

Church & Smith
Coupler for Musical Instrument.
N^o 66460. Patented July 9, 1867.

Fig. 1.

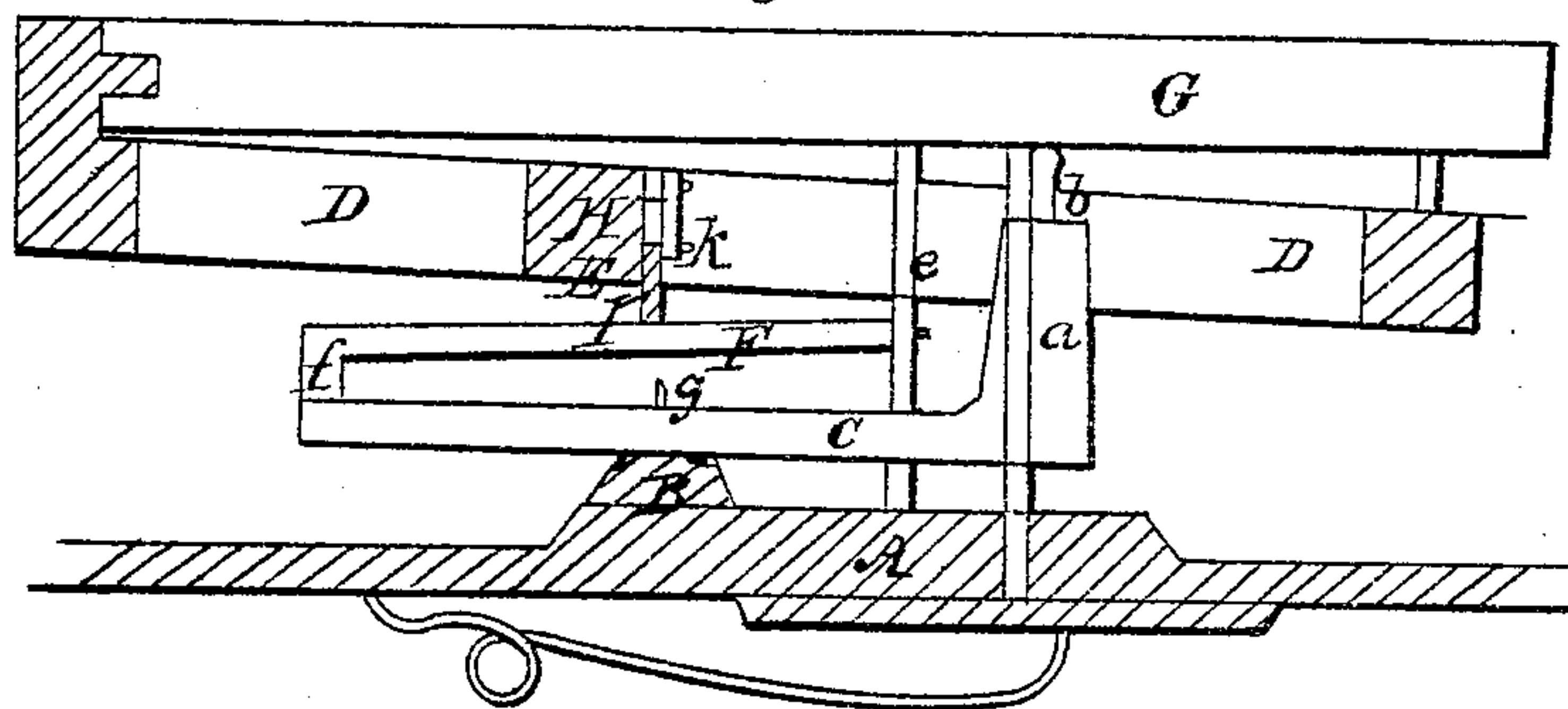
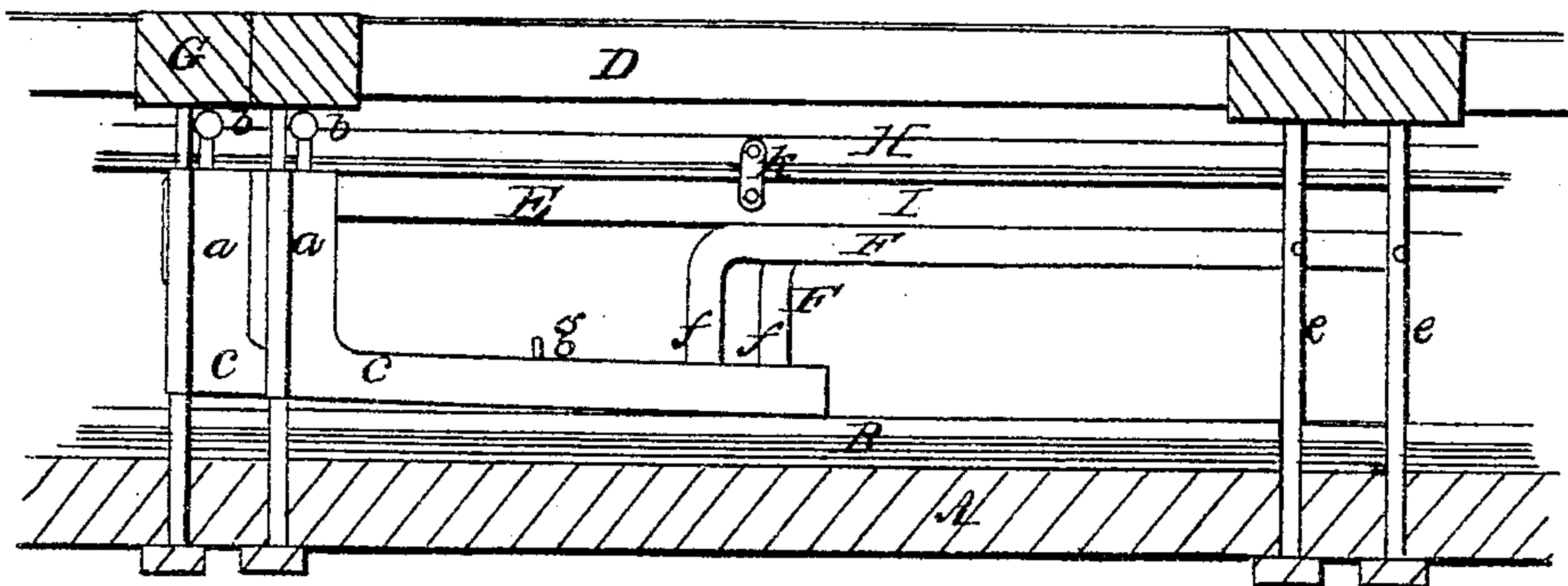


