No. 721,423. PATENTED FEB. 24, 1903.

H. CHEVOLA.

COAL AND GAS RANGE.

APPLICATION FILED JULY 30, 1902.

NO MODEL. 7 SHEETS—SHEET 1.

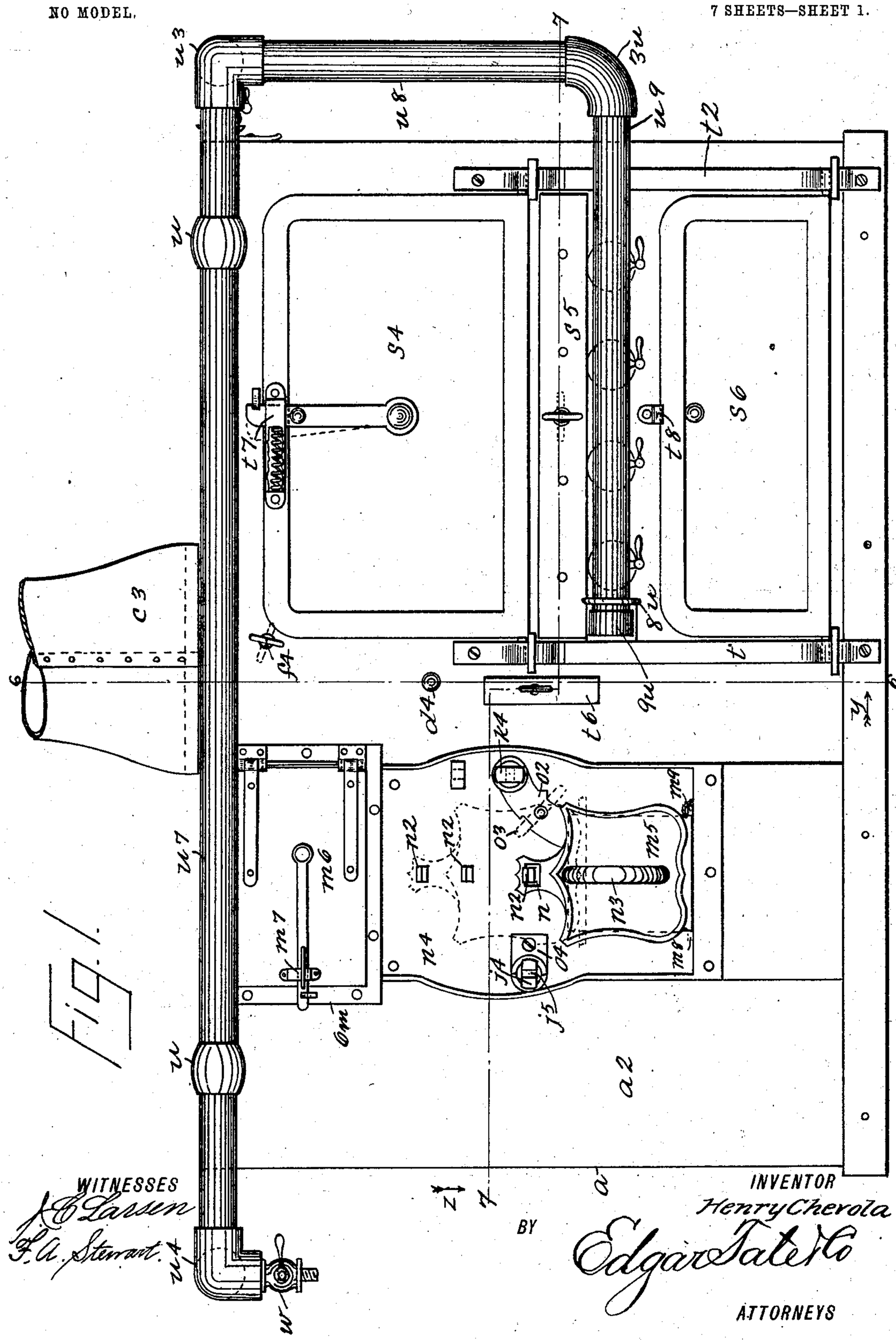

Fig. 1.

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NO MODEL. 7 SHEETS—SHEET 2.

