

(No Model.)

2 Sheets—Sheet 1.

J. PELOUBET.
REED BOARD FOR ORGANS.

No. 501,535.

Patented July 18, 1893.

Fig. 2.

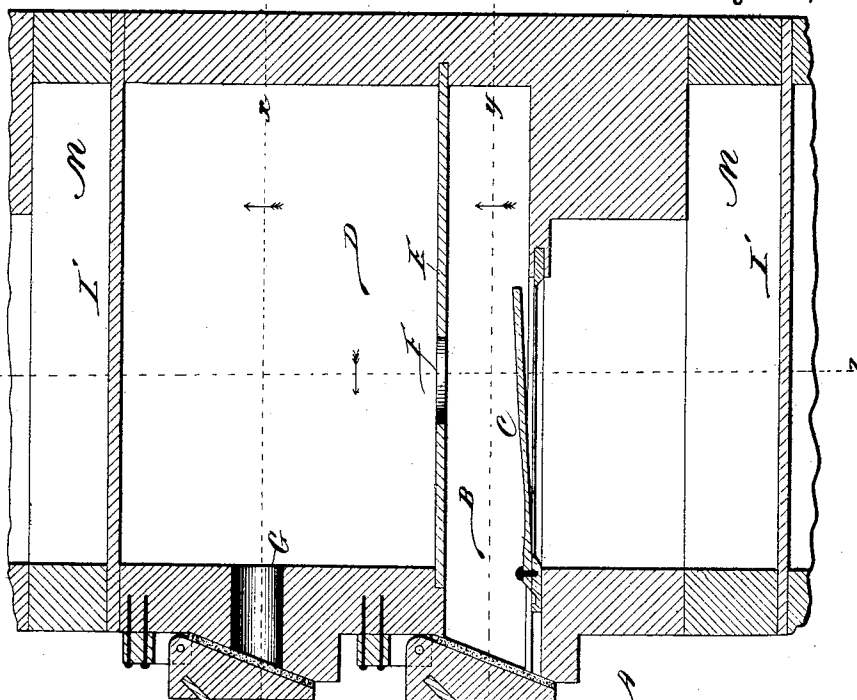
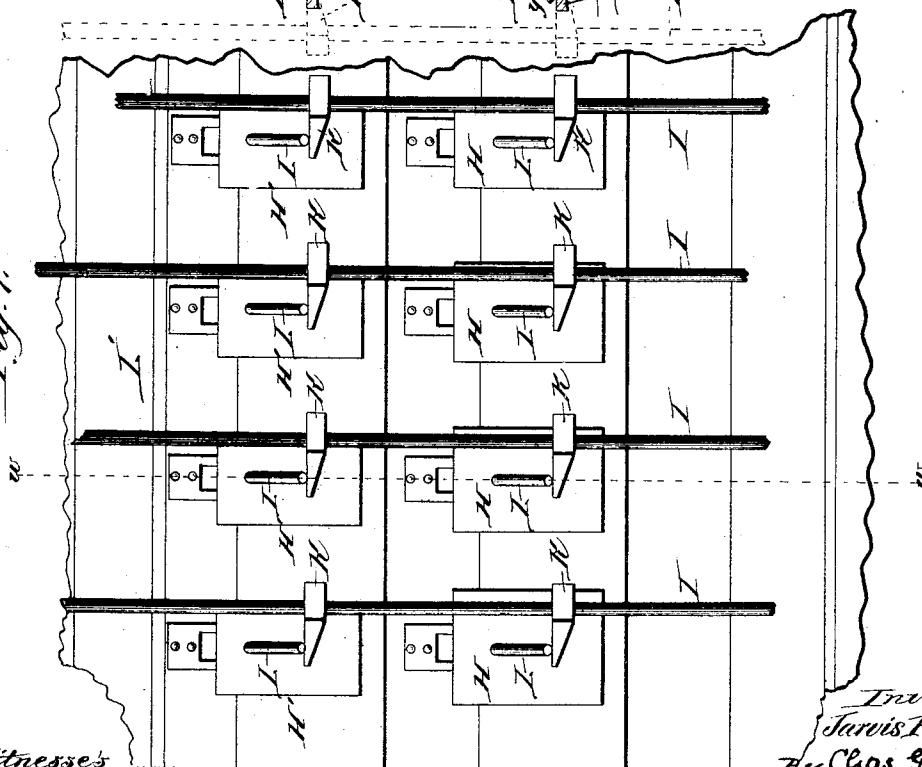


Fig. 1.



