W. D. PARKER.

REED-ORGAN STOP-ACTIONS.

No. 186,610. Patented Jan. 23, 1877.

Fig. 1.

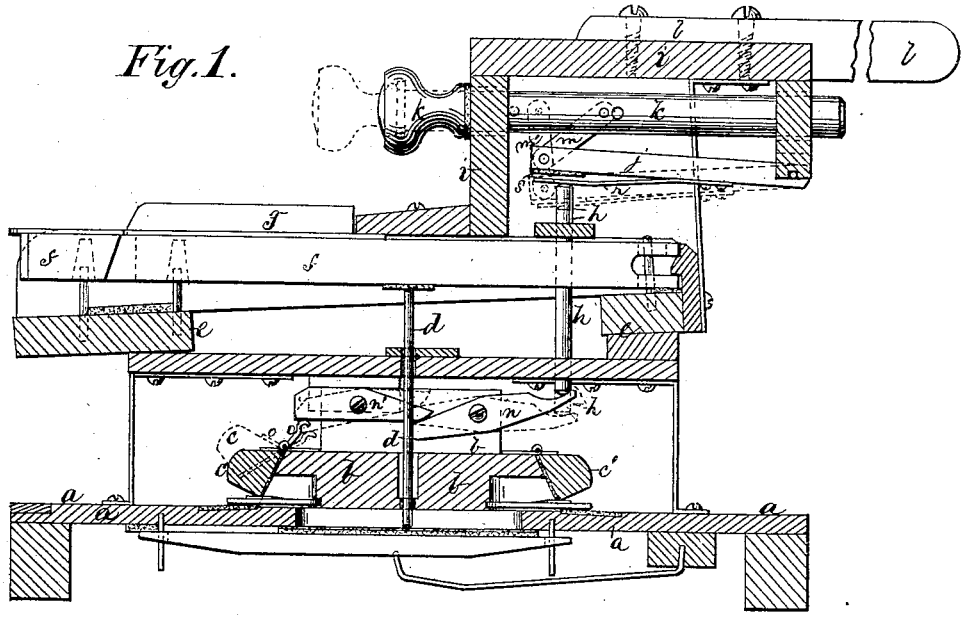
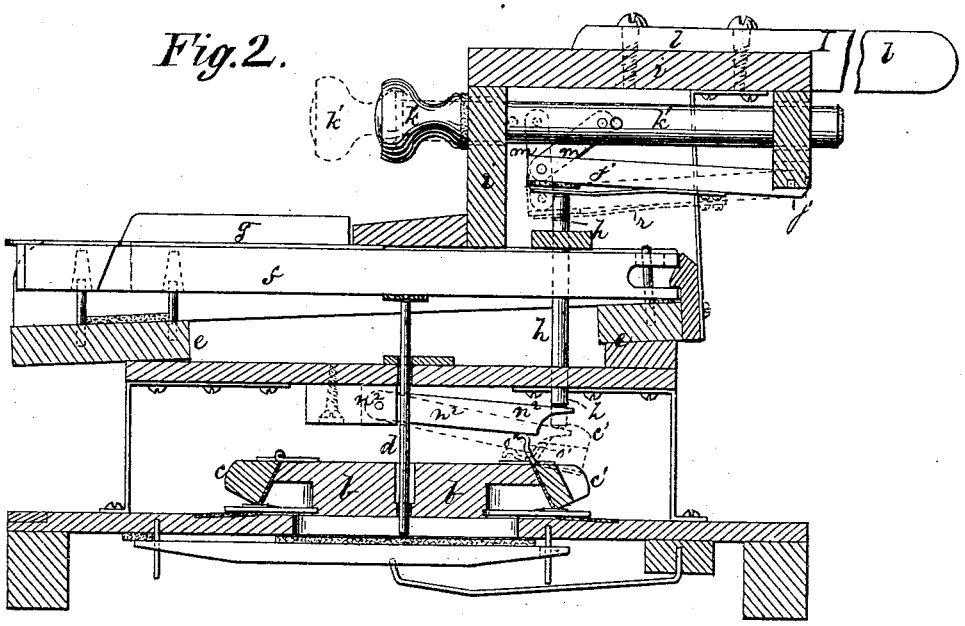


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM D. PARKER, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF HIS RIGHT TO ALONZO C. EMMONS, OF SAME PLACE.

IMPROVEMENT IN REED-ORGAN STOP-ACTIONS.

Specification forming part of Letters Patent No. **186,610**, dated January 23, 1877; application filed October 11, 1876.

To all whom it may concern:

Be it known that I, WILLIAM D. PARKER, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Stop-Action for Reed-Organs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 represents a vertical transverse section through the operative mechanism of a reed-organ, showing in full lines the "mutes" or "stops" closed, and in dotted lines the front mute opened, in order to illustrate the construction and operation of my improved stop-action for reed-organs. Fig. 2 represents a similar view of my improved stop-action, taken immediately at the side of the "stop-head spindle" which operates the rear mute or stop.

