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PATENTED AUG. 13, 1907.

R. N. OAKMAN.
PNEUMATIC DEVICE FOR OPERATING GAS VALVES.
APPLICATION FILED JUNE 20, 1906.

Fig. 1.

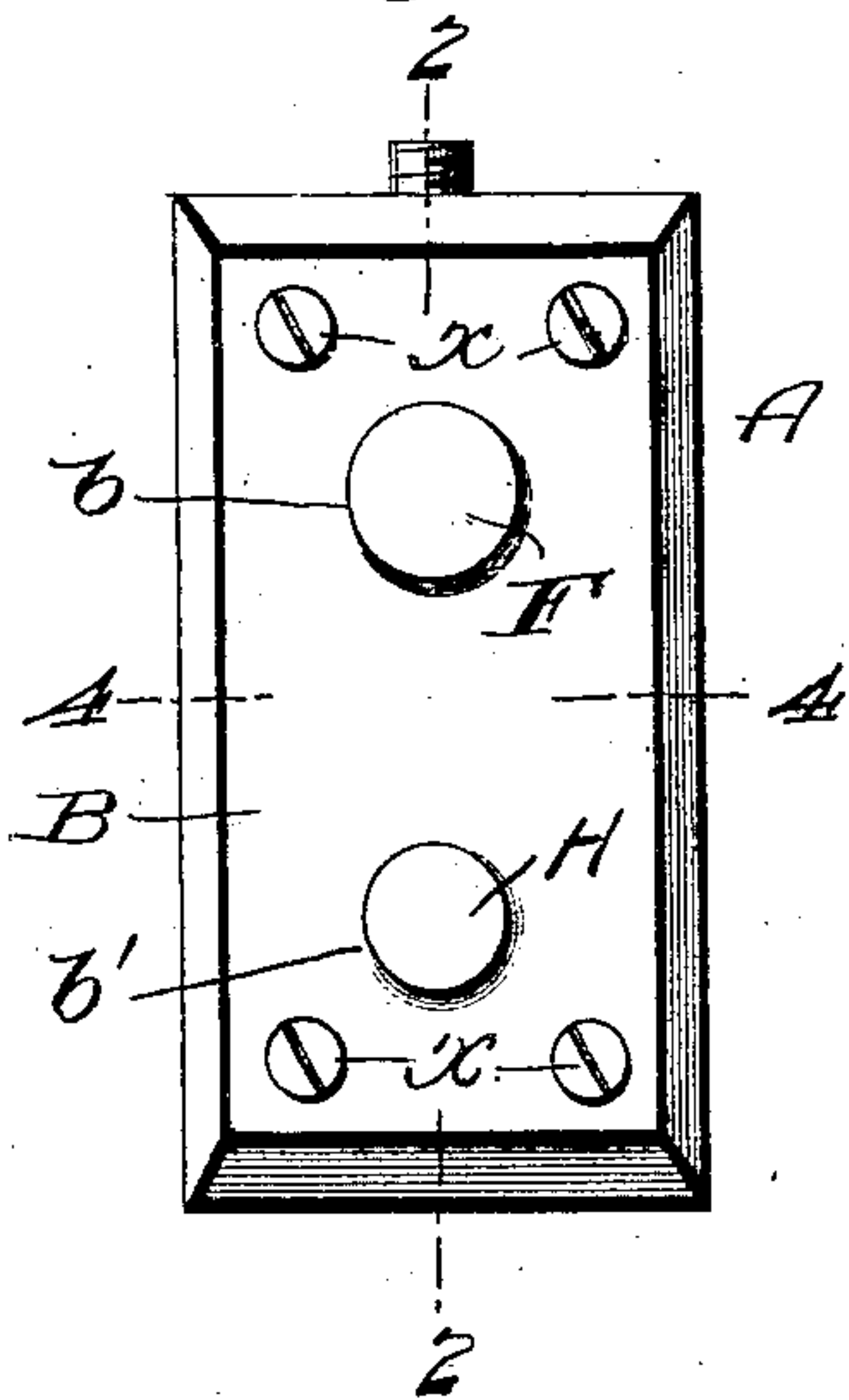


Fig. 2.

