J. S. DEARBORN.

GAS STOVE.

APPLICATION FILED JAN. 6, 1910.

965,162. Patented July 26, 1910.

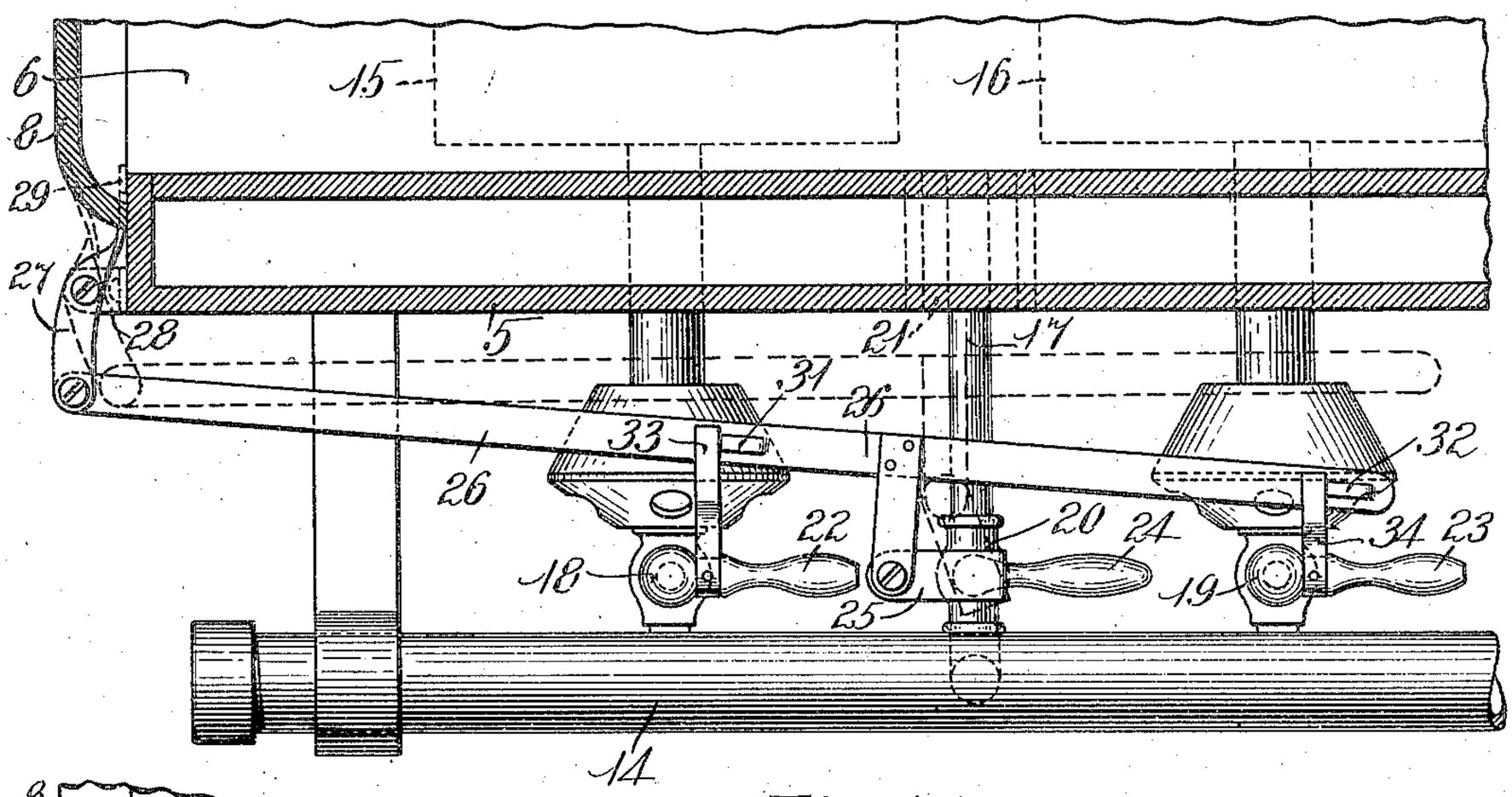

Fig. 1.

