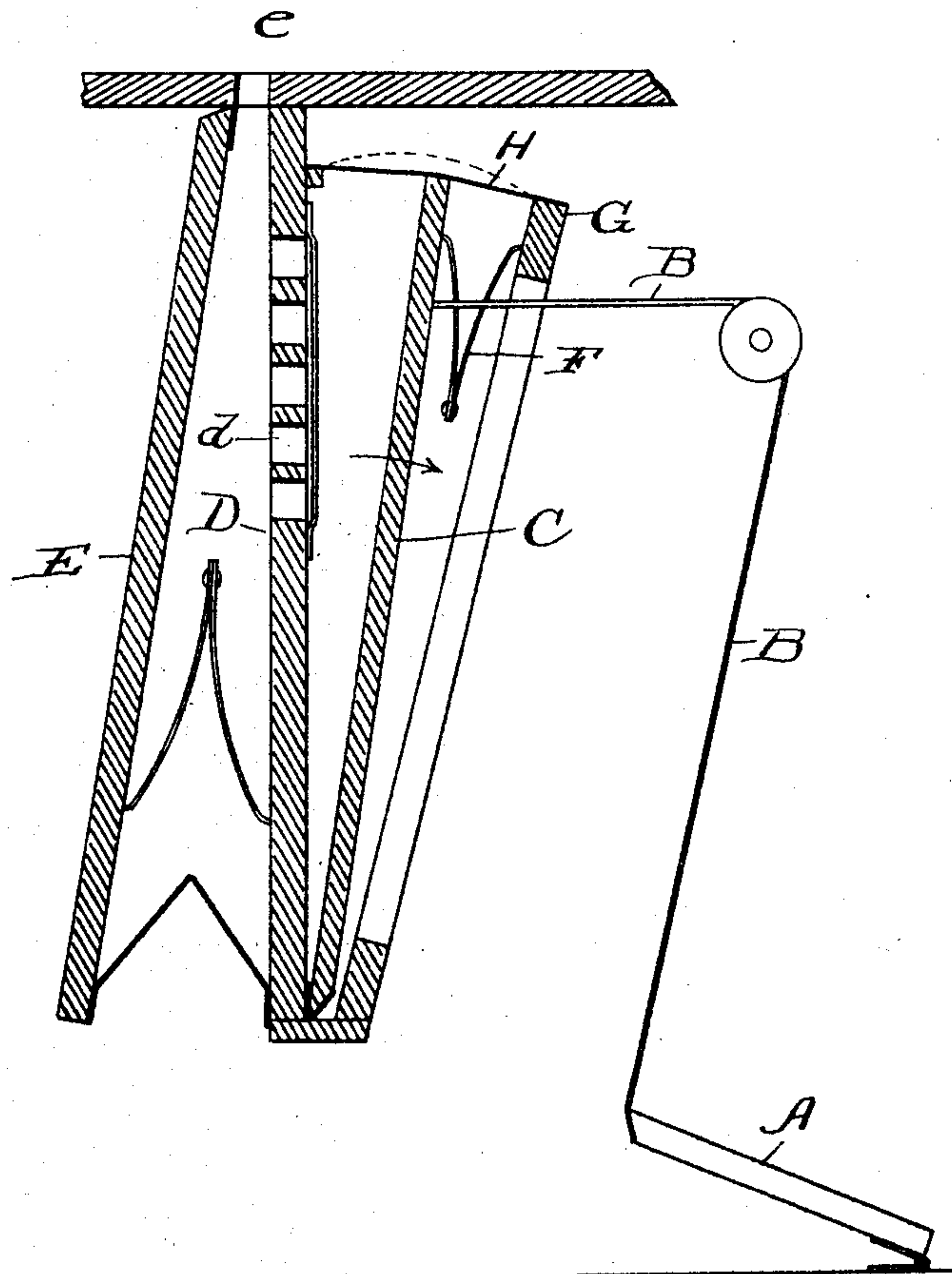


(No Model.)

F. W. HEDGELAND.  
EXHAUST FOR REED ORGAN BELLOWS.

No. 505,161.