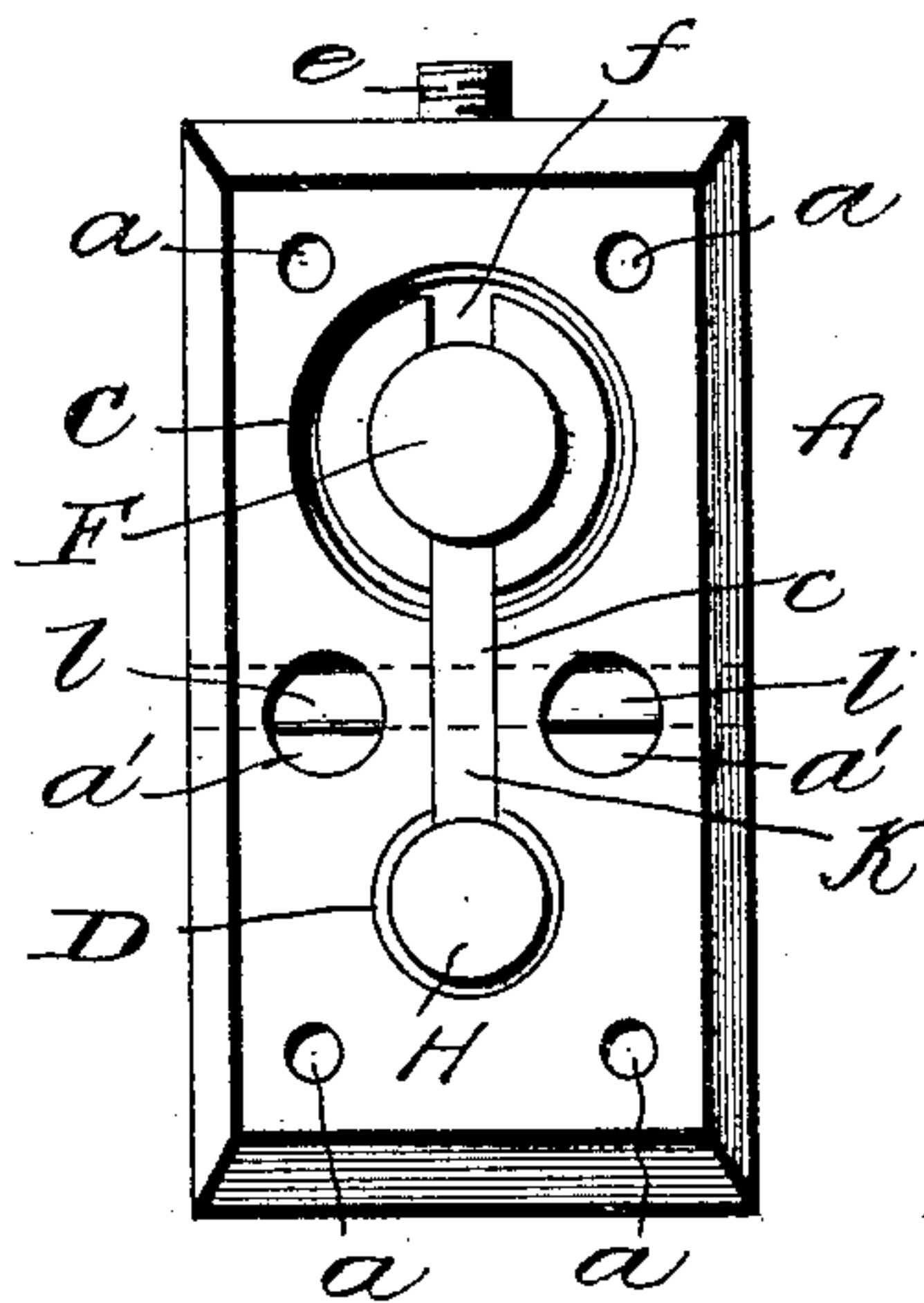


Fig. 3.

