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REED BLOCK FOR ACCORIONS

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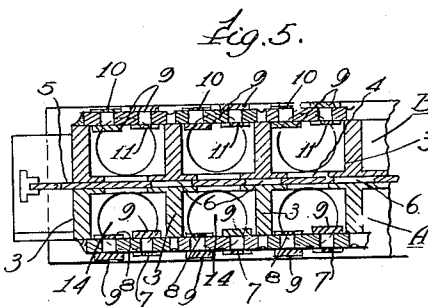
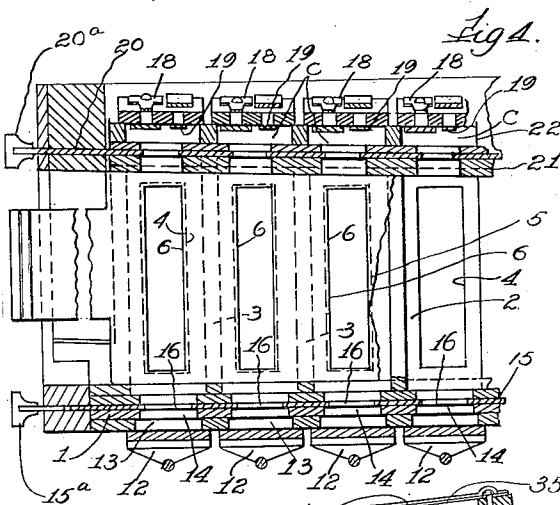
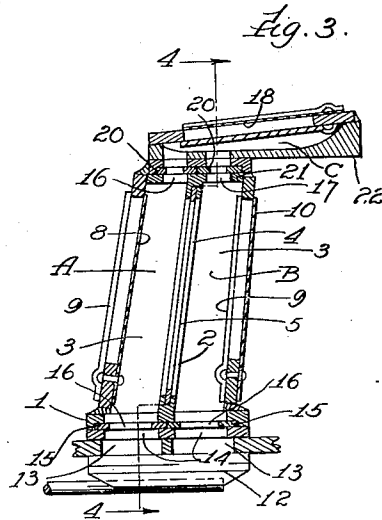
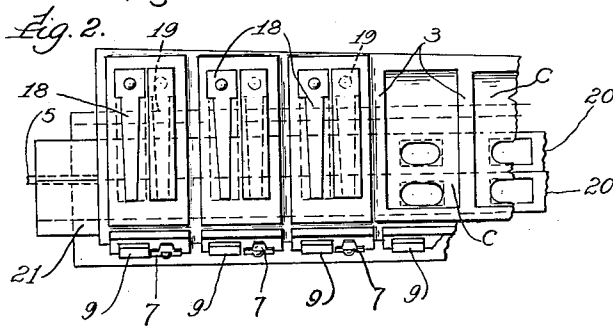
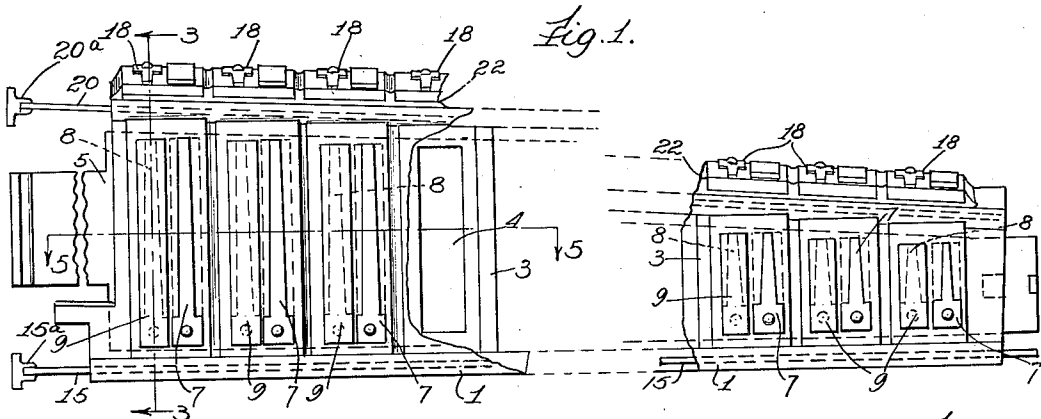
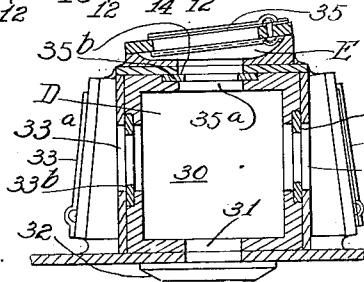


Fig. 6.