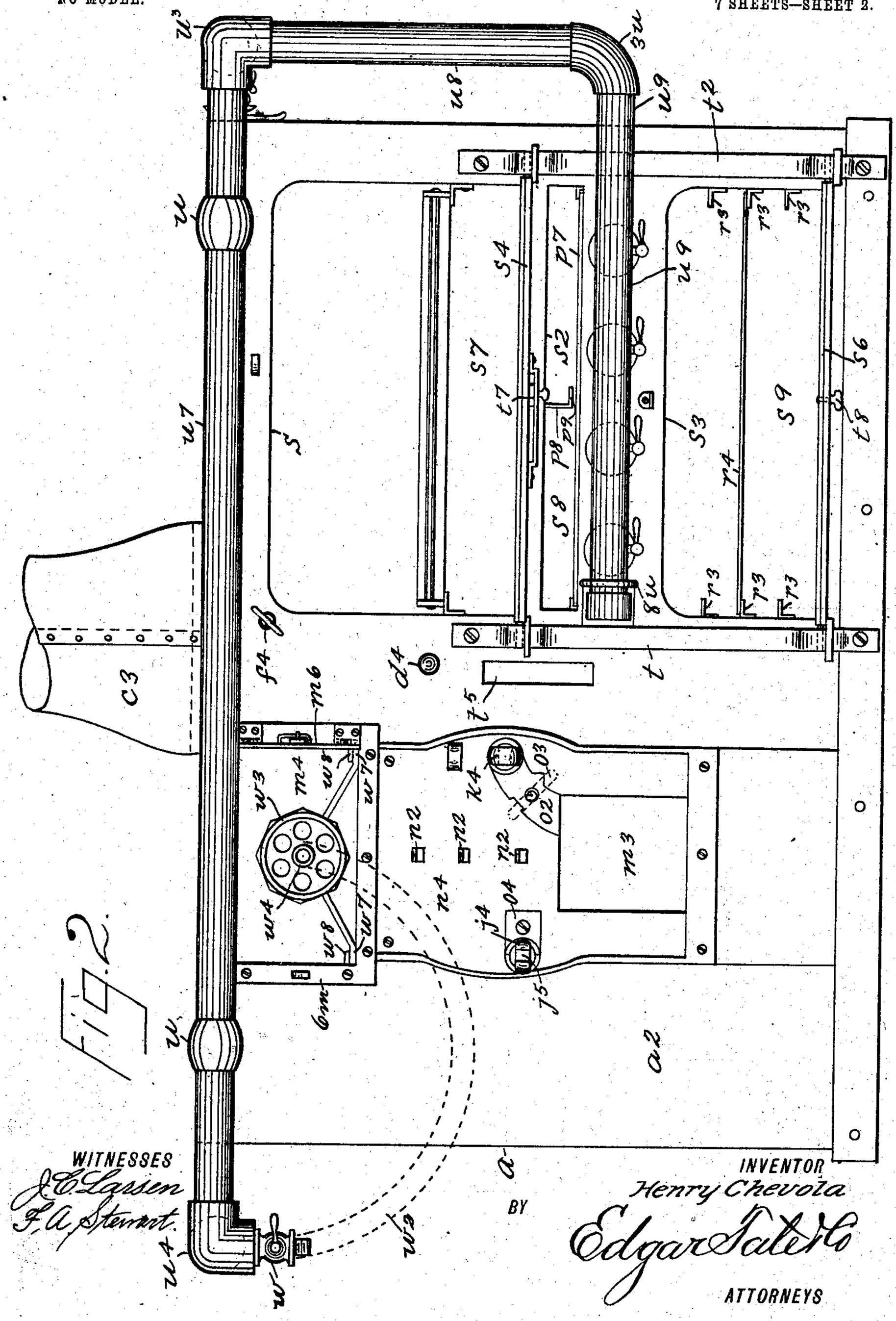

FIG. 2.

WITNESSES
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ATTORNEYS

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NO MODEL. 7 SHEETS—SHEET 3.

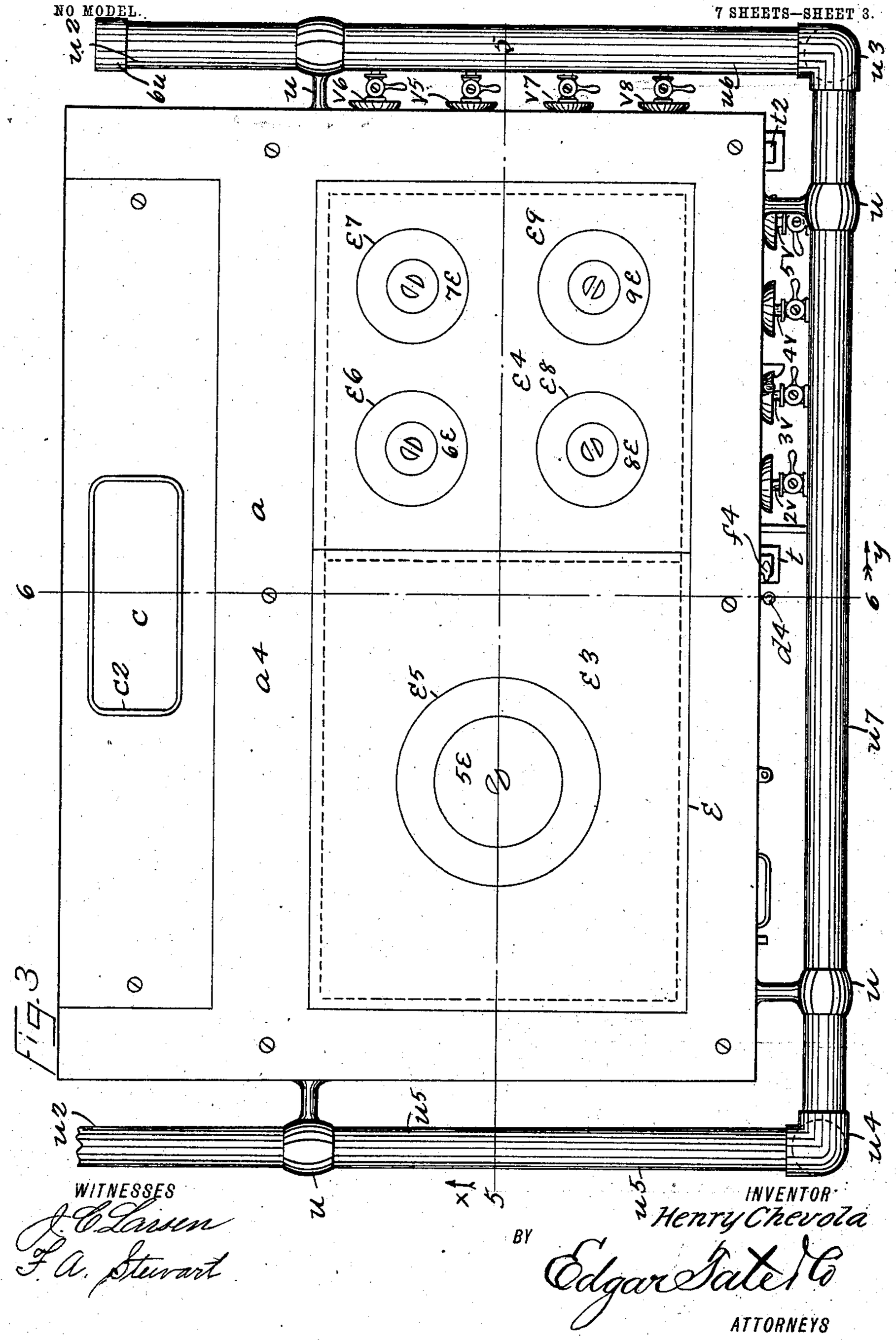

Fig. 3

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NO MODEL. 7 SHEETS—SHEET 4.

