(No Model.)

E. S. VOTEY & W. D. WOOD.

WIND CHEST FOR PIPE ORGANS.

No. 462,784. Patented Nov. 10, 1891.

Fig. 1.

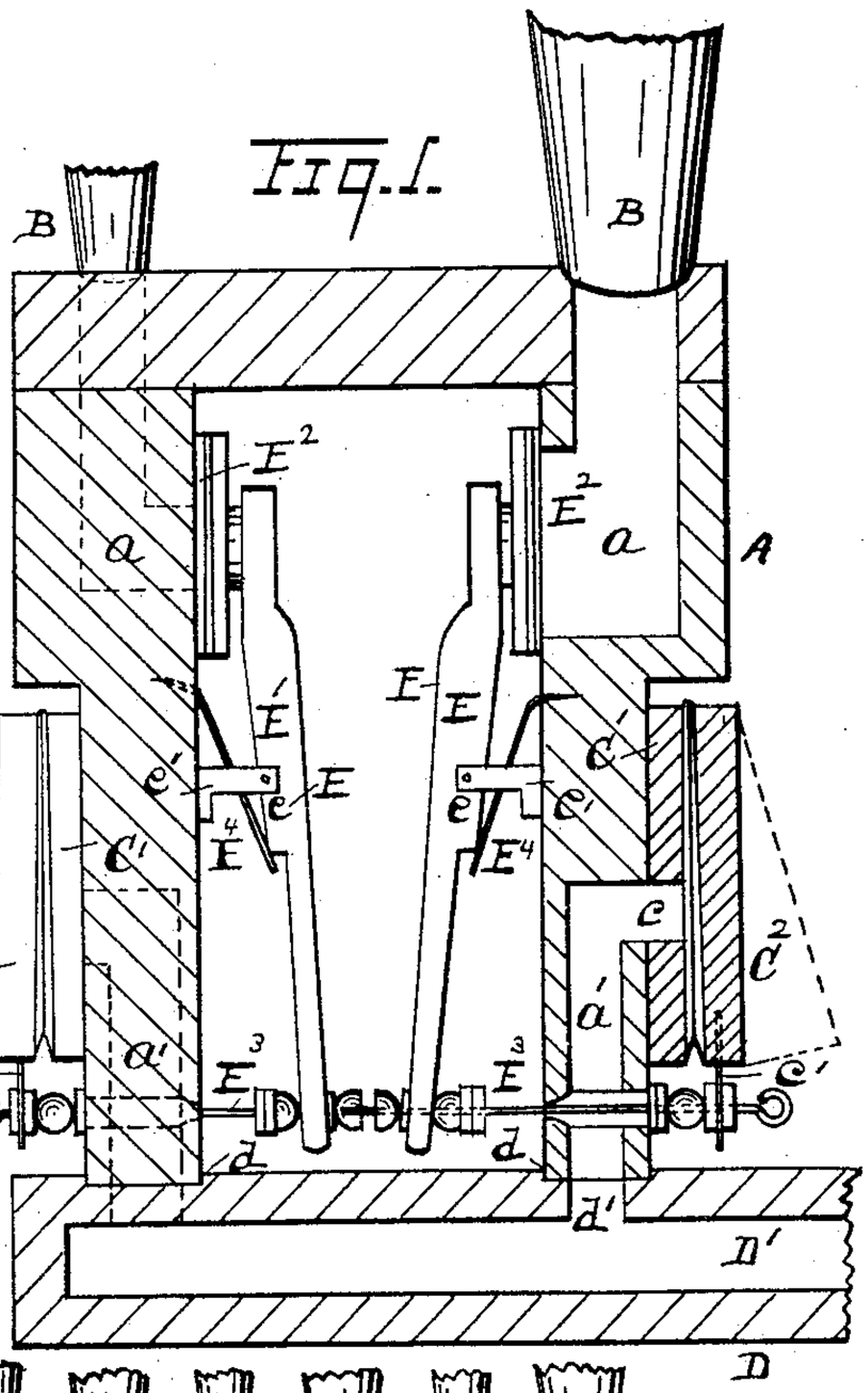
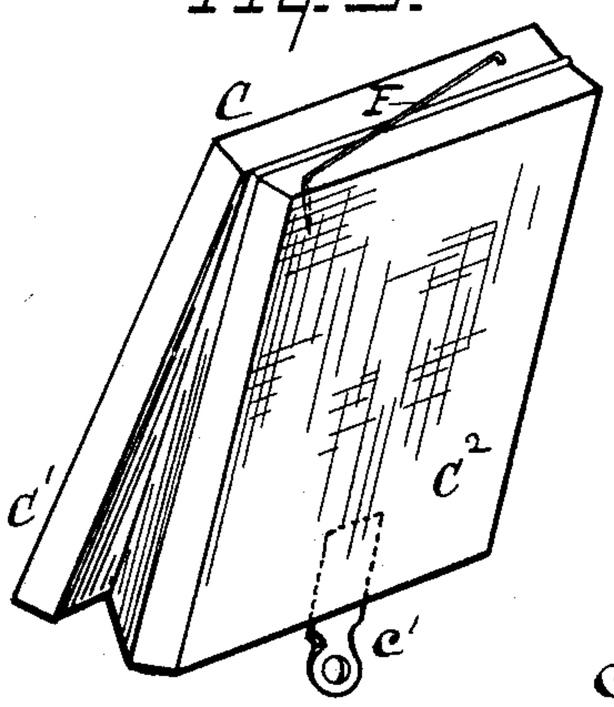


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWIN S. VOTEY AND WILLIAM D. WOOD, OF DETROIT, MICHIGAN.

