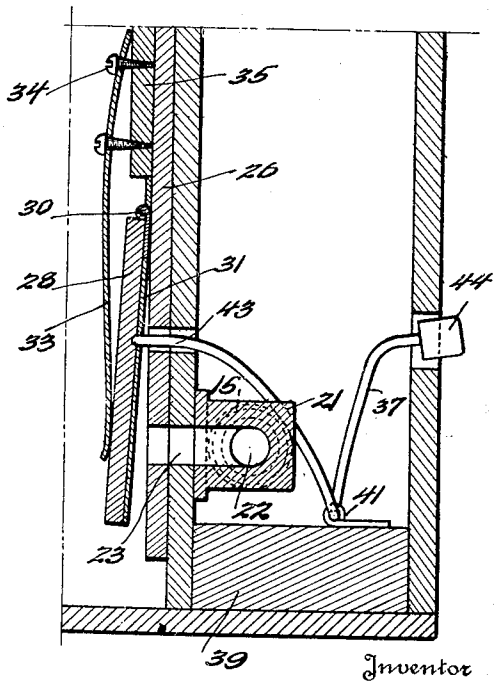


Fig. 3.



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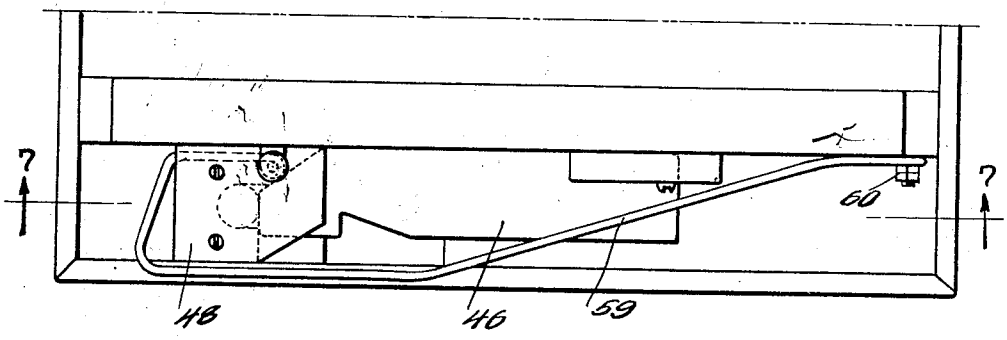
Attorney

Nov. 3, 1931. W. BORZAGE 1,830,086

COMBINED MUSICAL INSTRUMENT

Filed Nov. 24, 1930 4 Sheets-Sheet 4

Fig. 6.



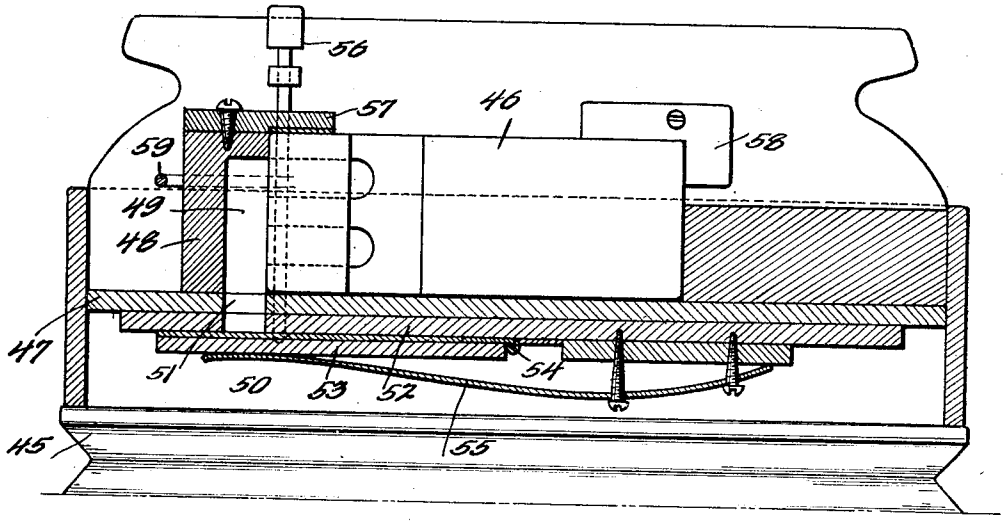


Fig. 7.

