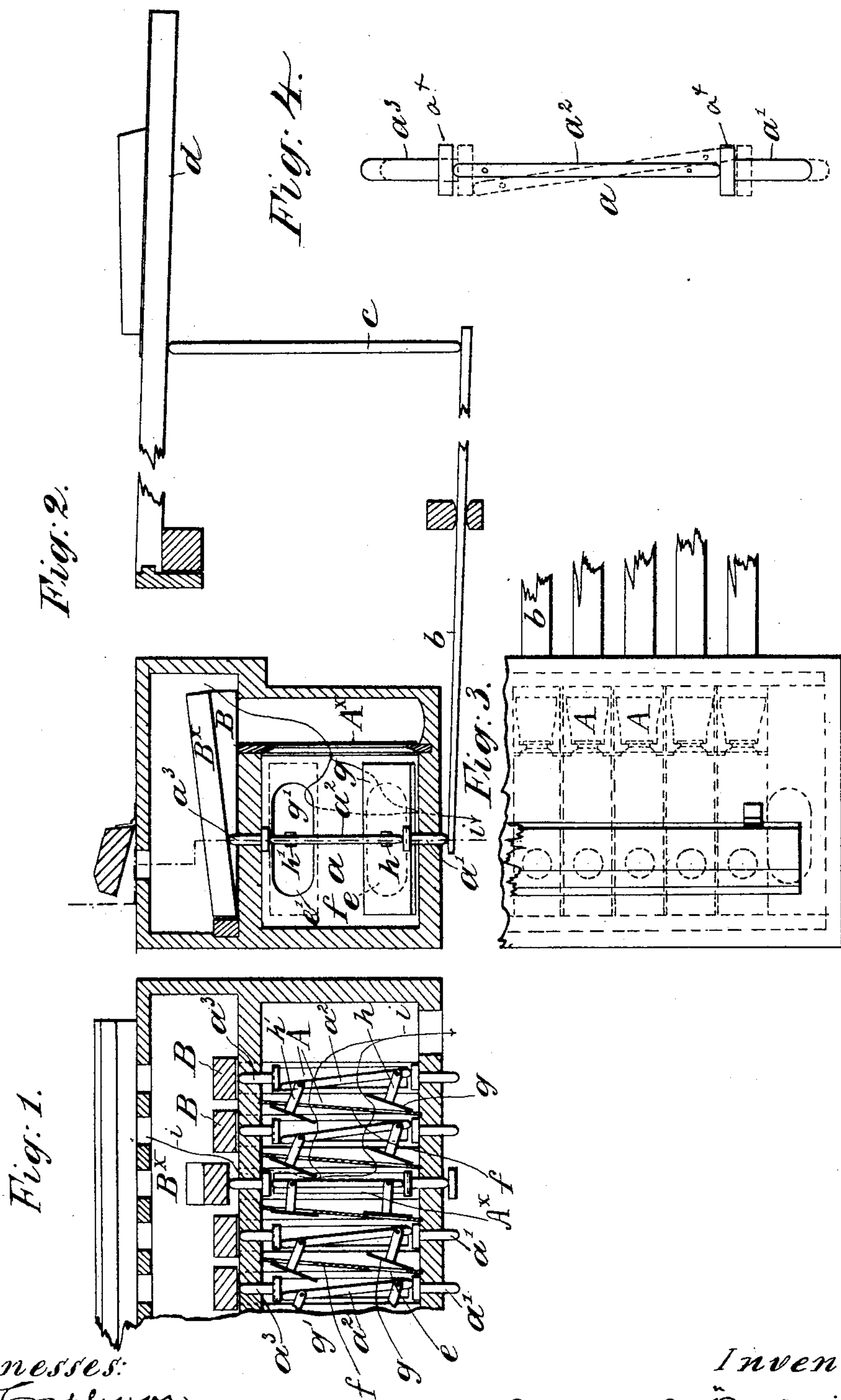


(No Model.)

A. N. ÖSTLIND.
CELL AND VALVE FOR REED ORGANS.

No. 533,964.

Patented Feb. 12, 1895.



Witnesses:
J. B. Gableman
Peter H. Ross.

Inventor:
Anders N. Östlund,
by Henry Connelley
his Attorney

UNITED STATES PATENT OFFICE.

ANDERS NILSSON ÖSTLIND, OF ARVIKA, SWEDEN, ASSIGNOR TO ÖSTLIND & ALMQUIST, OF SAME PLACE.

CELL AND VALVE FOR REED-ORGANS.

SPECIFICATION forming part of Letters Patent No. 533,964, dated February 12, 1895.

Application filed September 19, 1894. Serial No. 523,446. (No model.) Patented in Sweden September 4, 1893, No. 4,880, and in Norway February 24, 1894, No. 5,567.

To all whom it may concern:

Be it known that I, ANDERS NILSSON ÖSTLIND, a subject of the King of Sweden and Norway, residing at Arvika, Sweden, have invented certain new and useful Improvements in Cells and Valves for Reed - Organs, (for which patents have been granted in Sweden, No. 4,880, dated September 4, 1893, and in Norway, No. 5,567, dated February 24, 1894,) of which the following is a specification.

