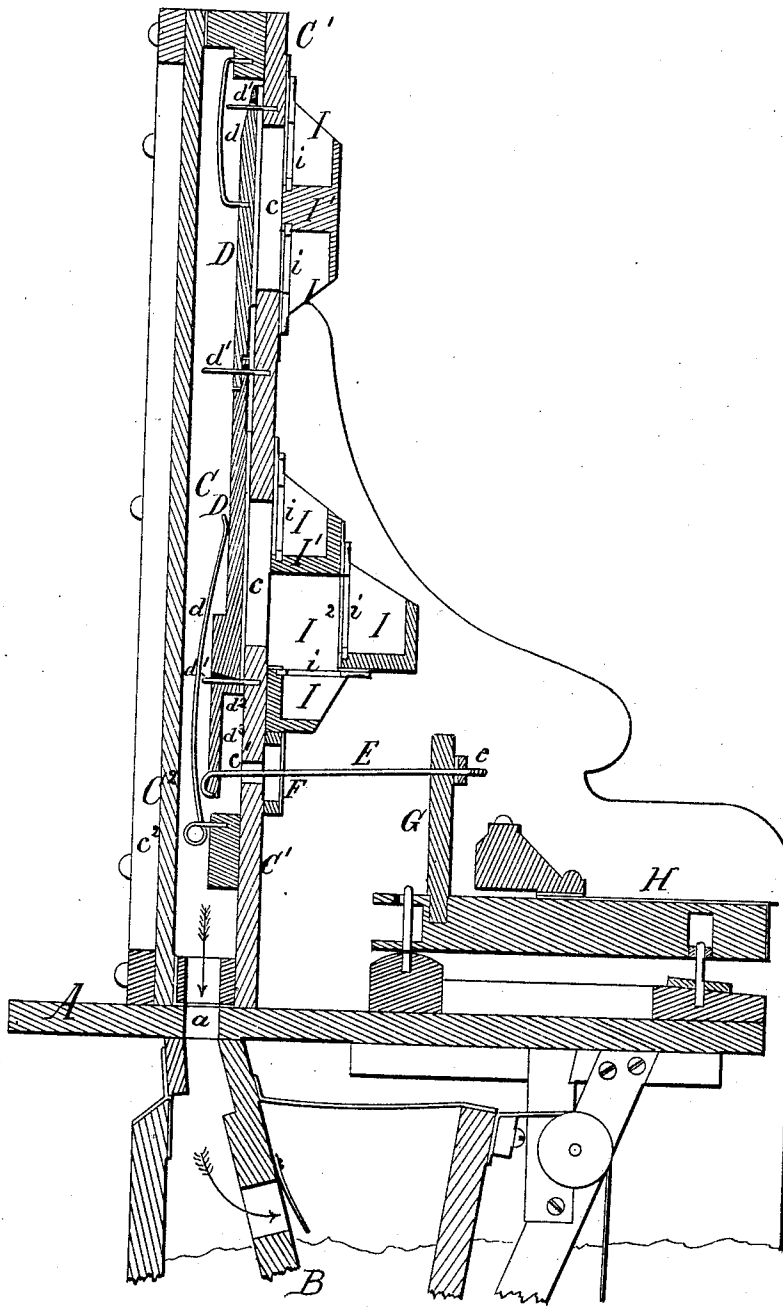


W. N. MANNING.

REED-ORGAN.

No. 178,650.

Patented June 13, 1876.



Witnesses:

J. P. Theodore Ling,
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UNITED STATES PATENT OFFICE.

WILLIAM N. MANNING, OF ROCKPORT, MASSACHUSETTS.

IMPROVEMENT IN REED-ORGANS.

Specification forming part of Letters Patent No. **178,650**, dated June 13, 1876; application filed March 3, 1876.

To all whom it may concern:

Be it known that I, WILLIAM N. MANNING, of Rockport, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Manual Orchestrions, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which a vertical section of my improved manual orchestration exposes all essential features to view.

The nature of my invention consists in the construction of an upright chest or air-chamber, placed above the bellows and above the manual, and having a front and back sounding-board, the former of which is a stationary board, and has the palates and reed-chamber attached to it.

My invention consists, second, in a removable back sounding-board, which forms the back of the said air-chamber, and is free of any attachments of mechanism, and by the removal of which the whole mechanism of the said air-chamber is fully exposed.

My invention consists, third, in the operation of the valves of the orchestration by trackers, whereby the connections between the keys of the manual and the valves may be placed entirely out of the way of the reed-chambers.

