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GEORGE W. WOODRUFF.

Improvement in Reed Organs.

No. 121,700. Patented Dec. 5, 1871.

Fig. 1.

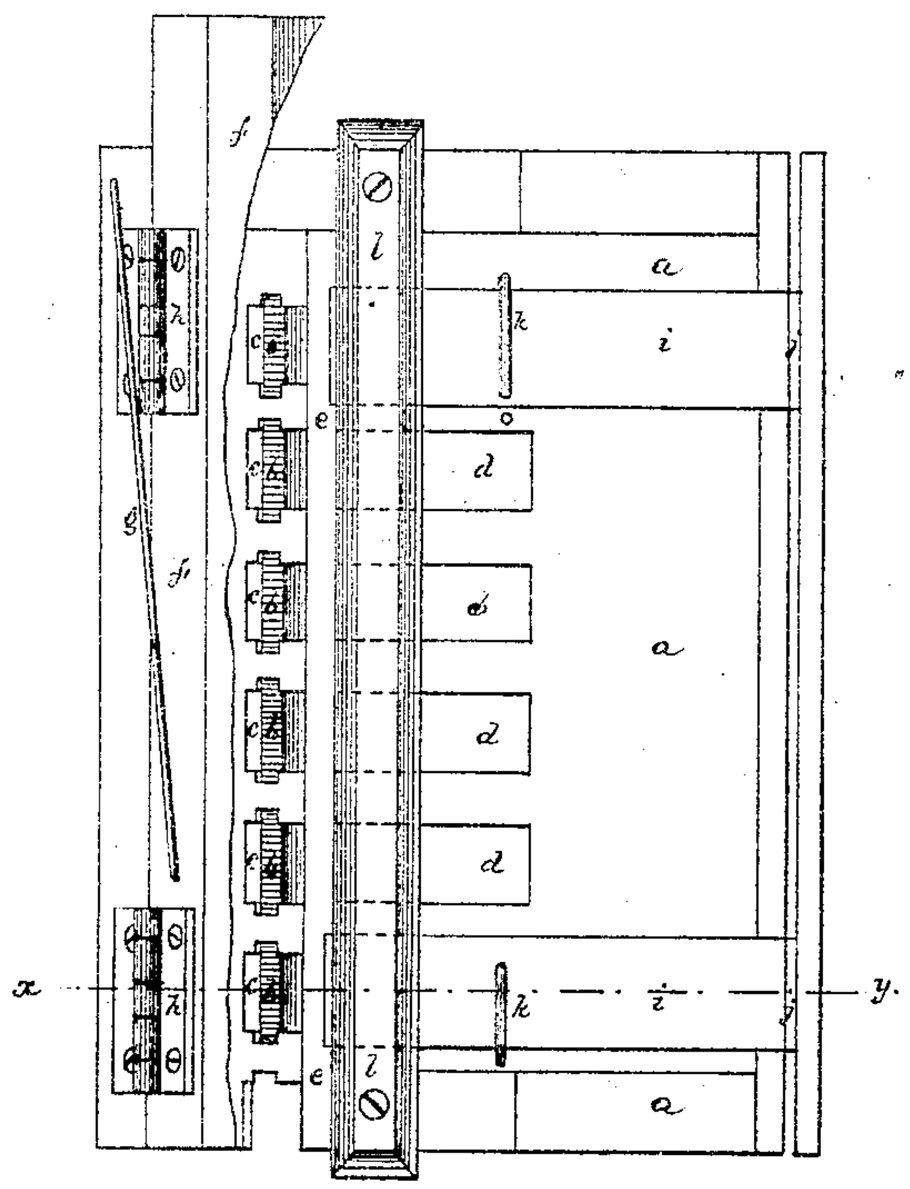
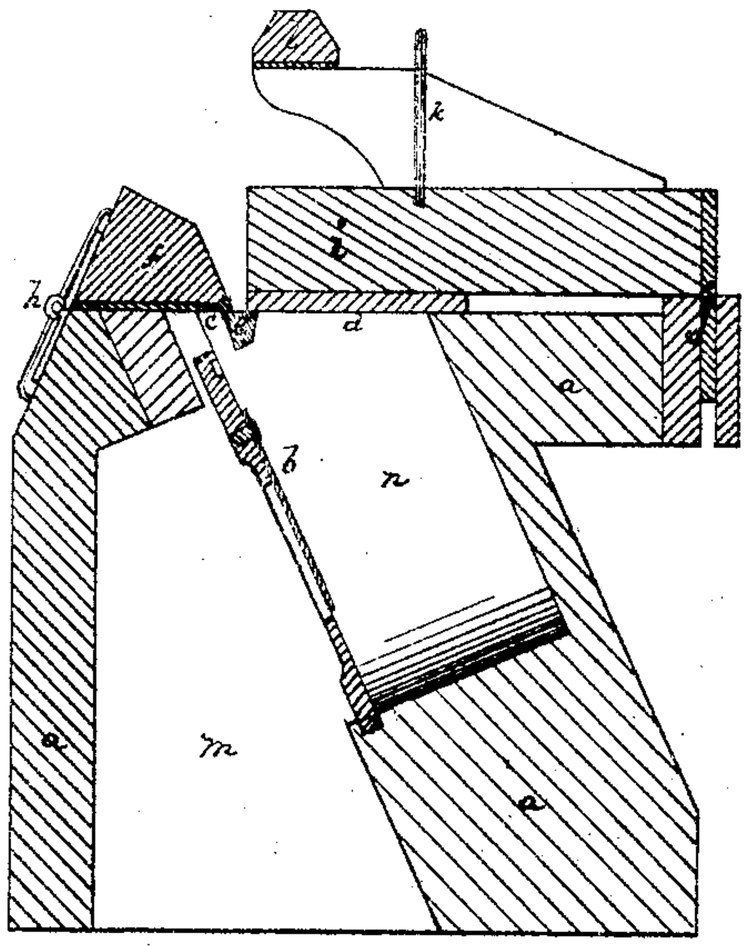


