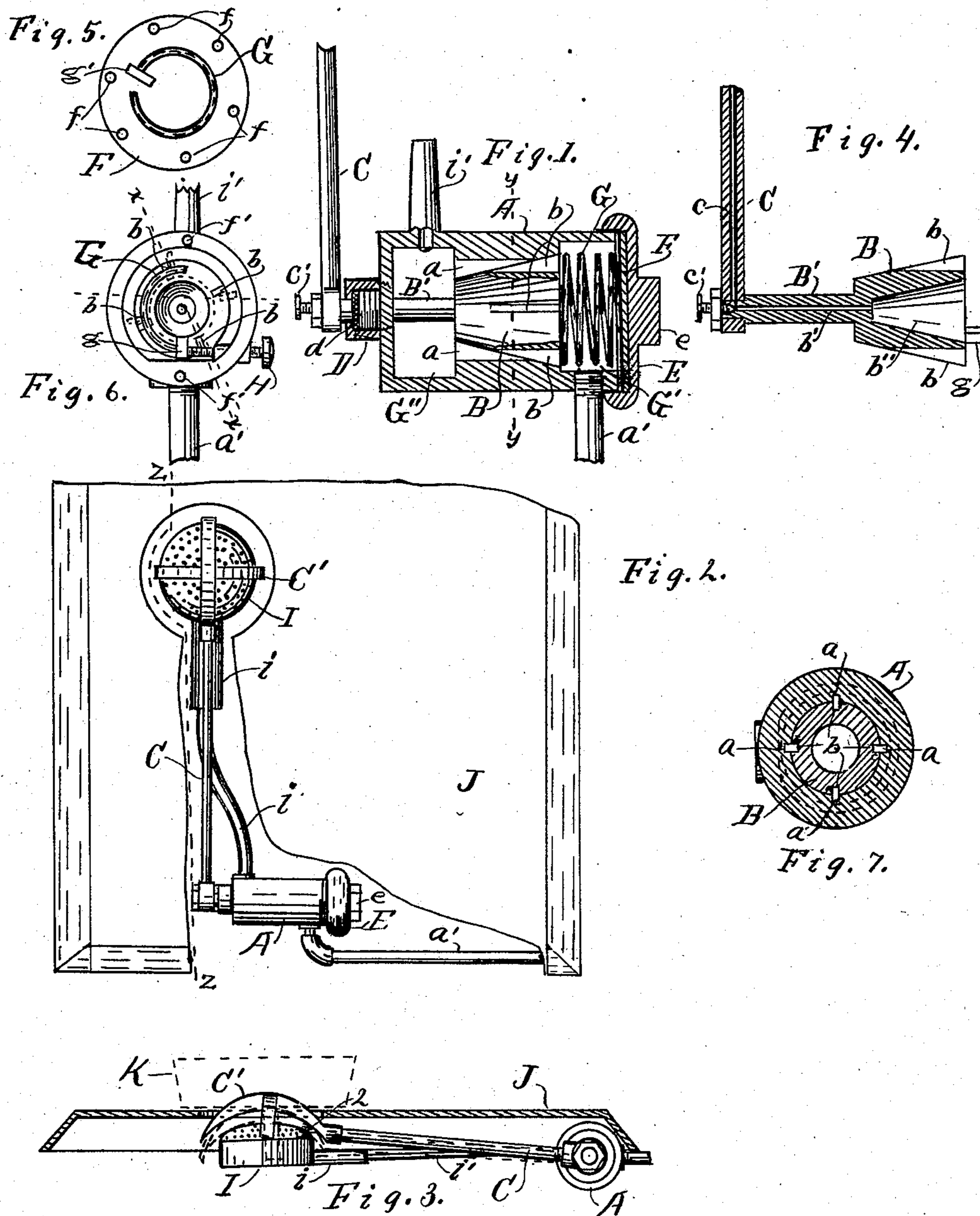


No. 867,139.

PATENTED SEPT. 24, 1907.

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GAS IGNITER.

APPLICATION FILED NOV. 2, 1906.



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GAS-IGNITER.

No. 867,139.

Specification of Letters Patent.

Patented Sept. 24, 1907.

Application filed November 2, 1906. Serial No. 341,795.

