J. J. McLAUGHLIN.

Organ-Bellows.

No. 216,965. Patented July 1, 1879.

Fig. 1.

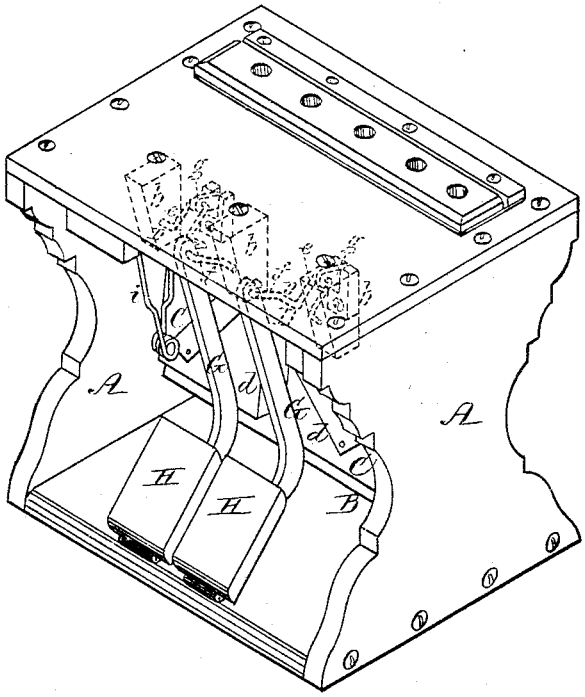


Fig. 2.

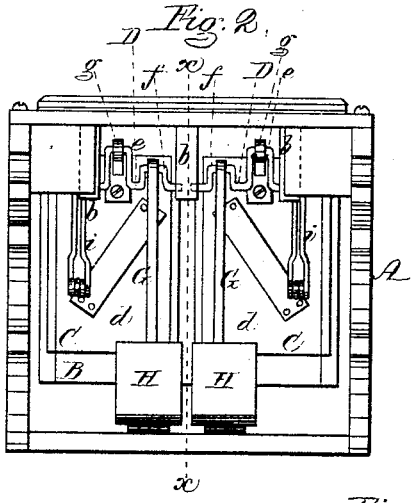


Fig. 3.

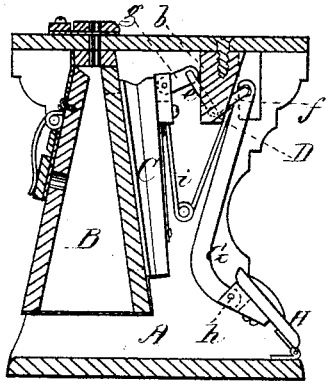
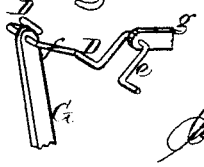


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES J. McLAUGHLIN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE NEW ENGLAND ORGAN COMPANY, OF SAME PLACE.

IMPROVEMENT IN ORGAN-BELLOWS.

Specification forming part of Letters Patent No. **216,965**, dated July 1, 1879; application filed February 27, 1879.

To all whom it may concern:

Be it known that I, JAMES J. McLAUGHLIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Exhaust-Bellows of Reed-Organs and Melodeons, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of an organ-bellows having my improved treadle mechanism applied thereto. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical section on the line *x x* of Fig. 2; Fig. 4, detail.

The ordinary method of operating the exhaust-bellows of reed-organs has been by means of bands or cords led over pulleys and attached to the pedals or foot-boards. This mechanism is, however, objectionable, as the bands or cords soon wear and break, while they also stretch after being in use a short time, which allows the pedals to drop below their proper position, thereby diminishing the amount of their downward movement; and, furthermore, the bands are liable to stretch unequally, causing one pedal to lie below the other.

To remedy these difficulties is the object of my invention, which consists in operating the bellows of a reed-organ or melodeon by means of a crank mechanism of peculiar construction connected with and actuated by the pedal, as will be hereinafter fully set forth.

In the said drawings, A represents a portion of the casing of a reed-organ, within which is secured the main bellows B, which is operated by two exhaust-bellows, C C.

D D are independent horizontal rock-shafts, which are supported in front of the bellows in suitable noiseless bearings in hangers *b*, projecting down from the under side of the top of the casing.

In front of the movable exhaust-board *d* of each bellows C, which is hinged at its lower edge, the shaft D, opposite thereto, is provided with two cranks, *e f*, arranged at right angles to each other, the former, *e*, being connected by means of a link, *g*, with the exhaust-board *d* at or near its upper edge, and the latter, *f*, having attached to it the upper extremity of a connecting-rod, G, the lower end of which is curved and extends under the pedal or foot-board H, to which it is pivoted at *h*, and thus when the pedal is depressed the exhaust-board *d*, through the connections described, is moved against the resistance of its spring *i*, by which it is returned to its original position when the pressure on the pedal is relieved.

The pedals H H are intended to be operated alternately, but may be depressed simultaneously, if desired.

The cranks *e f*, which are at right angles to each other, are so placed with respect to the connecting-link *g* and rod G as to be both at the most effective points for producing the greatest movement of the exhaust-board *d* with a given depression of the pedal.

If desired, a single crank-shaft of sufficient length to extend in front of both bellows C C may be employed instead of the two independent shafts D D, in which case a single pedal could be arranged to operate both bellows.

The above-described mechanism is of exceedingly simple construction, noiseless, strong, durable, and effective, and is not liable to get out of order, while the pedals are always held thereby evenly and in the proper position to allow of the exhaust-boards being moved to their full extent when desired.

Furthermore, it is evident that the relative sizes of the cranks *e f* may be such that an increased opening of the exhaust-bellows (limited only by the interior depth of the organ-case) can be obtained without any corresponding increase in the movement of the foot-board or pedal—an advantage which cannot be secured by any of the methods of operating the exhaust-bellows now in use.

I do not claim, broadly, the employment of a rocker-shaft and cranks for operating the bellows of a musical instrument, as I am aware that such a device is shown in the Patent of M. J. Matthews, No. 211,635, of January 28, 1879; but in the instrument described in this patent of Matthews no pedal is employed, the bellows being operated by turning a crank with the hand.

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

The combination, with the pedal H and the exhaust-bellows of a reed-organ or melodeon, of the rock-shaft D, provided with cranks *e f*, connected, the former by means of a link, *g*, with the movable exhaust-board *d*, having a spring, *i*, and the latter by a rod, G, with the pedal, all constructed and adapted to operate together, substantially in the manner and for the purpose set forth.

Witness my hand this 19th day of February, A. D. 1879.

JAMES J. McLAUGHLIN.

In presence of—
P. E. TESCHEMACHER,
W. J. CAMBRIDGE.