

No. 850,102.

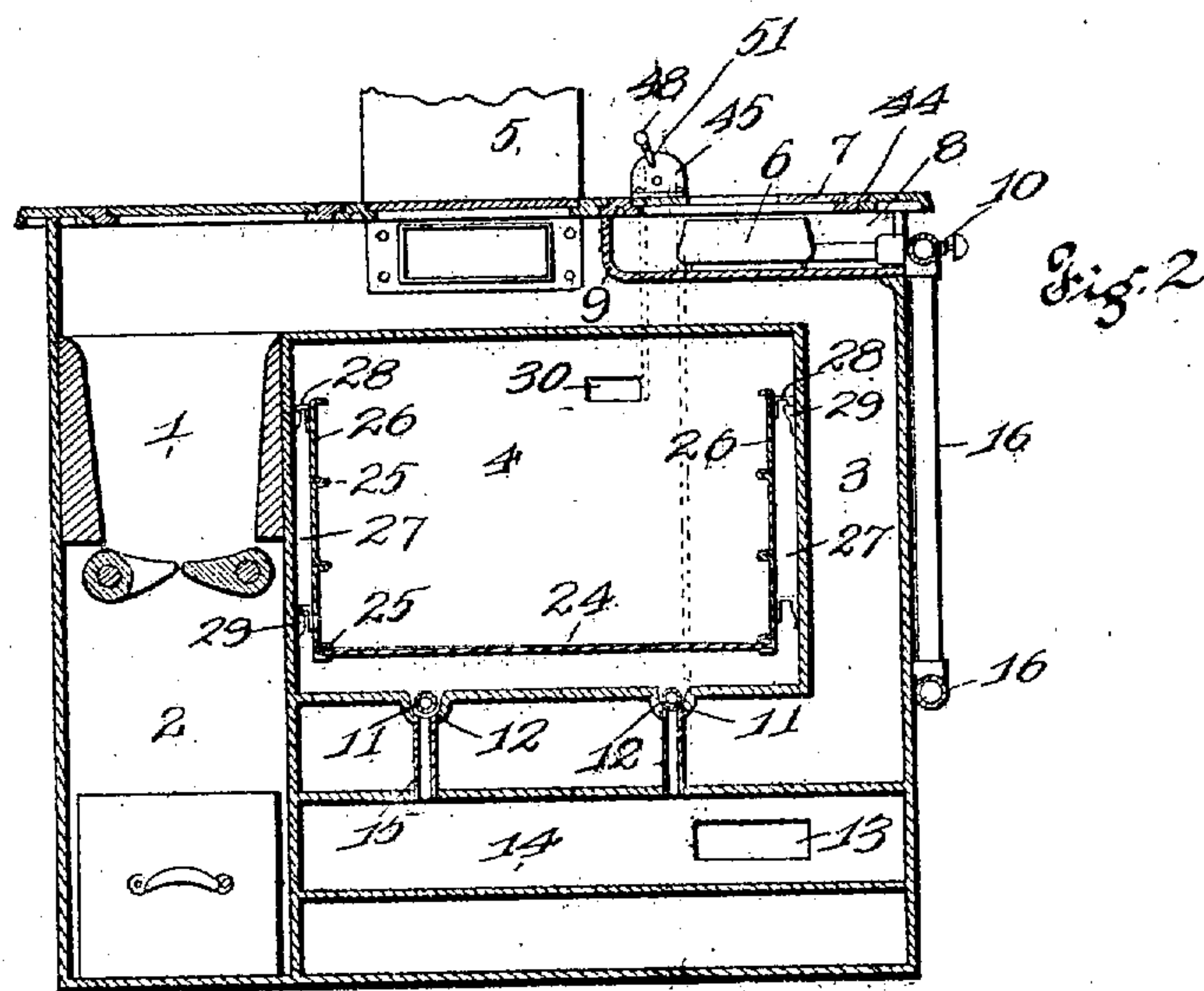