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Patented Nov. 3, 1931 1,830,086

UNITED STATES PATENT OFFICE

WILLIAM BORZAGE, OF LOS ANGELES, CALIFORNIA

COMBINED MUSICAL INSTRUMENT

Application filed November 24, 1930. Serial No. 497,884.

The present invention relates to improvements in that class of musical instruments in which sound of music is produced by means of manually operable bellows through a series of properly designed pipes or against a series of properly designed reeds. The object of the present invention is to provide an instrument of the type above described with a series of small additional wind instruments which have become essential parts of the modern jazz orchestra.

More particularly the present invention relates to the embodiment within the normal structure of an accordion several additional small musical devices which may be operated by the air forced by the bellows of the accordion and whose operation may be controlled by finger keys or buttons of substantially the same type as those which control the operation of the accordion. These keys or buttons are preferably disposed in the immediate vicinity of the keys or buttons that are normally associated with an accordion and which serve to control the operation thereof and which provide for the ready manipulation of the usual valves, with which an accordion is provided, by the fingers of the operator.

Another object of the invention is to provide an accordion with such additional musical instruments or devices which are disposed entirely within the structure of the accordion, the only parts protruding being the finger keys or buttons for the operation of the valves associated with such instruments or devices and which control the manipulation of such instruments or devices.

For this purpose, the chamber which is disposed at each end of the accordion and which houses the pipes and reeds which constitute the customary operating parts of the accordion, is employed for housing the additional musical instruments. These instruments are preferably so disposed and mounted on the base board that separates this chamber from the bellows chamber so that a valve mounted on the bellows side of this base board will control the operation of the musical devices. These last mentioned instruments and valves are also so disposed with relation to the end walls of the chamber that the operators for the valves associated with these musical instruments are mounted on the end walls of the chamber; these operators being provided with finger keys or buttons which project through corresponding apertures in the lid or cover of this chamber.

Other objects of the invention will be apparent to persons skilled in the art from the drawings which constitute a part of the application and from the specification which are submitted herewith for the purpose of illustrating the invention and not for the purpose of limiting the scope of the invention.

In the drawings:

Figure 1 is a sectional view of one of the end chambers of an accordion and illustrating one embodiment of the invention in which a razz and a siren are mounted to be operated by the bellows;

Figure 2 is a view of the base board carrying the apparatus illustrated in Figure 1 taken from the bellows side and showing the valves for operating the razz and siren;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a fragmentary detailed sectional view similar to Figure 3 and showing the valve for operating the siren in open position;

Figure 5 is a detailed sectional view taken on the line 5—5 of Figure 3;

Figure 6 is a plan view of the opposite end of the accordion and showing another musical device such as a train whistle mounted thereon; and

Figure 7 is a sectional view on the line 7—7 of Figure 6.

Referring to the drawings, reference numeral 10 indicates the base board which separates the end chamber from the bellows chamber at one end of the accordion. This board 10 generally carries the various elements of the accordion such as the pipes 11, the valves 12, the operating levers 13 and the like. The operating levers are usually provided with finger keys 14 which are available for ready manipulation exteriorly of the chamber. The present invention contemplates mount-

ing additional musical devices such as the razz 15, the siren 16 and the like on the base board 10 so that the same are hidden from view by the cover or lid 17. The siren 16 is preferably carried by a supporting element 18 which may be mounted on the outer face of the base board 10 in any manner desired such as by means of screws or glue or the like. The element 18 is preferably provided with a passage 19 which registers with the operating passage in the siren or other musical device. The base board 10 is provided with a passage 20 in registry with the passage 19 of the support 18.

Similarly the razz 15 is carried by a support 21 which is mounted on the base board 10 in any manner desired; the support 21 being also provided with a passage 22 in registry with the passage 23 in the base board 10. In the case of the siren, which is a comparatively small instrument, the support 18 is so designed that the entire device 16 stands between the base board 10 and the lid 17. The razz 15, which consists of a tubular device 24 carrying a relatively long rubber tube 25, is preferably disposed, as shown, lengthwise of the chamber. The support 21, therefore, is provided with an angular passage 22, as will appear from an inspection of Figures 4 and 5.