Patented Sept. 19, 1893.



Witnesses:  
Lew. C. Curtis  
H. W. Munday.

Inventor:  
FREDERICK W. HEDGELAND  
By Munday, Curtis & Adcock.  
His Attorneys.

# UNITED STATES PATENT OFFICE.

FREDERICK W. HEDGELAND, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE W.  
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## EXHAUST FOR REED-ORGAN BELLOWS.

SPECIFICATION forming part of Letters Patent No. 505,161, dated September 19, 1893.

Application filed April 5, 1893. Serial No. 469,232. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK W. HEDGELAND, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Exhausts for Reed-Organ Bellows, of which the following is a specification.

In working the treadles of an ordinary reed organ, the stroke becomes harder as the treadles descend. This increase in the amount of power required is very tiresome to the player, because as the amount of power required increases, his own power diminishes, he being able to put forth less power as his foot approaches the horizontal position. It results from this that the working of the treadle is rendered uneven and jerky, and of course the action of the bellows is unfavorably affected by the uneven actuation of the bellows. I attribute much of this increase of power requisite in the lower portion of the pedal stroke to the construction of the exhausters heretofore employed. In the customary manner of building the exhausters, it is provided with collapsible sides usually formed of flexible material and adapted to fold inwardly and located between the front and back of the exhausters. These folding sides resist the opening of the exhausters, which takes place when the treadle is forced down, because of the atmospheric action upon them which tends to force them inward and to retain them in that position. I have devised a construction by which I obviate most of the resistance thus caused by the collapsible sides. In this improvement I substitute for the collapsible sides a sheet of rubber or other impervious material, which is stationarily supported at its edges so as to keep it substantially taut and in normal contact with the edge of the movable side of the feeder. With this construction, when the movable side is being drawn forward by the pedal the air will so act upon the cloth as to keep it in contact with the edge of the board and prevent any escape of the air from within the exhausters, so that the chamber of the exhausters as it expands will be filled from the reservoir, while upon a reversal or backward

movement of the movable side the cloth will be lifted away from the edge of the board and the confined air thus be allowed to escape.

In the accompanying drawing I show a vertical section of the reservoir and exhausters of a suction bellows embodying my present improvement.

In said drawing A represents the treadle, B the flexible connection from the treadle to the movable front or board of the exhausters, C the said movable front, D the front of the reservoir, d the valved air passages in said front, E the back of the reservoir, and e the passage through which the air is drawn from the reeds.

F is the customarily employed spring acting to return the movable front C after it has been drawn forward by the treadle.

G represents a stationary frame placed in front of the movable board and supporting one limb of the spring F.

Stretched between the frame G and the front D and over the edge of the movable board C is a rubber or other impervious cloth H. This cloth is stretched between its supports so that when the atmosphere acts to force it against the part C it will form a tight joint therewith and prevent the escape of the air then in the exhausters, and this will be the condition of things during the down stroke of the treadle and the consequent forward movement of the board C. The moment however the board C is reversed, the internal pressure upon the cloth overcomes the external pressure and lifts it away from the edge of the board C and gives vent to the air in the exhausters. By this construction the forward movement of the exhausters board C is rendered easy, the resistance caused by the friction between the cloth and the board being much less than the resistance heretofore encountered from the folding sides on the old exhausters. I also avoid by my improvement the necessity of providing any valves whatever in the board C. Furthermore the capacity of the exhausters is increased, as no part of the cloth sides enters or is located between the boards.

I claim—

1. The exhausters for organ bellows provided



with the impervious cloth sides stretched over the edge of the movable front board, substantially as specified.

2. The combination in an exhaustor with the movable board C thereof, of the impervious cloth H covering the sides of the exhaustor, and supports for such cloth, substantially as specified.

3. The combination with an organ bellows

of an exhaustor consisting of the valveless board C and the impervious cloth H secured to the front of the bellows and to a stationary support located in front of the board C, substantially as specified.

FREDERICK W. HEDGELAND.

Witnesses:

H. M. MUNDAY,  
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