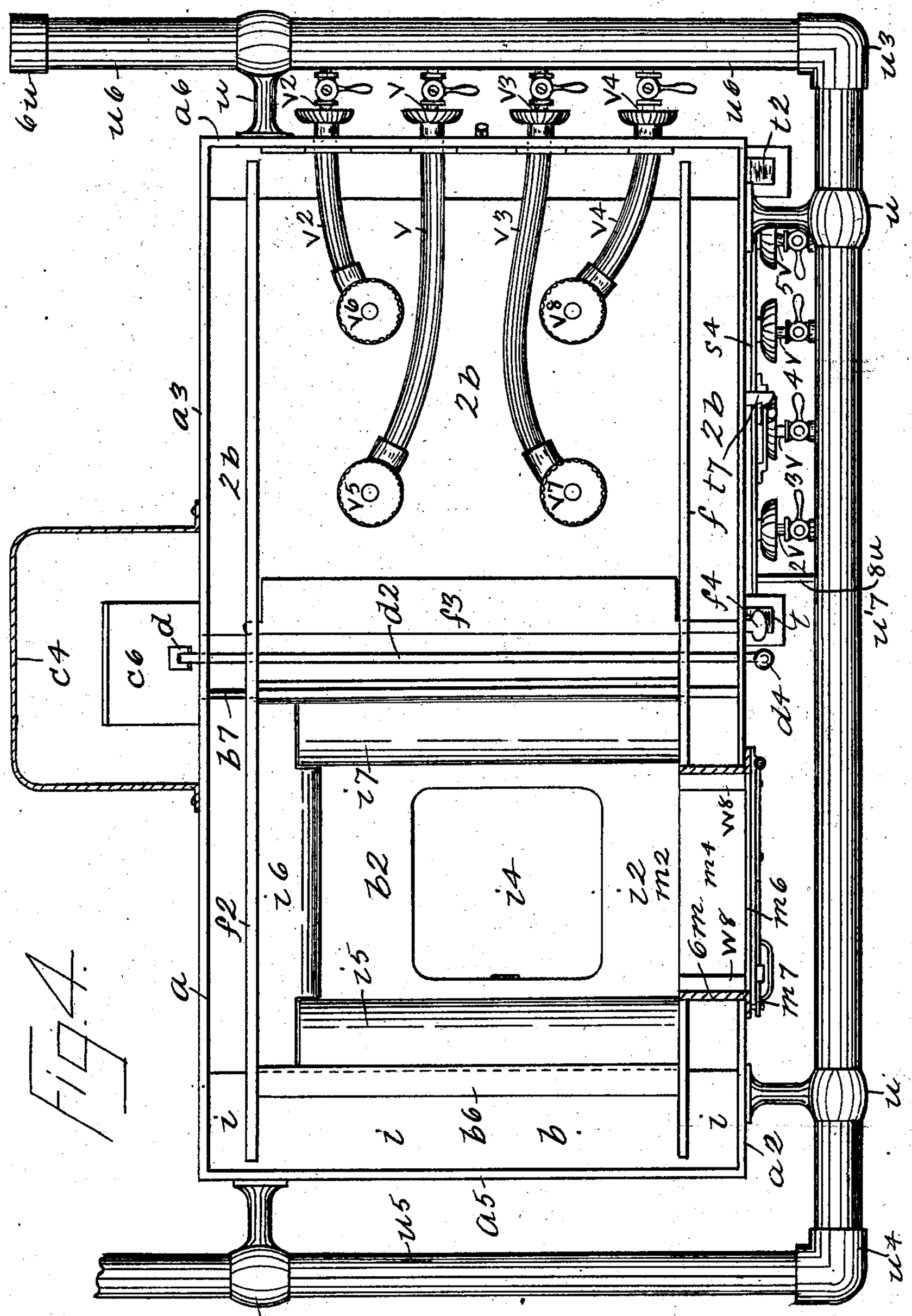

FIG. 4.

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NO MODEL. 7 SHEETS—SHEET 5.

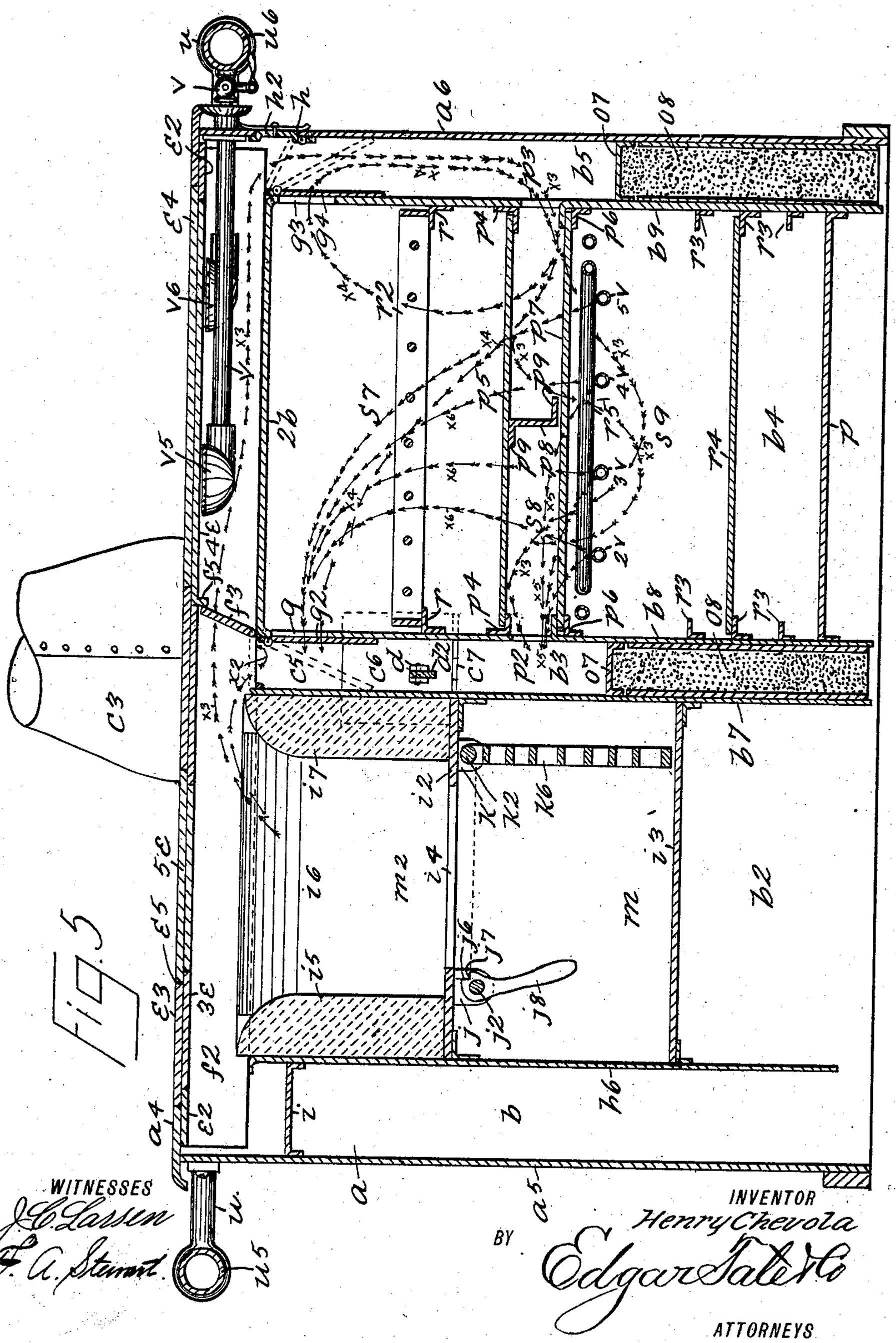

FIG. 5

WITNESSES

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NO MODEL. 7 SHEETS—SHEET 6.