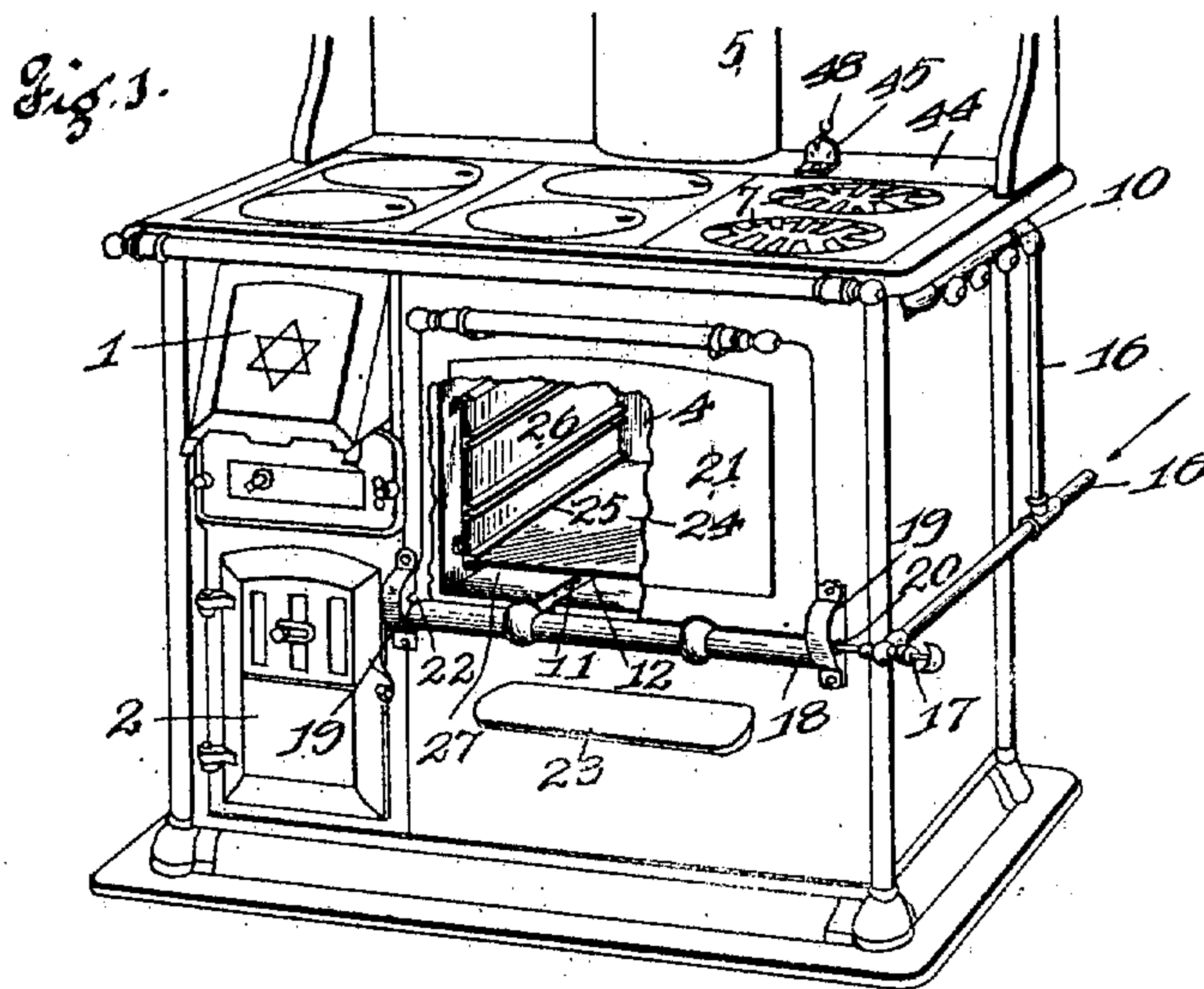
PATENTED APR. 9, 1907.

