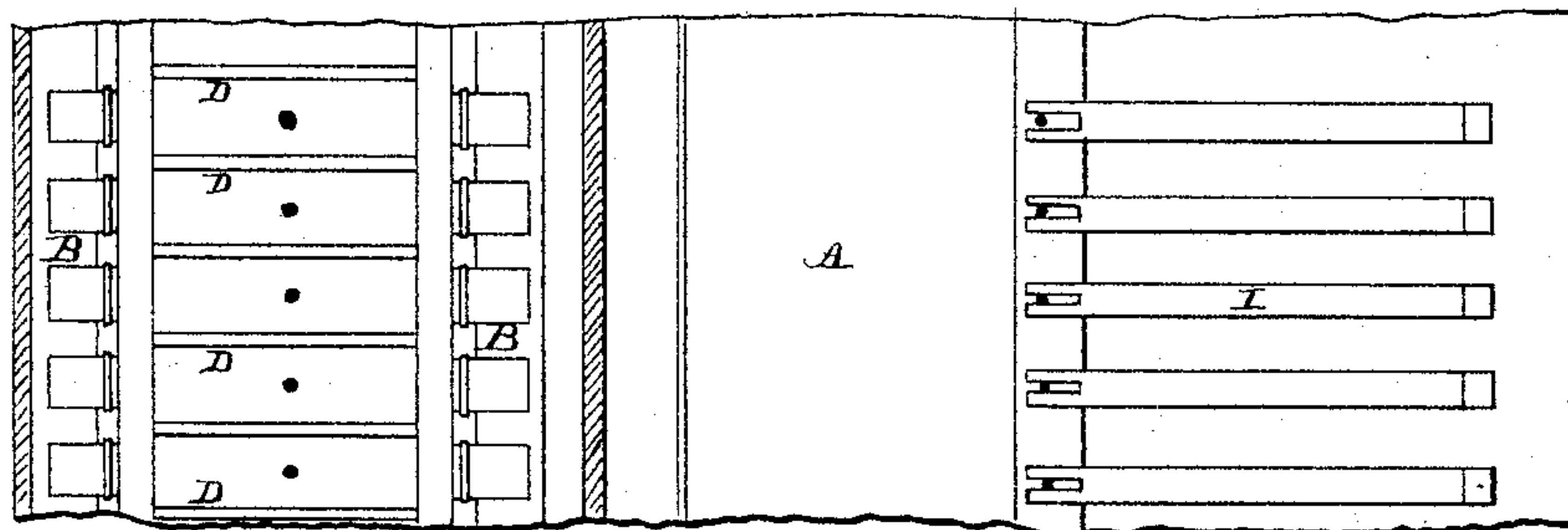


C. W. PALMER.  
Reed-Organs.

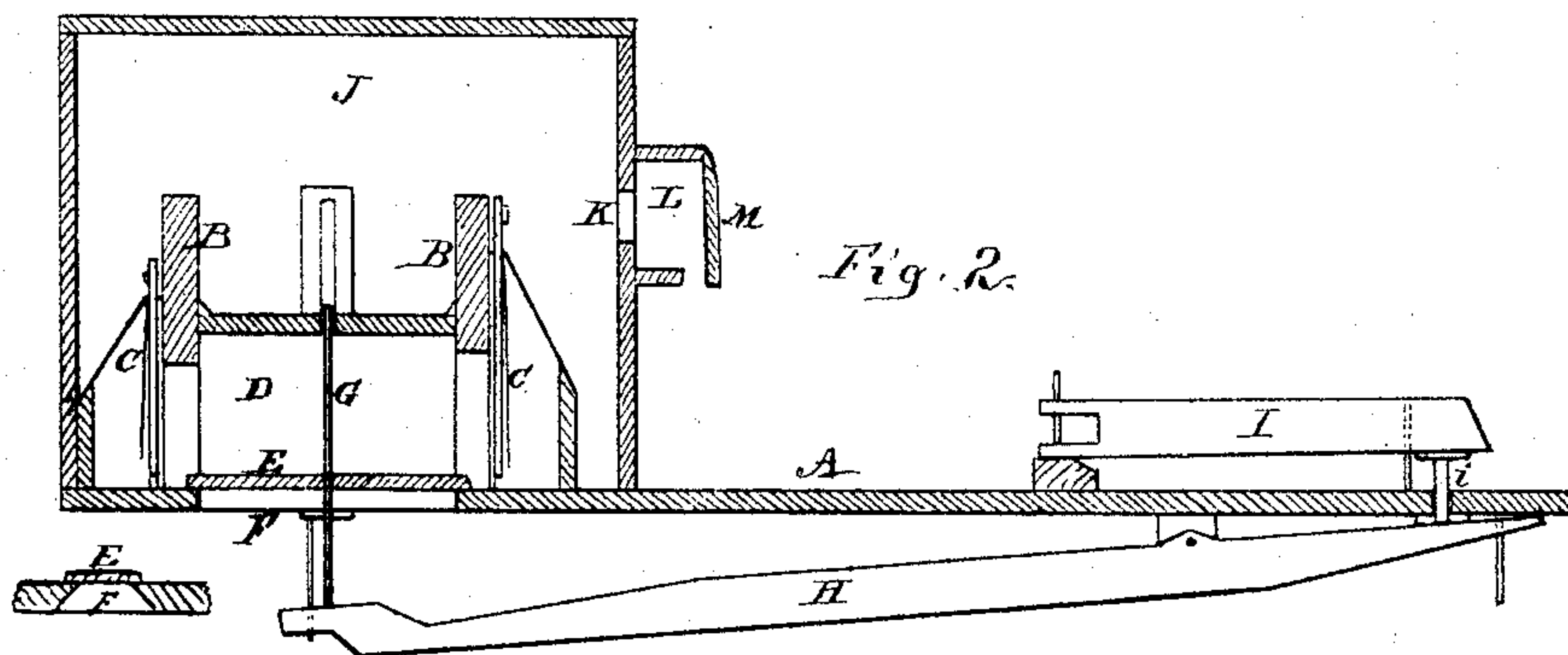
No. 139,913.

