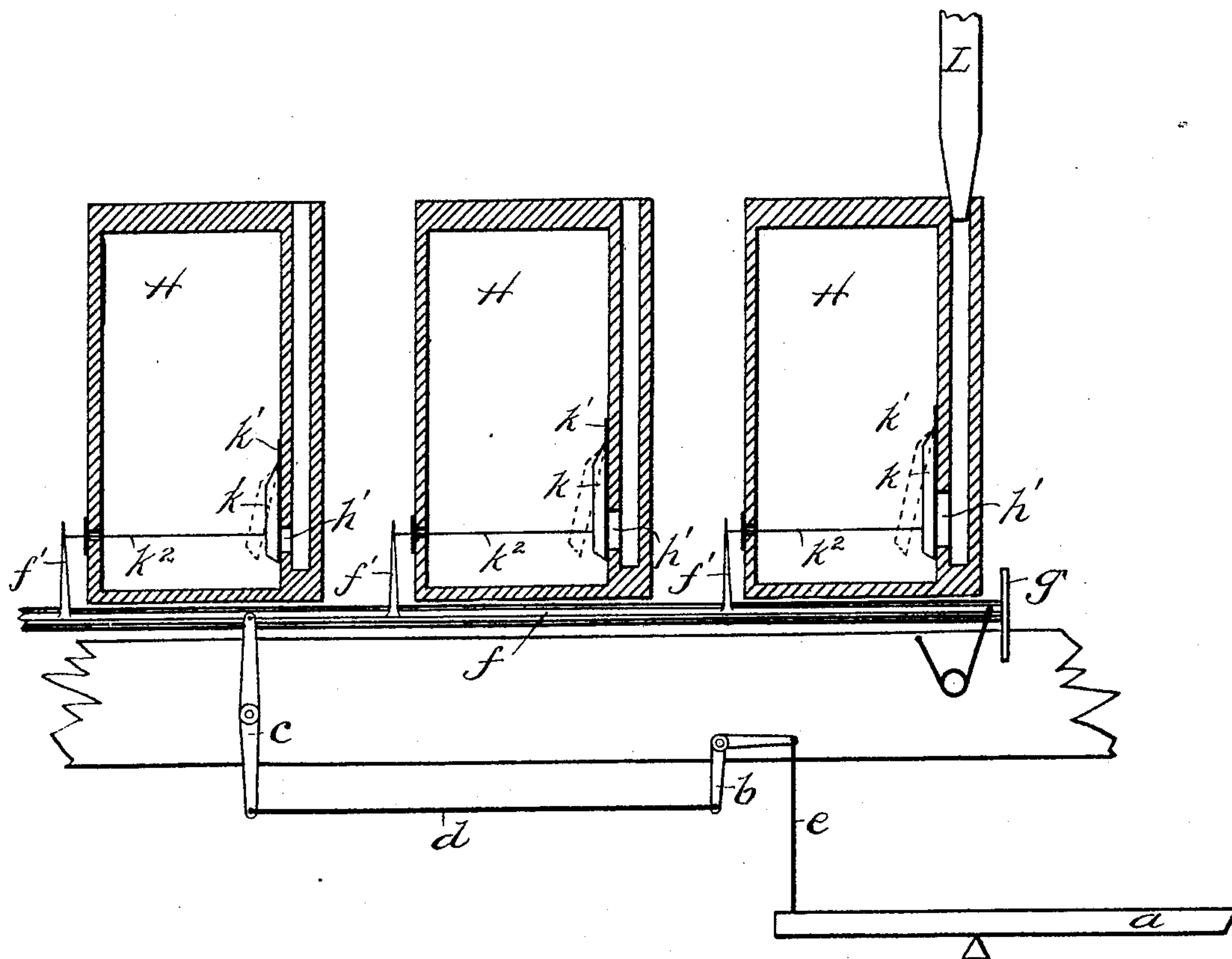


(No Model.)

E. E. PALM.
PIPE ORGAN.

No. 520,167.

Patented May 22, 1894.



Witnesses

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UNITED STATES PATENT OFFICE.

ELMER E. PALM, OF READING, PENNSYLVANIA.

PIPE-ORGAN.

SPECIFICATION forming part of Letters Patent No. 520,167, dated May 22, 1894.

Application filed March 21, 1894. Serial No. 504,490. (No model.)

To all whom it may concern:

Be it known that I, ELMER E. PALM, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain Improvements in Pipe-Organs, of which the following is a specification.

My invention relates to pipe organs and my object is to provide an improved mechanical action for the same which will combine simplicity and cheapness of construction with an easy key movement and at the same time reduce to a minimum the liability of the action to get out of proper working order.

The invention is fully described in connection with the accompanying drawing which indicates in sectional elevation a portion of a pipe organ having my improvements applied thereto.

H, H, H represent a series of air chambers varying in number and size with different organs. These are arranged transversely with intervening spaces between them and are supplied with air as usual by the operation of their respective stops. Each chamber is also provided with its register of pipes L to each of which air is admitted from the chamber through separate openings or ports h' . These ports are controlled by valves k which are hinged at their upper ends by flexible strips k' and normally hang in the vertical position as shown in full lines. These valves are proportioned to the varying sizes of the ports which they are intended to cover. Their own weight tends to make them close the ports and the air pressure in the chamber assists this action.

To the lower free end of each valve is fixed a wire k^2 which extends backward through the rear wall and is connected to one of a series of fingers f' which project upward from an operating rod or slide f , into the intervening space between the air chambers. This space permits free longitudinal move-

ment of the rod f for the purpose of opening the connected valves. The only opening provided in the air chamber is for the passage of the wire k^2 and this preferably works snugly through a small piece of brass arranged to close the opening.

Each rod f is connected by a suitable mechanism to one of the operating keys a , this mechanism consisting ordinarily of pivoted arms b and c and connected rods d and e , by means of which a pressing down of the key effects the rearward movement of its operating rod f and the opening of all the valves attached to it. Upon releasing the key these valves tend to return to their seats owing to their own weight and the pressure of air upon those in actual service, though a light spring s may be provided to assist this action. A stop g serves to limit the return movement of the rod f .

My improved mechanical action is very simple in construction and at the same time easy and positive in operation.

What I claim is—

In an organ the combination with a series of air chambers arranged transversely with intervening spaces between them, and a series of pipes communicating with each of said chambers through suitable ports, of separate valves k for each of said ports arranged to hang substantially vertically when closed, operating wires attached to said valves and extended through the walls of the chambers, a series of rods f having fingers connected to the outer ends of said wires in said intervening spaces, and connecting mechanism between each of said rods and one of the operating keys, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ELMER E. PALM.

Witnesses:

E. C. KIRSCHMAN,
W. G. STEWART.