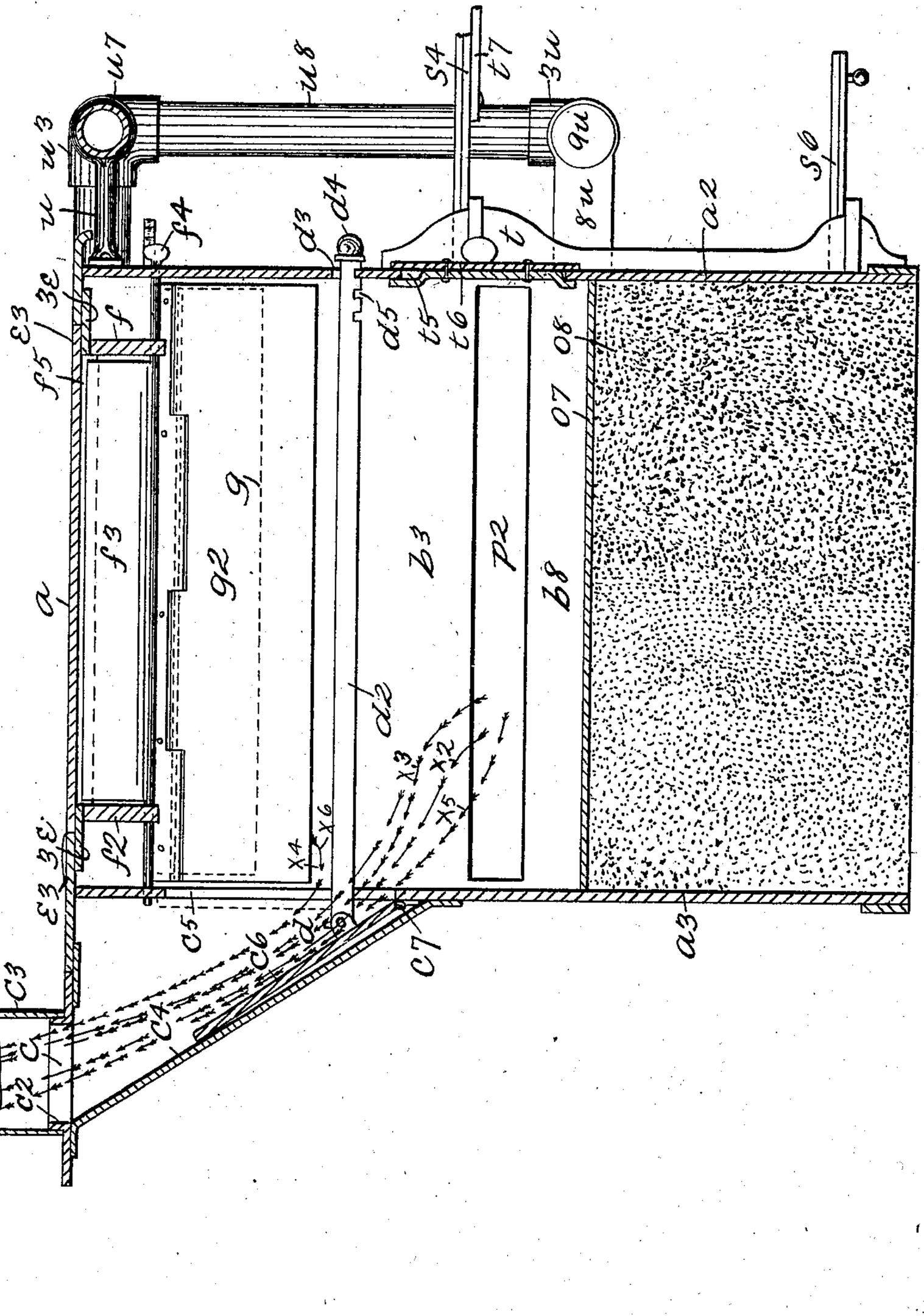

FIG. 6.

WITNESSES
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COAL AND GAS RANGE.

APPLICATION FILED JULY 30, 1902.

NO MODEL. 7 SHEETS—SHEET 7.

