

W. Munroe.

Reeds for Organs &c.

N<sup>o</sup> 73114

Patented Jan. 7, 1868.

Fig: 1

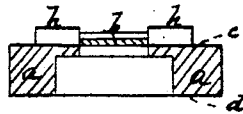


Fig: 2

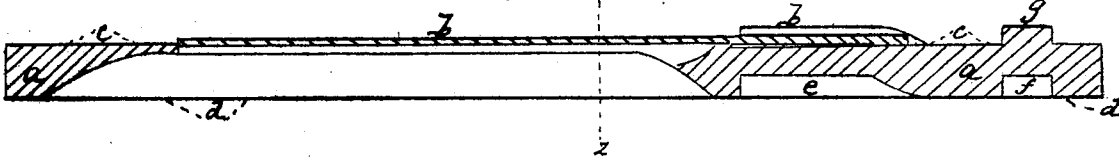
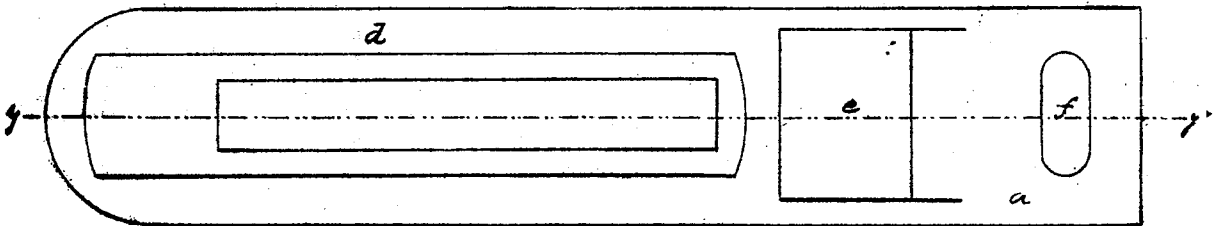


Fig: 3



Witnesses

M. W. Birmingham

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Crosby, Halsted & Gould

# United States Patent Office.

WILLIAM MUNROE, OF CAMBRIDGE, MASSACHUSETTS.

Letters Patent No. 73,114, dated January 7, 1868.

## IMPROVEMENT IN REEDS FOR 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 I, WILLIAM MUNROE, of Cambridge, in the county of Middlesex, and State of Massachusetts, have invented certain new and useful Improvements in Musical Reeds, such as are used in Reed-Organs, Melodcons, &c.; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

This invention is an improvement on the detail of the construction of common reeds in the matter of the mode of uniting and securing the vibratory tongues to their metallic seats, the practice heretofore having been to rivet each tongue to its seat, this calling for great care in manipulation, in order to have the tongue so secured in place on the seat that it will vibrate freely in the slot therein, without touching the metal of the seat, and so as to have an equal clearance on each side and at the free end of the tongue.

Figure 1 of the drawings shows a cross-section, taken through one of my improved reeds, on the line *z z*, seen in

Figure 2, which is a longitudinal section taken on the line *y y*, seen in

Figure 3, said figure being a reversed plan of the tongue, bed, or seat.

The metallic seat or bed is marked *a*, and, as usual, is made of plate-metal, usually rolled brass-sheet, which, by suitable rotary burr-cutters, is slotted so as to form a suitable aperture through the seat, in which the tongue *b* can vibrate, under the influence of an air-current, thereby producing the desired tone. Now, the upper surface of the seats of common reeds is left as a plane, and the tongue is held thereto, and in its proper relation to the slot therein, by a single rivet, the head of which being on the upper side, and projecting above the surface of the fixed end of the tongue, serves as a knob by which the reed can be pulled out from the groove in which it is fitted in an instrument.

In my improvement, by means of a suitable punch, I displace a portion of the metal of the seat, so that where the tongue is to be secured there is a swell or projection of the metal. This projection I then groove longitudinally, so that the width of the groove shall coincide with the width of the tongue, and so that the sides of this groove shall be parallel with the sides of the slot in which the tongue vibrates. The height of the projection, made as described, is a little greater than the thickness of the end of the tongue which is to be fixed, so that when the tongue is placed in the groove made in the projection, the projecting metal forming the sides of the groove can be pressed or closed down and against the tongue, fixing one end firmly in and upon its bed, beyond chance of accidental displacement. In making this groove in the projection, whether made by a rotary cutter or otherwise, it is found of great advantage to have the bottom of the groove somewhat concave, or else to have a slight elevation or ridge at the end nearest the slot, in order that the tongue shall by no possibility fail to rest firmly at that extreme point or terminus of the vibrations, and thus preclude absolutely any jar or vibration of the tongue, except in that portion designed to be left free. A rotary cutter of proper diameter will, of itself, necessarily leave this groove in this desired form. When cut by other means, it is merely necessary that the groove be made somewhat deeper at that portion which lies to the rear of the forward point of contact of the tongue with its bed. This feature is designated in the drawings by the letter *i*.

As in this construction there is no rivet-head to serve as a knob for the purpose before named, I make, between the fixed end of the tongue and the end of the plate *a*, a displacement of the metal of *a*, from the under to the upper side of *a*, which may be done by a punch acting at the same time with the punch which displaces the metal by which the tongue is secured.

In the drawings, *c* is the upper and *d* the lower surface of the bed-piece. The depression in the bed-piece from its lower surface, and which provides the material for holding the tongue, is marked *e*, and the depression which produces the knob which serves as means for drawing out the reed, is marked *f*, while the knob itself is marked *g*, and the metal which holds the tongue is marked *h*.

In filing or twisting the tongues to voice, tune, or pitch the notes of the reeds in the old construction, the tongues were often moved on the rivet, as on a pivot, after having been properly fixed in place with great care, this involving considerable labor and time to again adjust and secure the tongues. In my construction such accidents can never occur, and with proper punches for making the depressions or displacements of the metal,

and proper cutters for grooving the bed for the tongue, the new construction becomes cheaper than the old, as well as neater and more effective and accurate.

In the old construction, the rivet often fails to bring all parts of the fixed end of the tongue into contact with the seat, and when such is the case the tongue produces a disagreeable buzzing sound, instead of a clear musical note. This my construction prevents, as it firmly closes all parts of the rear end of the tongue down upon its bed, so that there can be no jar or vibration of the confined part of the tongue on its seat.

I claim, as an improved manufacture, musical reeds, in which the tongue is secured in place between two projections, in the manner substantially as described.

Also, the combination with the tongue secured in place, substantially as described, of a depression in the middle, or elevation at the ends of the bed, to which it is secured, substantially as and for the purpose set forth.

WILLIAM MUNROE.

Witnesses:

J. B. CROSBY,  
L. H. LATIMER.