My invention consists, fourth, in the operation of the trackers by means of stems or lever-arms rigidly attached to the keys of the manual.

My invention consists, fifth, in the construction and arrangement of the reed-chambers, whereby a mingling of air-currents and vibrations is effected, which results in sounds resembling different instruments of the orchestra.

Sixth, it also consists in a certain combination of these said reed-chambers.

In the drawing, A represents a platform, by which the key-boards and air-chambers are supported. At the back part of and below the said platform an exhaust-bellows, B, is placed, by which air is drawn through a hole, *a*, in the platform from an air-chamber, C. The front and back walls of the said air-chamber consist of sound-boards C¹ C², the former being rigidly connected with the frame of the air-chamber, and the latter being removable and fastened to the air-chambers by screws.

The sound-board C¹ is provided with vents *c*, which are closed by the valves D. The said valves are kept in their normal position by springs *d* and steady-pins *d*¹, and in this particular case two valves are coupled to avoid the duplication of the operating parts. The lower valve is provided with a heel, *d*², which serves as its fulcrum, and an elevated lever, *d*³, to the end of which a tracker, E, is attached. The tracker E passes through a hole, *c*¹, in the sound-board C¹, thence through a packing skin or leather, F, and through an upright stem, G, of the key H of the manual, where it is secured and adjusted by a nut, *e*. At the upper part of the sound-board C¹ two reeds, *i*, are operated at once. The said reeds *i* are partly inclosed in two chambers, I, which are separated by a partition, I¹, but both communicate with the vent-hole *c*, and open in opposite directions. At the lower part of the sound-board C¹ three reeds are partly inclosed in three chambers, I, of which the two lower ones stand at right angles to each other and communicate with a chamber, I², common to both, in which the vibrating air-columns of the said two reeds commingle before entering the vent-hole *c*. The upper of the three valve-chambers I is separated from the rest by a partition, I¹, similar to that in the first-named case, and communicates through the same vent-hole *c* with the air-chamber C.

Operation: The organist depresses the key H, which causes the stem G to incline forward and pull the tracker in the same direction. The arm *d*³ of lower valve D is turned upon the heel *d*², and the valve D opened. The free end of the valve D, being behind the free end of the other valve D above, opens the same also. The admitted air sets the reeds in motion, the sounds of which mingle at the vent *c*, and, in passing through it, produce a sound the vibrations of which are communicated to the sound-boards, whereby the said sound becomes similar to that of an orchestral instrument, such as a violin, cornet, clarionet, &c.

By causing all the reeds or a part of them to sound, (which may be done by means of stops and slides,) the sounds may be so varied as to represent in each case a different instrument.

I do not confine the construction of my reed-

chambers and chambers I² to that represented in the drawing; neither do I confine myself to the exact number of reeds as represented, since I may use two reeds opposite each other, in combination with a chamber, I²; or I may use three reeds in connection with a chamber, I², common to each. I may also change the angle of the combined reeds from a right angle to an obtuse or an acute angle.

In case of repairs on the reeds the mechanism need not be removed nor touched.

If repairs are necessary on the valves or springs they are made accessible by unfastening and removing the back sound-board C² without interference with the reeds or the manual.

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

1. In a reed-organ, the arrangement, upon the front sounding-board of the upright wind-chest, of the reeds, reed-chambers, valves, and trackers, substantially as and for the purpose herein described.

2. The front sounding-board of the upright wind-chest, having the reeds, reed-chambers, valves, and trackers arranged upon it, in combination with the back sounding-board, made

free from all the said mechanism and from the bellows, and removable independent of the same, substantially as described.

3. In a reed-organ, the valve or valves D, connected to the key H by the rigid stem G and pulling-tracker E, substantially as described.

4. In a reed-organ, the upright reed-chambers I, opening to the air in opposite directions, formed on the front sounding-board C¹ of the upright wind-chest, and admitting currents of air through reeds *ii* in opposite directions, which currents cross each other in meeting in the chamber I², outside the upright wind-chest, and pass together into the said wind-chest through a common valve-passage, substantially as described.

5. The combination of the pulling-tracker E, stem G, valve D, key H, and sounding-board C¹, of the upright wind-chest, substantially as described.

In testimony that I claim the foregoing as my own I hereunto set my hand in presence of two witnesses.

WILLIAM N. MANNING.

Witnesses:

JOS. MANNING,

ALFRED PARSONS.