To all whom it may concern:

Be it known that I, WALTER J. KENNEDY, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Gas-Igniters, of which the following is a specification.

My invention relates to improvements in appliances for lighting and extinguishing gas in gas stoves, and its objects are: first, to dispense with the use of electricity for the purpose of igniting gas in gas stoves; second, to provide an igniter for gas stoves with which the placing of a kettle, pan, or other article upon the burner of a gas stove will ignite the gas, and the removal of the article will extinguish the gas without other exertion on the part of the operator, and, third, to provide for perfectly regulating the gas supply both to the pilot light and to the stove burner. I attain these objects by the mechanism illustrated in the accompanying drawing in which

Figure 1 is a sectional elevation of my appliance on the line xx of Fig. 6; Fig. 2 is a plan of a portion of a gas stove top cut away to show the application of my device; Fig. 3 is a sectional end view of the same on the line zz of Fig. 2; Fig. 4 is a longitudinal section of the valve showing the channel through the valve, the valve stem and the actuating lever for the passage of gas from the first chamber of the cylinder to the pilot light; Fig. 5 is a bottom plan of the plate that supports the spring that actuates the valve; Fig. 6 is an end view of the device with the cap removed to show the relative positions of the valve, the valve seat and the spring that actuates the valve, and, Fig. 7 is a cross section of the valve and valve seat on the line yy of Fig. 1.

Similar letters refer to similar parts throughout the several views.

In the drawing a' represents the ordinary feed gas pipe that conducts gas to the burner I of a gas stove, and J represents a portion of the top of a gas stove.

My appliance consists of a short cylindrical valve seat or receptacle A having a gas receiving chamber G' at one end, a discharge chamber G'' at the other end and a valve seat between the two chambers for seating the valve B. The valve B is conical in form and has several ports or narrow slots in its surface, extending from its base to within a short distance of the small end, this short distance of plain surface beyond the ends of the slots b is designed to form a gas tight joint between the surface of the valve and the valve seat when the valve is so turned that the slots b , therein, do not register with the corresponding slots a in the valve seat. It will be noticed, also, that the slots a in the valve seat terminate a short distance from the large end thereof to form a gas proof joint at this end of the valve corresponding with the gas proof joint hereinbefore de-

scribed, so that when the valve is turned so that the slots $a b$ do not register no gas can pass between them to the stove, but if the valve B is turned a short distance so that the slots a and b do register a free flow of gas will pass through them from the gas pipe a' to the burner I, the course of travel being into the chamber G' , through the slots $a b$ into the chamber G'' , and thence through the small pipe i' and the neck i of the burner to the burner.

The actuating mechanism of this device consists of a lever C that is attached to the stem B' of the valve B so that any motion of the lever will be transmitted to the valve. The valve is made to stand in its normal position so that the slots a and b will not register, by a spring G, one end of which is held to place by the lug g' on the plate F, which plate is designed to be supported by the pins f' passing through the holes f in the plate and the cap E being securely screwed upon the cylinder, as indicated in Fig. 2, so that the plate is held firmly to place, and to increase the tension of the spring, it may be turned to various positions and secured by passing the pins f' through other holes f . The other end of the spring G is held in contact with the lug g on the end of the valve B in position to hold the opposite side of the lug firmly against the end of the regulating screw H, by means of which the valve may be regulated to vary the distance it may be necessary to turn the valve to register or disconnect the slots $a b$, as desired.

The lever C has a small opening c through it lengthwise, which is made to register with a corresponding opening b' in the valve stem, so that a small amount of gas may be allowed to flow through to the point 2, where a pilot light is allowed to burn constantly, so close to the upper surface of the burner I that any gas escaping therefrom will be immediately ignited. The flow of gas to this pilot light is regulated by the set screw c' , which may be screwed back or ahead to make the opening at the outer end of the channel b' large or small, or to completely close it, as desired.

At the end of the arm C I place a cross C' which is so constructed that when the center stands some distance above the surface of the stove J the ends will be some distance below, as indicated in Fig. 3, so that a pan, kettle, or other article, as indicated at K, set down upon it, or slid along over the top of the stove toward and over it, will force it down toward the burner I, thus carrying the arm C down and turning the valve B around far enough so that the slots $a b$ will register when gas passing through to the burner will escape, as usual, and will be ignited as soon as it comes in contact with the pilot light 2, and as soon as the object, as K, is removed the spring G will force the valve around to close the valve B and shut off the gas from the burner I, when the fire must extinguish.