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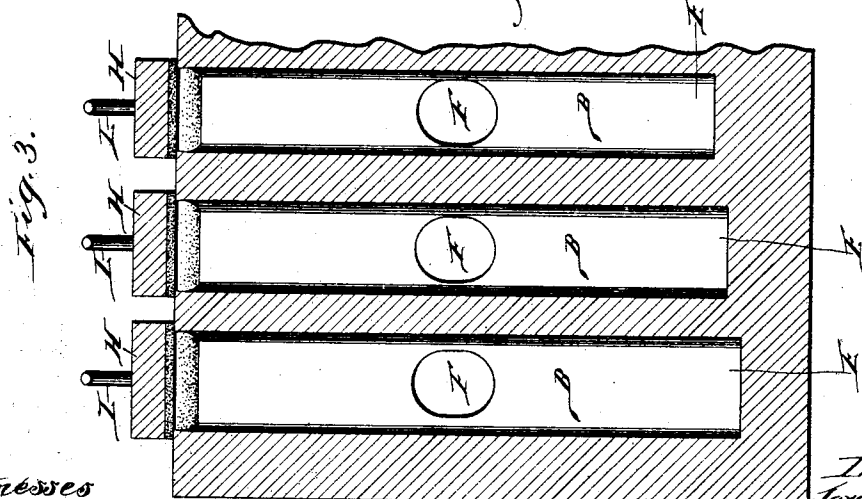
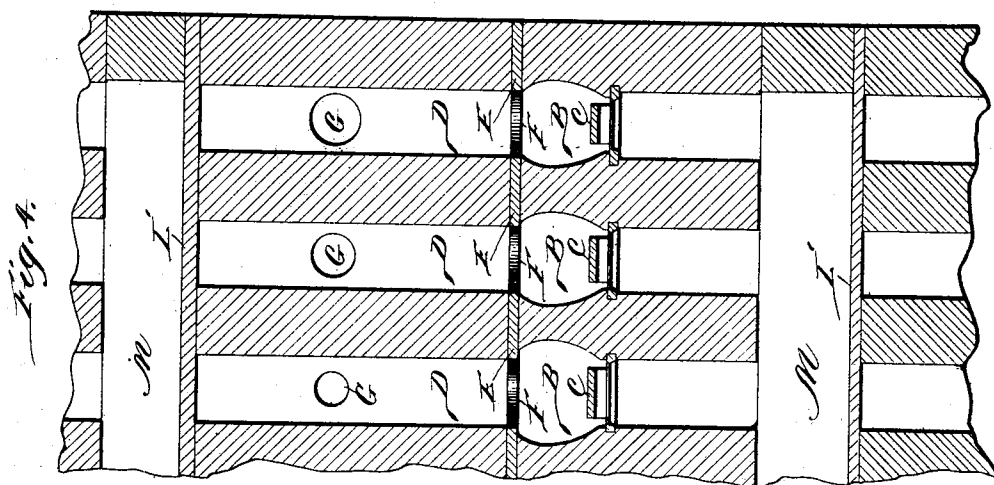
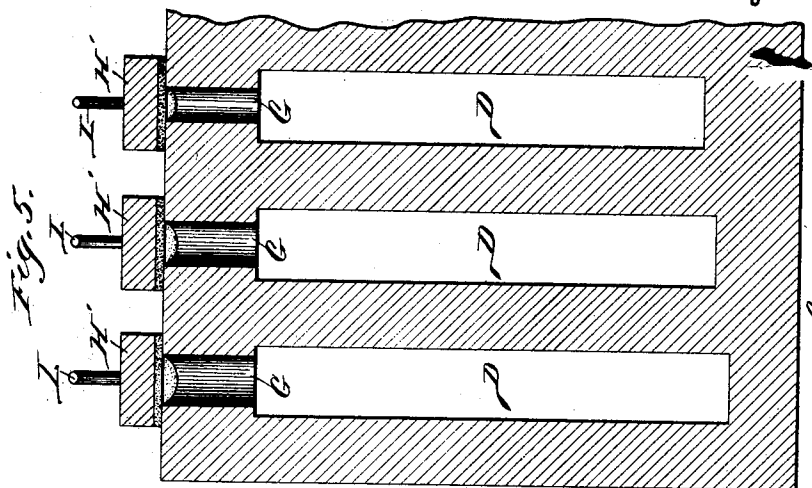
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2 Sheets—Sheet 2.