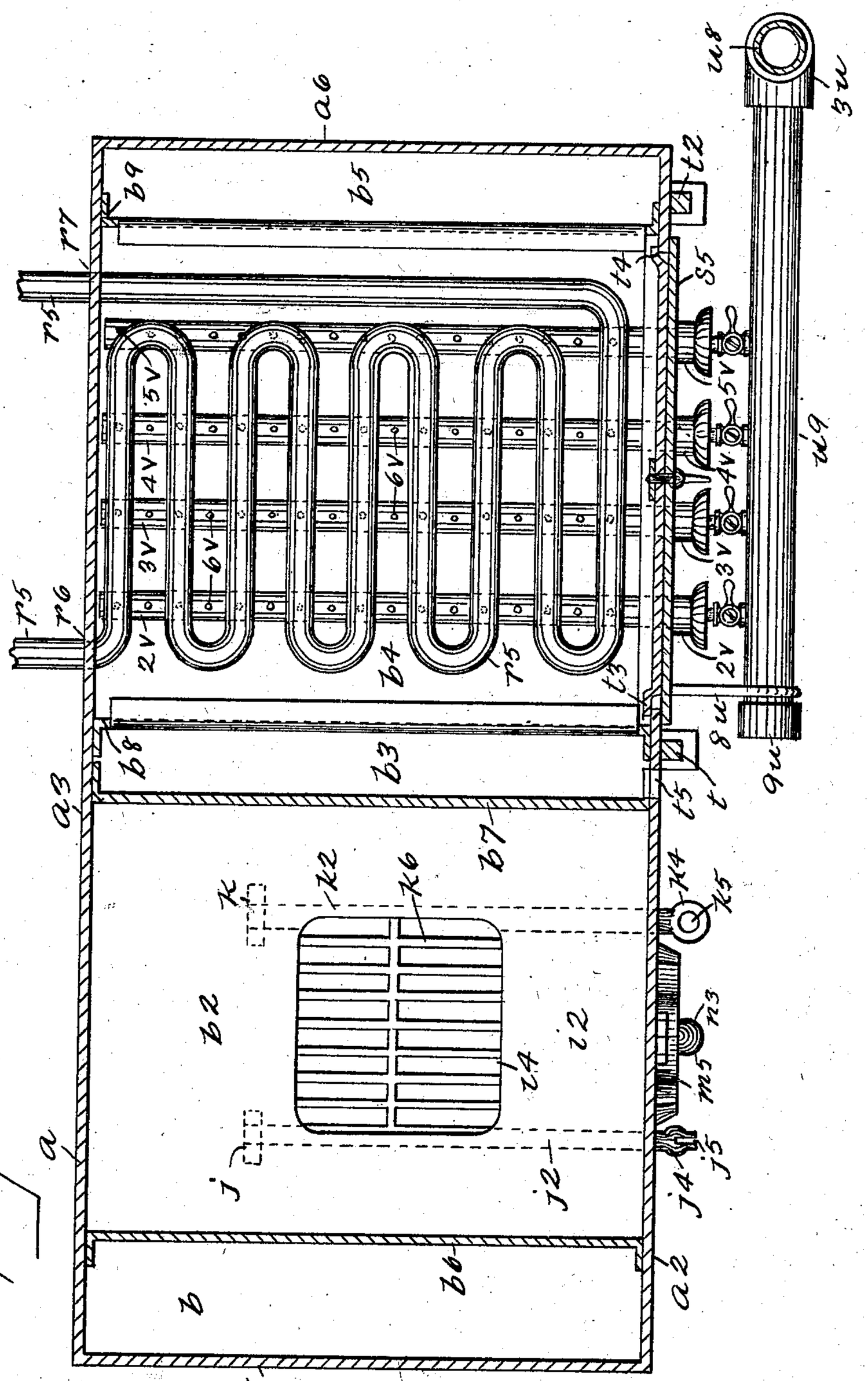

FIG. 7.

WITNESSES

J. C. Larsen

F. A. Stewart.

INVENTOR

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ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRY CHEVOLA, OF NEW YORK, N. Y.

COAL AND GAS RANGE.

SPECIFICATION forming part of Letters Patent No. 721,423, dated February 24, 1903.

Application filed July 30, 1902. Serial No. 117,621. (No model.)

To all whom it may concern:

Be it known that I, HENRY CHEVOLA, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Coal and Gas Ranges, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide an improved gas stove or range designed for use in the ordinary operations of cooking—such as boiling, frying, baking, roasting, broiling, and also for heating water—and by means of which any or all of said operations may be performed at the same time; a further object being to provide a combination coal and gas stove or range whereby either coal or gas may be used to accomplish said results or both coal and gas together may be used when desired, and a further object being to provide a stove or range of the class specified which is simple in construction, economical in use, and perfectly adapted to meet the requirements for which it is intended.

My invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same reference characters in each of the views, and in which—

Figure 1 is a front elevation of my improved gas-range, the doors, &c., thereof being closed; Fig. 2, a view similar to Fig. 1 and showing the doors, &c., open; Fig. 3, a plan view thereof; Fig. 4, a view similar to Fig. 3 with the top removed and showing part of the interior; Fig. 5, a section on the line 5 5 of Fig. 3 in the direction of the arrow x; Fig. 6, a section on the line 6 6 of Figs. 1 and 3 in the direction of the arrow y; Fig. 7, a section on the line 7 7 of Fig. 1 in the direction of the arrow z.

In the practice of my invention I provide a casing a, composed of sheet metal or other material and comprising a front member a^2, a rear member a^3, a top member a^4, and end members a^5 and a^6.

The casing a is divided into five compartments b, b^2, b^3, b^4, and b^5 by means of vertically-arranged transverse partition-plates b^6, b^7, b^8, and b^9, and these partition-plates extend to within a few inches of the top member a^4 and are secured to the inner sides of the front member a^2 and rear member a^3 in any desired manner, and I also provide a horizontal partition-plate 2^b, which is secured to the partition-plates b^8 and b^9, or the partitions b^8, 2^b, and b^9 may be made of one piece of material, as shown in Fig. 5. In the rear of the top member a^4 is an opening c, provided with an upwardly-directed flange c^2, which is adapted to engage the lower edge of a stovepipe c^3 in the usual manner, and secured to the under side of the top member a^4 adjacent to the opening c is a flue-casing c^4, which projects inwardly and downwardly and is secured at its inner side to the rear member a^3, and this flue-casing c^4 is adapted to operate in connection with the opening c and the stovepipe c^3, and I also provide an opening c^5 in the rear member a^3 and within the flue-casing c^4, and the opening c^5 connects with the compartment b^3, as shown in Figs. 4 and 6, and the opening c^5 is adapted to be closed by a plate or door c^6, which is hinged to the rear member a^3 within the flue-casing c^4 at c^7.

Pivotally secured to the door c^6 at d is a bar d^2, which passes through the compartment b^3 and through an opening d^3 in the front member a^2 and is provided with a handle d^4 at its outer end, and the bar d^2 is also provided near the front member a^2 with a plurality of upwardly-directed slots or recesses d^5, adapted to engage the lower edge of the opening d^3, and by means of this construction the door c^6 may be opened or closed or held at any desired angle, which is plainly shown in Fig. 6. The top member a^4 is also provided with an opening e, which extends nearly across the said top member, and on the under side of the top member a^4 and extending slightly beyond the edges of the opening e are strips e^2, which serve to hold plates e^3 and e^4 in position, and the plates e^3 and e^4 are provided with openings e^5, e^6, e^7, e^8, and e^9 and the usual lids 5^e, 6^e, 7^e, 8^e, and 9^e, respectively, and on the under side of the plates e^3 and e^4 are plates 3^e and 4^e, which are also provided with openings corresponding to the openings e^5, e^6, e^7, e^8, and e^9, but slightly smaller than these openings, the object of which is to provide supports for the

lids 5^e, 6^e, 7^e, 8^e, and 9^e of the openings e^5, e^6, e^7, e^8, and e^9, which construction is shown in Fig. 5.

It will be understood that I may use ring-shaped members for each of the openings a^5, a^6, a^7, a^8, and a^9, if I so desire, instead of the plates 3^e and 4^e.

Within the casing a and secured to the under side of the top member a^4 and the tops of the partition-plates b^6, b^7, b^8, and b^9 are two vertical horizontally-arranged partition-plates f and f^2, which extend almost entirely across the casing a and are preferably at some distance apart or near the front and rear members a^2 and a^3, respectively, and these partition-plates f and f^2 also rest on or are secured to the upper side of the horizontal partition-plate 2^b, as clearly shown in Figs. 4, 5, and 6, and pivoted in the partition-plates f and f^2 and at the top of the partition-plate b^8 is a cover or door f^3, which extends entirely across the top of the compartment b^3 between the partition-plates f and f^2 and is provided, without the front member a^2, with a handle or button f^4, by which it may be manipulated, and the cover f^3 when in the raised position shown in Fig. 5 rests against a downwardly-directed flange f^5 of the plate 4^e, and by means of this construction the top of the compartment b^3 may be closed or opened, and in the same operation the space between the partition-plates f, f^2, 2^b, and top member a^4 may be either opened or closed, and this construction is clearly shown in Figs. 4, 5, and 6.

