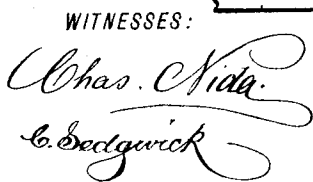


W. E. LEIGHTON.
REED ORGAN.

Patented Oct. 13, 1891.



INVENTOR:
W. E. Leighton
Fig. 4. F' a' BY Munn & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM E. LEIGHTON, OF WEST PEMBROKE, MAINE.

REED-ORGAN.

SPECIFICATION forming part of Letters Patent No. 461,096, dated October 13, 1891.

Application filed December 29, 1890. Serial No. 376,098. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. LEIGHTON, of West Pembroke, in the county of Washington and State of Maine, have invented new and useful Improvements in Reed-Organs, of which the following is a full, clear, and exact description.

The object of the invention is to provide certain new and useful improvements in reed-organs, whereby the reed-cells are fully covered by the reed-valves to prevent leakage of wind and to permit of constructing the reed-chambers to take up the least possible space.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a front view of the reed chambers and valves for the same. Fig. 3 is a side elevation of the modified form of valve-support; and Fig. 4 is a transverse section of the valve-support on lines *xx* of Fig. 1.

The improved reed-organ is provided with a series of reed-chambers A, each having two rows of horizontally-arranged reed-cells B and C, of which the row of cells C is located above the row of cells B, and the several cells are placed alternately, as is plainly illustrated in Fig. 2. Each of the cells in the rows of cells B and C is provided with the usual reed D, and the front openings of the said cells are adapted to be closed by the valves E, fastened on valve-stem F, secured to the key G, near its pivoted end. A spring H presses against each of the valve-stems F, so as to hold the valves E over the front openings of the reed-cells, at the same time holding the respective key G in an uppermost position ready for the touch of the performer.

The valves E, their valve-stems F, and the springs H are inclosed in a swell-box I, provided with valves J at the front to increase or decrease the swell in the usual manner.

The rear ends of the rows of reed-cells B and C in the reed-chamber A open into a vertical wind-chest L, connected in the usual

manner with the suction-bellows, the said openings being controlled by the mutes K, connected by rods K', with levers N, actuated from the stops in the usual manner. The wind-chest is provided with a detachable back for giving convenient access to the mutes.

By arranging the reed-cells in rows, as previously mentioned, and having the several cells placed alternately, as illustrated in Fig. 2, the valves E can be made considerably wider, so as to fully cover the front openings of the several cells, the distance between two cells in a row B or C being sufficient to permit of increasing the valve in width.

It is understood that the several valves, arranged in a vertical line on the reed-chambers A, are secured to one and the same valve-stem F, so that the said several valves, located one above the other, are opened simultaneously on pressing the respective key G. The valve-stem F may be rigidly secured to its respective key G, as illustrated in Fig. 3, or it may be fastened adjustably thereon, as is illustrated in Fig. 1. In this case the rear end of the key G is provided on top with a groove G', in which fits a tenon F', formed on the lower end of the stem F. The front of the lower part of the stem abuts against a block O, provided with a tenon fitted in a groove G', the block being secured in place by a screw screwing into the key. On the extreme rear end of the key is held an extension Q, arranged in line with the stem F and provided with a screw P, on which the rear face of the stem F is adapted to rest. By adjusting the block O in the key G and the screw P in the extension Q, the valve-stem F is readily adjusted forward or backward on the key to bring the valves E in proper line with the front openings of the reed-cells.

In order to prevent sidewise motion of the valve-stems F, each of the latter is formed at its upper end with a slot, through which extends a pin R, secured to the front of the reed-chamber A. By the construction shown and above described the valve-stems may readily be taken out when desired without the aid of a screw-driver or similar tool. By using a valve-stem F, as described, for the respective key G, the pitmen usually employed in organs are entirely dispensed with.

It will be seen that by the arrangement shown and described the alternate valve-stems F carry the valves for the upper and lower reed-cells C and B. The reed-cells of the several rows can, by this arrangement, be made of the same width as previously; but the intervening space between two adjacent reed-cells may be reduced considerably, at the same time giving sufficient room to make the valves E large enough to securely cover the reed-cell openings.

It is understood that when one of the keys is pressed the respective valve-stem F, carried by the key, swings outward and its valves open the openings of the reed-cells, so that air passes from the swell-box I through the respective openings into the cells to sound the reeds therein and to pass through the rear openings into the wind-chest L, connected with the suction-bellows.

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

1. In a reed-organ, the combination, with a series of reed-chambers, each provided with an upper and a lower row of reed-cells alternately arranged, the upper and lower cells of the several chambers being in vertical alignment, of a vertically-extending valve-stem for each vertical series of cells and horizontally-extending keys or levers, along the inner ends of which the lower ends of the vertically-ex-

tending valve-stems are adjustable, substantially as set forth.

2. In a reed-organ, the combination, with a key extending horizontally, of a vertically-extending valve-stem adjustable at its lower end on the inner end of the key, substantially as set forth.

3. In a reed-organ, the combination, with the horizontally-extending key having a groove G' along its upper face and the upward-projecting extension Q at its inner end, provided with the screw P, of the vertically-extending valve-stem resting against the screw, and having a tenon entering said groove and the block O against which the front face of the lower end abuts, and having a tenon entering the groove G' and provided with an adjusting-screw, substantially as set forth.

4. In a reed-organ, the combination, with horizontal rows of reed-cells, the swell-box I over the front of the said cells and having valves J, the wind-chest L at the rear of the cells, the mutes K, connecting-rod, and operating-lever N, of the vertical valve-stems F in the swell-box and the keys G, entering the lower end of the said box and carrying the valve-stems, substantially as set forth.

WILLIAM E. LEIGHTON.

Witnesses:

WM. W. McLAUCHLAN,
BELL C. HESSEY.