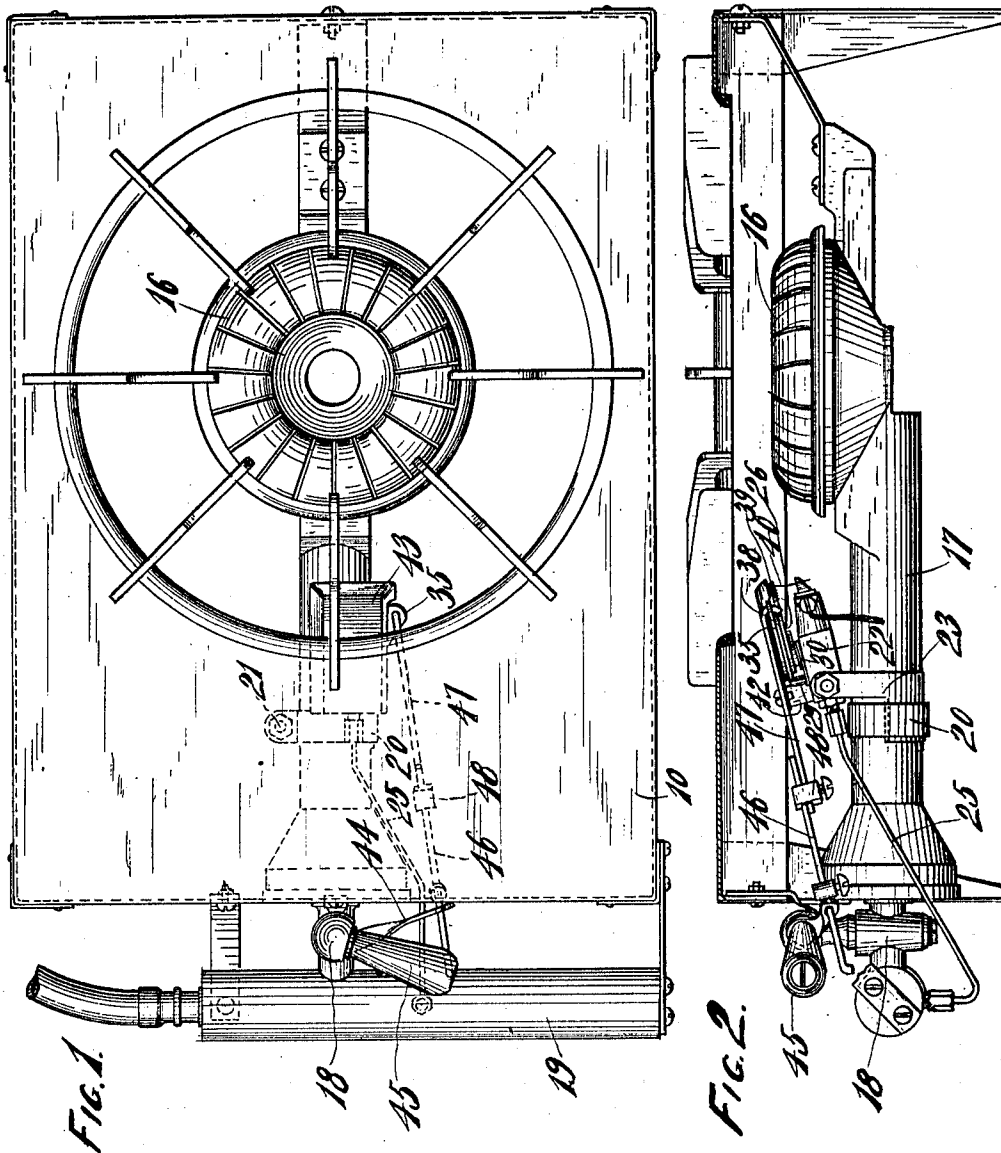


T. L. WIESE.
GAS STOVE LIGHTER.
APPLICATION FILED OCT. 25, 1911.

1,039,465.

Patented Sept. 24, 1912.

2 SHEETS—SHEET 1.



WITNESSES.

L. O. Thuermer.
Katherine Holt

INVENTOR.

