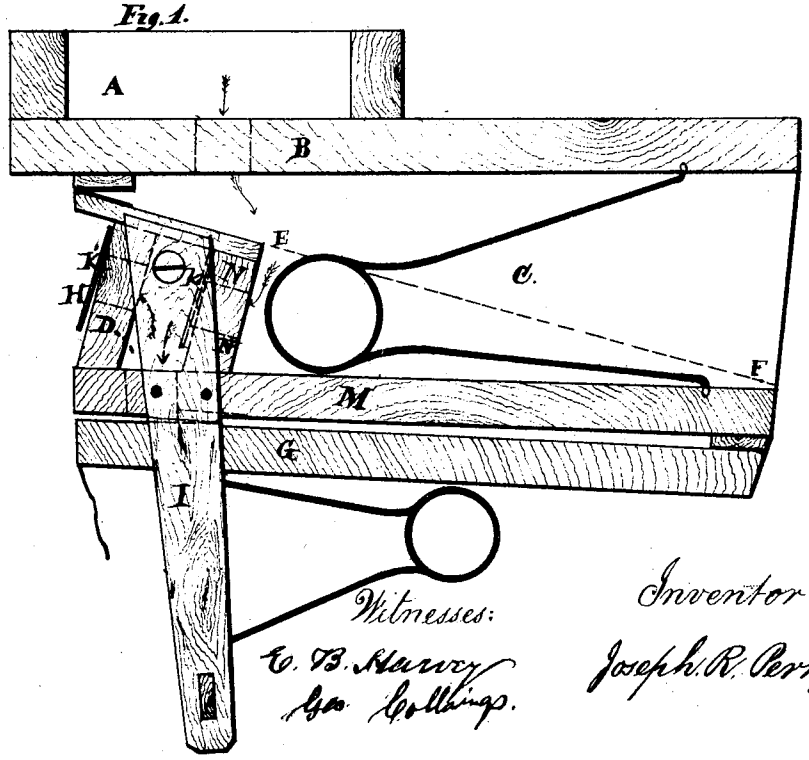
J. K. Perry,

Organ Bellows.

No. 106,275. Patented Aug. 9. 1870.

Fig. 1.



Witnesses:

C. B. Harvey

Geo. Collings.

Inventor

Joseph R. Perry.

Fig 2.

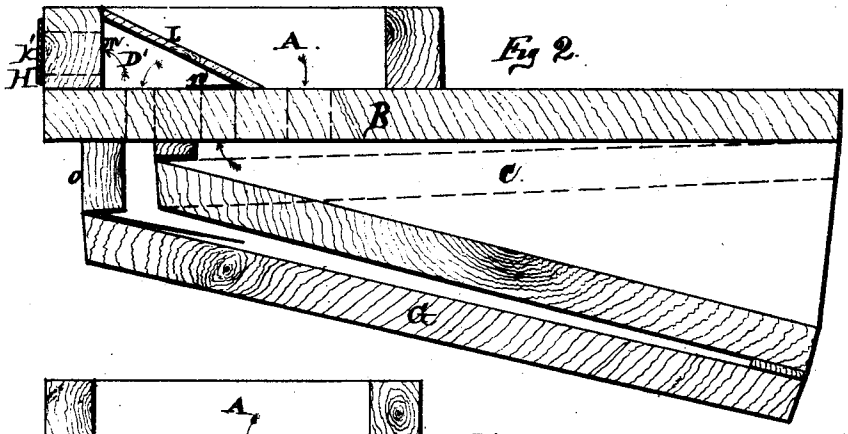
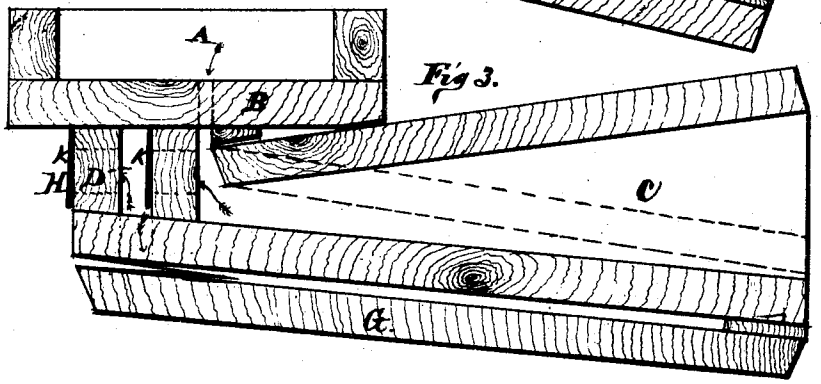


Fig 3.