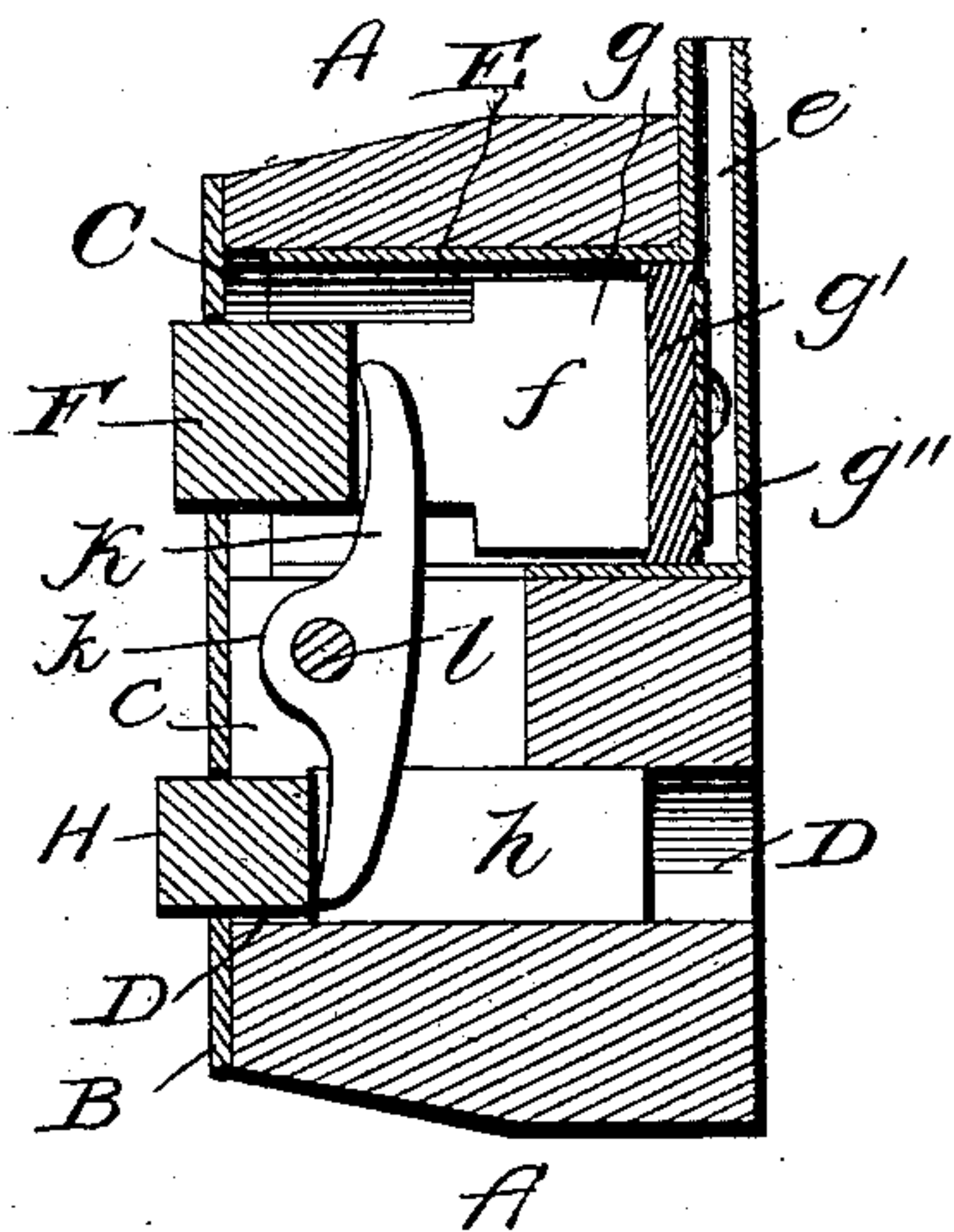


Fig. 4.