In order to provide for the ready mounting of the valves on the bellows side of the base board 10, the valves shown in Figures 3, 4 and 5 are preferably constructed as a unit and comprise a relatively long strip 26 of wood or the like upon which are hingedly mounted the valves 27 and 28, one for controlling the operation of the siren and the other for controlling the operation of the razz 15. The hinges are indicated by the reference characters 29 and 30 respectively. The operating faces of the valves are preferably covered with a layer 31 of suitable soft material such as felt or the like. Leaf springs 32 and 33 which are carried at one end by means of the screws 34 by a strip 35 disposed intermediately of the valves 27 and 28, are employed for maintaining the valves 27, 28 normally in closed position.

The means for operating these valves are preferably in the form of bent rods 36 and 37 carried on the end walls 38 and 39 respectively of the chamber by means of the hinges 40 and 41 respectively. The end 42 of the operators 36 passes through registry apertures in the base board 10 and the strip 26 and impinges upon the valve 27. The other end of the operator 36 is provided with a finger cap 42 and passes through an aperture in the lid 17 provided for that purpose.

Similarly, the operator 37 has its end 43 passing through apertures in the base board 10 and the strip 26 overlying the valve 28 and impinges upon the valve. The other end of the operator 37, similarly provided with a finger cap 44 which passes through an opening in the lid 17 for that purpose. The ends 42 and 44 of these operators are preferably spaced close to the customary finger keys 14 of the accordion.

It will be seen from the above that when the accordion is operated by the bellows 45 a depression of the keys 42 and 44 will cause the operation of the siren 16 or of the razz 15 as desired. Figures 6 and 7 show a train whistle 46 mounted on the other end of the accordion. The base board 47 carries the element 48 which is provided with the passage 49 for permitting the flow of air from the bellows chamber 50 to the train whistle 46. The base board 47 is also provided with a registry passage 51 and the strip 52 suitably mounted on the bellows side of the base board 47 is also provided with an opening in registry with the opening 51. The valve 53 is constructed in substantially the same manner as the valves 27 and 28 described hereinabove and are hinged to the strip 52 by means of the hinge 54 and are covered with a layer of suitable soft material such as felt or the like. The leaf spring 55 serves to normally maintain the valve 53 in closed position and the operator 56 serves, when depressed, to open the valve and permit the flow of air from the bellows to the train whistle for the operation of the train whistle.

The plates 57 and 58 serve to hold the train whistle in position.

The ends of the operators which operate upon the valves are preferably made to ride freely and are not in any manner attached to the valve. This is true of the operators of the valves for the siren, the razz as well as the train whistle. In the case of the operator 56 for the train whistle, it may be confined in movement in any manner desired such as by means of the bent rod 59 which is pivotally mounted at 60.

I claim:

1. In an accordion having a bellows chamber, an end chamber, and a base board separating the end chamber from said bellows chamber; an additional relatively small wind instrument mounted on said base board and disposed within said end chamber, said base board having a passage registering with said instrument to permit the flow of air from said bellows chamber through said instrument to operate the same, a hinged valve carried by said base board on the bellows side thereof and disposed over said passage to open and close the same to control the operation of said instrument, a spring carried by said board on its bellows side and serving to normally hold said valve in closed position, and an operating rod for said valve mounted within said chamber and having one end thereof passing through an addition passage in said base board to impinge upon

and move the said valve to open position.

2. In an accordion having a bellows chamber, an end chamber, and a base board separating the end chamber from said bellows chamber; an additional relatively small wind instrument disposed in said end chamber, a carrier for said instrument mounted on said base board and having a passage registering with said instrument, said base board having a passage in registry with said first mentioned passage to permit the flow of air from said bellows chamber through said instrument to operate the same, a valve carried by said board and disposed over said last mentioned passage to open and close the same to control the operation of said instrument, a spring carried by said strip and serving to normally hold said valve in closed position, and an operating rod for said valve mounted within said chamber, said operating rod having one end thereof freely engaging said valve to move the same to open position, the other end of said rod being disposed for ready manipulation by the operator's fingers.

3. In an accordion having a bellows chamber, an end chamber, and a base board separating the end chamber from said bellows chamber; a plurality of wind instruments mounted on said base board and disposed within said end chamber, said base board having passages registering with said instruments to permit the flow of air from said bellows chamber through said instruments to operate the same, valves carried by said base board and disposed over said passages to open and close the same to control the operation of said instruments, springs carried by said board and serving to normally hold said valves in their closed positions, and operating rods for said valves pivotally carried by the side walls of said chamber, said operating rods having one end thereof passing through additional passages in said base board to impinge upon and move the said valves to open position.