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE W. WOODRUFF, OF HARTFORD, CONNECTICUT, ASSIGNOR TO JOHN FARRIS, OF SAME PLACE.

IMPROVEMENT IN REED ORGANS.

Specification forming part of Letters Patent No. 121,700, dated December 5, 1871.

To all whom it may concern:

Be it known that I, GEORGE W. WOODRUFF, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Reed Organs; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

In the best-constructed reed organs it is found that in order to give the best tone to the reeds the air must be admitted at the heel, so as to strike the tongue diagonally forward and downward, when it lies in a horizontal position. For this purpose the opening to admit the air lies just above the heel of the reed, and the bottom of the opening is made of suitable form for receiving the reed and allowing it to be taken out and replaced for tuning or cleaning. The apertures or grooves for receiving the reeds being wider than is requisite to admit the air, it is necessary to place them very close together, with but little space betwten them, in order to get the proper number in the same length as the keyboard. This renders it impossible to cover them with valves. They could not be made wide enough to cover the apertures without leaking. Consequently, in reed-boards of this construction, the valves have heretofore been placed at the outlet for the air after it has passed the reed. This construction is objectionable, as the valves require springs to counteract the pressure of the air and prevent their being forced open. By means of my invention the valves can be placed on top or at the inlet of air passing to the reeds. My invention consists in a bar or partition passing along the reed-board from end to end, and dividing the apertures as ordinarily constructed into two parts, one wide, for the insertion of the reed, and the other narrow, to be covered by the valve. It also consists in a reed-chamber, constructed as will be hereinafter described.

Figure 1 is a top view of part of a reed-board with my improvements. Some of the valves and a part of the folding-leaf for covering the reeds are removed to show the other parts more distinctly. Fig. 2 is a section on the line *x y*.

a is the body of the reed-board. *b b* are the reeds. *c c* are the openings for inserting the reeds. *d d* are the openings for the air-valves in my improvement. *e* is a bar between the openings *c* and *d*. *f* is a hinged flap that covers the reed apertures when in the position shown in the drawing. *g* is a spring to keep it in place. *h h* are hinges on which the flap *f* turns back for the purpose of removing or replacing a reed. *i* is the air-valve. *j* is the leather hinge on which it turns. *k* is the wire by which the valve is raised. *l* is a stop to prevent the valve being raised too high. *m* is the air-chamber, connecting with the bellows, which draws air down through the mechanism above described. *n* is the reed-chamber. In the mechanism heretofore used the openings *c* and *d* were in one, and the valve was placed back of the reed *b*, opening downward against a spring, which counteracted the pressure of the air. The reason that a valve could not be placed over the entire upper aperture was, that in order to crowd the reeds into a sufficiently small space the intervals between the openings *c c* were too narrow to be covered by the edges or the valves without leaking. The valve would also require removal to get at the reed.

By means of my improvement, in introducing the bar *e* to divide the apertures the valve can be placed over the narrower portion *d* while the other portion *c* is covered by the hinged flap *f*. This can be turned back easily to get at the reeds when desired.

By my improvement, also, the valves require no springs, being held in position by their own weight and the pressure of air upon their tops, there being a partial vacuum created below them by the draught of the bellows.

My improvement can be made from the ordinary reed-board by cutting a groove and inserting the longitudinal bar *e*.

What I claim as my invention is—

1. The bar *e* for dividing the air entrance into two parts, *c* and *d*, substantially as herein described.

2. A reed-chamber with two upper or entrance apertures, one for the reed, covered by the removable flap *f*, and the other for the air, covered by the valve *i*, substantially as described.

Witnesses: GEO. W. WOODRUFF.

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