G. Woods,

Organ Bellows.

No. 49,355. Patented Aug. 8, 1865.

Fig. 1.

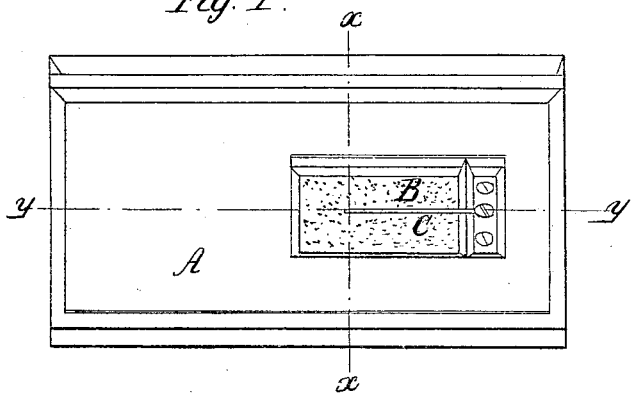


Fig. 2.

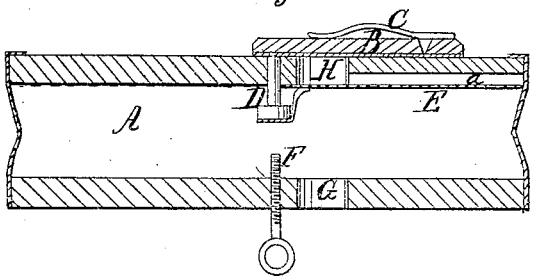
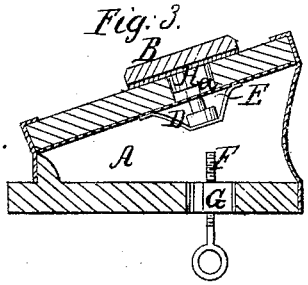


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE WOODS, OF CAMBRIDGE, ASSIGNOR TO MASON & HAMLIN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CABINET-ORGANS.

Specification forming part of Letters Patent No. **49,355**, dated August 8, 1865.

To all whom it may concern:

Be it known that I, GEORGE WOODS, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Cabinet-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 make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents so much of a cabinet-organ as is necessary to illustrate and show the application of my invention. Fig. 2 is a longitudinal vertical section taken on the line *x* of Fig. 1. Fig. 3 is a cross-section taken on the line *y* of Fig. 1.

Similar letters of reference indicate like parts.

This invention consists in applying porous or perforated material or woven fabrics which can be penetrated by air to the safety-valve of a musical instrument, or to any other aperture for the passage of air, so as to divide the mass or current of air into many parts, and thereby prevent noise from the passage or movement of the air, and also restrain and modify the rapidity and energy of its passage.

A designates the main bellows of a cabinet-organ.

B is a safety-valve, which controls the passage H that opens into the wind-chest, (not shown,) whose place is over the valve and above the bellows A. The valve is pushed down toward its seat by a spring, C, resting on its back; or it may be pushed down in any other convenient way.

G is a passage in the bottom of the main bellows to permit communication with the usual exhaust-bellows or pump below, but which pump is not here shown, because its construction and application form no part of this invention.

F is an adjustable screw-pin, whose end passes through the bottom of the main bellows so as to reach the head of the push-pin D, by means of whose projection at certain times through the upper side of the bellows the valve B is opened in the way common in this class of musical instruments.

E designates a perforated diaphragm, which is placed over the valve-opening H. In this example of my invention I have caused the air to act upon a larger area of the perforated or porous diaphragm than the area of the valve-opening H by excavating a recess, *a*, on the inner side of the top of the bellows from the place of the opening H toward the right-hand end of the bellows. The perforated covering is stretched entirely across this recess throughout its length, and the said covering is so secured to the top of the bellows that air can pass into it only by penetrating the said covering or diaphragm.

The action of the apparatus is as follows: When, in the operation of the pump of a cabinet-organ, the air is so nearly exhausted from the main bellows A as to bring the head of the push-pin D down upon the end of the pin F, if the collapse or fall of the bellows proceeds any farther the valve B will be opened by reason of the projecting of the push-pin through the top of the bellows, and air will be allowed to enter. Hitherto this has only been accomplished with more or less noise, owing to the rapidity of the movement of the incoming air and to the vibrations attending the movements of air produced on objects with which it comes in contact. I have endeavored, by means of the construction above described, to prevent the noise so produced, and I have produced good results by using a diaphragm of fibrous material, which not only divides the mass of incoming air into numerous divisions, but also muffles or prevents the sound which has generally attended the rush of air through the valves.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The application to or within the aperture of the safety-valve of cabinet-organs or other wind-instruments, or other aperture for the passage of air, of a perforated or porous diaphragm, whether of fibrous or other material, substantially as and for the purpose above described.

GEORGE WOODS.

Witnesses:
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