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REED BLOCK FOR ACCORDIONS

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9 Claims. (Cl. 84-376)

This invention relates to reed blocks, particularly of the type employed in accordions, and one object of the invention is to provide a plurality of reeds corresponding to any given tone which may be sounded together to produce a certain tone quality, and which may be silenced individually so as to produce different combinations of tone resembling various other instruments. Another object of the invention is to provide a compact arrangement of the several reeds so that the various tonal effects may be secured without increasing the normal size of the accordion. The invention consists in certain features and elements of construction in combination as herein shown and described and as indicated by the claims.

In the drawing:

Figure 1 may be considered as a fragmentary elevation of a reed block showing the two end portions of the block, the middle portion being broken away to condense the view.

Figure 2 is in the nature of a plan view with respect to Figure 1, showing only the reeds at one end of the block; certain parts are shown in section or with portions broken away.

Figure 3 is a transverse section taken as indicated at line 3-3 on Figure 1.

Figure 4 is a longitudinal section taken as indicated at line 4-4 on Figure 3.

Figure 5 is a horizontal section taken as indicated at line 5-5 on Figure 1.

Figure 6 is a transverse section similar to Figure 3, but showing a modified construction.

Heretofore, it has been conventional practice in accordion construction to make the reed block with a series of chambers arranged in pairs, that is, in two rows on opposite sides of a partition with transverse partitions defining the chambers, and with the outer walls of the chambers opposite the partition containing the reeds. The present structure follows this general design, but provides additions which permit sympathetic vibration of the reeds at opposite sides of the reed block, and also provides for other supplemental action to vary the tonal quality.

As shown in the drawing, the reed block includes a base or bottom wall, 1, with a central partition, 2, rising therefrom, and with transverse partitions, 3, at intervals to form the several chambers. This results in two rows of chambers, A and B, as seen in Figure 3, separated by the partition wall, 2, but these two chambers may be placed in communication with each other through a port, 4, formed in the wall,

2, and controlled by a slide valve or damper plate, 5, having ports, 6, adapted to be registered simultaneously with the ports, 4, which connect all the chambers in pairs, or to be shifted out of registration for closing said ports. Opposite the partition wall, 2, each of the chambers, A, is provided with the usual pair of reeds, 7 and 8, one of which is designed to operate by inflow of air past the reed, while the other is arranged to operate upon outflow for producing the same pitch. The usual leather valve, 9, is associated with each of the reeds for checking the flow of air in one direction. Each of the chambers, B, is similarly arranged with a pair of reeds, 10 and 11, disposed opposite the partition wall, 2, and both reeds are supplied with the usual leather valves, 9.

Air flow through the chambers, A and B, is controlled by valves, 12 (see Figure 4) connected for operation selectively by the manual keys of the instrument in a well-understood manner. These valves seat over ports, 13, in a wall of the wind-chest, said ports registering with ports, 14, in the bottom wall, 1, of the reed block. Said bottom wall is preferably of laminated construction so as to have embodied in it a pair of slide valves or damper plates, 15, having ports, 16, adapted to be registered with the ports, 14, but so dimensioned that upon shifting of the plate it will close said ports, 14. As seen in Figure 3, the wall encloses two of these slide valves, 15, controlling respectively the chambers, A and B.

A third set of reeds is mounted on the top wall of the reed block through which I provide ports, 16 and 17, leading respectively from the chambers, A and B, so that each pair of reeds of this series, indicated at 18 and 19, may be operated simultaneously with either the reeds, 7 and 8, of chamber, A, or the reeds, 10 and 11, of chamber, B. Selective control of the ports, 16 and 17, is provided by slide valves, 20, of which there are two, mounted side by side in the top wall, 21, of the reed block. The reeds, 18 and 19, are carried on a supplemental reed block, 22, having suitable chambers, C, formed for each pair of reeds and registering over the chambers, A and B, of the main reed block.

The reeds, 18 and 19, need not be of the same pitch as the others, but, for example, may be tuned an octave higher so as to enrich the tone of the principal reeds, 7, 8. The reeds, 10 and 11, may be tuned just slightly off pitch, if desired, for securing a certain timbre when they are vibrated simultaneously with the reeds, 7, 8, and particularly when they are allowed to vi-

brate in sympathy with them by virtue of the interconnecting port, 4, in partition, 2.

It may be understood that any suitable operating means may be provided for the various slides, such means being indicated in the form of knobs, 15^a and 20^a, for the slides, 15 and 20, respectively, although, obviously, other handles or actuating mechanism may be provided, as may appear desirable. With the separate slides, 10 15, for the two chambers, A and B, and with the two slides, 20, controlling communication between said chambers and the chamber, C, together with the slide, 5, in the partition, 2, it is possible, upon opening one of the valves, 12, to have either one, two or three reeds sounded simultaneously and to combine the reeds variously in pairs. I may combine the reeds, 7, 8, with the reeds, 10, 11, or the reeds, 7, 8, with the reeds, 18, 19, or, thirdly, the reeds, 10, 11, with the reeds, 18, 19; the reeds, 7, 8, may be sounded alone, or all three sets of reeds may be sounded together, thus affording at least five different tonal effects. The construction, as will be recognized, is relatively inexpensive and extremely compact, so that it will occupy practically no more space than the standard reed block in the wind-chest of the accordion, and the use of this new construction will not necessarily involve any radical change in the proportions or dimensions of the outer casing.

