

R. E. LETTON.

SUB-BASE ATTACHMENTS FOR REED-ORGANS.

No. 177,944.

Patented May 30, 1876.

Fig. 1.

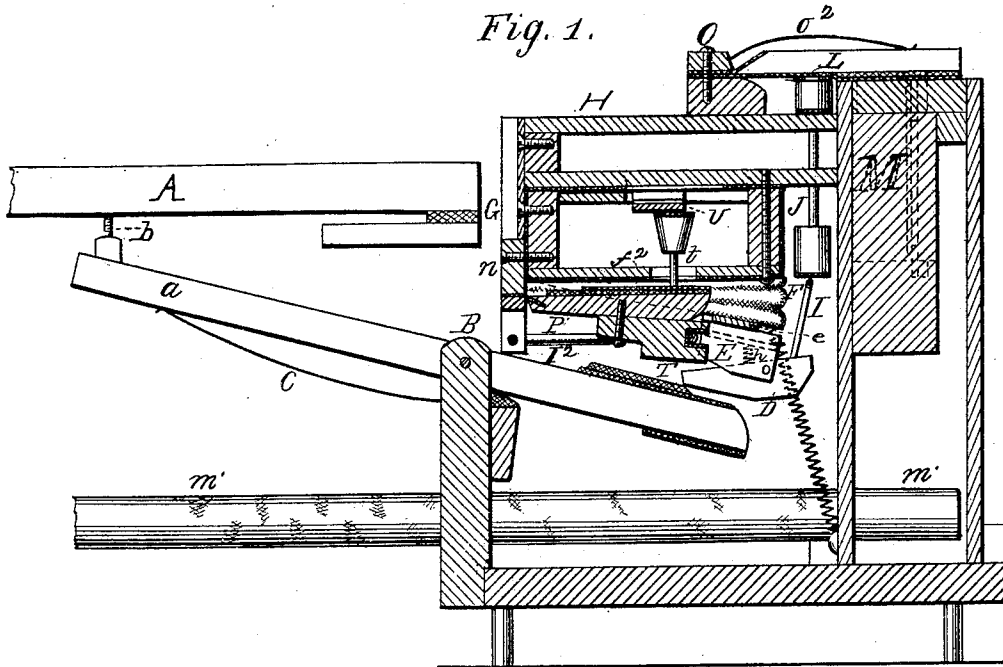
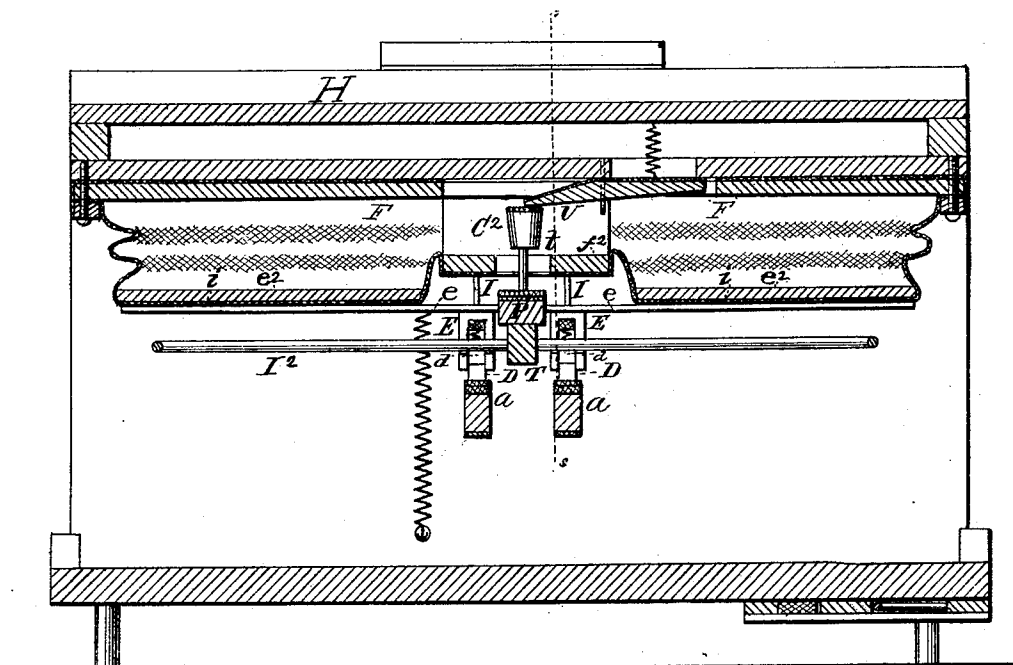


Fig. 2.