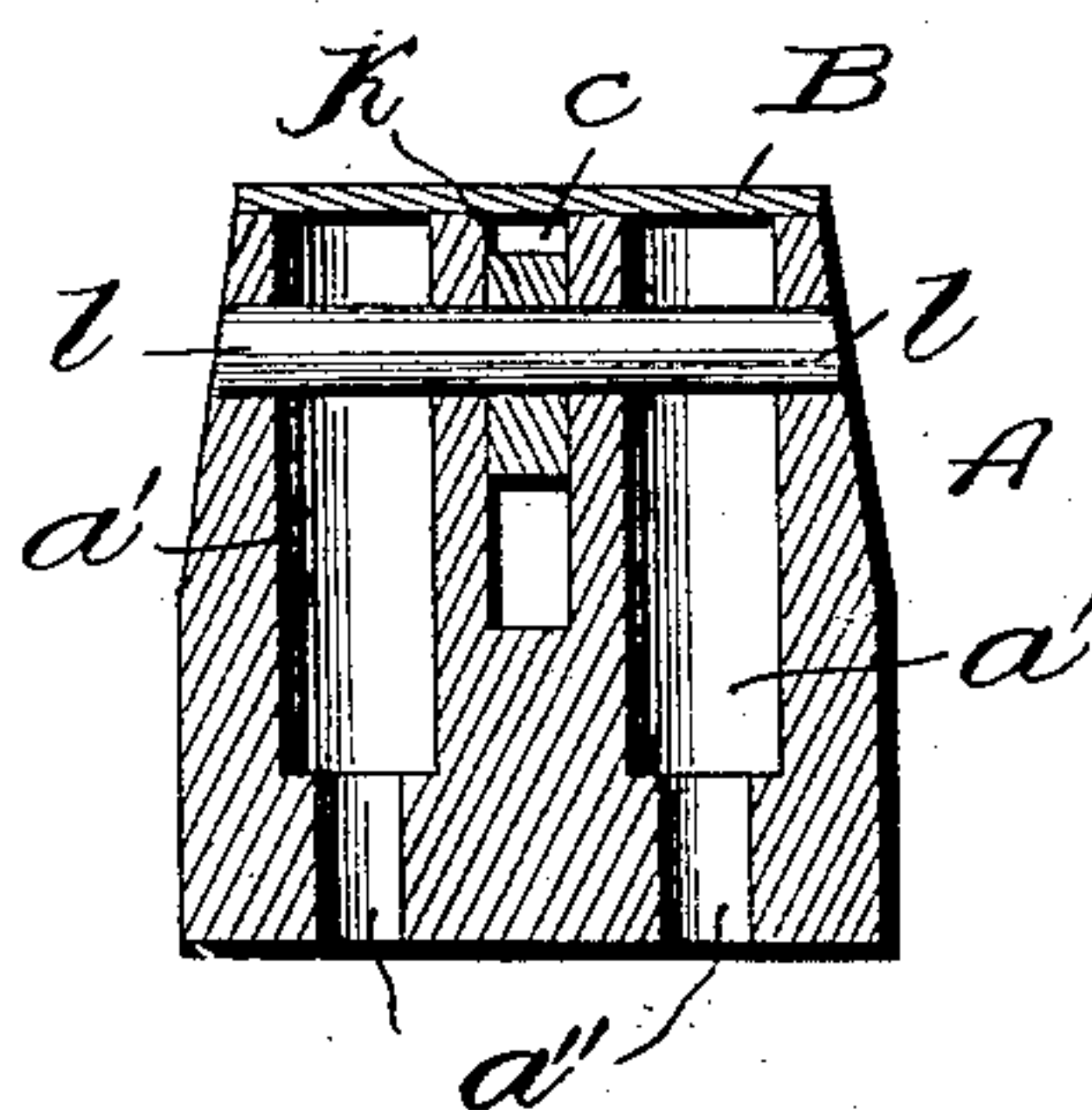
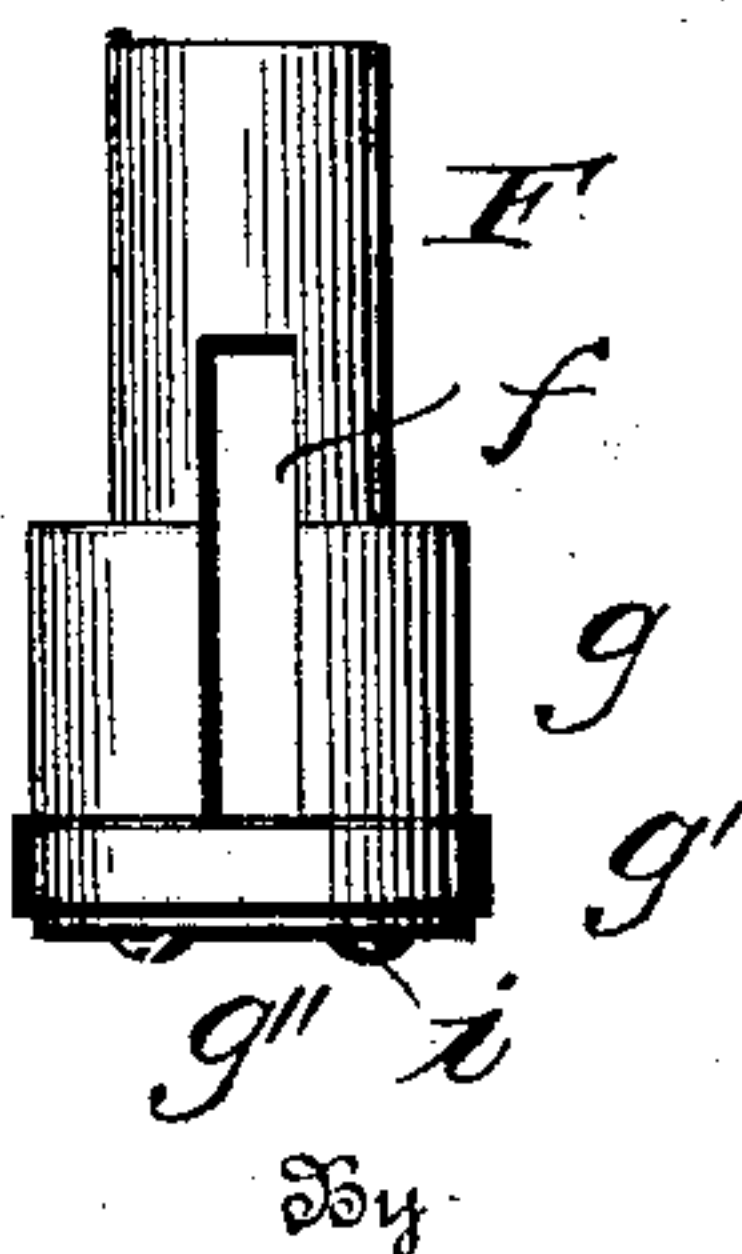