In Figure 6 I have indicated a slight modification in which the middle partition is omitted, and a separate slide valve is provided for each of the three sets of reeds. The reed block is divided by transverse partitions, 30, into a series of chambers, D, each having a port, 31, controlled by a valve, 32, which may be understood as connected for operation by one of the manual keys, not shown. With each chamber, D, there are associated three sets of reeds indicated respectively at 33, 34 and 35. A port, 33^a, affords communication between the chamber, D, and the reeds, 33; likewise, the ports, 34^a and 35^a, afford communication between the chamber, D, and their respective reeds. For shutting off any set of reeds at will I may provide slide valves, 33^b, 34^b and 35^b, controlling the ports, 33^a, 34^a and 35^a, respectively. Thus, by merely closing the slide valve, 35^a, I permit the reeds, 33 and 34, to vibrate, or by closing any two of the slide valves I may limit the tone to that of a single reed. It will be understood that Figure 6 is somewhat diagrammatic, but the principle of this construction will be readily understood by those skilled in the art, particularly as interpreted by the other figures of the drawing.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and the scope of the invention, and that the same is not limited to the particular form herein shown and described, except in so far as indicated by the appended claims.

I claim:

1. In an accordion, a reed block having two rows of chambers, transversely registered in pairs, each chamber having a port, a reed associated with each chamber, a valve common to the ports of each pair of chambers controlling the flow of air through them, a partition separating the chambers of each pair with a port

in said partition, and valve means adjustable to open and close said partition port at will.

2. In an accordion, a reed block having two rows of chambers, transversely registered in pairs, each chamber having a port, a reed associated with each chamber, a valve common to the ports of each pair of chambers controlling the flow of air through them, and independently operable valve means adjustable at will to open and close the said ports of one row of chambers. 10

3. In an accordion, a reed block having three rows of chambers transversely registered in groups of three, a reed associated with each chamber, one of the chambers of each group having a port with a valve therefor controlling the flow of air through said chamber, said chamber having ports opening into the other chambers of the group with separate valve means for said ports respectively, each adjustable independently at will for silencing one or both of the reeds associated with said other chambers. 15

4. In an accordion, a reed block having three rows of chambers transversely registered in groups of three, a reed associated with each chamber, two of said chambers having ports with a valve common to said ports controlling the flow of air through them, and supplemental valve means for said ports operable independently of each other for closing either port at will, each of said two chambers having a port leading to the third chamber of the group with valve means operable at will to open and close said ports to the third chamber. 25

5. In an accordion, a reed block having three rows of chambers transversely registered in groups of three, a reed associated with each chamber, two of said chambers having ports with a valve common to said ports controlling the flow of air through them, and supplemental valve means for said ports operable independently of each other for closing either port at will, each of said two chambers having a port leading to the third chamber of the group with valves operable independently of each other at will for opening and closing either of said ports to the third chamber. 40

6. In an accordion, a reed block having three rows of chambers transversely registered in groups of three, a reed associated with each chamber, two of said chambers having ports with a valve common to said ports controlling the flow of air through them, and supplemental valve means for said ports operable independently of each other for closing either port at will, a partition separating said two chambers but having a port affording communication between them with a valve operable at will to open and close said port, each of said two chambers having a port leading to the third chamber of the group with valve means operable at will to open and close said ports to the third chamber. 55

7. In an accordion, a reed block having two rows of chambers, transversely registered in pairs, a reed associated with each chamber, each of said chambers having a port at one end, a valve common to the two ports of each pair of chambers controlling the flow of air through them, and a third row of chambers disposed at the opposite ends of said chambers-in-pairs registering respectively therewith and each having two ports leading respectively to the two chambers of the registering pair, a reed associated with each chamber of the third row, independently operable valve means for closing and opening at will either of said ports, and independently 70

rating the chambers of each pair with a port 75

operable valve means for closing and opening at will either of the aforesaid ports which are controlled by the first mentioned valve.

5 8. In an accordion, a reed block having two rows of chambers, transversely registered in pairs, a reed associated with each chamber, each of said chambers having a port at one end, a valve common to the two ports of each pair of chambers controlling the flow of air through them, and a third row of chambers disposed at the opposite ends of said chambers-in-pairs registering respectively therewith and each having two ports leading respectively to the two chambers of the registering pair, a reed associated

with each chamber of the third row, and independently operable means for silencing at will the reeds associated with one or more rows of chambers.

9. In an accordion, a reed chamber, a plurality of reeds operable simultaneously by the flow of air through said chamber, a single valve controlling the flow of air through the chamber and independently operable valve means for silencing at will one or more of the reeds which depend upon the air flow through said chamber for their actuation. 10

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