Witnesses

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by his Atty.
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Fig. 3.

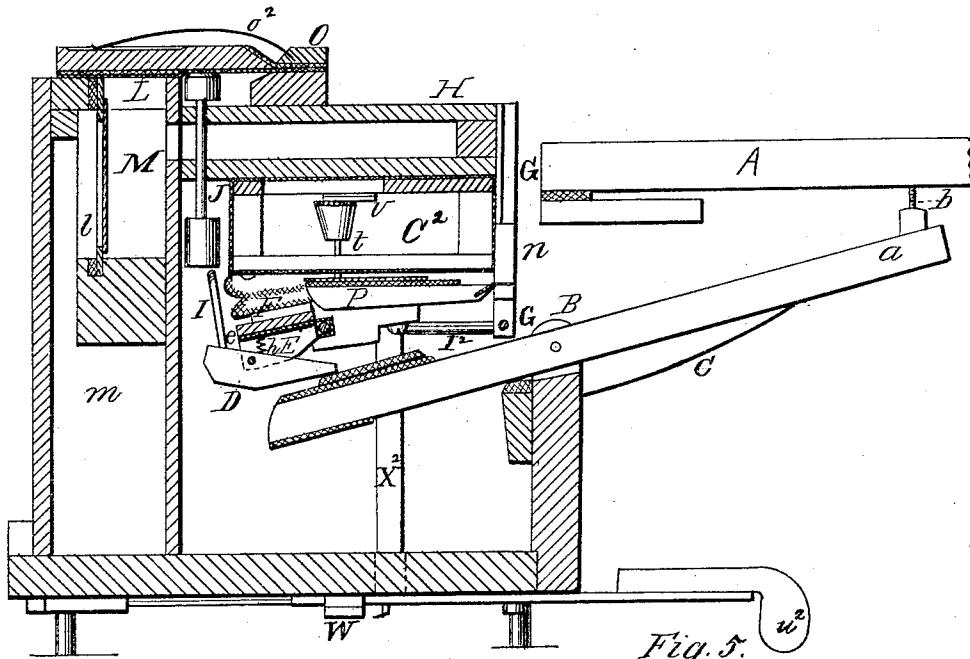


Fig. 4.

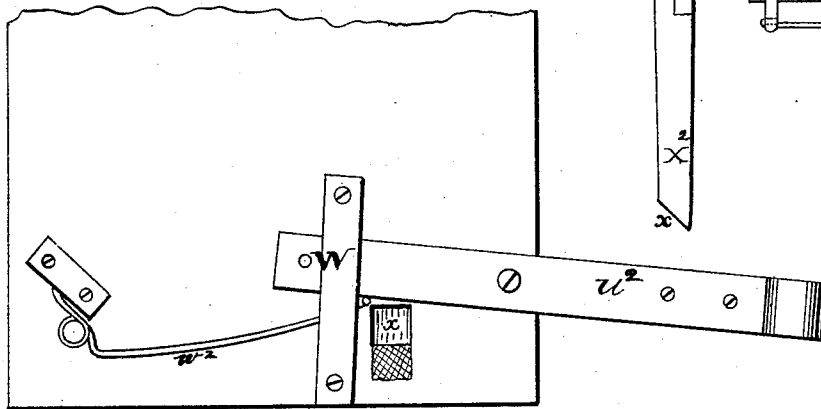
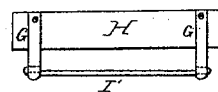


Fig. 5.



Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

RAPHAEL E. LETTON, OF QUINCY, ILLINOIS.

IMPROVEMENT IN SUB-BASS ATTACHMENTS FOR REED-ORGANS.

Specification forming part of Letters Patent No. **177,944**, dated May 30, 1876; application filed March 31, 1876.

To all whom it may concern:

Be it known that I, RAPHAEL E. LETTON, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful Improvement in Sub-Bass Attachments for Organs, &c., of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to a sub-bass attachment for organs, &c., for holding down a key thereof after the finger has left it; and consists in the devices hereinafter specifically designated.

Figure 1 is a central vertical longitudinal section of a device embodying the elements of the invention. Fig. 2 is a transverse section of same. Fig. 3 is a vertical longitudinal section through the line 1 2. Fig. 4 is a plan view of the pedal attachment. Fig. 5 is a side elevation of the standard X. Fig. 6 is a detached view of the upper front part of the casing H.