In the partition-plate b^8 and near the top thereof is an opening g, which extends transversely and almost across the casing a and is provided with a cover or trap g^2, hinged above the opening g and adapted to cover said opening, as clearly shown in Figs. 5 and 6. The partition-plate b^9 is provided with a similar opening g^3 and cover g^4 thereof, and these covers open away from each other.

Near the top of the end member a^6 is an opening h, provided with a door h^2, which is hinged below said opening and adapted to open inwardly, and when fully opened the door h^2 entirely covers the top of the compartment b^5, as shown in dotted lines in Fig. 5, and the opening h and the door h^2 thereof may extend nearly across the end member a^6 if so desired.

Across the top of the compartment f is a plate i, which is secured to the partition-plate b^6 as well as to the end member a^5, and this plate i completely covers the compartment b, as shown in Fig. 4.

Within the compartment b^2 and passing across said compartment are two horizontal plates i^2 and i^3, which are secured to the partition-plates b^6 and b^7 by means of angle-iron brackets or in any other desired manner, and the horizontal plate i^2 is provided with an opening i^4 near the center thereof, which is preferably rectangular in form and which is shown in Figs. 5 and 7, and on the rear and sides of the opening i^4 are placed the usual fire-brick i^5, i^6, and i^7, as shown in Figs. 4 and 5, resting on the top of the plate i^2 and extending upwardly slightly beyond the tops of the partition-plates b^6 and b^7.

Beneath the plates i^2, adjacent to the opening i^4, is a hanger k, through which passes one end of a transverse rod k^2, the outer end of which passes through an opening k^3 in the front member a^2 of the casing a, and the rod k^2 is provided at its outer end with a head k^4, provided with a round hole k^5, and to the rod k^2 and near the center thereof is secured a fire-grate k^6, which is free to swing by means of the rod k^2 in the supports of said rod, and the rod k^2 is also capable of lateral movements in said supports in order to shake the said grate, all of which is shown in Figs. 1, 2, 5, and 7.

Beneath the plate i^2 and on the opposite side of the opening i^4 is a hanger j, similar to k and through which passes a transverse rod j^2, which also passes through an opening j^3 in the front member a^2 of the casing a and which is provided at its outer end with a head j^4, provided with a slot j^5, and secured to the rod j^2 and near the center thereof is an upwardly-directed member j^6, provided with a transverse groove j^7, and the rod j^2 is also provided with a downwardly-directed member j^8, which serves to keep the member j^6 always at the top, and the groove j^7 is adapted to engage the outer end of the fire-grate k^6, as indicated in dotted lines in Fig. 5, and the construction of the rod j^2 and integral parts is clearly shown in Figs. 1, 2, 5, and 7.

When the fire-grate k^2 is in the position indicated in dotted lines in Fig. 5, it will be readily seen that the coal-burning attachment to my range is ready for use, and beneath the fire-grate k^2 and plate i^2 is the ash-pit m, of which the plate i^3 forms the bottom, and above the fire-grate k^6, between the fire-bricks i^5, i^6, and i^7, is the fire-box m^2.

The front member a^2 of the casing a is provided with openings m^3 and m^4, which open into the ash-pit m and fire-box m^2, respectively, and these openings are provided with doors or covers m^5 and m^6, respectively. The door m^6 is preferably hinged at one side thereof to the front member a^2 and provided with the usual catch or locking device m^7.

The cover m^5 of the opening m^3 is shield-shaped and provided with two backwardly and outwardly directed lugs m^8 and m^9, which engage the sides of the opening m^3, and the cover m^6 is also provided at its top with an opening n, through which is adapted to pass one of a plurality of outwardly-projecting spurs n^2, secured to the front member a^2, and the cover m^5 may have a handle n^3 by which it may be manipulated, and it will be apparent that by removing the opening n of the cover m^5 from a spur n^2 and giving said cover an inclination to either side the lug m^8 or m^9 on the opposite side of the cover will become disengaged from the front member a^2 and be

readily removed, and by means of the several spurs n^2 the cover m^5 may be raised to different heights and the ashes removed from the ash-pit m, or it may serve as a draft for the coal-fire box m^2, and the parts just described are shown in Figs. 1 and 2.

It will be understood that instead of attaching the parts last described directly to the front member a^2 of the casing a they may be attached to a supplemental plate n^4, which may then be secured over a corresponding opening in the front member a^2 of the casing a, as shown in Figs. 1 and 2.

Detachably secured to the front member a^2 is a plate o^2, which is held in position by a pivoted arm o^3, and when the plate o^2 is removed the grate-bar k^2 and grate k^6 may be easily taken out, and by means of a similar plate o^4 the rod j^2 may also be easily removed.

Referring to Fig. 5, it will be seen that the lower parts of the compartments b^3 and b^5 are closed by means of a plate o^7 and asbestos packing o^8, which passes entirely across said compartments transversely, as shown in Fig. 6, and it will be seen by this construction that these compartments are sealed at their bottom portions. The compartment b^4 is provided with a bottom plate p, secured to the partition-plates b^8 and b^9, and these partition-plates b^8 and b^9 are provided about midway between top and bottom with openings p^2 and p^3, which open into the compartments b^3 and b^5, respectively, and these openings extend transversely across the compartments b^3 and b^5, as shown in Fig. 6. Just above the openings p^2 and p^3 are arranged brackets p^4, which support a movable plate or shelf p^5, and just beneath the said openings are a similar pair of brackets p^6, which support a removable plate or shelf p^7, and secured to the back member a^3 and extending forwardly to the front member a^2 is a plate p^8, which serves as a partition when the plates or shelves p^5 and p^6 are in position, and this plate p^8 is provided with projecting members p^9, which serve to steady it. At any suitable points above the plate p^5 pairs of brackets may be arranged to support a shelf or oven-grating r^2, and beneath the plate p^7 and near the bottom p of the compartment b^4 similar brackets r^3 and shelves r^4 may be arranged, and directly beneath the plate p^7 is placed a water-pipe r^5, arranged in convolutions and which passes through the rear member a^3 at r^6 and r^7. The front member a^2 is also provided with openings s, s^2, and s^3, provided with doors s^4, s^5, and s^6, and the doors s^4 and s^6 are preferably hinged at their bottoms to two vertical strips or blocks t and t^2, secured to the front member a^2 of the casing a, and the opening s gives access to that part s^7 of the compartment b^4 which is above the plate p^5 and which is the oven of my range, while the opening s^2 leads to that part of the compartment designated s^8 and the opening s^3 to the lower part s^9 of the compartment b^4 and which is usually employed for slow heating or warming. The cover or door s^5 is detachable from the front member a^2 and is provided at its inner side with laterally-projecting raised plates or lugs t^3 and t^4, which engage the side of the opening s^2, one of which, t^3, is longer than the other, as shown in Fig. 7, and by means of this construction when the cover s^5 is forced in the direction of the arm t^3 the shorter arm t^4 is free to pass the edge of the opening s^2, and the cover s^5 may be thereby removed. I also provide an opening t^5 in the front member a^2, which opens into the compartment b^3, and this opening is provided with a cover t^6, which is detachable and is constructed similar to the cover s^5, and the doors s^4 and s^6 are provided with catches or locking devices t^7 and t^8 of any desired construction, as shown in Fig. 1.