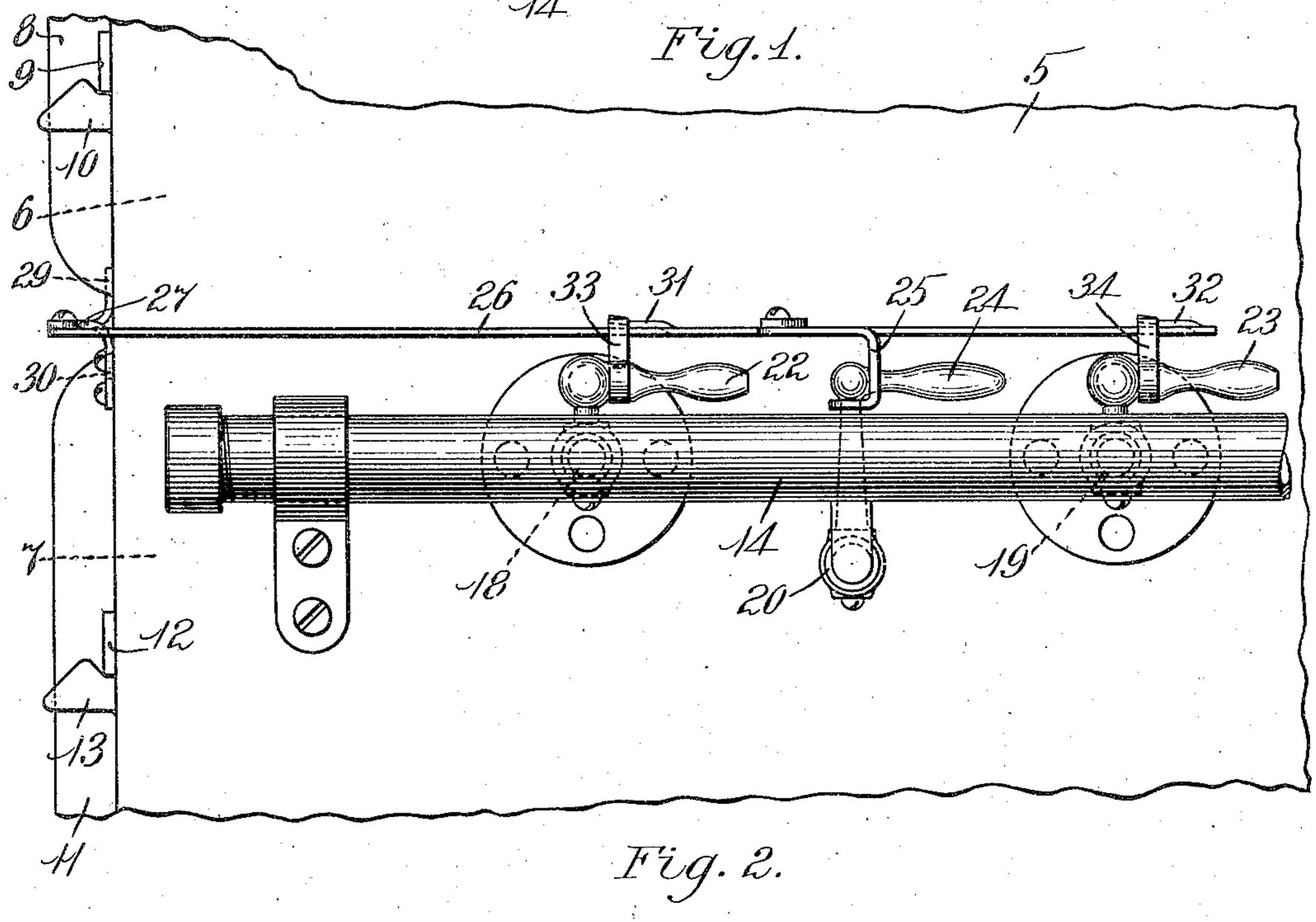

Fig. 2.

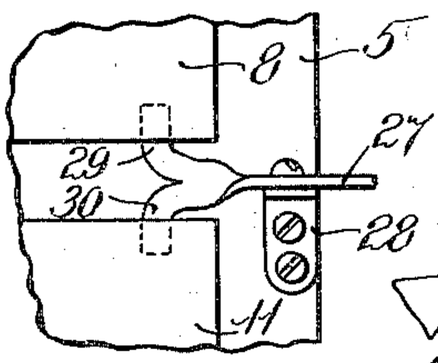

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN S. DEARBORN, OF LYNN, MASSACHUSETTS.