In the accompanying drawings, A represents an organ-key, of usual construction, and connected to the lever *a* by a screw, *b*, or other suitable means. These levers are pivoted in the bearings B, and each are provided with a spring, C, whereby, when the finger-pressure is removed, the lever is regulated, the tension of the spring forcing it into its former position. The bearings B are properly provided with cushions to prevent friction and preserve the tone of the instrument from accessory rattling or unmusical sound. The levers *a* extend rearward a suitable distance, their rear ends being brought in contact with the jacks D, pivoted within the slots *d* of the jack-blocks E, in such manner as to allow them a free vertical movement. The jack-blocks E are secured to the bar *e*, which is attached to the lower surface of the bellows F by bolting, riveting, or otherwise. A spring, *h*, is secured in an upright position in the slot *d* to force the jacks when they have been pressed by the levers *a* back into their former position.

When it is desired to open the sub-bass valve L, finger-pressure is applied to the key A, which, as it depresses the forward end of the lever *a* brings the rear end of the lever in contact with the jack D, which throws the standard I immediately beneath, and slightly im-

pinging the pitman J, when, by means of the bellows F and its pedal or knee stop *u*, it is suddenly forced upward, raising the pitman J, which, in its ascent, opens the valve L. This exhausts the bellows, and allows the air to pass into the chamber M, down through which it rushes into reed *l*; thence into the chamber *m*, and out through the tube *m'* into the main exhaust-bellows of the organ.

The pendent arms G are secured to the front edge of the casing H, and have their lower ends properly provided with apertures, in which are journaled the ends of the angular bar or arm crank I², extending the entire length of the lower surface of the bellows, and capable of being raised or operated by any one or more of the levers *a*. To the center of the front edge of the casing H is secured the block *n*, which is properly hinged to the valve P. The latter extends a suitable distance rearward, and is provided on its upper face with the rod *t*, and on its lower face with the guide bar or block T, properly provided with a slot, in which the arm-crank can move and is held. The lower end of the rod *t* is secured in the valve P, and extends upward a suitable distance to insure a proper operation of the valve V. The valves P and V may be operated by the pedal *w*², pivoted to the lower surface of the frame, so as to have a free vibratory motion, and having its rear end confined by the bar W, and controlled by the spring *w*². Said pedal, when properly moved, rides up the incline *x*, forcing the pendent arm X² attached to the arm-crank up, which holds the valves in position, and allows the performer to release the key, the tone sounding as long as the pedal *w*² is retained. The pumpers *e*² are similar in construction and operation, and are secured by the bar *e*, and connected, by the covering *i*, to the valve seat or block *f*², thus forming the base of the auxiliary exhaust-bellows, the sides and rear end of which are formed by the continuation of the covering *i* to the casing H, and its front edge by hinging the front edges of the pumpers to the front part of the casing. Between the block *f*² and upper surface of the bellows F is formed a chamber, C², the boundaries of which are rigidly formed, thus preventing the valves P V and rod *t* from being bent or broken by the movement of the bellows.

The springs o^2 firmly secured in the block O, and exerting a downward tension on the valve L, prevents any rebounding of the jacks D E that might arise from a sudden movement of the key.

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

1. In a sub-bass attachment for organs, &c., the levers a and jacks D E, in combination with the standard I, pitman J, and valve L, constructed and arranged to operate substantially as set forth.

2. In a sub-bass attachment for organs, the pedal w^2 , provided with the spring w^2 , and held beneath by the bar W, in combination with the pendent arm X^2 , having the incline x , substantially for the purpose set forth.

3. The valve P, provided with the rod t , in combination with the valve V, substantially as set forth.

4. The combination of the lever a , jacks D E, standard I, pitman J, valve L, and valves P and V, constructed and arranged to operate substantially as described.

5. The lever a , jacks D E, standard I, pitman J, and valve L, operating in combination

with the pedal w^2 , arm X^2 , and arm-crank I^2 , when constructed and arranged to operate substantially as specified.

6. The combination of the lever a , jacks D E, standard I, pitman J, valves L P V, pedal w^2 , arm X^2 , and arm-crank I^2 , substantially as set forth.

7. The combination of the lever a , jacks D E, arm-crank I^2 , guide-bar T, and valves V P, substantially as described.

8. In a sub-bass attachment for organs, the exhaust-bellows F, having the valve V, constructed in its inner upper surface, and the valve P in its lower surface, substantially as shown and described.

9. The auxiliary exhaust-bellows F, provided with the chamber C^2 , substantially as set forth.

In testimony that I claim the foregoing improvement in sub-bass attachments for organs, as above described, I have hereunto set my hand this 22d day of March, 1876.

RAPHAEL E. LETTON.

Witnesses:

EDWARD CHERRILL,
EUGENE M. ROOT.