J. F. RUTH & E. PREISLER.

RANGE.

APPLICATION FILED NOV. 18, 1904.

3 SHEETS—SHEET 1.



Witnesses
Alfred E. Evers
Edw. M. Harrington

Inventors
John F. Ruth
Ernest Preisler
by Rogers L. Langan & Hopkins Attys

No. 850,102.

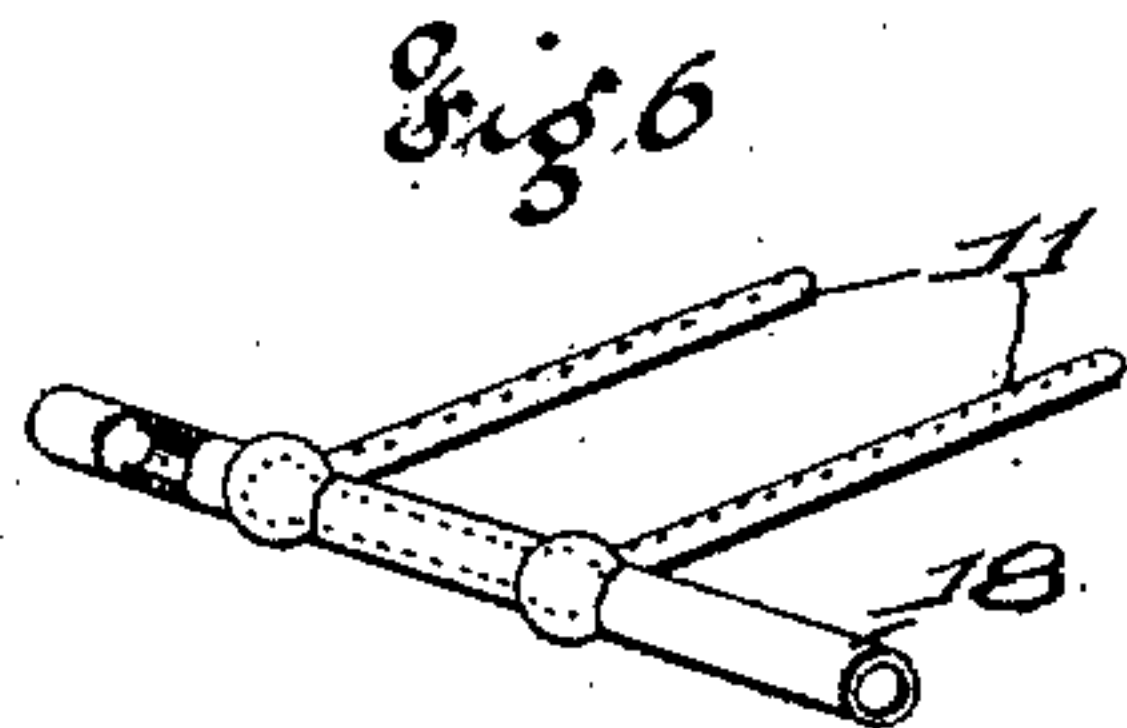