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REED BOARD FOR ORGANS.

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UNITED STATES PATENT OFFICE.

JARVIS PELOUBET, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE LYON & HEALY, OF SAME PLACE.

REED-BOARD FOR ORGANS.

SPECIFICATION forming part of Letters Patent No. 501,535, dated July 18, 1893.

Application filed May 4, 1893. Serial No. 472,933. (No model.)

To all whom it may concern:

Be it known that I, JARVIS PELOUBET, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Reed-Boards for Organs, of which the following is a specification.

The object of my invention is to attain a larger, better, fuller, and new variety of tone in organs.

In carrying out my invention I provide in conjunction with the reed-cells of a reed-board or register, a corresponding series of resonant chambers which are arranged in communication with the reed-cells and ported with reference to the notes to which they are respectively allotted. The ports of the resonant chambers and the mouths or open ends of the reed-cells are opened and closed by note playing valves or pallets which are operated from or by the key action, in which way, when a note of the register is to be sounded, the mouth of the reed-cell and the port of its companion resonant chamber allotted to such note will be opened or uncovered. Each reed cell and its allotted resonant chamber can be partially separated by a partition having a suitable opening through which communication is maintained between them, or such partition can be entirely dispensed with.

As a matter of further improvement the ported resonant chambers can be made larger than the reed-cells, thereby attaining increased space for vibration.

In the accompanying drawings,—Figure 1 shows a portion of the reed-board in front elevation, and illustrates lifting rods for operating the pallets. Fig. 2 is a section taken transversely through the reed-board on line *w—w* in Fig. 1. Fig. 3 is a horizontal section on line *y—y* in Fig. 2. Fig. 4 is a vertical section on line *z—z* in Fig. 2. Fig. 5 is a horizontal section on line *x—x* in Fig. 2.

The reed-board A is shown provided with a series of reed cells B, each containing a reed C, and having its open end or mouth arranged at the front of the reed-board, as usual. The resonant chambers D are arranged over the reed cells and are shown separated therefrom by a thin partition E having openings F so as to provide open communication between each reed-cell and its allotted resonant cham-

ber. The partition E between the reed cells and the resonant chambers may however, be dispensed with, although I prefer its retention. The resonant chambers are provided with ports G formed by openings which are contracted relatively to the transverse areas of the chambers. These ports open at the front of the reed-board at points over the mouths or open ends of the reed cells. The open ends or mouths of the reed-cells and the resonant chambers are respectively opened and closed by valves or pallets H and H' which are operated for the purpose of playing the several notes of the register.

The pallets are operated from or by any suitable key action, whereby the ports of the resonant chambers are severally opened and closed in unison with the opening and closing of their respectively allotted reed-cells, it being understood that as a matter of course the reed cells are opened and closed independently of one another in order to permit the various notes of the register to be played, and hence, that when a note is sounded as a result of uncovering the mouth of the formative reed cell wherein it is produced, the port of the resonant chamber which is companion to such reed cell is likewise uncovered. As a simple and efficient arrangement of means for thus operating the pallets, I have shown a series of independent lifting rods I carrying adjustable stops K for engaging projecting fingers L on the pallets and understood to be operated from the key-action of the organ. Obviously the individual note playing valves or pallets allotted to the reed cells could be enlarged so as to also serve for opening and closing the ports of the resonant chambers, although such arrangement would be less desirable and involve corresponding change in the simple and effective arrangement herein shown.

