

No. 609,291.

Patented Aug. 16, 1898.

J. H. ODELL.
ORGAN ACTION.

(Application filed Jan. 15, 1896.)

(No Model.)

2 Sheets—Sheet 2.

Fig 2

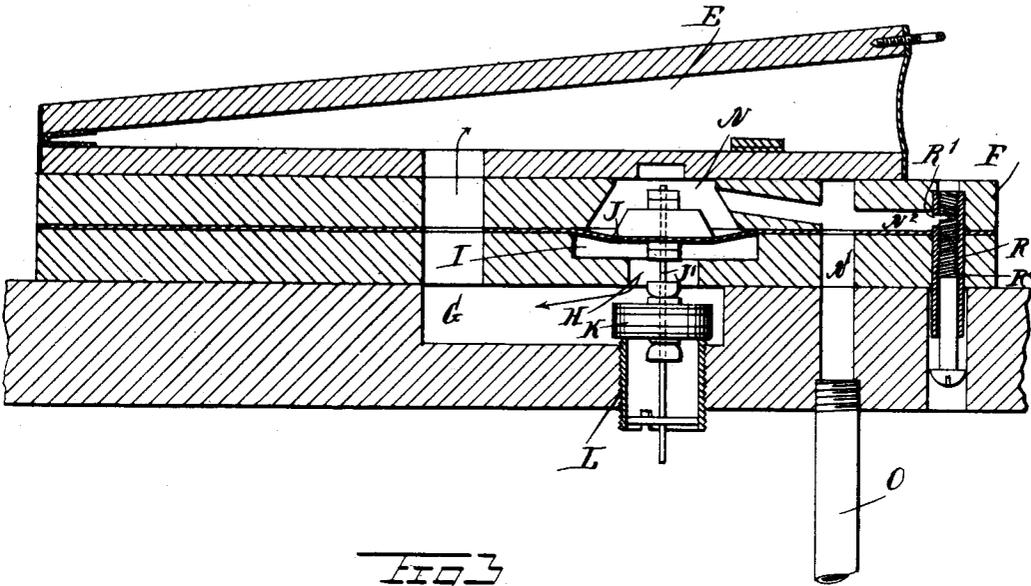
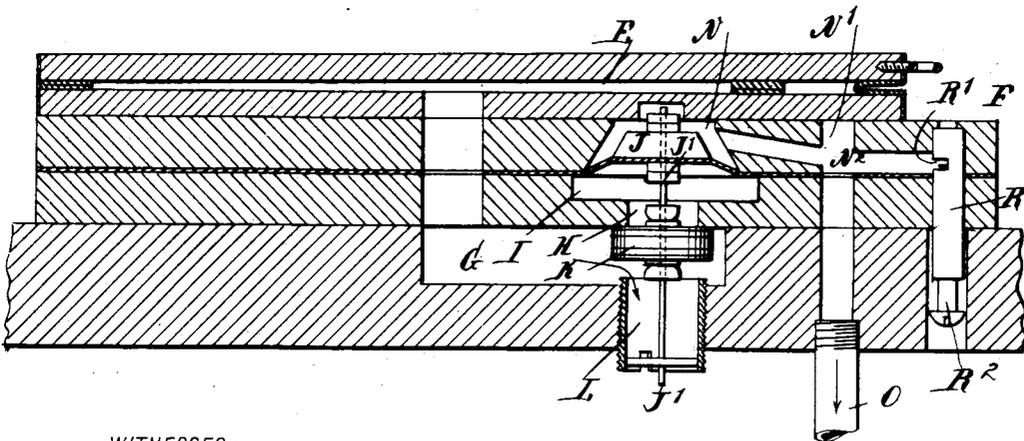


Fig 3



WITNESSES:

H. Walker
Geo. J. Foster

INVENTOR

J. H. Odell.

BY

Munn

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN HENRY ODELL, OF NEW YORK, N. Y.

ORGAN-ACTION.

SPECIFICATION forming part of Letters Patent No. 609,291, dated August 16, 1898.

Application filed January 15, 1898. Serial No. 666,826. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY ODELL, of New York city, in the county and State of New York, have invented a new and Improved Organ-Action, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved organ-action arranged to render the workings of the pallets very positive and at the same time permit a convenient adjustment of the working parts from the outside of the organ to give any desired degree of sensitiveness to the action.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement as applied. Fig. 2 is an enlarged sectional side elevation of the improvement, and Fig. 3 is a similar view of the same with the parts in a different position when the key is pressed and the pipes are sounded.