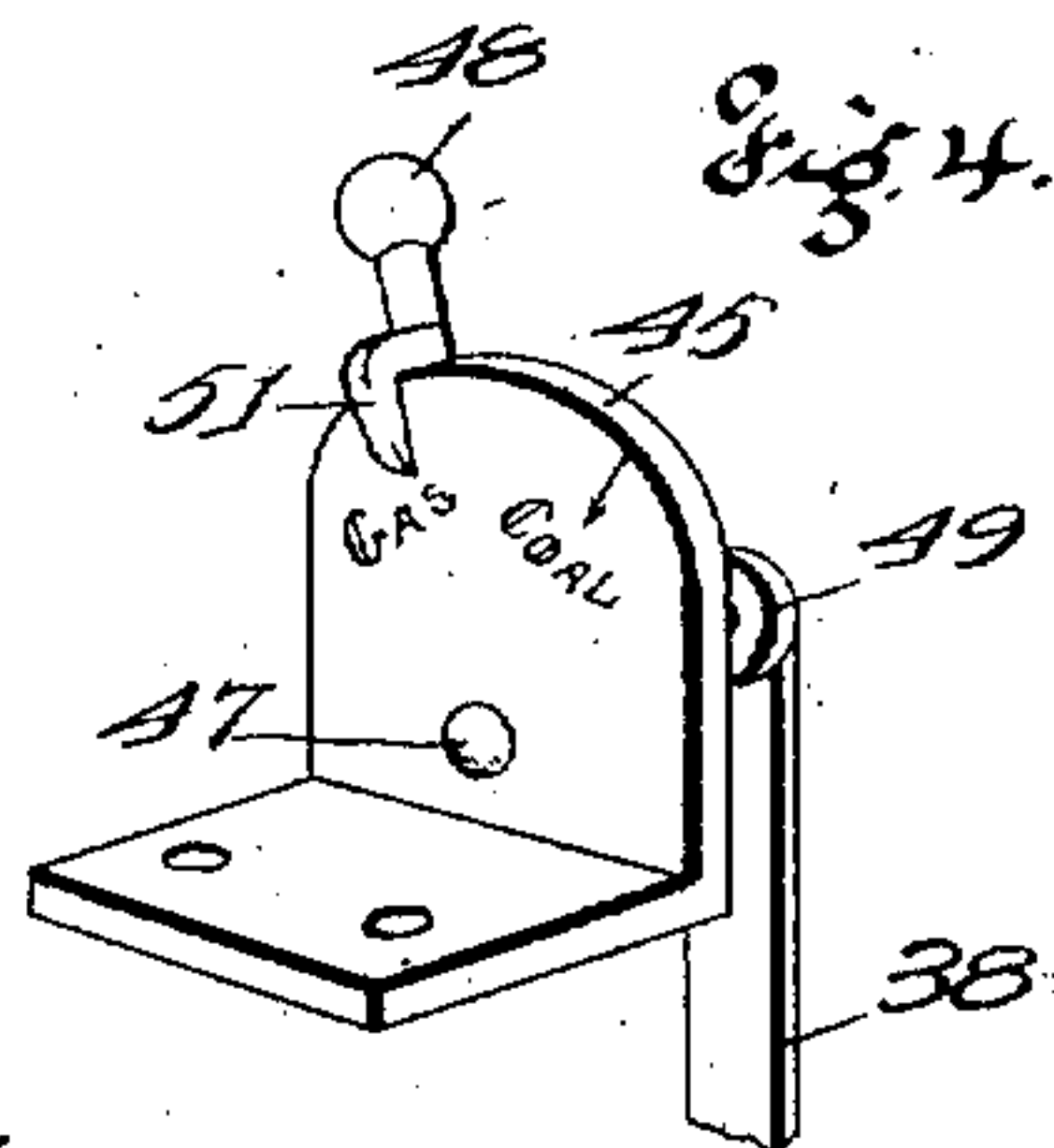
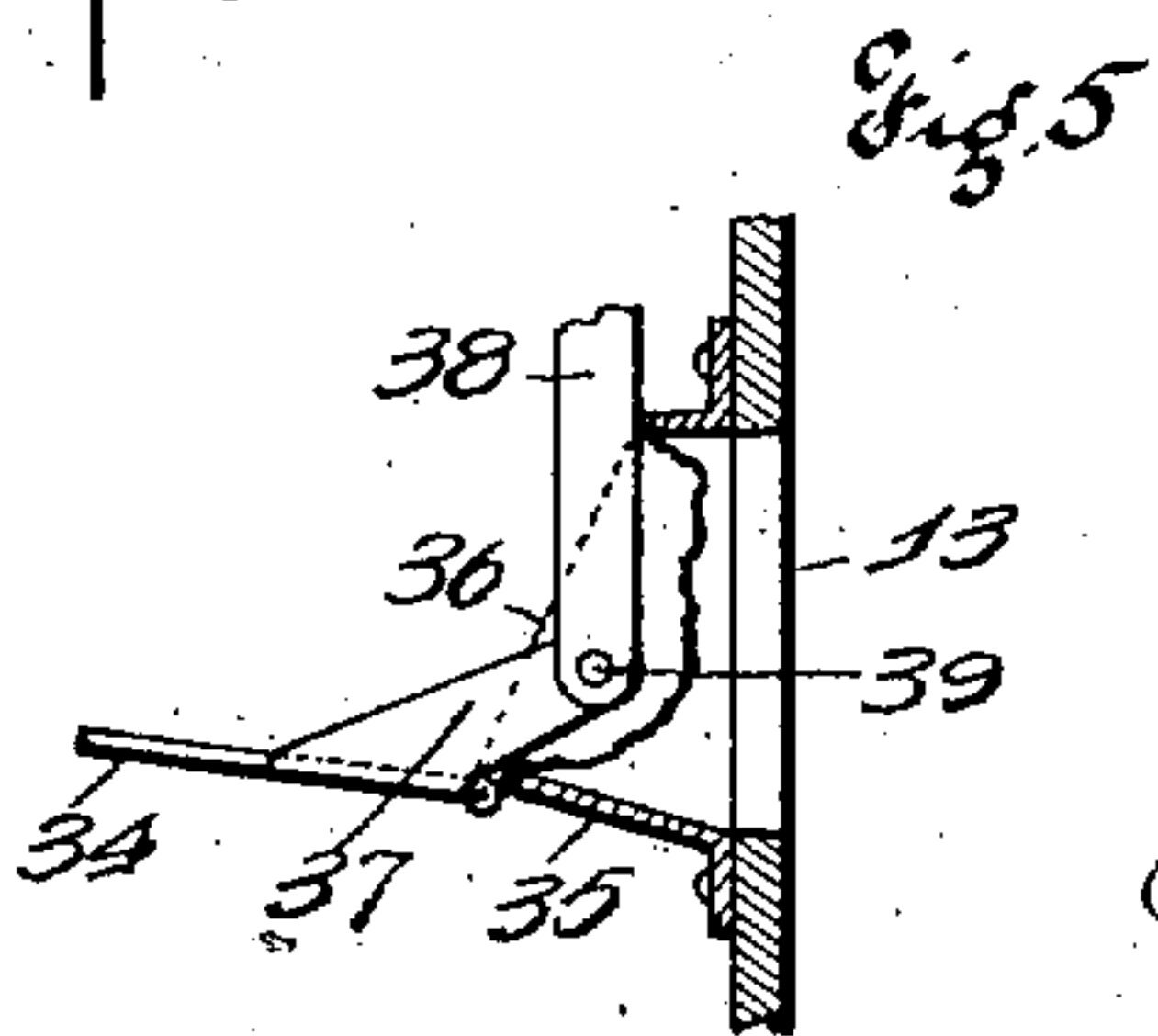
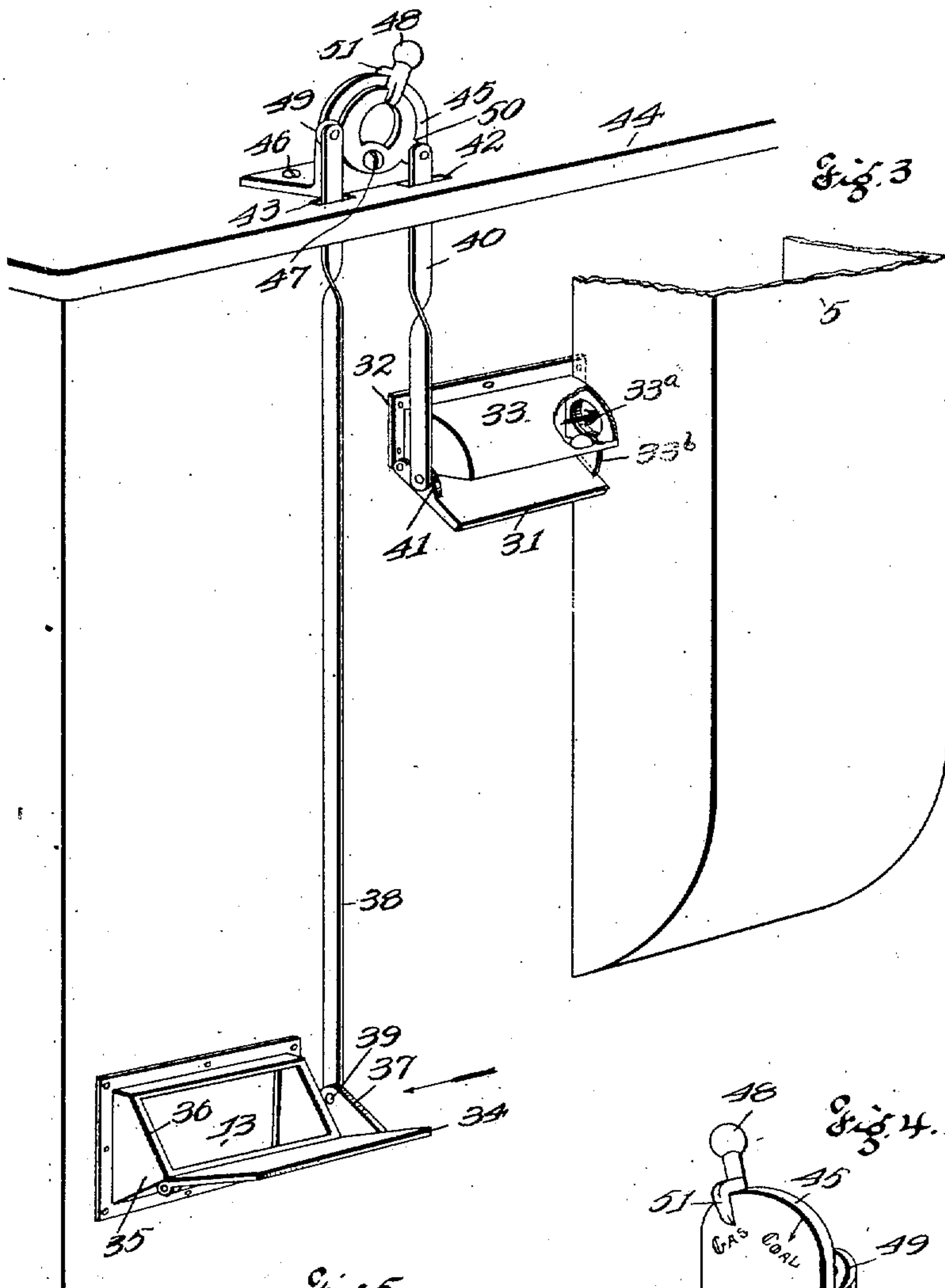
PATENTED APR. 9, 1907.

