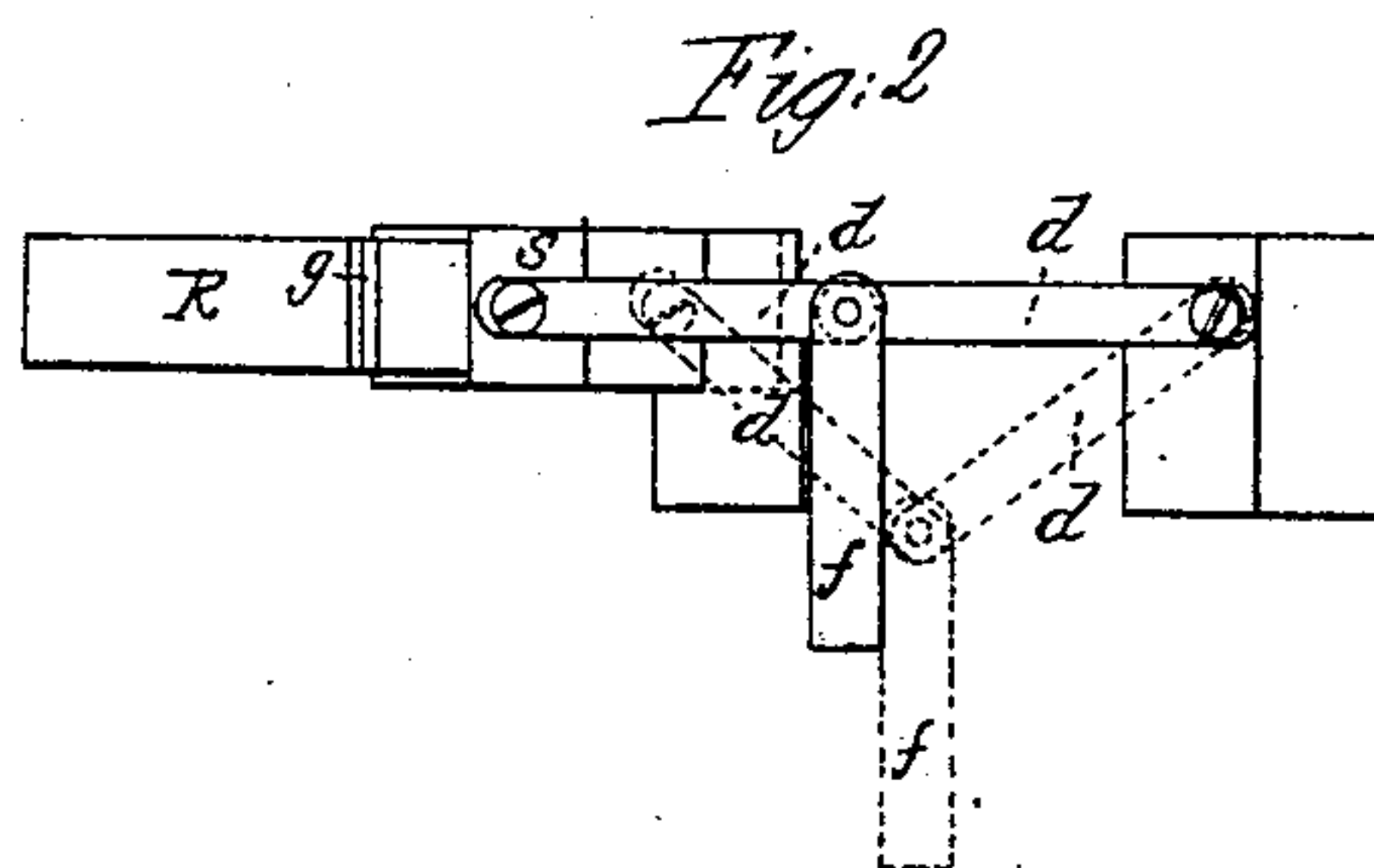