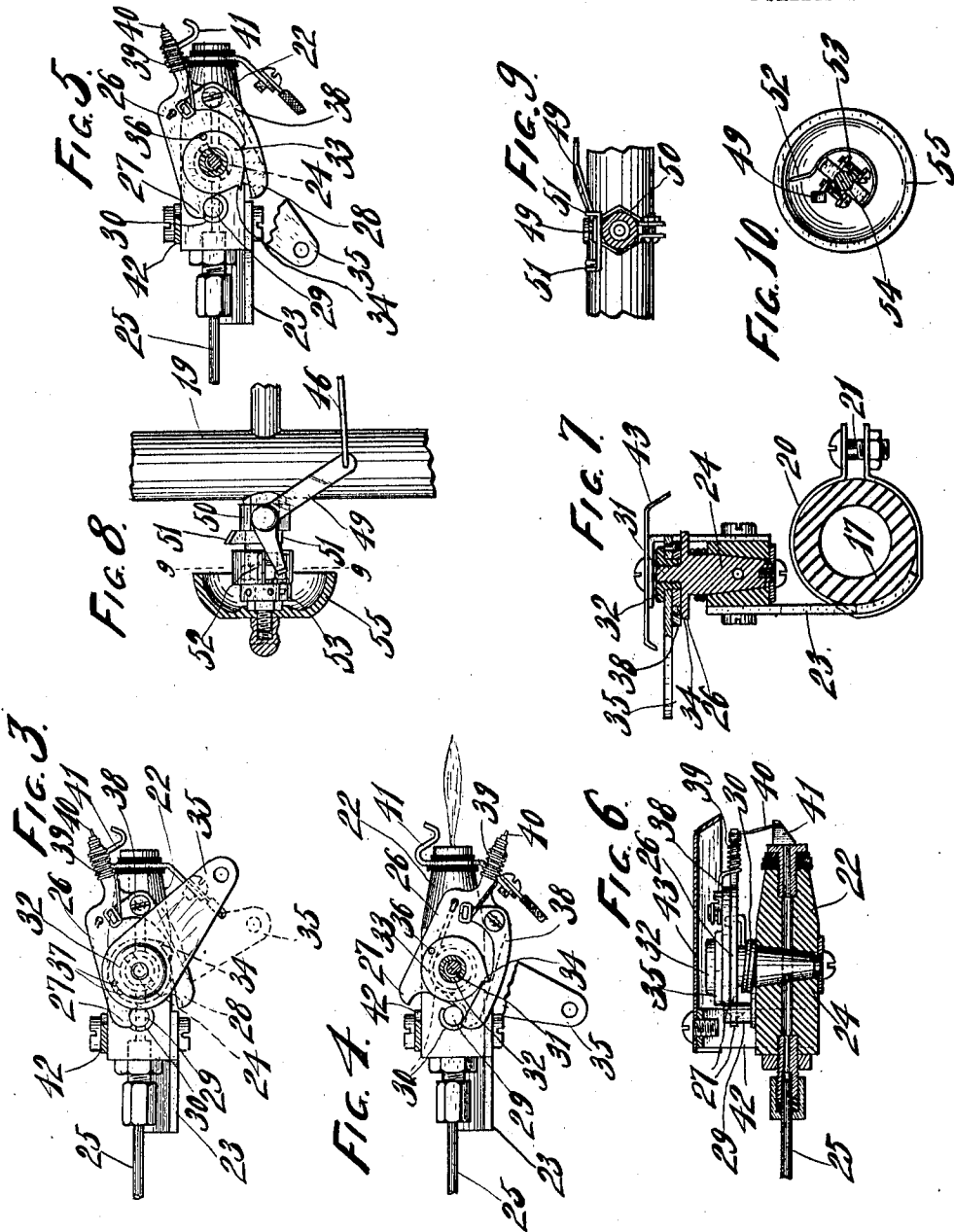
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UNITED STATES PATENT OFFICE.

THEODORE L. WIESE, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-FOURTH TO JOSEPH FROELICH, ONE-FOURTH TO WILLIAM J. SARRES, AND ONE-FOURTH TO LEON B. LAMFROM, OF MILWAUKEE, WISCONSIN.

GAS-STOVE LIGHTER.