United States Patent Office.

JOSEPH R. PERRY, OF WILKESBARRE, PENNSYLVANIA.

Letters Patent No. 106,275, *dated August* 9, 1870.

IMPROVEMENT IN ORGAN-BELLOWS.

The Schedule referred to in these Letters Patent and making part of the same

I, JOSEPH R. PERRY, of Wilkesbarre, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Organ-Bellows, of which the following is a specification.

This invention consists in a new method of constructing valve-chambers, for receiving and discharging the air from the bellows of reed organs, or other wind instruments, by means of suspended air-valves or clappers, and attaching the said air-chambers to the vibrating boards, thus avoiding the necessity as well as the expense of forming the exhaust-valves on the exhaust-boards, or other parts of the bellows; and

It consists mainly in forming a receiving and discharging valve within the same chamber, which makes a double-acting chamber of it, at the same time that it forms a material part of the vibrating board itself, if desiring to so construct it, or it may be formed in the reed-chamber, if desirable, by continuing the same chamber up into said reed-chamber, as will be set forth.

Figures 1, 2, and 3 are end views, which embody my invention.

In fig. 1 the reed-chamber is shown by A, and the upper board of the bellows by the letter B, to which is attached the vibrating or middle board M, composed and formed in part by the valve-chamber D, and forming what I term a recessed vibrating board, owing to the fact that, from the inside wall N of said chamber D, a recess is formed (as is shown by the dotted line running from the corner of valve-chamber at E) to F, so that when the end of the vibrating board is drawn up to board B by exhausting the air faster than it can be supplied to the receiving-chamber *c* from the reeds, it will form an angle or recess of unexhausted air (which cannot be pumped out of the said receiving-chamber) equal to the space left behind the said valve-chamber, and formed by the line E F, as shown, which air acts very favorably in preventing the reeds from being thrown out of tune in rapid playing.

The suspended valve-chamber D is formed with two walls, one on the inside, N, and the other on the outside of the receiving-chamber *c*. Through these walls openings are made, to let the air pass when drawn upon by the exhaust-boards G, the outside wall having openings formed in the same way, and a leather clapper attached to both valves, as seen at *k k'*.

The air, when drawn upon, will be caused to pass down through the vibrating board M into the exhaust-chamber, filling it from the chamber *c* through valve-clapper *k'*, and when the spring reacts upon the board, by removing the pressure of the foot from the foot-board, (not shown,) it will expel the same air back again through the outside openings, indicated by the dotted lines at H, and as shown by the arrow heads, thus forming a receiving and discharging-chamber at the same time.

The top of said chamber, as shown by fig. 1, is hinged to the board B or the reed-board, from which point it vibrates, and on the end of the valve-chamber D is attached the frame I rigidly, so that, as the air changes the position of the vibrating board by exhaustion, the spring acting on the exhaust-board may at all times be in a proper position to act uniformly.

The clappers *k k'* are acted upon at the same instant, by being placed on similar sides of the two walls, the same action, by pressure on the one clapper, opens the other, and, when the air is thrown back, it acts to close the one from which it was drawn, and opens the other alternately.

Fig. 2 is a variety of fig. 1, in which the reed-chamber A is partitioned off by a thin board, L, which forms a top to valve-chamber D', and the air is operated in the same manner as by the other described method.

When the exhaust-board G is drawn down, it causes the air to raise the clapper *n* within the chamber D', and when the spring is allowed to force it back, it operates to close *n* and opens *k'*, as shown by the arrow-heads.

The additional board O is formed to unite the exhaust-boards G to board B, in order to allow the same, in swinging, to overcome the various positions of the vibrating board, as indicated by the dotted lines on the drawing.

In fig. 3 there is another variety of fig. 1, in which the vibrating board is hinged to board B, and the walls of the valve-chamber D are attached permanently to board B, and also to a board below, which may either vibrate or be stationary.

To this board are attached exhaust-boards, as above, and having the inside and outside valves the same as in fig. 1. The air is operated as before mentioned, and as shown by the arrow-heads.

In figs. 2 and 3 I have not shown the reacting springs, as in fig. 1.

Like letters in each figure correspond to similar parts.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The chamber D, fig. 1, formed with the opening for receiving air from the chamber *c*, and passing the same into the space formed by drawing on the exhaust G, and provided with the opening H, for expelling the air externally, substantially as described.

2. The valve-chambers in figs. 2 and 3, as varieties of the same, shown in fig. 1.

JOSEPH R. PERRY.

Witnesses:

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