Secured to the front and end members a^2, a^5, and a^6 and near the top thereof are a plurality of supports u, which carry a gas-pipe u^2, provided with three-way joints u^3 and u^4, and by this construction, as shown in Figs. 3 and 4, the gas-pipe u^2 serves as a guard-rail for the range or stove and is divided into three members—u^5 adjacent to the end member a^5, u^6 adjacent to the end member a^6, and u^7 at the front of the range. The end u^5 leads to the gas-supply, and on the inner side of the pipe u^6 I insert a plurality of smaller gas-pipes v, v^2, v^3, and v^4, provided with the usual valves adjacent to the gas-pipe u^6 and passing through the end member a^5 of the casing a into the said casing above the horizontal partition-plates f and f^2, and at their inner ends are placed gas-burners v^5, v^6, v^7, and v^8, which may be of any construction and are adapted to operate beneath openings e^6, e^7, e^8, and e^9 of the top member a^4, respectively, as shown in Figs. 4 and 5. Connected with the three-way joint u^3 is a downwardly-directed gas-pipe u^8, provided at its lower end with an elbow-joint 3^u, to which is secured one end of a horizontal gas-pipe u^9, which is parallel with the front member a^2 of the casing a, and slightly below the lower edge of the opening s^2 and the outer end of the pipe u^9 is preferably closed by a cap 9^u, as is the end of the pipe u^6 by a cap 6^u, and into the inner side of the gas-pipe u^9 I insert a plurality of smaller gas-pipes 2^v, 3^v, 4^v, and 5^v, which are provided with the usual valves adjacent to the gas-pipe u^9 and which pass through the front member a^2 into the casing a, preferably just below the water-pipe r^5, and the gas-pipes 2^v, 3^v, 4^v, and 5^v are sealed at their outer ends and provided with a plurality of small holes or openings 6^v, which serve as vents or burners, and the gas-pipe u^9 is supported by a bracket 8^u, secured to the front member a^2.

In connection with the three-way joint u^4 is a small valve w, adapted to engage one end of a supplemental gas pipe or hose w^2.

In Fig. 2 I have shown at w^3 a supplemental gas-burner which I employ having a nozzle w^4, and secured to the body portion of said burner are two sets of legs provided

each with outwardly-directed feet w^7, and the burner w^3 is adapted to be placed within the coal-fire box m^2 and held in position by means of flanges w^8, secured to the sides of the opening m^4, as shown in Fig. 2, and the nozzle w^4 is adapted to engage the free end of the supplemental gas pipe or hose w^2, as indicated in dotted lines in Fig. 2.

The door m^6 is preferably hung to a casing 6^m instead of to the front member a^2, and the casing 6^m is open at the front and back and extends from the front member a^2 to the inner edge of the longitudinal partition-plate f and fits into and is secured in the opening m^4 of the front member a^2, and the flanges w^8 may be secured to the inner side of the casing 6^m and near the bottom thereof, as shown in Fig. 2.

Although I have described the spaces b^3 and b^5 as compartments, it will be observed that these spaces or compartments serve as flues for the products of combustion in either passage from the fire-box m^2 around and through the upper portion of the oven, and the horizontal space over the two subdivisions of my improved stove or range also serve as a flue for the products of combustion from said fire-box.

As hereinbefore stated, my improved range may be used for coal only, gas only, or both coal and gas simultaneously.

In the event of coal or wood being used as fuel the fire-grate k^6 is forced into a horizontal position by means of the head k^4 of the bar k^2 and is caught and held in this position by the groove l^7 of the bar l^2. Fire is then started as usual, and coal may be thrown on the fire through the opening m^4 and casing 6^m, and in case coal only is to be used and simply for light cooking and not for baking, roasting, or heating water the hinged plate f^3 is raised into the position shown in full lines in Fig. 5 by means of the button f^4 on the front of the range. The heat is then applied directly to the opening e^5 and cover 5^e thereof, and the products of combustion pass upwardly over the top of the fire-brick i^7, downwardly into the compartment b^3, as the hinge-plate f^3 prevents further horizontal movement, and then backwardly and upwardly through the opening c^5 and flue-casing c^4 through the ordinary stovepipe or similar escape c^3, as shown by arrows x^2, and cooking by means of a light coal or wood fire is accomplished.

When it is desired to use coal as fuel for baking, roasting, &c., as well as to heat water, the hinge-plate f^3 is turned into a horizontal position, (indicated in dotted lines in Fig. 5.) The plate p^7 of the compartment b^4 is removed by first taking off the cover s^5, as described, which gives access to the plate p^7, as shown in Fig. 2, the cover s^5 then being replaced. The heat and products of combustion then pass horizontally over the partition-plate 2^b down into the compartment b^5, through the opening p^3 in the partition-plate b^9, and into the chambers s^8 and s^9, which will then be united, and the heat acts on the water-pipes r^5, as well as on the plate p^5, and heat-waves are thereby induced in the oven s^7, the products of combustion meanwhile passing through the opening p^2 in the partition-plate b^8, into the compartment b^3, through the opening c^5 in the rear of this compartment, and through the flue-casing c^4 and stovepipe c^3, as indicated by the arrows x^3.