1,039,465.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed October 25, 1911. Serial No. 656,626.

To all whom it may concern:

Be it known that I, THEODORE L. WIESE, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Gas-Stove Lighters, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 This invention relates to mechanism for automatically lighting the burner of a gas range or the like when the valve is opened to admit gas to the burner.

15 Another object of the invention is to provide a lighting device in which a valve controlled by-pass forms a pilot burner which is opened and ignited by the operation of opening the valve of the stove burner so as to light the stove burner, the valve of the pilot light being automatically closed immediately following the lighting operation.

20 Another object of the invention is to perfect details of construction of such mechanism permitting the device to be attached to burners of ordinary type.

25 With the above and other objects in view the invention consists in the gas stove lighter as herein claimed and all equivalents.

30 Referring to the accompanying drawings in which like characters of reference indicate the same parts in the different views: Figure 1 is a plan view of a gas stove provided with a lighter constructed in accordance with this invention; Fig. 2 is a side elevation thereof with parts sectioned; Fig. 3 is a plan view of the pilot burner with parts in their normal position and dotted lines showing the position of the arm when the valve is first opened; Fig. 4 is a similar view with parts sectioned and in the position assumed by them when the contacts are separated; Fig. 5 is a similar view showing the parts in the final position, the valve having been released from the arm and returned to its closed position; Fig. 6 is a longitudinal sectional view of the pilot burner in the position shown in Fig. 3; Fig. 7 is a sectional view through the valve of the pilot burner and the parts associated with it; Fig. 8 is a plan view of a stove burner valve

showing a modified form of connection for the lighter of this invention; Fig. 9 is a sectional view on the plane of line 9—9 of Fig. 8; and, Fig. 10 is a similar view looking in the opposite direction to which the parts are viewed in Fig. 9.

In these drawings 15 indicates a gas stove or range of any ordinary construction and 16 is the usual burner thereof which is connected by the mixing tube 17 with the burner valve 18 in the gas supply pipe 19. A connector strap 20 surrounds the mixing tube 17 and is clamped by bolt 21, seen in Fig. 7, so as to firmly hold a pilot burner 22 by means of a bracket 23 secured to the side of the burner with an offset curved lower end engaged between the strap 20 and the mixing tube 17. The pilot burner 22 contains a valve 24 for controlling the passageway therethrough which is supplied with gas by means of a thin tube 25 coupled with the burner and attached to the gas supply pipe 19, as seen in Fig. 2. The valve 24 carries a plate 26, preferably integral with it, which at its rear end forms a pair of stop lugs 27 and 28 to engage a stop pin 29 extending upwardly from the pilot burner 22. The valve is normally held in its closed position with the stop lug 27 engaging the stop pin by means of a coil spring 30 surrounding it with one end engaged in the plate 26 and the other end engaged with the stop pin 29.

The valve 24 has a threaded stem 31 on its upper end on which a flanged bushing 32 is threaded as a nut and said bushing forms the pivotal bearing for a disk 33 having a tooth 34 on its edge and having a lever arm 35 which is coupled with it by means of a pin 36 on the disk entering one of another of a series of openings 37 in the arm. The tooth 34 of the disk 33 is adapted to engage a shoulder on an angular dog 38 which is pivotally mounted on the plate 26 so that when the arm 35 is turned it causes the valve to turn to its open position. Before the end of the movement of the valve is reached, however, the projecting end of the dog 38 engages the stop pin 29 and riding as a cam thereon is forced out of engagement with the tooth 34 so that the valve under the action of its spring 30 returns to

its normal closed position shown in Fig. 3. The dog 38 is given a spring pressure to hold it normally in the range of engagement with the tooth 34 by means of a coil spring 39 surrounding a forwardly extending arm on the plate 26, which spring engages a shoulder at one end of said arm and is then coiled around the arm and connected with the bent end of dog 38. The other end of spring 39 extends downwardly to form a sweeping contact 40 for engagement with an insulated stationary contact 41 mounted on the end of the pilot burner. When the arm 35 is swung and carries with it the valve, as before mentioned, the spring contact 40 is brought into engagement with the stationary contact 41 and then sweeps beyond it, and as these contacts form the terminals of an electrical ignition system an arc is drawn between them which will ignite the jet of gas issuing from the pilot burner. A bracket 42 is secured to the side of the pilot burner and forms a support for a guard or shield 43 of sheet metal which extends over the pilot burner and protects it from dust and grease.