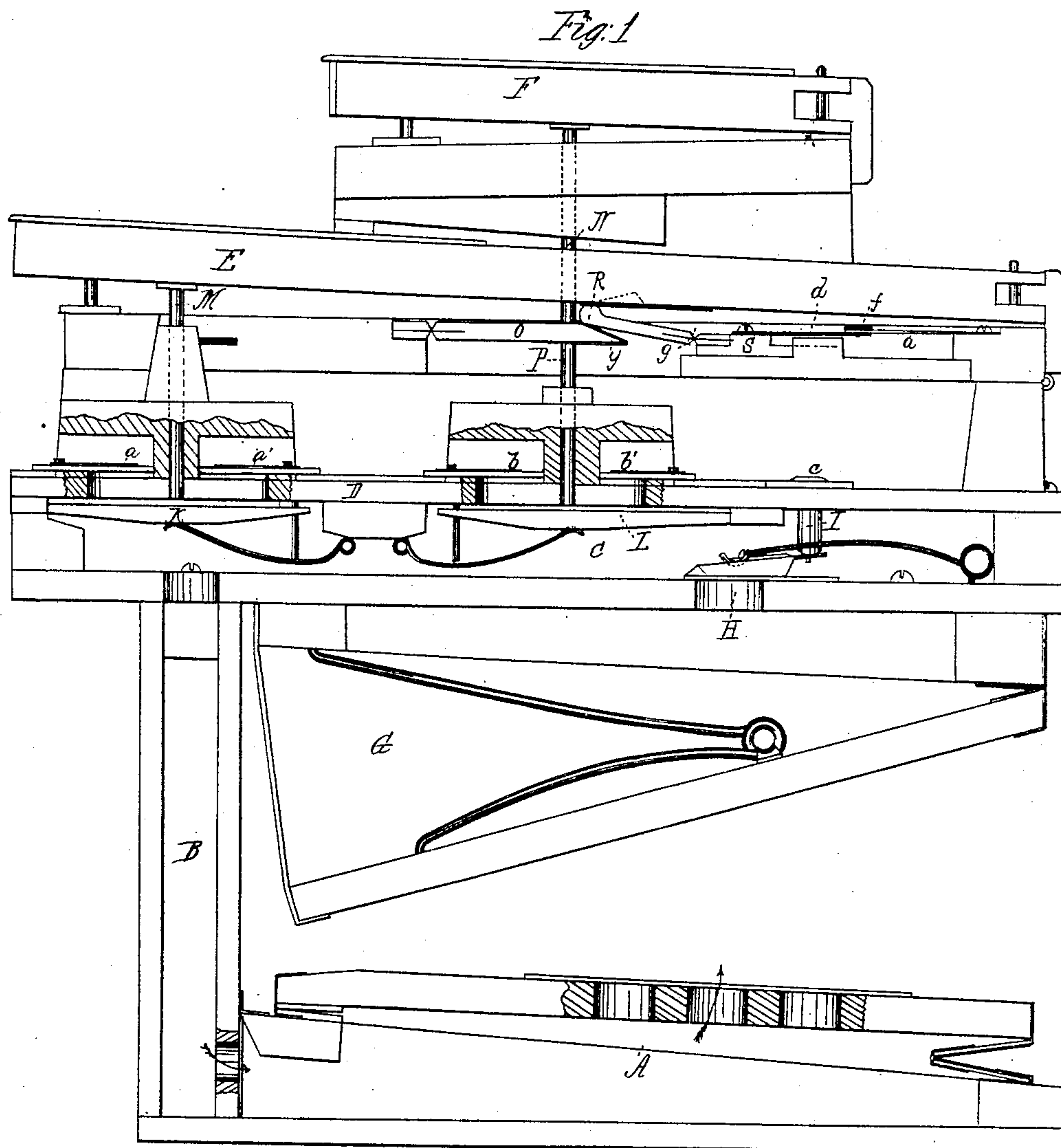