GAS-STOVE.

965,162. Specification of Letters Patent. **Patented July 26, 1910.**

Application filed January 6, 1910. Serial No. 536,751.

To all whom it may concern:

Be it known that I, JOHN S. DEARBORN, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Gas-Stoves, of which the following is a specification.

This invention relates to improvements in gas stoves and particularly to the ovens and their appurtenances. Many explosions of gas stoves have taken place through failure to open the oven door before lighting the oven burner or burners, this being due to the fact that gas is admitted to the oven burners and mixing with the air in the oven or in the broiler compartment or both forms an explosive mixture which is ignited at the pilot burner aperture and since the gas is confined by the oven door being closed and locked an explosion takes place, sometimes with serious results.

The object of this invention is to provide means to prevent such accidents and in the attainment of this object I have provided means actuated by a valve controlling the supplies of gas to an oven burner to render the oven door lock inoperative or to open the oven door, and if desired, such means may also be arranged to open not only the oven door, but the door of the broiler compartment since the broiling compartment contains the burners which heat the oven. In practice, a pilot burner having a controlling valve is employed to produce the initial light in the broiling chamber beneath the oven and the main burners having controlling valves are placed in operation by admitting gas thereto, which gas is lighted by the flame from the pilot burner.

The object is further to provide means to normally lock the main burner valves, such means being under the control of the pilot burner so that when the pilot burner valve is opened the oven is opened and the main burner valves are freed so that they may be opened to admit gas to the main burners.

The invention consists in the novel features of construction and in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the appended claims.

Referring to the drawings: Figure 1 is a plan section of a portion of the gas stove embodying my invention, the same being partly broken away to save space in the drawings. Fig. 2 is a side elevation of the stove, partly broken away to save space. Fig. 3 is a detail front elevation of a portion of the door opening means.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a stove casing having therein a chamber 6 forming an oven and having therebelow a chamber 7 forming a broiling compartment. The oven 6 is closed by a door 8 normally held in its closed position by any suitable means such for example as a lug 9 thereon engaging a suitably shaped lug 10 acting in a familiar manner to hold the oven door closed.

The broiling compartment 7 is provided with a door 11 normally held in its closed position by any suitable means such for example as a lug 12 formed on said door and engaging a lug 13 similar to the lug 10, although it will be evident that any suitable holding means may be employed. Located on the side of the stove is a gas supply conduit 14 and connected therewith are two main burners 15 and 16 and a pilot burner 17 all of any usual or desired construction and arrangement, the supply of gas to the main burners being controlled by valves 18 and 19, respectively, and the supply of gas to the pilot burner being controlled by a valve 20, all of usual construction.

The stove casing 5 is provided with an aperture 21 admitting gas from the pilot burner 17, it being understood that when the pilot burner valve is opened, the gas admitted to the pilot burner is lighted exteriorly of the stove at said orifice. The valves 18, 19 and 20 are provided with usual handles 22, 23 and 24, respectively.

Connected to the valve 20 in any suitable manner is an arm 25 to which is pivotally connected a link 26, said link being also pivotally connected to a lever 27 pivoted on a suitable bracket 28 secured to the oven casing. This lever has suitable provision for acting upon either or both of the doors 8 and 11 and their locking devices and in the present instance said lever is provided with two arms 29 and 30, the former extending between the door 8 and the stove casing and the latter extending between the door 11 and the stove casing, as clearly shown in Fig. 3. Thus it will be seen that when the valve 20 is swung from the position shown in full lines in Fig. 1 to the position shown in dotted lines therein, said valve acts through the link 26 and lever 27

to force the doors 8 and 11 open, since the lugs 9 and 12 will ride up on the inclined faces of the lugs 10 and 13, respectively. It will also be readily apparent that the doors cannot be closed until the valve 20 is once more closed. As a further safeguard against accident, I provide means to normally lock the main burner valves 18 and 19 in their closed positions such means in this instance consisting of projections 31 and 32 on the link 26 engaging arms 33 and 34, respectively, secured to the valves 18 and 19 in any suitable manner. These locking devices prevent the main burner valves 18 and 19 from being opened until after the pilot burner valve 20 has been opened and the doors 8 and 11 have been opened.