The wind-chest A is connected by the usual pallet B with the box C, opening into the organ-pipes D to sound the same when the pallet B is open. The pallet B is connected within the wind-chest A with a pneumatic E of the usual construction and attached to the upper end of the frame F for the action, the frame being set in and forming part of the bottom of the wind-chest, as is plainly illustrated in the drawings. The interior of the pneumatic E is connected with a channel or passage G, connected by a valve-seat H with a chamber I, opening into the wind-chest A, said chamber being closed on top by a diaphragm J, connected by the stem J' with a controlling-valve K, arranged in the passage G and adapted to be seated on the valve-casing L, screwing in the bottom of the frame F, so that access is had from the outside to the said valve-casing. The latter is preferably made with an external screw-thread screwing in the bottom of the frame to allow of adjusting the casing relatively to the valve K, so as to bring the same in proper relation to each other according to the amount of air desired

to be exhausted in a given time, as hereinafter more fully described.

The top chamber N for the diaphragm J is connected by an exhaust-passage N' with a pipe O, leading to an exhaust-valve P, adapted to be opened and closed by the key Q of the organ, so that when the key is pressed the valve is opened and air can escape from the chamber N—that is, from the top of the diaphragm J through the passage N', the pipe O, and valve P—to the outside. A reduction of pressure in the chamber N causes the air from the wind-chest A, pressing on the under side of the diaphragm J in the chamber I, to raise the said diaphragm J and lift the valve K off its seat on the adjustable valve-casing L, so that the air from the pneumatic E can escape to the outside to cause a collapsing of said pneumatic by the pressure of the air from the wind-chest A to open the pallet B.

Air is supplied to the chamber N from the wind-chest A by means of a leak-passage N², containing an adjusting device for regulating the flow of air from the wind-chest A to the chamber N to establish equal pressure on both sides of the diaphragm J. This device consists of a casing R, set in the frame F and formed in its side with an opening R', opening into the leak-passage N², the upper end of said casing opening into the wind-chest A. A screw-rod R² screws in the lower portion of said casing and can be turned from the outside by a suitable screw-driver or other tool to bring the upper end of said screw-rod into the side opening R', so that the area for the passage of the air can be increased or diminished at the said side opening to allow more or less air to pass in a given time from the wind-chest A to the chamber N.

Normally the pneumatic E is opened or inflated by the pressure of air from the wind-chest A, passing through the chamber I, the valve-seat H, and passage G into the pneumatic E to keep the same expanded, the valve K then being closed and held to its seat on its casing L by the pressure of air on said valve, the pressure on the diaphragm J being equal on both sides, owing to the air passing from the wind-chest A through the leak-passage N² into the chamber N.

Now when the key Q is pressed and the ex-

haust-valve is opened then a reduction of pressure takes place in the chamber N, as previously explained, and the preponderance of pressure on the under side of the diaphragm

5 J now forces the latter upward and moves the valve K off its seat on the casing L, at the same time moving said valve upon the seat H to close the same, thus cutting off the air from the wind-chest A to the pneumatic

10 E. The air in the pneumatic E will readily exhaust through the passage G and valve-casing L, so that the pneumatic collapses and the pallet B is opened. The air now passes from the wind-chest A to the organ-pipes D

15 to sound the same, and when the key Q is released and the valve P closes then air leaks from the wind-chest A through the leak-passage N² back into the chamber N to fill the same, and as the pressure of the air from the

20 wind-chest A is also on the top of the valve K, seated on the valve-seat H, it is evident that the diaphragm J and the valve K move downward to close the outlet-casing L and to again allow air from the wind-chest to pass

25 into the pneumatic E to inflate the same and to close the pallet B.

By being able to adjust the valve-casing L

relatively to the valve K and the movement thereof and also by being enabled to regulate the amount of air leaking from the wind-chest A into the chamber N a very sensitive action 30 can be produced, as the operator can minutely adjust the casing and the regulating device in the leak-passage for the flow of air to any air-pressure, so that the valve K and the pneumatic E will work quickly and alike on different lengths of piping. 35

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent— 40

In an organ-action, a diaphragm, a passage leading from the wind-chest and having a branch leading to one side of the diaphragm, a sleeve extending into said passage so as to form a lining therefor and having a lateral 45 aperture open to said branch passage, and a screw screwing into the end of the sleeve and arranged to vary the area of the lateral aperture.

JOHN HENRY ODELL.

Witnesses:

THEO. G. HOSTER,
EVERARD BOLTON MARSHALL.