Fig. 2.



Witnesses

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

Letters Patent No. 66,460, dated July 9, 1867.

OCTAVE-COUPLING FOR REED INSTRUMENTS.

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, both of Brattleboro, county of Windham, State of Vermont, have invented a new and improved Octave-Coupler for Reed Instruments; 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. In the drawings—

Figure 1 is a side perspective view of our invention, and

Figure 2 a front view of the same.

This invention consists in coupling the keys of reed instruments, such as organs, melodeons, &c., in such manner that when one key is struck by the operator its octave is also operated, producing both the note struck and the note above it forming its octave. In construction, I connect these keys by means of levers, each key having a lever which operates another attached to the octave key above. These levers work upon fulcrums, one fulcrum being for the lower levers which are operated by the lower key, and the other fulcrum being for the upper levers, or the ones attached to the upper octave key. In the drawings, fig. 1 shows a section of the key-frame and reed-board and a side perspective of the levers and pins working with the same. In this, as in fig. 2, A is the reed-board, having a fulcrum, B, for the lower bank of levers C C, and D D is the key-frame, having the upper fulcrum E attached to it, in a manner hereafter described. F F are the upper levers, which use the upper fulcrum, E. The lower levers, C C, it is seen, are not attached directly to the keys G G, but have elbows *a a* extending upwards, and nearly reaching to the under side of the keys. In the top of these pieces *a a* are placed screws *b b'* which may be turned so as to adjust the lever exactly to the key. The elbows *a a* upon the levers C C come up between the push-pins *c c*, and are kept in place by them. The upper levers F F are attached to the push-pins *c c* by means of small screws or pins passing through the push-pins into the ends of the levers. The levers F F have at their rear ends elbows *f f* which turn down and are connected with the rear ends of the levers C C, the latter being kept in their places upon the fulcrum B by means of small pins *g g* passing through them and into the fulcrum, the holes through the levers being lengthened so as to give them play. The push-pins *c c* of the lower keys and *e e* of the upper operate, when pressed down by the keys, to open the valves to the reeds and pass through the reed-board A, resting at their lower ends upon the valves, or mechanism connected with them, in such a manner that they are sprung back to their former position, with their upper ends resting against the lower sides of the keys, when pressure is taken off from the top.

The operation of this device is as follows: The key G, being pressed down, pushes with it the push-pin *c*, giving utterance to the note represented by that key; but at the same time the front end of the lever C is pushed down by the descending key and the rear end is elevated, lifting with it the rear end of the lever F, and depressing, consequently, the front end of the latter; this being attached to the push-pin, *e*, presses it down, giving utterance to the octave note at the same instant as the note first mentioned. The upper fulcrum E is arranged in such a manner that it can be used as a cut-off for the coupler, and is constructed as follows: A piece, H, is placed lengthways beneath the keys, from one end of the key-frame to the other; a metal-strip, I, is attached to this by rigid straps *k*, so that by pushing the piece I to one side it closes up towards the top, withdrawing the upper fulcrum from the upper levers, and thus throwing the coupling out of gear. We thus obtain a simple and effective device for coupling the octaves, requiring but little expenditure for its attachment; and as the lower levers and upper ones have different fulcrums, they can be arranged along the entire bank of keys without the least complication or interference with each other.

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

The arrangement of the levers C C and F F in such manner that the lower levers C C pass over and work upon the lower fulcrum B, and the upper levers C C pass under the upper fulcrum-rest E, substantially as and for the purpose shown.

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Witnesses:

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