Patented June 17, 1873.

*Fig. 1.*



*Fig. 2.*



Witnesses,  
Geo. W. Fidditt  
Geo. A. Kolbe

Inventor,

Charles W. Palmer

# UNITED STATES PATENT OFFICE

CHARLES W. PALMER, OF CLEVELAND, OHIO.

## IMPROVEMENT IN REED-ORGANS.

Specification forming part of Letters Patent No. **139,913**, dated June 17, 1873; application filed April 23, 1873.

*To all whom it may concern:*

Be it known that I, CHARLES W. PALMER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Reed-Organs, of which the following is a specification:

These improvements relate, first, to the arrangement of all the sets of reeds in an upright position on the sounding-board, whereby each and every set of reeds shall have the same relation to the sounding-board and the action of the wind, resulting in a uniformity of tone throughout the instrument. Second, in the construction and arrangement of the valves and valve-openings, whereby the reeds have a closer relation to the valves, and are more directly acted upon by the wind. Third, in the construction and arrangement of the keys and action, whereby the valves are thrown wide open, giving a perfectly free and unobstructed opening for the wind. The valves when closed are also drawn closely and tightly down to their seats by the suction from the bellows, dispensing with springs to keep the valves down.

In the accompanying drawing, Figure 1 is a plan view of a portion of a reed-board and action. Fig. 2 is a vertical section of the same, showing the relation of the reeds with the sounding-board, the valves, and action.

A, Figs. 1 and 2, is a sounding-board. B B are tube-boards, in which are the reeds C C standing on edge, with the reeds all standing upright. The two tube-boards, B B, are connected by small partitions D D, dividing the space into valve-chambers between each note in one board, but connecting with the accompanying note opposite E are valves lying over the openings F in the board A. They are attached to perpendicular rods G, which play up and down through a hole in the top of the valve-chamber and through a small cross-piece under the valve-opening. The valve-opening extends clear across the valve-cham-

ber, and has the sides cut beveled on under side, as seen in *f*, small detached view under Fig. 2. The object of this is to make the aperture through which the wind comes as close to the reeds as possible, so as to give a full, clear tone to all notes. The valves are operated by a lever, H, pivoted to the under side of the sounding-board A, at a point about one-fourth the distance from the front end, so that the long arm of the lever moves the valve quickly, and raises it the full height of the aperture in the reed-board. A small pin, *i*, connects the key I with the lever H, and has a small cushion at each end which covers the hole through which the pin passes to prevent the hissing sound usually made by the wind at said opening. The reed-boards B B I inclose in a small box, J, to the front side of which are openings K, covered by small box L having a swinging lid, M. By the movement of said lid the swell sound is given to the notes.

It will be observed that the lever H is cut away at a point near the valve end on the upper side, the object of which is that when the lever is thrown up it shall not cover the opening and obstruct the free passage of the air.

Having described my invention, I claim—

1. The combination in reed-organs of the reed-boards B B, connected by partitions D D, forming valve-chambers, as shown, and the swell-box J provided with openings K and lid M, with the sounding-board A, substantially as described, and for the purpose set forth.

2. The valves E, beveled openings F, rod G, and lever H, in combination with the keys I and board A, and tube-boards B B, substantially as and for the purpose set forth.

CHAS. W. PALMER.

Witnesses:

GEO. W. TIBBITTS,  
GEO. A. KOLBE.