This invention relates to so-called self-playing pedals in organs, which are so arranged, that, when several keys of the treble are struck, only the lowest of the corresponding tones simultaneously sounds in the pedal or bass stop. By this means a more clear chord is attained than is the case when all the tones struck in the treble, also sound in the bass stop. This result is attained by providing valved openings in the partition walls which separate the reed cells from one another in the pedal or bass stop. The valves are normally open, but when the keys are struck the valves of the corresponding cells of the pedal or bass stop are shut, so that the passage of the air through said cells is prevented, excepting through the cell corresponding to the lowest tone, the tongue of this cell, being consequently caused to sound. Said valves are shut by means of sliding bars connected with the keys and serving to lift the ordinary play valves.

In the accompanying drawings which serve to illustrate my invention, Figure 1 is a sectional view taken longitudinally through the end of the pedal stop, and looking toward the front thereof. Fig. 2 is a transverse sectional view of the pedal stop showing the connection between the valves and keys, and Fig. 3 is a plan view of a portion of the pedal stop. Fig. 4 is a detail view to be hereinafter referred to.

In the views A, A represent the reeds, each arranged at the front of its cell and B, B are the corresponding playing valves, actuated by means of a vertical rod a which passes up through the cell and is composed of three parts, a' , a^2 and a^3 , as seen in Fig. 4, a lever b and a vertical rod c , from the key d , as clearly

seen in Fig. 2. The partition f between each two cells is provided with two openings e , e' , one at its top and one at its bottom, respectively, and these openings are adapted to be closed by valves g , g' , hinged to opposite sides of the partitions, respectively. These valves g , g' , are provided with arms or lugs h , h' , connecting them to the upper and lower portions of the section or part a^2 of the rod a , in side the cell. The partitions f are inclined whereby when the valves g , g' are open, which is the normal condition each section a^2 stands in an inclined position, as clearly seen in Fig. 1.

The extreme parts a' , a^3 of rod a play through perforations in the upper and lower walls of the cell and are provided at their inner ends with heads or enlargements a^x , a^x , adapted to bear on the opposite ends of the section a^2 , whereby when the key d is depressed, as seen in Fig. 2, said section a^2 will be raised and at the same time shifted from its normal inclined position to a vertical position as seen at B^x in Fig. 1 where the valve B is shown opened. By this means, the hinged valves g and g' are turned on their hinges so as to close the openings e , e' in the partitions f . The reed A^x will now sound, the air current therethrough following the course indicated by the arrow i , in Figs. 1 and 2.

If, while the valve indicated at B^x , in Figs. 1 and 2 is open and its reed A^x is sounding, another valve B at the left of the valve at B^x , and having a reed of a higher tone, be opened, this higher reed will not sound, for the reason that the valves g , g' , effectually prevent the flow of air through either valve at the left of the valve at B^x . In the same manner if a valve B at the right of the valve indicated at B^x be opened, the reed A^x will be silenced for the reason that the flow of air therethrough is stopped by the closure of the valves g , g' at the right. Thus it is evident that when several valves B are opened simultaneously, only that one of the corresponding reeds which is lowest in tone will sound. As Fig. 1 is a rear of the parts, it is, properly, the reed to the left which sounds.

The bar a is shown divided into three parts

or sections in order that it may be the more freely moved, but it is evident that this is not essential to my invention.

The two normally open valves g , g' , are so arranged as to close in opposite directions so that one shall balance the other and they are held open merely by the weight of the valve B resting on the top of the rod a . Thus the use of springs is avoided and ease and smoothness imparted to the movements and the touch in playing. This valve mechanism is situated between the air-chamber or wind-chest and the reeds so that the said chest does not in any way interfere with the emanation of the sound from the reeds.

In the above I have for the sake of clearness referred only to the treble and bass stops, but it is evident that the application of the invention may be varied, and that the stop played indirectly may be of a lower, higher, or of the same pitch as that played directly, as it is desired to strengthen the melody or the accompaniment.

By the term "played directly," is meant, of course, that stop, the valves of which are actuated by the keys in the ordinary manner.

Having thus described my invention, I claim—

1. In a reed-organ, the combination of a set of horizontally arranged reed-cells, their reeds, their playing valves, each arranged over a cell, and partitions f , between the cells, each provided with a pair of apertures e and e' , of the pair of valves g and g' , controlling said apertures and opening in opposite directions, upright valve-operating rods coupled each to a pair of said valves and arranged each under one of the playing valves, the

weight of said playing valve holding the valves open, the keys d , and mechanism intermediate the respective keys and the valve-operating rods for elevating the latter and closing the valves, substantially as set forth.

2. In a reed-organ, the combination with a series of horizontally arranged reed-cells and reeds, and their playing valves B, arranged over the same, of the apertured partitions between adjacent reed-cells and provided with valves g and g' controlling said apertures, said valves being arranged between the reeds and the air-outlet to the wind-chest, the keys d , and valve-operating mechanism between said keys and the respective valves B and g , g' , whereby the depression of the keys opens the valves B and closes the valves g and g' , substantially as set forth.

3. In a reed-organ, the combination of a series of reed-cells separated by partitions, each provided with two openings, their reeds and playing-valves, keys d , rods a passing through the cells and adapted for operating said playing-valves from the movement of the keys, said rods a comprising end sections guided in the walls of the respective cells, and an intermediate section, and two valves, connected to the intermediate section of each rod and adapted to close the perforations in the partition of the corresponding cell, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ANDERS NILSSON ÖSTLIND.

Witnesses:

ERNST SVANQVIST,
CARL TH. SUNDHOLM.