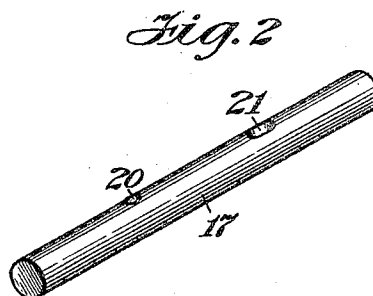
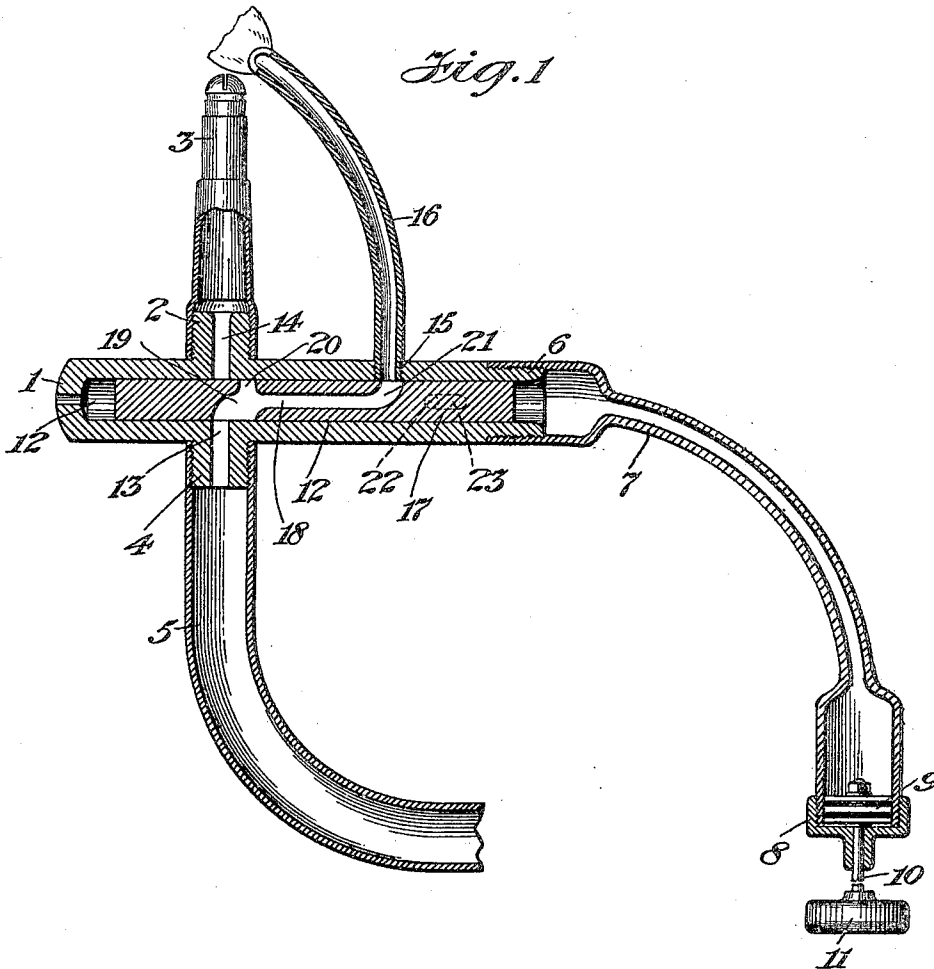


No. 812,975.

PATENTED FEB. 20, 1906.

S. BERNHEIM.  
GAS BURNER.

APPLICATION FILED MAY 16, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

SAMUEL BERNHEIM, OF NEW YORK, N. Y.

## GAS-BURNER.

No. 812,975.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed May 16, 1905. Serial No. 260,622.

*To all whom it may concern:*

Be it known that I, SAMUEL BERNHEIM, a subject of the Czar of Russia, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

My invention relates to gas-burners.

It has for its object to provide a gas-burner having an igniter, a controlling-valve for simultaneously establishing the flow of gas to the burner and interrupting its flow to the igniter, or vice versa, and means for operating the controlling-valve at a distance.

It has for a further object to provide a device of the character set forth embodying advantages in point of perfect operation and simplicity and inexpensiveness of construction.

In the drawings, Figure 1 is a vertical sectional view of a gas burner and igniter having my controlling-valve applied. Fig. 2 is a detail view of the controlling-valve.

In both figures of the drawings illustrating my invention like reference characters designate corresponding parts.

