

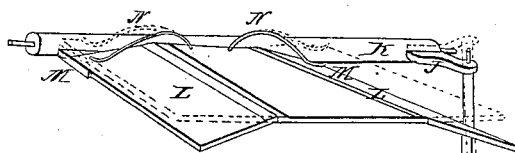
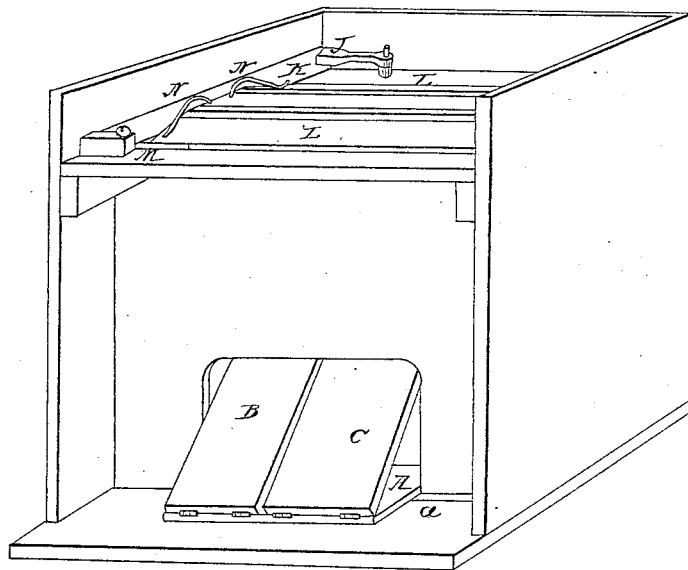
*A. E. Thompson,*

*Organ Swell,*

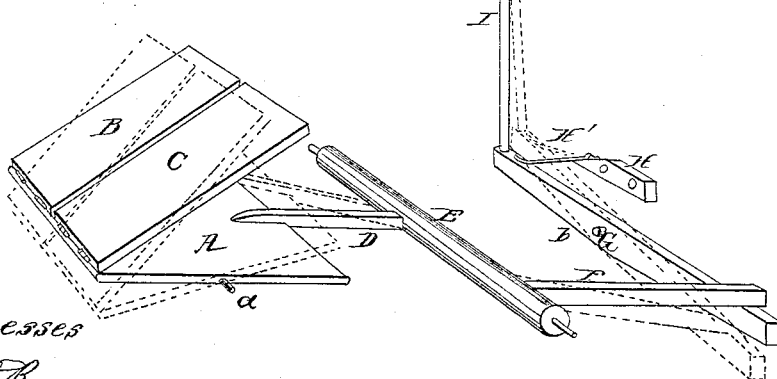
*Nº 52,771.*

*Patented Feb. 20, 1866.*

*Fig. 1.*



*Fig. 2.*



*Witnesses*

*J. F. Berry*  
*Gro. A. Sylvester*

*Inventor*

*Antony E. Thompson*

# UNITED STATES PATENT OFFICE

ARTEMAS E. THOMPSON, OF BROOKLYN, NEW YORK.

## MECHANISM FOR OPERATING THE SWELLS OF REED-ORGANS.

Specification forming part of Letters Patent No. 52,771, dated February 20, 1866.

*To all whom it may concern:*

Be it known that I, ARTEMAS E. THOMPSON, of Brooklyn, in the county of Kings, in the State of New York, have invented a new and useful Mode or Mechanism for Operating the Swell of Reed-Organs; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an exterior view, showing the pedals, the pedal-board, and the swell-covers resting over the reeds; and Fig. 2 is an uncovered view of the entire mechanism, the red lines showing the motion of the pedal-board, pedals, levers, and swell-covers, both figures being in perspective.

The nature of my invention consists in providing a movable pedal-board, A, in the place of the ordinary stationary board, to which I attach a series of levers, connecting shafts and rods, which communicate the motion imparted to the pedal-board to the swell-covers L L. Thus by operating the pedal-board by depressing the heels of the feet the player can open and shut the swell at pleasure, gradually or suddenly, and without removing the feet from the pedals.

The parts in the drawings are designated by the following letters: A is a movable or oscillating pedal-board. B and C are pedals similar to those in ordinary use, and are hinged to the pedal-board. D F G J M M are levers. E is a shaft running through lengthwise of the case, revolving on its center and connecting levers D and F. I is an upright shaft, connecting the ends of the levers G and J. K is a roller running the width of the case, and at its extreme end turning upon its center and connecting the levers J and M M. H' is a spring which forces A, B, C, D, E, F, and G to their proper position when moved by the performer. N N are springs which close the swell-covers and keep I J K M M in their proper position.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction and operation.

The pedal-board, pedals, levers, shafts, &c., may be made of the usual materials—wood or iron. The pedal-board A is made to oscillate on points a, fixed at both sides, which rest in proper fixtures or in the wood that forms the

front of the instrument. These points may or may not be in the middle of the side of the pedal-board. By changing these points from the center the board will be depressed with greater or with less ease, as may be required. If the board yields too easily, the player will open the swell when merely intending to work the pedals; if too hard, he would be unable to open it at all or without too great exertion. I regulate this by adjusting the leverage, and by means of the spring H'.

The end of lever D rests upon the center of the rear side of the pedal-board. This lever is fastened to the shaft E, which runs through the length of the instrument, turning upon its center.

Lever F is made fast to shaft E on the rear or opposite side from lever D, and far enough to the right of lever D to make a straight line to and to rest upon the end of the upper side of lever G, which runs at right angles with it and parallel with the back of the instrument. Lever G is fastened at its center, or at a point near its center, by a pivot, b, on which it turns to the back of the instrument, and resting upon its farther or left end is the upright shaft I. Shaft I carries with its upward motion the lever J, which is fastened to the roller K, which runs through the width of the instrument at its extreme end, turning on its center. The short levers M M are made to project from the roller K under the ends of the swell-covers L L, so that when the roller K is turned upward by the lever J the swell-covers are carried with it or opened and the full power of the instrument is heard.

The springs N N press the swell-covers back to their places when the levers M M have fallen and suppress the sound of the instrument. Over the left end of the lever G is placed a spring, H'. This is fastened to a block of wood, H, which is screwed to the back of the case. This spring exerts a downward pressure on lever G and keeps the pedal-board A in position until the power exerted by it is overcome by the performer.

The red lines in Fig. 2 show the working motion of the mechanism. By pressing the heels of the feet a little more forcibly than is required for ordinary playing the pedal-board is forced down. This raises the lever D and depresses levers F and G, forcing upward the spring H' and the upright I, and the lever J

turns the roller K and lifts the levers M M and swell-covers L L. On releasing the pedals from this increased pressure the springs N N and H' force the swell-covers, levers, shafts, pedal-board, and pedals back to their normal position. By this contrivance the operator can open and close the swell without removing his feet from the pedals and without ceasing for a moment the working of the bellows. By exerting a trifle more power with the heels of his feet he opens the swell, and maintains, while in the act of doing it, the same force of wind upon the reeds. He can increase or diminish the volume of tone slowly and by de-

grees, making a gradual crescendo or diminuendo, or he can make sudden and explosive tones.

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

The combination of the pedals with the oscillating lever-board A, arranged substantially as shown and described, for the purpose set forth.

ARTEMAS E. THOMPSON.

Witnesses:

T. S. BERRY,

GEO. W. SYLVESTER.