C. FOGELBERG.

PIPE ORGAN.

No. 187,261. Patented Feb. 13, 1877.

Fig. 1.

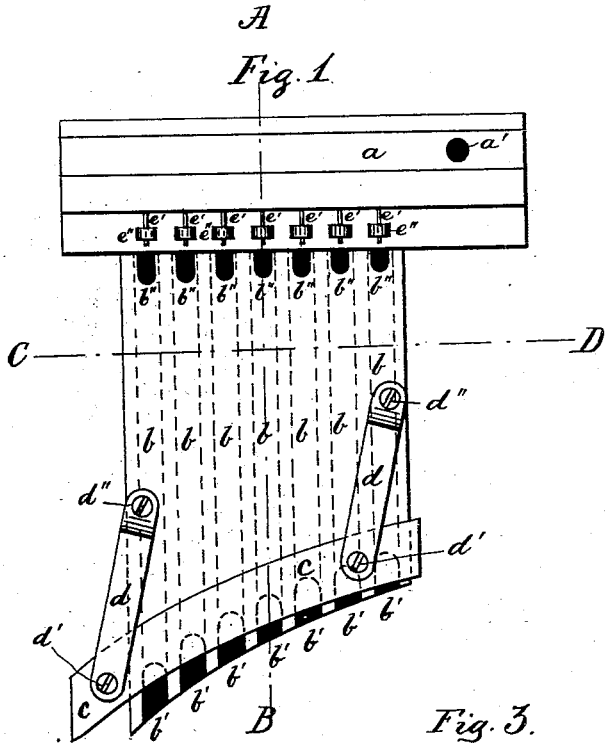


Fig. 2.

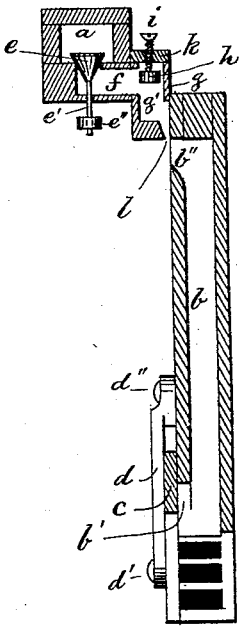


Fig. 3.

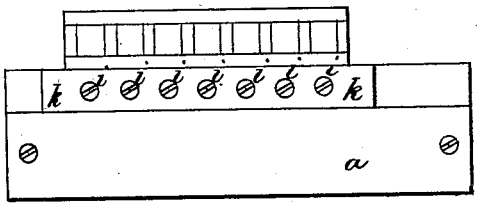
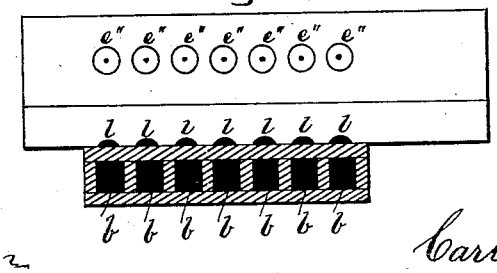


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

CARL FOGELBERG, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PIPE-ORGANS.

Specification forming part of Letters Patent No. **187,261**, dated February 13, 1877; application filed September 6, 1876.

To all whom it may concern:

Be it known that I, CARL FOGELBERG, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pipe-Organs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in pipe-organs, and consists, first, in an improved device for regulating the tones of the pipes; and this my device consists of a swinging plate hinged to arms movable on fulcrums, which plate is laid in close contact with the face of the organ-pipes, in combination with openings made in the side of the pipes, by which arrangement I am able to regulate the length of the pipes by simply uncovering the aforesaid openings in the sides of the pipes more or less, and thereby raising or lowering the tones of the pipes with great ease. This is very desirable, especially where pipes and reeds are used together in one and the same instrument, or for the purpose of tuning a pipe-organ to any other instrument; it being a well-known fact that the tone or pitch of reeds is lowered in a ratio with the increase of the temperature, whereas the tone is raised in pipes in the same ratio, and thus it will be seen that it is very necessary to be able to tune pipes to correspond in tone with reeds, according to the different changes in the atmospheric temperature.

My invention also relates to improvements in valves for the purpose of admitting the compressed air to the pipes; and this part of my invention consists of a conical valve resting in a seat in the wind-chest, and having a downward-projecting valve-rod, upon the lower end of which the keys can act, so as to raise each valve from its seat. The valve will close by its own gravity as soon as the pressure on the key is released.