J. F. RUTH & E. PREISLER.

RANGE.

APPLICATION FILED NOV. 18, 1904.

3 SHEETS—SHEET 2.



Witnesses
Alfred H. Hines
Edw. M. Harrington

Inventors
John F. Ruth
Ernst Preisler
by Nelson & Langan & Hopkins Attys.

No. 850,102.

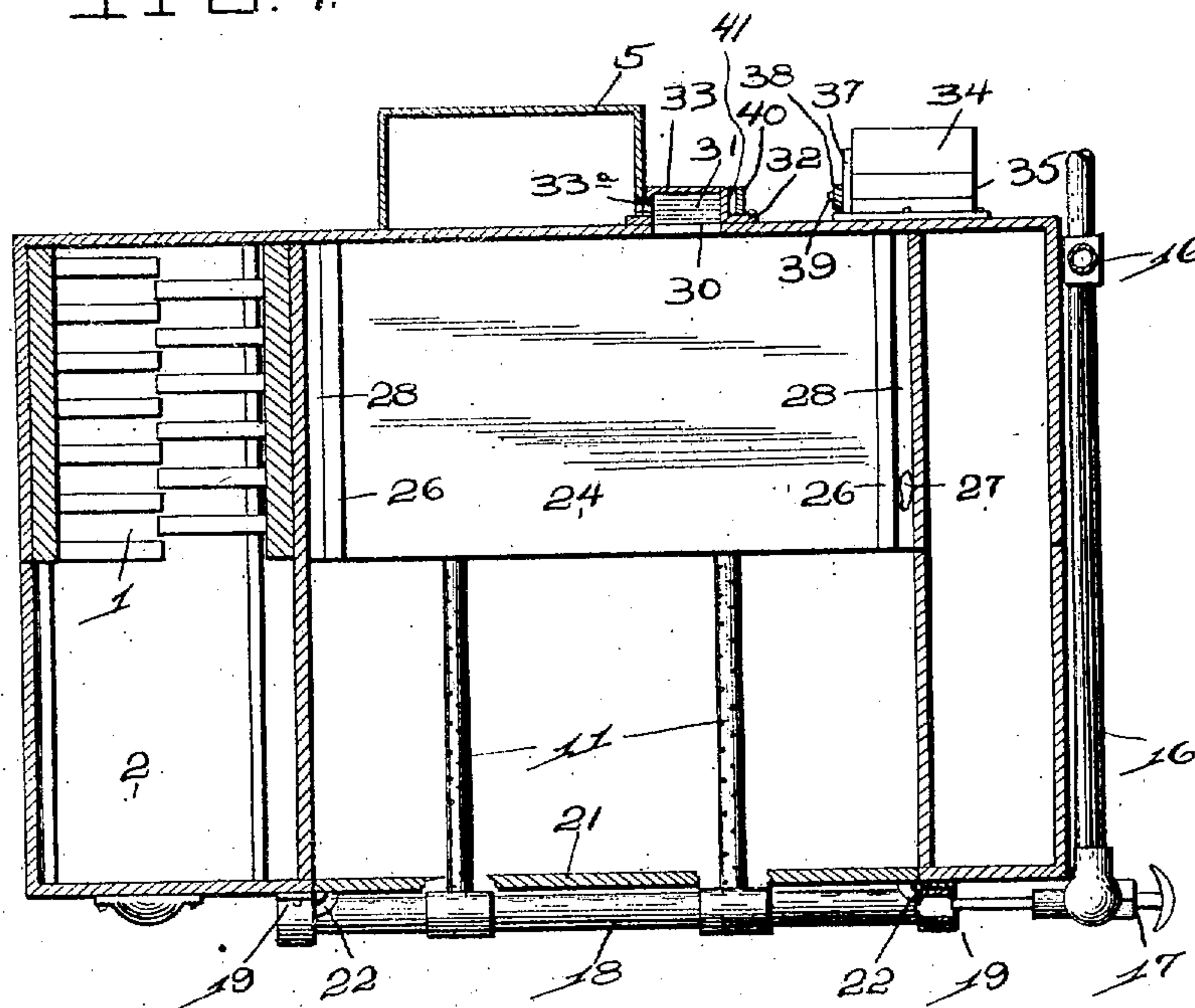
PATENTED APR. 9, 1907.

J. F. RUTH & E. PREISLER.
RANGE.

APPLICATION FILED NOV. 18, 1904.

3 SHEETS—SHEET 3.

FIG. 7.



WITNESSES:

Edw. M. Harrington
W. P. Smith

INVENTORS:

John F. Ruth
Ernst Preisler

BY Higdon & Longan Hopkins, Attys.

UNITED STATES PATENT OFFICE.

JOHN F. RUTH AND ERNST PREISLER, OF ST. LOUIS, MISSOURI.

RANGE.

No. 850,102.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed November 18, 1904. Serial No. 233,369.

To all whom it may concern:

Be it known that we, JOHN F. RUTH and ERNST PREISLER, citizens of the United States, and residents of St. Louis, Missouri, have invented certain new and useful Improvements in Ranges, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to ranges and consists in the novel construction hereinafter specified and claimed.