4. In an accordion having a bellows chamber, an end chamber, and a base board separating the end chamber from said bellows chamber, and a cover for said end chamber; a plurality of wind instruments mounted on said base board and disposed entirely within said end chamber, said base board having passages registering with said instruments to permit the flow of air from said bellows chamber through said instruments to operate the same, hinged valves carried by said base board and disposed over said passages to open and close the same to control the operation of said instruments, springs carried by said board and serving to normally hold said valves in their closed positions, and operating rods for said valves pivotally carried by the side walls of said chamber, said operating rods having one end thereof passing through additional passages in said base board to impinge upon and move the said valves to open position, the other ends of said rods passing through openings in said cover to permit the manual operation of said valves.

5. In an accordion having a bellows chamber, an end chamber, and a base board separating the end chamber from said bellows chamber, a plurality of wind instruments mounted on said base board and disposed entirely within said end chamber, said base board having passages registering with said instruments to permit the flow of air from said bellows chamber through said instruments to operate the same, a strip carried by said base board on the bellows side thereof and having passages in registry with said first mentioned passages, valves carried by said strip and disposed over said last mentioned passages to open and close the same to control the operation of said instruments, resilient means carried by said strip and serving to normally hold said valves in their closed positions, and operating rods for said valves pivotally carried by the side walls of said chamber, said operating rods having one end thereof freely engaging the said valves and operable to move the same to open position.

6. In an accordion having a bellows chamber, an end chamber, a base board separating the end chamber from said bellows chamber, and a cover for said end chamber, a plurality of wind instruments mounted on said base board and disposed entirely within said end chamber, said base board having passages registering with said instruments to permit the flow of air from said bellows chamber through said instruments to operate the same, a strip carried by said base board on the bellows side thereof and having passages in registry with said first mentioned passages, valves carried by said strip and disposed over said last mentioned passages to open and close the same to control the operation of said instruments, resilient means carried by said strip and serving to normally hold said valves in their closed positions, and operating rods for said valves pivotally carried by the side walls of said chamber, said operating rods having one end thereof engaging the said valves and operable to move the same to open position, the other ends of said rods passing through openings in said cover to permit the manual operations of said valves.

7. In an accordion having a bellows chamber, an end chamber, a base board separating the end chamber from said bellows chamber, and a cover for said end chamber, a plurality of wind instruments mounted on said base board and disposed entirely within said end chamber, said base board having passages registering with said instruments to permit

the flow of air from said bellows chamber through said instruments to operate the same, a strip carried by said base board on the bellows side thereof and having passages in registry with said first mentioned passages, hinged valves carried by said strip and disposed over said last mentioned passages to open and close the same to control the operation of said instruments, leaf springs carried by said strip and serving to normally hold said valves in their closed positions, and operating rods for said valves pivotally carried by the side walls of said chamber, said operating rods having one end thereof passing through additional passages in said base board and strip to impinge upon and move the said valves to open position, the other ends of said rods passing through openings in said cover to permit the manual operation of said valves.

8. In an accordion having a bellows chamber, an end chamber, and a base board separating the end chamber from said bellows chamber; an additional relatively small wind instrument mounted on said base board and disposed within said end chamber, said base board having a passage registering with said instrument to permit the flow of air from said bellows chamber through said instrument to operate the same, a valve for said passage, means normally to hold said valve in closed position, and manually operable key means for moving said valve to open position, and to control the operation of the said instrument.

9. In an accordion having a bellows chamber, an end chamber, and a base board separating the end chamber from said bellows chamber; an additional relatively small wind instrument mounted on said base board and disposed within said end chamber, said base board having a passage registering with said instrument to permit the flow of air from said bellows chamber through said instrument to operate the same, a valve for said passage carried by said base board on the bellows side thereof and disposed over said passage to open and close the same to control the operation of said instrument, means normally to hold said valve in closed position, and manually operable key means for moving said valve to open position, and to control the operation of the said instrument.

In testimony whereof I have affixed my signature.

WILLIAM BORZAGE.