WIND-CHEST FOR PIPE-ORGANS.

SPECIFICATION forming part of Letters Patent No. 462,784, dated November 10, 1891.

Application filed July 20, 1891. Serial No. 400,138. (No model.)

To all whom it may concern:

Be it known that we, EDWIN S. VOTEY and WILLIAM D. WOOD, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Wind-Chests for Pipe-Organs; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to certain new and useful improvements in a wind-chest for pipe-organs.

The present invention is designed more especially as a modification of an improvement in the same class for which a separate application for Letters Patent is filed by us of even date herewith, and to which reference is here made.

Our objects are the same as therein set forth, this application having in view particularly novel features of construction connected with the pneumatics and the valves actuated thereby, as well as their arrangement and operation; and to these ends our invention consists of the devices and appliances and their combinations, as hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical cross-section through a single wind-chest embodying our invention. Fig. 2 is a side elevation of the same, showing a series of pneumatics engaged therewith. Fig. 3 is a view in perspective of one of the pneumatic bellows.

As in the application above mentioned, our invention here contemplates and relates to the provision of an independent wind-chest for each set of pipes, controlled by a single stop. Accordingly A represents such a wind-chest provided with air-passages a, leading therefrom to the set of pipes B, connected therewith, respectively, these passages and pipes being preferably arranged on opposite sides alternately of the chest. The chest is also provided with key-controlled air-passages a', also preferably arranged on opposite sides thereof alternately.

C represents one of a series of pneumatic bellows engaged with the wind-chest, to each of which one of the passages a' leads.

D is a channel-board constructed with air-passages D′, communicating with each of the air-passages a', and through which air is admitted to the individual pneumatic by the corresponding key on the manual, (not here shown,) the channel-board being constructed with a series of orifices d', arranged to register with the passages a'. Each pneumatic bellows in this case consists, essentially, of a stationary wing and a movable wing flexibly united thereto in the usual manner, into the interior of which the passages a' communicate, as through orifices c in the stationary side C′ of the pneumatic.

E represents one of a series of valves for controlling communication from the wind-chest through one of the air-passages a, leading to the adjacent pipe. This valve is here constructed with an arm E′, fulcrumed, as at e, upon a suitable bracket or butt e'. At its end opposite the valve-face E^2 said arm is connected, as by a rod E^3, to the outer wing C^2 of the corresponding pneumatic. Said wing for this purpose may be provided with a stem c', with which said rod is engaged. This rod is provided with any suitable adjusting devices to regulate the proper movement of the arm of the valve.

E^4 is a spring to seat the valve when air is cut off from the pneumatic.

As in the case above referred to, air for the pipes is supplied to the independent chest by a stop-controlled valve located at the end thereof. The channel-board in this instance is preferably grooved, as shown at d, to receive the sides of the wind-chest, the channel-board constituting the base of the chest. By this construction the pneumatics may be permanently glued or otherwise engaged upon the outsides of the wind-chest, where it is most accessible.

The operation of the mechanism above described is as follows: Air being admitted to the corresponding channel of the channel-board in any customary or desired manner passes into the pneumatic, inflating the same and extending the outer wing, whereby the rod E^3 is forced in a like direction, opening

the valve and permitting the air in the wind-chest to pass to the corresponding pipe. When air is cut off from the said channel, the pneumatic collapses and the spring closes the valve. To aid in collapsing the pneumatic the same is preferably provided with a spring F, engaging the wings, as shown in Fig. 3, in which the spring is engaged with the two wings at the heel thereof. The spring is preferably in the nature of a torsion-spring. The valve-faces E^2 are preferably so hung upon the arms E′ as to seat closely and firmly, whether the arm is hung exactly square or not. This may be obtained of the valve-face with said arm.

What we claim as our invention is—

1. In a pipe-organ, the combination, with a wind-chest for supplying air to a set of pipes, of a series of valves to control the passage of air from said chest to said pipes, respectively, and a pneumatic located on the outside of said chest for opening each of said valves, substantially as described.

2. In a pipe-organ, the combination, with a wind-chest, of valves for admitting air therefrom to the pipes, and a series of pneumatics for opening said valves, each of said pneumatics consisting of a stationary wing engaged upon the outside of the chest, and a movable wing connected with the corresponding valve, substantially as described.

3. The pneumatic herein described, consisting of two wings having in combination therewith a spring connecting said wings at the heel thereof, substantially as described.

In testimony whereof we sign this specification in the presence of two witnesses.

EDWIN S. VOTEY.
WILLIAM D. WOOD.

Witnesses:
N. S. WRIGHT,
JOHN F. MILLER.