My invention also relates to an improved regulator, for the purpose of increasing or decreasing the strength and volume of sound of each pipe independent of its fellow; and this consists of an adjustable block or valve, located in a cylindrical passage in the voice-chamber leading from the wind-chest to the pipe, which block or valve is adjusted up or down by means of a screw for each valve and pipe, by which the area of the wind-passage for each pipe can be regulated, so as to increase or decrease the strength and volume of the tone of each pipe in the organ; and, finally, my invention relates to an improvement in the orifices for the purpose of ejecting the wind from the voice-chamber parallel with the face of the pipes, and directly on a line with the faces of the latter, for which purpose I make the said orifices at the junction of the voice-chamber and the face of the pipes in combination with mouths or openings in the face of the pipes, by which I am able to produce very beautiful tones, clear and soft, and resembling those of flutes or similar instruments.

On the accompanying drawings, Figure 1 represents a front elevation of my invention. Fig. 2 represents a longitudinal section on the line A B, shown in Fig. 1. Fig. 3 represents a plan; and Fig. 4 represents a cross-section on the line C D, seen from B in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a represents the wind-chest, with its opening *a'*, through which the wind is forced into the wind-chest, in the usual manner. *b b b* represent the organ-pipes, each of which is provided in its lower end with a side opening, *b' b' b'*, as shown in Figs. 1 and 2. *c* represents a movable slide, located close onto the lower part of the face of the organ-pipes, and covering the openings *b' b' b'* when moved down to its lowest position. The slide *c* is hinged at *d' d'* to the arms or links *d d*, that are hinged to the pipe-case at *d'' d''*, as shown in Figs. 1 and 2. Thus it will be seen that as the slide *c* is moved toward the left, so are the openings *b' b' b'* more or less uncovered, and consequently the lengths of the organ-pipes more or less decreased, by which simple arrangement the pipes can easily be toned according to the variations of the temperature.

The slide *c* may be operated by means of a lever or regulating-screw without departing from the spirit of my invention.

e represents a conical valve for each pipe, which valve covers an opening leading from the wind-chest *a* to a channel, *f*, one for each pipe, communicating with the voice-chamber *g*. The valve *e* projects downward, as the valve-rod *e'*, and is provided below the channel *f* with a washer, *e''*, serving as a stop to prevent the valve from being pressed up too far from below. The valves *e e* are to be operated by keys from below, acting upon the lower end of the valve-rods *e' e' e'*, or upon the washers *e'' e''*. In the voice-chamber *g* is made for each valve *e* a receptacle, *g'*, in which a block or regulating-valve, *h*, is movable up or down by means of the regulating-screw *i*, passing through the cover *k* of the voice-chamber. By this simple arrangement I am able to regulate the area of the air-passage for each pipe, independent of the others, so as to increase or decrease the volume of sound, as may be desired.

l l l represent the arched orifices or mouths made in the side or face of the voice-chamber, and at the junction with the face of the pipes *b b b*, by which the wind is forced from the voice-chamber through the orifices *l l l* in a line parallel and directly in a line with the face of the organ-pipes, and the tones are produced by the air entering through the openings *b'' b'' b''*, made in the side of the pipes *b b b*, at the junction between the latter and the voice-chamber *g*, by which arrangement I am able to produce very sweet and clear tones.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

1. In combination with the organ-pipes *b b b*, having the openings *b' b' b'*, herein described, the movable slide *c* and its hinged connections, *d d' d''*, substantially as and for the purpose set forth.

2. In combination with the wind-chest *a*, having passages *f f*, and the pipes *b b b*, the conical valve *e*, substantially as and for the purpose set forth.

3. The herein-described regulator, consisting of the voice-chamber *g*, channel or recess *g'*, cover *k*, regulating-screw *i*, and block or valve *h*, as and for the purpose set forth.

4. In combination with the pipes *b b*, having orifices *b'' b''*, the voice-chamber *g*, its channels *g' g'*, with their arched openings *l l l*, in the manner and for the purpose as herein set forth and described.

In testimony that I claim the foregoing as my own invention I have affixed my signature in presence of two witnesses.

CARL FOGELBERG.

Witnesses:

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