While I do not confine myself to any particular mode of separating the reed-boards where a series of superposed reed-boards are employed as a means for providing the organ with a plurality of reed-boards, or registers, I may separate one reed-board from another by a thin flexible partition L' serving as a top for the resonant chambers of one set and a bottom for one of the wind-chambers M which latter is understood to be suitably connected

with the "exhaust-bellows" of the organ. When the pallets are closed, the reed cells and resonant chambers of the register are in an exhausted condition as an incident preliminary to the use of the register. When therefore a reed cell is uncovered to admit a current of external air, the port of its companion resonant chamber will likewise be uncovered and hence, simultaneously with the flow of external air into the reed cell, a jet of external air will be admitted into the previously exhausted resonant chamber. In such case while the resonant chamber would permit the waves of sound to fill out to their perfect form or even twice the same, the reed cell which constitutes a formative tube or cell serves to cut the wave of sound before entirely formed and thereby modify and somewhat intensify the tone, and hence the several reeds in the scale will not all sound under the same or even graduated conditions. In order therefore to properly sound the reeds and while attaining a full, large and new variety of tone, to secure uniformity of the same throughout the register, the ports are arbitrarily adjusted in area with relation to their respectively allotted notes. So far as I am aware of, no invariable rule can be laid down for such adjustment, although it can be readily determined by the tuner who in tuning a register embracing a series of ports all of the same size, will find it necessary to contract some and expand others. To permit this adjustment of portage, the ports can be made exceedingly small in the first instance, and the tuner can then enlarge each port by cutting the front wall of the reed-board until each note has its full, clear sound, but since such operation involves considerable labor, it is more convenient to form the ports in the first instance of a size equal or nearly equal to the largest size the tuner may find desirable, and to then reduce the ports in area where the necessity for such reduction becomes apparent, by plugging the same and cutting ports of desired size through the plugs. The adaptation of these ports to the notes can therefore, be determined by the expert tuner, since such adjustment becomes a matter within his province as a tuner.

I have also secured good results in practice by varying the areas of both the reed cells and the auxiliary chambers, observing that this can be done by shortening the cells and chambers in accordance with requirements. This can likewise be determined by the expert tuner, observing however that while as a general rule the cells and chambers will successively decrease slightly in area from the lowest to the highest note, points are apt to occur where to bring out the best tone, an arbitrary adjustment in area of certain cells and chambers is frequently necessary, and that further contraction in area is often required at such points.

As indicative that the ports, chambers and cells may have varying areas, I have so shown them in Figs. 4 and 5, observing that the differences shown are not according to the differences which may exist in practice, and that they are to the contrary in the nature of exaggerations made for the purpose of illustrating the fact that changes in relative areas can be made.

As a matter of further improvement, the resonant chambers can be made of larger area than the reed cells as illustrated, so as to provide greater space for vibration, it being understood however, that my invention involving the ports also includes resonant chambers not thus enlarged relatively to the reed cells.

What I claim as my invention is—

1. A reed-board comprising a series of auxiliary chambers in open communication with the reed chambers and provided with ports which are valved for opening and closing in unison with the opening and closing of the reed-chamber, substantially as and for the purpose set forth.

2. In a reed-board, a reed-chamber having a valved end which is opened to play the note, and an auxiliary chamber in open communication with the reed-chamber and provided with a valved port which is opened for the influx of external air simultaneously with an inflow of air into the said end of the reed-chamber, substantially as set forth.

3. A reed-board comprising a series of reed-chambers, a series of auxiliary chambers in open communication with and of larger area than the reed-chambers, and valved ports opening into the upper portions of the auxiliary chambers, substantially as described.

4. In a reed-board, a reed-chamber valved at one end, an auxiliary chamber separated from the reed-chamber by a partition having an opening F by which the two chambers are in constant open communication, and a valved port opening into the auxiliary chamber, substantially as set forth.

5. The reed-chamber provided with a pallet or valve and communicating through the reed with a chamber M, and the auxiliary chamber in open communication with the reed-chamber and ported for the admission of external air when the valve or pallet of the reed-chamber is open, substantially as described.

6. The reed chambers B, auxiliary chambers D in open communication with the reed-chambers, ports G opening into the auxiliary chambers, and valves or pallets H and H' respectively for and arranged relatively to the reed-chambers and said ports, substantially as described.

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