The object of our invention is to improve generally upon the construction shown in our prior patent, No. 743,933, dated November 10, 1903; but one of the more specific objects of the present invention is to provide a gas and coal range with a plurality of dampers for controlling the passage of fresh air and products of combustion and any suitable means whereby said dampers may be connected and simultaneously operated.

Our further object is to provide such combination of dampers with a combined handle and indicator by means of which they may be simultaneously moved and the relative position of the dampers may be seen at a glance.

In the drawings, Figure 1 is a perspective view of a combined gas and coal range embodying our invention. Fig. 2 is a sectional side elevation of same. Fig. 3 is a detailed perspective of the rear of the damper with parts broken away to show the construction of the combined handle and indicator and its connections to the dampers. Fig. 4 is a detailed perspective view of the combined handle and indicator detached. Fig. 5 is a detailed view of the fresh-air damper. Fig. 6 is a detailed view of the detachable oven-burners. Fig. 7 is a horizontal sectional view of the stove, taken on a plane immediately above the mixing-chamber and burners and extending half way to the rear of the stove, the rear half being taken on a horizontal plane through the opening 30.

1 indicates the usual fire-box for use in burning coal or wood.

2 represents the ash-pan; 3, the passage for the products of combustion above and below the main oven 4, and 5 the exit for the products of combustion.

We also make use of the arrangement of detachable top gas-burners 6 and their grates 7 and separate chamber 8, in which said burners are located. A partition 9 acts as a

shield and protects said burners from the products of combustion, which are discharged by the fire-box 1. The usual gas-valves 10 control the supply of gas to the said burners 6. Also, as in our said prior patent, we use suitable gas-burners 11 for supplying heat to the oven independently of the heat supplied from said fire-box, and said oven-burners 11 are mounted in slots or depressions 12, formed in the fixed bottom of said oven in such a manner that the remaining bare surface of the oven-bottom on the right and left of said burners lies in the same plane and is practically smooth and unbroken.

Fresh air for the burners 11 is supplied from the exterior of the range through a fresh-air opening 13, which connects the fresh-air chamber 14 with air from the exterior of the range, and suitable vertical pipes 15 connect the said fresh-air chamber to the slots or depressions 12 of said burners 11. Gas is supplied to said burners 11 by means of the usual gas-supply pipe 16, valve 17, and the detachable mixing-chamber 18. The said burners 11 and mixing-chamber 18 are simultaneously detachable from the range by pulling the same outwardly, so that the ends of the said mixing-chamber will be slid from their former position between the two oven-door-hinge brackets 19, which are made sufficiently large to cover said ends of said mixing-chamber, and such movement will also move the burners axially outward toward the operator until the said parts are detached, as shown in Fig. 6, after which they may be readily inspected and cleaned, if necessary, and quickly replaced. One end of said mixing-chamber is closed to prevent the passage of gas; but the other oven-door-hinge bracket 19 has a passage 20 through it, which connects with the interior of the said mixing-chamber and into which the gas-jet controlled by the valve 17 discharges. The oven-door 21 is provided at its lower edge with the usual hinge-lugs 22, which project into openings in the hinge-brackets 19.

23 indicates a common cover for a clean-out opening. (Not shown.)

We also make use of the additional, but detachable, entire oven-bottom 24, which is in the form of a sliding plate mounted in slides 25 within the main oven 4 above said burners and arranged to be bodily removed when said oven is to be transformed from a gas-oven to a coal-heated oven.

Vertical partitions 26 form hot-air passages 27 opposite the edges of the said detachable bottom, and these vertical partitions are provided with hooks 28, which detachably connect with brackets 29, fixed upon the vertical wall of the main oven 4 in such a manner that said vertical partitions may themselves be detached and removed whenever necessary.

30 indicates an exit-opening formed in the rear wall of the main oven 4 and through which the products of combustion from the gas-burners 11 may make their exit into the hood 33 and thence through the opening 33^a to the exit-pipe 5 when the oven is being operated as a gas-heated oven and also when it is desired to regulate the temperature of the oven when the same is being used as a coal-heated oven.