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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PNEUMATIC DEVICE FOR OPERATING GAS-VALVES.

No. 862,931.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed June 20, 1906. Serial No. 322,551.

To all whom it may concern:

Be it known that I, RICHARD N. OAKMAN, a citizen of the United States, residing at Brooklyn, in the county of Queens and State of New York, have invented certain new and useful Improvements in Pneumatic-Pressure Devices for Operating Gas-Valves, of which the following is a specification.

This invention relates to devices for producing pneumatic pressure or exhaustion in a conduit to operate a valve for closing or opening a port in a gas burner.

The object of my invention is to provide a convenient and effective device, having improved operating mechanism, for forcing air, or other fluid, into a piston chamber or exhausting it therefrom to operate a valve adapted to close or open a gas port of a burner in a distance lighting system.

In my device, I provide two push buttons or plungers in a casing, an intermediate vibrating lever engaging with slots in the plungers, a piston on one of the plungers working in an air cylinder having an opening for a pipe connection below the piston, and a cover plate having openings, through which project the outer ends of said plungers in resemblance to electric push buttons. The device is neat and compact and adapted to be fastened to the frame of a door or window, or against the wall in any convenient location where it may be manipulated to effect distance lighting or extinguishment of a gas flame.

The matter constituting my invention will be defined in the claims.

The details of construction of my improved device are illustrated in the accompanying drawing, in which,—

Figure 1 represents a top plan view. Fig. 2 represents a plan view with the cover plate removed. Fig. 3 represents a longitudinal section on line 2—2, Fig. 1. Fig. 4 represents a transverse section on line 4—4, Fig. 1. Fig. 5 represents an elevation of a plunger and piston.