E. HAMLIN.
 REED MUSICAL INSTRUMENT.

No. 14,955.

Patented May 27, 1856.



UNITED STATES PATENT OFFICE.

EMMONS HAMLIN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO MASON & HAMLIN, OF
SAME PLACE.

REED MUSICAL INSTRUMENT.

Specification of Letters Patent No. 14,955, dated May 27, 1856.

To all whom it may concern:

Be it known that I, EMMONS HAMLIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Harmoniums and other Similar Reed Musical Instruments, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1, is a vertical section through an instrument with my improvements attached. Fig. 2, details which will be referred to hereafter.

In instruments of this description as at present generally constructed, the air is exhausted by means of bellows from an expanding or elastic wind chest immediately beneath the reeds, by which means the latter are prevented from being affected by the motion of the bellows which may otherwise produce unpleasant pulsations in the notes. In music however when a swell or increased volume of tone is required upon particular notes as in crescendo passages, it becomes desirable to produce this effect by the increased action of the pedal upon the bellows. Where however the expanding wind chest is employed, this effect cannot be thus produced, and in order that the advantages of the two may be united I have originated the first part of my present invention which consists in the use of a tight rigid or non-elastic wind chest, which may be brought at pleasure by the pedal, stop, or otherwise into communication with a secondary expanding wind chest, whereby the primary chest is rendered elastic, and the advantages of the two are united in one instrument. The second part of my invention consists in a new and simple method of coupling the notes of two key boards together, which may be operated entirely without friction, is less complicated than the couplers heretofore employed, and is not liable to the objections to which they are open.

To enable others skilled in the art to understand my invention, I will proceed to describe the method which I have adopted of carrying it out.

In the accompanying drawings, A, is the exhaust bellows, which communicate by means of the vertical passage B, with the nonelastic wind chest C, the top of which constitutes the tube or reed board D. In

this board are four reeds for each note, two of them *a, a'*, being operated by the key E, of the lower set, the other two *b, b'*, by the key F, of the upper set. Immediately beneath the wind chest C, is the expanding chest G, which communicates with the former through the valve H. When this valve is closed the wind chest is entirely nonelastic, and the notes feel every pulsation of the bellows. The instrument is then capable of the most delicate crescendo effects, which may be produced by increased pressure of the bellows. When the valve H, is open the wind chest is rendered elastic, and the notes are not affected by the action of the bellows. The opening of the valve H, is effected by the pressure upon the rod I, at the point C, which may be applied by means of a pedal or an ordinary stop.

The notes *a, a'*, are opened by the descent of the valve K, which is operated by the key E, and rod M. The notes *b, b'*, are opened by the descent of the valve L, which is operated by the key F, the "push down" rod N, from beneath it, resting upon the lever O, which in turn rests upon the rod P, the latter in its descent opening the valve. The key F, at all times opens only the notes *b, b'*, The key E, always operates the notes *a, a'*, and it remains now to show the manner in which the notes are so coupled together that the four may be operated by the key E. For this purpose I make use of the following device, S is a block which slides in suitable grooves, and is connected by means of the joint links *d, d*, to a bar *f*, which runs lengthwise through the instrument.

R is a tongue which is hinged at *g*, to the block S, and is interposed when it becomes necessary to couple the two sets of reeds together between the key E, and the lever O, by which means as the key is depressed the lever O, is forced down, and the valve L, of the notes *b, b'*, is opened. When the coupler is drawn back as seen in red in Fig. 2, the tongue R, slides down the incline plane *y*, upon the lever O, which is then not affected by the descent of the key E. In place of the incline upon the end of the lever O, an incline notch may be made in the under side of the key E, which shall receive the end of the tongue R, when it is drawn back and the key E will be equally uncoupled from the notes *b, b'*. This method is obviously but a modification of the plan

above represented and need not therefore be further described. Each note has its coupler similar to the one above described and attached to the one bar running through the instrument by which they are all simultaneously operated.

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

1. The combination of a rigid or non-elastic wind chest, with the ordinary expanding wind chest connected together and

operating in the manner substantially as herein set forth.

2. The peculiar construction and arrangement of the coupler consisting essentially of the tongue R interposed between the lever O and the key and operating in the manner substantially as herein set forth.

EMMONS HAMLIN.

Witnesses:

SAM. COOPER,

P. E. TESCHEMACHER.