Referring to the drawings, 1 designates the valve-casing having an aperture through its end wall for the escape of gas therefrom, a threaded boss 2, engaged by the interiorly-threaded end of the burner 3, a boss 4, engaged by the interiorly-threaded end of the service-pipe 5, and a threaded boss 6, engaged by the interiorly-screw-threaded end of a tube 7, the other end of said tube running to a place on the wall of a room within convenient reach and being provided with a cap 8. The piston 9 is located within the tube 7 and its stem 10 projects through the cap 6 and has a knob 11 thereon to afford means for the reciprocation of the piston. The service-pipe is formed with a large chamber at each end and a comparatively narrow intermediate passage connecting said chambers, the chamber at the lower end being adapted to receive the air exhausted from the inner end of the casing and the rest of the pipe.

The valve-casing 1 is provided with a horizontal bore 12, leading through the boss 6 into the tube 7, oppositely-located vertical bores or ports 13 and 14, the port 13 leading through the boss 4 into the service-pipe 5 and the port 14 leading through the boss 2 into the burner 3, and a threaded bore or port 15, engaged by the lower exteriorly-threaded end of the igniter or pilot tube 16, the upper

end of said tube projecting over the open end of the burner.

The reciprocal controlling-valve 17, located in the bore 12 of the casing 1, is provided with a longitudinal port 18, having at one end an elongated opening 19, opening downwardly and connected with the port 13, and a port 20, adapted to be connected and disconnected with the port 14, and an elongated opening 21 at the other end adapted to be connected or disconnected with the port 15. To restrain the valve 17 from rotary movement and to limit its lateral movement, a pin 22 projects from the casing into an elongated slot 23 in the valve.

It will be understood that the relation between the ports of the controlling-valve and those of the casing is such that the opening 19 is always connected with the port 13 and that when the controlling-valve is moved to the left the opening 21 of the port 18 is gradually disconnected with the port 15, shutting off the supply of gas to the igniter or pilot, and simultaneously the port 20 is gradually connected with the port 14, allowing the flow of gas to the burner, and when the controlling-valve is moved to the right the opposite result takes place.

The operation is as follows: By the outward movement of the piston air is exhausted from the inner end of the casing, pulling the controlling-valve 17 to the right to connect the opening 21 of the port 18 with the port 15 and allow the flow of gas to the igniter or pilot, and by the inward movement of the piston air is compressed in the inner end of the casing, forcing the controlling-valve to the left to disconnect the opening 21 of the port 18 from the port 15, shutting off the flow of gas to the igniter and simultaneously connecting the port 20 with the port 14 and allowing the flow of gas to the burner.

I do not wish to be understood as limiting myself to the precise details and arrangements of parts shown and described, but reserve the right to all modifications within the scope of my invention.

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

1. In a gas-burner, the combination with a casing having a bore, a port leading therefrom to the burner, a port leading from said bore to the service-pipe, an igniter-pipe, a port leading thereto from said bore, a tube one end leading from said bore, and a piston

in the other end of said tube, of a reciprocal valve located in the bore of the casing and having ports adapted when the valve is moved in one direction to simultaneously establish communication between the ports leading to the igniter-tube and the port leading from the service-pipe and interrupt communication between the port leading to the burner and the port leading from the service-pipe and when moved in the opposite direction to simultaneously interrupt communication between the port leading to the igniter-tube and the port leading from the service-pipe and establish communication between the port leading to the burner and the port leading from the service-pipe, and means for preventing rotary movement of said valve and limiting its longitudinal movement, substantially as described.

2. In a gas-burner, a casing having a bore, a burner communicating therewith, a service-pipe communicating with said bore and an igniter-pipe communicating with said bore, of a reciprocal valve located in said bore, means for preventing rotary movement of said valve and limiting its longitudinal movement and means for reciprocating said valve to simultaneously establish communication

between the burner and service-pipe and interrupt communication between the igniter-pipe and service-pipe or vice versa, substantially as described.

3. In a gas-burner, a casing having a bore, a port leading therefrom to the burner, a port leading from said bore to the service-pipe, an igniter-pipe, a port leading thereto from said bore, a reciprocal valve located in the bore of the casing and having an interior bore, an opening or port leading from said bore and connecting it in constant registry with the port from the service-pipe, an opening or port leading from said bore and adapted to be moved into and out of registry with the port to the burner and a port or opening leading from said bore and adapted to be moved into and out of registry with the port to the igniter-pipe and means for reciprocating said valve, substantially as described.

Signed at New York, in the county of New York and State of New York, this 2d day of May, A. D. 1905.

SAMUEL BERNHEIM.

Witnesses:

CHAS. L. WOLF,  
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