The casing A of my pressure and exhaust device may be made of wood, metal, hard rubber or other suitable material, and is provided in its upper face at the corners with screw holes *a*. A cover plate B is secured by screws *x* passing into the holes *a*. This cover plate is provided with upper and lower openings *b* and *b'* for the outer ends of the plungers F and H and form guideways therefor. There are, preferably formed centrally the two opposite openings *a'*, extending nearly through the casing and terminating in smaller openings *a''* for insertion of fastening screws for holding the casing to a support. The openings *a'* are made comparatively large for inserting a screw-driver. A comparatively large opening C is made in one end of the casing extending from the face to the back thereof for receiving the metallic air cylinder E. This cylinder is provided, preferably, at its lower end, with an opening and pipe

connection *e* which is preferably screw-threaded at its outer end, as shown. In the construction shown, the air cylinder E with its pipe connection, may be inserted in the opening C from the back of the casing and the pipe connection *e* will fit up into a notch in the base of the casing. The cover-plate B makes a sufficient closure for the top of the cylinder E and opening C. In the lower half of the casing is provided a second opening and guideway D, which preferably extends from the face of the casing to the back, as shown in Fig. 3. A longitudinal central slot *c* connects the openings C and D, as shown in Figs. 2 and 3.

In the air cylinder E is fitted the plunger F and its piston *g*. This plunger and piston are provided with a longitudinal slot *f* extending transversely through the same but stopping some distance below the outer end of the plunger. To the lower end of the piston is applied a packing ring or disk *g'* which is secured in place by a bottom plate *g''* and screws *i*, as clearly shown in Fig. 5. In the opening or guideway D is fitted a second plunger H having, at a suitable distance below its outer end, a longitudinal slot *h*. In the central longitudinal slot *c* is located the vibrating lever K having a central eye *k* through which is passed a transverse pivotal pin *l* supported in holes in the casing, as shown in Fig. 4. The ends of this lever K project freely into the slots *f* and *h* respectively of the plungers F and H, as shown in Fig. 3. The ends of the lever K will not require a pin or link connection with the plungers but may bear directly upon the outer walls of the slots, as shown in Fig. 3. The piston will work sufficiently tight in its cylinder to remain either in a depressed position or in a retracted position until it is moved positively by one or the other of the plungers. By means of the longitudinal slots *f* and *h* in the plungers and the central connecting slot *c*, the parts may be very readily assembled and then the cover plate D applied to the casing by means of screws *x*, so that the plungers F and H shall project slightly through the same, giving the appearance of electric push-buttons. The plunger F may be styled the pressure plunger and the plunger H may be styled the exhaust plunger.

When the piston or valve in the burner device is to be closed, the plunger F may be pushed inward, thereby operating the piston to force air out through the pipe connection *e*. When said piston or valve is to be opened, the plunger H may be forced inward, thereby retracting the piston *g* and exhausting air from the piston or valve chamber in the burner device and causing said piston or valve to open the gas port. It will be seen that the operation is very simple and convenient and may be performed by any unskilled person.

Having described my invention, what I claim, and desire to secure by Letters Patent, is,—

1. A pressure and exhaust device for operating gas valves, comprising a casing, having two transverse open-

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ings or guideways, two plungers provided with longitudinal slots in said guideways, an intermediate lever pivotally mounted on a pin in the casing and having its ends projecting freely into said slots, an air cylinder having a port and pipe connection in one opening of the casing and a piston on one of the plungers working in said cylinder, substantially as described.

2. A pressure and exhaust device for operating gas valves, comprising a casing having two transverse openings or guideways, a cylinder having at its inner end a port and pipe connection in one of said openings, a slotted plunger having a piston in said cylinder and an outwardly projecting end, a second slotted plunger in the other transverse guideway, a vibrating lever pivotally connected to the casing and extending into the slots of said plungers, substantially as described.

3. A pressure and exhaust device for operating gas

valves; comprising a casing having two transverse openings or guideways, and a slot connecting with the same, a cylinder provided with a bottom port in one of said transverse openings a slotted plunger provided with a piston in said cylinder, a second slotted plunger in the other transverse guideway and a vibrating lever pivotally connected in said slot of the casing and engaging in the slots of said plungers, a cover-plate having openings through which project the outer ends of said plungers, substantially as described.

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

RICHARD N. OAKMAN.

Witnesses:

M. TURNER,
HARRIET SIMON.