Any suitable packing may be used to close the joints adjacent to the plate F, as, also, in the packing box D around the valve stem B', as indicated at d.

In Figs. 1 and 2 I have shown a lug e on the cap E, by means of which the cap may be screwed to place with a wrench, and in Fig. 4 I have shown the valve B hollowed out at b'', which, though not actually necessary, may be very convenient in many cases.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States is:—

1. The combination of a cylinder having a chamber at one end with an inflow pipe leading thereto, and a chamber in the other end with an outflow pipe leading therefrom, a long tapering valve seat between the two chambers having slots cut in its surface longitudinally from the small end toward but not to the large end, a revoluble valve fitted to said valve seat and having slots open at the large end of the valve and terminating before reaching the small end, in position to be made to register with the slots in the valve seat and form longitudinal slots therethrough, an actuating spring connected with the valve and the cylinder, a stem extending from the valve through the end of the cylinder, a lever at right angles therewith, the valve, the valve stem and the lever having a continuous channel through them longitudinally.

2. The combination of a cylinder having a chamber at one end and an inflow pipe leading into it, and a chamber at the other end with an outflow pipe leading from it, a long tapering valve seat between the chambers, having longitudinal slots in its surface, opening from the small end and extending to a short distance from the large end, a valve fitted to the valve seat and having slots in its surface from the large end to near the small end, an actuating spring, a regulating screw and an actuating lever connected with the valve.

3. The combination of a cylinder having a chamber at one end with an inflow pipe entering it, a chamber at the other end with an outflow pipe leading therefrom a longitudinally tapering valve and valve seat between the chambers, the valve having slots opening from the large end and terminating before reaching the small end and the valve seat having corresponding slots opening from its small end and terminating before reaching the large end, the two sets of slots being in position to open and close to form or remove a free passage way through longitudinal of the valve, an actuating spring in one chamber to close said openings, a regulating screw, a hollow valve

stem a regulating screw therein, a right angle lever connected with the valve stem and having a channel that will register with the hollow of the valve stem.

4. In combination with a gas pipe and burner, a cylinder set between the gas pipe and burner and having a chamber at each end with a tapering valve seat between them, said valve seat having longitudinal slots cut in the surface of the small end and terminating before reaching the large end, a valve fitted to turn freely in the valve seat and having longitudinal slits cut in the large end and terminating before reaching the small end, and means for turning the valve to make the slots in the valve and in the valve seat register to form longitudinal openings between the chambers in the cylinder, substantially as shown and described.

5. In combination with a gas pipe and a gas burner, a cylinder having a chamber at one end opening to the gas pipe, and a chamber at the other end opening to the gas burner, a long tapering valve seat having slots opening from the small end and terminating before reaching the large end, a valve seated therein and having slots opening from the large end and extending to near the small end and arranged to unite with the slots in the valve seat to form open passageways longitudinal of the valve and seat, an actuating spring and a regulating screw in one end of the cylinder, a valve stem projecting from the valve through the other end of the cylinder and having a small aperture through it longitudinally, a lever attached at right angles to the valve stem and having a small central aperture leading from the end of the aperture in the valve stem to the end of the lever over the gas burner, and a plate secured to the outer end of the lever and having downwardly curved radiating arms over the burner.

6. The combination, a cylinder having a chamber at one end with an inflow pipe entering it, and a chamber at the other end with an outflow pipe leaving it, a tapering valve and valve seat longitudinal of said cylinder between the chambers, having slots arranged to open and close by turning the valve, so as to form and close channels through the valve longitudinally, an actuating spring at one end of the valve, a hollow stem projecting from the valve, a lever attached to the stem at right angles therewith and having a channel registering with the channel in the valve stem, and a plate attached to the outer end of lever over the opening of the channel and having downwardly curved radiating arms.

Signed at Grand Rapids Michigan October 29, 1906.

WALTER J. KENNEDY.

In presence of—

BURT S. DECKER,
I. J. CILLEY.