The mechanical connection between the arm 35 and the valve of the stove burner may be of any desired construction, but I have shown in Figs. 1 and 2 one construction which comprises a twisted sheet metal arm 44 provided with a bent end adapted to be secured to the valve by having the handle 45 of the valve pass therethrough, the valve in this instance being of the turn plug type. The outer swinging end of the arm 44 has an opening to receive a hook-shaped rod 46 which is connected with a similar hook-shaped rod 47 by means of a clamp 48, the rod 47 having its hooked end engaged in the opening of arm 35 and the two rods being adjustable with relation to each other for adjusting the distance between the hooked ends of the two rods by their clamping connection 48. The turning of the handle 45 of the burner valve first causes the arm 44 to ride freely on the rod 46 until the valve 18 is open, and then the engagement of the arm with the hook end of rod 46 causes the further movement of the handle to impart a movement to the arm 35 and cause the opening of the valve of the pilot burner and the ignition of the jet of gas therefrom in the manner before described to cause the lighting of the stove burner 16.

When the stove burner is provided with a needle valve a somewhat different operating connection may be provided, such as that shown in Figs. 8, 9 and 10, wherein the rod 46 has its hook end engaged in the arm of a bell crank lever 49 which is pivotally mounted on a clamp 50 surrounding the needle valve casing and firmly held thereon. The outer end of the bell crank lever 49 is free

to move between a pair of stops 51 on the clamp 50 and stands in the path of a wing 52 held by a clamp 53 to the valve stem 54 so that the turning of the handle 55 of said valve stem causes the wing 52 to first travel freely without engaging the arm of bell crank 49 until the valve is fairly open, and then by engaging said arm of the bell crank lever the latter is thrown from one stop 51 to the other and causes the opening and ignition of the pilot burner to light the stove burner.

In operation the mere act of turning on the gas of the stove burner causes the opening of the pilot burner valve and the engagement and separation of its contacts to light the pilot valve and by means of it the stove burner is ignited, the pilot valve immediately closing and assuming a position ready for the next operation. The pilot valve is unaffected by the closing of the stove burner valve, since the tooth 34 will only again engage the shoulder of dog 38 when the stove burner valve is entirely closed.

What I claim as new and desire to secure by Letters Patent is:

1. A lighter for gas stoves and the like, comprising a pilot burner adapted to have communication with the gas supply pipe, a spring retracted valve for controlling the flow of gas through the pilot burner, a plate carried by the valve, a stop pin engaged by the plate for limiting the movements of the valve, a projection on the plate, a coil spring surrounding the projection with one end forming a spring contact, an insulated contact on the pilot burner engaged by the spring contact, a dog pivotally mounted on the plate and connected with the other end of the spring, an arm pivotally mounted on the valve, a tooth carried by the arm for engaging the dog and causing the valve to move with the arm, said dog being adapted to engage the stop pin during the movement of the valve and to be forced thereby out of engagement with the tooth to release the valve and permit it to return to its closed position, and means for connecting the arm with the valve of the stove burner.

2. A lighter for gas stoves and the like, comprising a pilot burner adapted to have communication with a gas supply pipe, a spring retracted valve for controlling the flow of gas through the pilot burner, an insulated contact on the pilot burner, a spring contact carried by the valve and adapted to engage the insulated contact during the opening of the valve for igniting the gas issuing from the pilot burner, a spring pressed dog on the valve, a threaded boss on the valve, a flanged bushing threaded thereon, a toothed disk pivotally mounted on the bushing, an arm also pivotally mounted on the bushing, an adjustable pin con-

nection between the disk and the arm, the
tooth of the disk adapted to engage the dog
and cause the valve to turn when the arm is
swung, means in the path of the dog
5 for releasing it from the tooth, and means
for connecting the arm with the valve of the
stove burner.

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

THEODORE L. WIESE.

Witnesses:

WM. J. SARRES,
KATHERINE HOLT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