My improvement relates solely to a new and improved mode of operating the action-pitman through the stop-head spindle.

Heretofore the under side of the stop-head spindle has been provided with a triangularly-shaped piece of metal or wood, so secured to it as to form an inclined plane, which, resting on a correspondingly-shaped block secured to the upper side of the actuating hinged lever that moves the action-pitman as the stop-head spindle is drawn out, forces the actuating-lever down, thereby depressing the action-pitman, and thus opening the mute or stop.

This method of opening the stop, because of the friction created by the passage of the inclined plane of the stop-head spindle over the face of the inclined block of the actuating-lever, creates a grating and unpleasant jarring noise, which it is very desirable to avoid in a musical instrument.

My improvement is intended to remedy this trouble; and consists, first, in operating the actuating-lever through the stop-head spindle by means of a connecting-rod, the upper end of which is connected by a pivot-pin to the stop-head spindle, and the lower in the same manner to the free end of the actuating-lever; and, secondly, in combining with the under side of the actuating-lever a bent spring, in such manner as that, while its free end bears constantly on the upper end of the action-pitman, its tendency will be to raise the actuating-lever upward, and thus, when the stop is closed, to take up all the "slack" in the "action," thereby preventing all rattling or jarring; and, thirdly, in the combination of a cushion with the spring and actuating-lever at its free end, it being arranged between the latter and the spring.

This cushion may be made of cloth, soft leather, rubber, or other suitable material, and is used to soften the contact and deaden the noise when the actuating-lever is suddenly depressed upon the spring to move the action-pitman.

In the drawings, the "sounding-board" *a*, "tube-board" *b*, mutes or stops *c c'*, valve-pins or pitmen *d*, key-frame *e*, white keys *f*, black keys *g*, action-pitman *h*, name board or brace *i*, hinged or actuating lever *j*, stop-head spindle *k*, and the arm *l*, on which the name-board spindle and actuating-lever of the action-pitman are made to swing clear from the key-board and action-pitman, are all represented as being of the usual construction, and hence, as they form no part of my present improvement, require no special description, further than what may be necessary to show their connection with my improved stop-action, and which I will now proceed to describe.

In constructing my stop-action I leave the stop-head spindle *k* and the actuating lever *j* entirely unprovided with the triangular or inclined-plane blocks before referred to, and substitute therefor a link or connecting-lever, *m*, the upper end of which is pivoted to the stop-head spindle *k*, and the lower end to the actuating-lever *j* at or near its free end. Here it is to be noted that the upper end of the link-lever *m* is pivoted to the stop-head spindle *k* at a point some distance in the rear of its connection with the actuating-lever *j*.

By being thus connected, and the stop-head spindle being only capable of a longitudinal horizontal motion, and not of a free vertical motion, it will be apparent that the stop-head spindle will, when drawn outward,

force the free end of the hinged actuating-lever downward, and in so doing depress the action-pitman *h*, which, in turn, acting on the pivoted levers *n* and n^1, causes the latter to operate the angle-lever *o*, thereby opening the front mute or stop *c*, as shown in Fig. 1, or, as the case may be, through the other stop-head spindle *k'*, causing the lever n^2 and angle-arm *o'* to open the rear mute or stop *c'*, as shown in Fig. 2, thereby insuring a positive motion to each of the action-pitmen whenever desired, and that without any special tendency to create either a jarring, grating, or other disagreeable noise.

To overcome any tendency there may be I secure one end of a spring, *r*, to the under side of the actuating-lever *j*, the free end of which is made to bear on the upper end of the action-pitman *h*. This spring is slightly bent, and is so arranged as to raise the free end of the actuating-lever *j* from off the end of pitman *h*, when no pressure is exerted upon it through the stop head spindle and connecting-lever *m*. The spring *r* thus arranged takes up all the slack in the action, and effectually prevents all rattling or jarring noises consequent upon the opening or closing of the stops.

To this end I further apply a cushion, *s*, between the free ends of the actuating-lever *j* and the spring *r*. This cushion may either be secured to the lever or the spring; but I prefer the former, and it may be made of any suitable material, such as cloth, rubber, soft leather, &c.

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

1. The combination, in a reed-organ, of the connecting-lever *m* with the stop-head spindle *k* and the hinged or pivoted actuating-lever *j* of the action-pitman, substantially as and for the purpose set forth.

2. The combination, in a reed-organ, of the spring *r* with the action-pitman *h* and its actuating-lever *j*, substantially as and for the purpose set forth.

3. The combination of the lever *m*, stop-head spindle *k*, and actuating-lever *j* with the action-pitman *h* of a reed-organ, when arranged and operated in the manner substantially as and for the purpose set forth.

4. The combination of the stop-head spindle *k*, lever *m*, actuating-lever *j*, and spring *r* with the action-pitman *h* of a reed-organ, substantially as set forth.

5. The combination of the cushion *s* with the actuating-lever *j* and spring *r*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM D. PARKER.

Witnesses:

DAVID MANNING,

GUSTAVUS W. INGALLS.