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Fig. 1.

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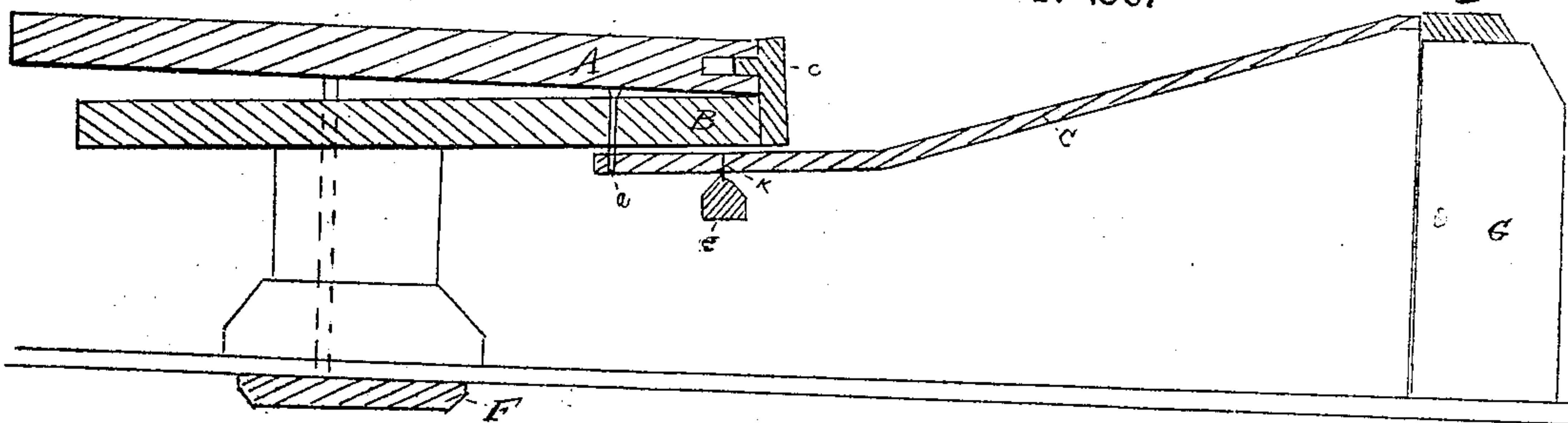
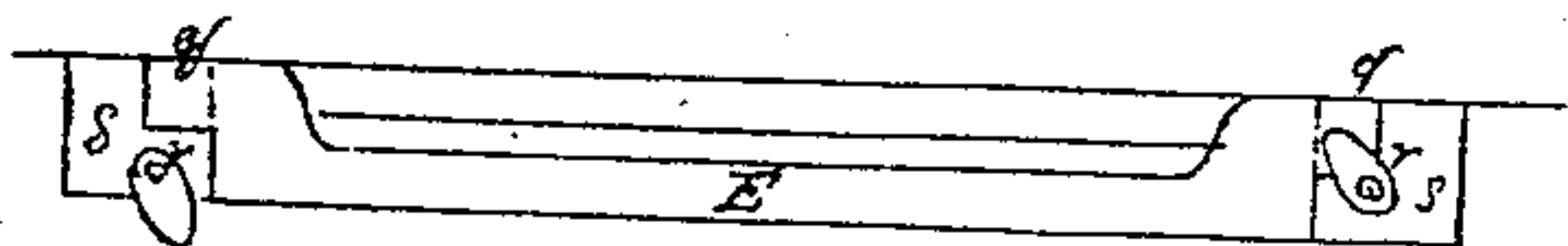


Fig. 4.



United States Patent Office.

B. O. CHURCH AND HERVEY SMITH, OF BRATTLEBORO, VERMONT.

Letters Patent No. 72,369, dated December 17, 1867.

IMPROVEMENT IN ORGANS, &c.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, B. O. CHURCH and HERVEY SMITH, of Brattleboro, State of Vermont, have invented certain new and useful Improvements in "Manual Sub-Bass" of Organs; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists in the improved arrangement of keys operating the valves of the pipes, whereby a better action is obtained, and the levers and valves more readily removed when it is necessary to adjust or alter the pipes stopped by the valves. In the drawings—

Figure 1 shows a side view of a key having our improvements, in its natural position, with the valve shut, and

Figure 2 the same pressed down, with the valve open, while

Figure 3 is a detail side section of the fulcrum used in our arrangement, showing the manner in which it is held in place.

Figure 4 is a side view of a similar arrangement.

In figs. 1 and 2, A is the key, hinged at one end, above the key-board B, at *a*, which is stationary, and beneath which is the fulcrum E of the lever C. This lever C has at one end the valve D, which stops the pipe G when shut down, and at the other end, on the shorter arm of the lever, a pin, *a*, which passes up through a slot in the key-board B, and upon which the bottom side of the key A rests. The fulcrum E is placed near this end, so that a greater reach is obtained on the end of the lever having the valve.

The key A, in its ordinary position, when not operated, is up, as shown in fig. 1; but on being pressed down it presses down also the pin *a*, depressing that end of the lever C, and elevating the other or longer end, having the valve D, thus giving free opening to the pipe G. The key A also presses down another pin, *f*, operating a valve below, shown at F, the mechanism of which lifts the key to its place again when pressure is removed from the latter. This, however, not forming a part of our invention, we will not further describe.

The fulcrum E is formed of a single piece, bevelled at its top edge, upon which rests the lever C, which may be kept in place by a small pin, *k*, either in the fulcrum or lever itself. In fig. 3 is shown the manner in which this fulcrum is held, which consists in placing at each end of it ears *d d*, attached to the key-board B. At one end of the piece E is set in a pin, *e*, which fits into a corresponding socket in the ear next to it, while the other end of the piece E has a screw, *b*, which passes through the ear and into the fulcrum. In this manner the latter is held firmly, while at the same time it can be easily taken out or replaced by simply unscrewing the screw *b*.

The pin *a*, upon the shorter end of the lever C, may have threads cut upon it, so that the lift of the valve may be altered or the lever properly adjusted to the key.

By this means we obtain a simple and effective device for the purposes, working more freely and easily than the older methods of arranging them. As the keys cannot be disarranged by the levers, there is no possibility of leakage in any of the other valves which are connected with them, and the tuner, in arranging or resetting the reeds of the sub-bass, can readily move the lever, having the corresponding valve attached, to one side, while his key is always in its proper position for him to test his reed.

Now, having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The bevelled piece E, in combination with the levers C, frame B, and screw-pins *a*, forming a fulcrum for the levers C, and holding them in place by means of the pins *k*, substantially as shown and described.

B. O. CHURCH,
HERVEY SMITH.

Witnesses:

L. B. MOREY,
S. K. FESSENDEN.