The operation of the mechanism hereinbefore described is as follows: It is evident that the main burner valves can not be accidentally opened first and, therefore, the pilot valve must be opened first, thus opening both of the doors so that when the gas from the pilot burner 17 is admitted there will be no explosive mixture confined within the stove. The gas issuing from the burner 17 is next lighted at the exterior of the aperture 21 and since the arms 33 and 34 have been freed by the link 26 moving into the position shown in dotted lines in Fig. 1, the main burner valves 18 and 19 can now be opened, thus admitting gas to the main burners 15 and 16, which gas is ignited in the usual manner by the flame from the pilot burner 17. This having been done, the pilot burner valve 20 is then closed and the oven and broiler compartment are used in the usual manner. When the main burner valves 18 and 19 are moved from their open position to their closed position while the pilot burner valve 20 is closed, the arms 33 and 34 will ride up onto the projections 21 and 22, respectively, since said projections are made yielding or the link 26 is made yielding for this purpose and when said arms have passed beyond said projections will rise into position to lock said arms as before.

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

1. A stove having, in combination, means forming a chamber, a closure for said chamber, a plurality of burners associated with said chamber, a conduit connected to supply fuel to said burners, a plurality of valves to control the supplies of fuel from said conduit to said burners, respectively, a device to normally lock one of said valves in closed position, and means actuated by the opening movement of another of said valves to open said closure and render said locking device inoperative.

2. A stove having, in combination, means forming a chamber, a closure for said chamber, means to normally hold said closure in closed position, a plurality of burners associated with said chamber, a conduit connected to supply fuel to said burners, a plurality of valves to control the supplies of fuel from said conduit to said burners, respectively, a device to normally hold one of said valves against opening movement, and means actuated by the opening movement of another of said valves to render both of said means inoperative.

3. A stove having, in combination, means forming a chamber, a closure for said chamber, a plurality of burners associated with said chamber, a conduit connected to supply fuel to said burners, a plurality of valves to control the supplies of fuel from said conduit to said burners, respectively, and means having provision to normally lock one or more of said valves in closed position, the remaining valve being adapted to operate said second named means, thereby to open said closure and release said normally locked valve or valves.

4. A stove having, in combination, means forming a chamber, a closure for said chamber, means to normally hold said closure in closed position, a plurality of burners associated with said chamber, a conduit connected to supply fuel to said burners, a plurality of valves to control the supplies of fuel from said conduit to said burners, respectively, and means having provision to normally hold one or more of said valves against opening movement, the remaining valve being adapted to operate said second named means, thereby to render said closure holding means inoperative and release said normally held valve or valves.

5. A stove having, in combination, means forming a chamber, a closure for said chamber, means to normally hold said closure in closed position, a plurality of burners associated with said chamber, a conduit connected to supply fuel to said burners, a plurality of valves to control the supplies of fuel from said conduit to said burners, respectively, and means having provision to normally hold one or more of said valves against opening movement, said second named means being adapted to be actuated by the opening movement of the remaining valve thereby to render said closure holding means inoperative, said second named means being adapted to permit said normally held valve or valves to be closed subsequent to the closing of said remaining valve.

6. A stove having, in combination, means forming a chamber, a closure for said chamber, a plurality of burners associated with said chamber, a conduit connected to supply fuel to said burners, a plurality of rotatable valves to control the supplies of fuel to said burners, respectively, a lever adapted to actuate said closure, and a link pivotally

connected to said lever and to one of said valves, said link having provision to normally hold the other valve or valves in closed position.

7. A stove having, in combination, means forming a chamber, a closure for said chamber, a burner associated with said chamber, a conduit connected to supply fuel to said burner, a valve to control the supplies of fuel to said burner, and means actuated by the opening of said valve to open said closure and prevent closing thereof while said valve remains open.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN S. DEARBORN.

Witnesses:
LOUIS A. JONES,
SADIE V. MCCARTHY.