The opening 30 is controlled by the damper 31, which is pivoted at its inner edge to the flange 32 of said hood 33. Said hood 33 is mounted upon the exterior of the oven 4 and connects with the exit-pipe 5 by means of said opening 33^a, and the said damper 31 fits against the bottom of said hood and carries an auxiliary damper 33^b to control the passage of air and gas through the hood. (See Fig. 3.) The fresh-air opening 13 is controlled by another damper 34, which is pivotally mounted at its lower edge upon a hood 35, which covers said opening 13, and fixed upon the exterior of the range near the base thereof. Said hood 35 has an inclined face 36, against which said damper 34 closes to cut off the passage of air through said opening 13. Said damper 34 has at one end an arm 37, which projects therefrom at an acute angle for a distance upon the opposite side of the pivotal point, and the lower end of an operating-rod 38 is pivotally connected at 39 to the said arm 37. An additional operating-rod 40 is pivotally connected to a vertical ear 41, formed on one end of the first-mentioned damper 31, and both operating-rods 38 and 40 extend upwardly through suitable holes or passages 42 and 43, formed in the range-top 44.

Mounted upon the range-top 44 just in front of the holes 42 and 43 is an indicator-bracket 45, which is substantially L-shaped. The same is held in position by means of suitable bolts or screws 46.

Pivotally mounted upon the back of the vertical arm of said indicator-bracket 45 by means of a suitable pivoting device 47 is a combined handle and indicator 48, which is preferably in shape of an integral casting having opposite perforated ears 49 and 50 and a pointer 51. The upper end of the operating-rod 38 is pivotally connected to the ear 49, while the upper end of the operating-rod 40 is pivotally connected to the opposite ear 50 of the combined handle and indicator. Upon the front face of the indicator-bracket 45 are

two indicating marks or points beneath one of which is the word "Gas" and beneath the other the word "Coal." The said pointer 51 is set over the upper curved end of said indicator-bracket 45 and projected downwardly, so as to point to either the word "Gas" or "Coal," depending upon the wishes of the operator.

The operation is as follows: When it is desired to use the range as a coal-heated range, the dampers 31 and 34 are preferably closed while the fire is being started in the fire-box 1, and said dampers should be kept closed during the operation of the range as a coal-range unless it be desirable to open said dampers in order to regulate the heat of the main oven 4, which may be readily done by throwing the parts into the position in which they are shown in Fig. 3, in which position fresh air will enter the opening 13 and pass into the chamber 14 and thence through the tubes or passages 15 into the main oven, and the hot air and odor of the cooked food in the oven may also make their exit through the hooded opening 30 into the exit-pipe 5. Also when the oven is being heated by coal it may be desirable to remove the detachable oven-bottom 24, which may be readily accomplished by pulling the same toward the operator. When it is desired to heat the oven by gas, it will only be necessary to open both of the dampers 31 and 34, which may be quickly accomplished by a single movement of the combined handle and indicator 48 and it should be so set that its pointer 51 will rest above the word "Gas," as shown in Fig. 4, which will permit fresh air to enter opening 13 and pass through the chamber 14 and thence to the oven through the vertical tubes 15, and thus supply fresh air to the gas-burners 11 and at the same time the products of combustion will make their exit by way of the opening 30 into the exit-pipe 5.

What we claim is—

1. The improved gas and coal range, comprising the usual fire-box 1; an oven-door, opposite hinge-brackets for said door, one of said brackets having a gas-passage there-through; a mixing-chamber carrying a gas-burner and removably mounted between said brackets, whereby said burner will project within the oven and the mixing-chamber may be supplied with gas from said passage in one of said brackets; and a suitable gas-valve for supplying gas to the passage of said last-mentioned bracket; substantially as specified.

2. In a gas and coal range, the combination of the usual fire-box; an oven; an oven-door; a mixing-chamber; a burner attached to said mixing-chamber and removable therewith from the range at a point below the said oven-door; and fixed means for supplying gas to the said mixing-chamber and which means remains undisturbed in its position

when the said mixing-chamber and burner are removed; substantially as specified.

3. In a combined gas and coal range, the combination of the usual fire-box; an oven; 5 an oven-door; the oven-bottom having burner slots or recesses formed therein and extending outwardly to the oven-door; a detachable mixing-chamber; burners attached to said mixing-chamber and removable there- 10 with, but normally located within said oven slots or recesses; and a door-bracket having a gas-passage therein, and a gas-pipe for supplying gas to the said mixing-chamber; substantially as specified.

15 4. A combined gas and coal range, comprising the usual fire-box and oven, a gas-burner arranged to heat the oven independently, of the heat from the fire-box, an open-

ing for supplying air to the oven, a damper normally closing said opening, there being an 20 opening for the exit of hot air from the oven, a hood over said opening, a damper pivotally connected to the hood for normally closing said opening, there being an opening 25 from the hood into the exit-pipe for the range, and means whereby both dampers may be simultaneously opened or closed.

In testimony whereof we have signed our names to this specification in presence of two subscribing witnesses.

JOHN F. RUTH.
ERNST PREISLER.

Witnesses:

ALFRED A. EICKS,
EDW. M. HARRINGTON.