It will be apparent that the escape of the products of combustion may be regulated by means of the door c^6 of the opening c^5, manipulated by means of the bar d^2 and handle d, thereof and the slots d^5 of the bar d^2. To produce a more rapid escape of the products of combustion, the cover t^6 of the opening t^5 may be removed and air thereby admitted into the compartment b^3 and a greater draft results, and in the event of quick baking or roasting the plate p^5 of the oven s^7 may be removed, in which case the plates or doors g^2 and g^4 may be opened outwardly, the door g^2 all the way open, so as to touch the partition-plate b^7, while the door g^4 is only partly opened in this operation or need not be opened at all, and the heat and products of combustion then pass upwardly through the opening g into the compartment b^3 and out through the stovepipe c^3 and through the opening g^3, again entering the compartment b^5, and back through the opening p^3, and this operation is indicated by arrows x^4 in Figs. 5 and 6, and, as will be readily seen, articles to be heated slightly or kept warm may be placed in the compartment beneath the plate r^4 and will be protected from gases, smoke, &c., by the plate r^4, and in the operation described boiling and frying may be done over the fire-box m^2. Baking and roasting, warming, and heating of water may be accomplished by removing the plate p^7 and leaving the plate p^5 in position, and steaming, heating of water, and warming of food may be accomplished by removing both the plate p^5 and plate p^7, the plate p^5 being removed through the opening s of the oven s^7.

When it is desired to use gas for the frying, boiling, stewing, &c., the burners v^5, v^6, v^7, and v^8 are used, one, two, three or all of which may be used, and each of these burners is controlled by the valves of the pipes v, v^2, v^3, and v^4, respectively, and the covers 6^e, 7^e, 8^e, and 9^e may be removed for the escape of the hot gases of combustion, and the door h^2 in the end member a^6 will then be opened, as shown in dotted lines in Fig. 5, to permit fresh air to enter the casing a to supply the said burners, and in this operation the hinged plate f^3 is preferably in a vertical position, as shown in full lines in Fig. 5, and by means of this arrangement both coal and gas may be used for cooking on the top of the range.

If it is desired to use gas for baking, warming, and heating water, the plate p^7, Fig. 5, is removed through the opening s^2, as hereto-

fore described, the cover s^5 being replaced, and by opening the door s^6 access is gained to the perforated pipes 2^v, 3^v, 4^v, and 5^v, each of which is controlled by a valve, as shown in Fig. 7, and the gas escaping through the perforations 6^v of any or all of the pipes 2^v, 3^v, 4^v, and 5^v may be ignited, and the water in the pipe r^5 is thereby heated and the plate p^5 also heated, and thereby heating the oven s^7, the heated gases of combustion passing out through the opening p^2 of the partition-plate b^8 and through the compartment b^3, flue c^4, and stovepipe c^3, as indicated by the arrows x^5, and this operation may be accomplished while the burners v^5, v^6, v^7, and v^8 are being used, and while coal is used as fuel in the fire-box m^2 and in the operation of the burners or perforated pipes 2^v, 3^v, 4^v, and 5^v the plate p^5 may also be removed and broiling accomplished on the oven-grating r^2, in which event the door g^2 of the partition-plate b^8 is opened and the hot gases of combustion pass upward into the oven s^7, through the opening g, into the compartment b^3, and through the flue c^4 and stovepipe c^3, as indicated by arrows x^6.

When it is desired to stir up the fire in the fire-box m^2, the bar k^2 of the fire-grate k^6 being capable of lateral movement may be shaken backwardly and forwardly, the fire-grate sliding in the groove j^7 of the bar j^2, and by turning the bar j^2 by means of the head j^4 the fire-grate is released and falls downwardly, depositing the coal on the bottom plate i^3 of the ash-pit m.

As shown in Fig. 2, a gas-burner may also be used in the fire-box m^2 instead of coal or wood, in which event the burner w^3 is inserted into the casing 6^m and fire-box m^2, the head being toward the rear and the nozzle w^4 at the front, the feet w^7 of the legs, adjacent to the nozzle w^4, being forced beneath the flanges w^8 of the casing 6^m, and the burner w^3 is thus held in position beneath the opening e^5 of the top member a^4, the cover 5^c of the opening e^5 being removed, and air enters the opening m^4 to feed the burner. A pipe or flexible tube w^2 is then connected with the nozzle w^4 and the valve w on the three-way valve w^4, and the gas-burner w^3 is then in readiness for operation.

It will be understood that the doors or covers m^5, m^6, s^4, and s^6 may be opened or closed in order to assist in the operations hereinbefore described, as well as the cover or plate t^6 of the opening t^5. The doors or covers f^3, g^2, g^4, h^2, and c^6 may also be manipulated to accomplish the best results, and various changes in and modifications of my improved combination stove and gas-range as herein shown and described may be made without departing from the spirit of my invention or sacrificing its advantages.

The foregoing constitutes a detail description of the exact construction used in my improved combination stove and gas-range and of the operation thereof, and from this description and the drawings forming part thereof it will be seen that my said improved combination-stove and gas-range is divided centrally and transversely into two main compartments over which is a horizontal space in communication with both, the said stove or range being provided at the back top portion thereof with an escape pipe or flue, one of said compartments being also provided with a fire-box for coal and an ash-pit thereunder, and the other compartment being divided by removable plates into a plurality of subdivisions, said last-named compartment being adapted to serve as a bake-oven and for similar purposes and being provided in the top subdivision with a removable oven-grating and in one of the bottom subdivisions with a water-coil and a gas-burner arranged thereunder, said last-named compartment being also provided with means whereby the products of combustion from the fire-box in the other compartment may be carried over, around, and through the top portion thereof, and the horizontal space above said last-named compartment being also provided with a gas-burner, and the foregoing, together with the removable gas-burner for the fire-box and the grate at the bottom thereof, the devices operating in connection with said grate, and other devices constituting the operative elements of construction in connection with and forming part of the bake-oven side of the apparatus, constitute the chief features of this invention.

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

1. A combination stove and gas-range divided centrally and transversely into two separate compartments provided at the back with a flue or pipe in communication with both of said compartments, one of said compartments being provided with a fire-box for coal and the other being provided with stationary top and bottom plates and a plurality of removable supplemental plates whereby said compartment is divided into separate subdivisions, the upper subdivision being provided with a removable oven-grating and one of the lower subdivisions with a water-coil, said last-named subdivisions being also provided below said coil with gas-burner pipes and means for conducting the products of combustion from the fire-box over and around the top portion of the other compartment and through the same and to the escape flue or pipe, substantially as shown and described.

2. A combination coal and gas range divided vertically and transversely into separate compartments one of which constitutes a bake-oven and over both of which is a horizontal space, a fire-box in the top portion of one of said compartments and a plurality of horizontal and removable plates in the bake-oven compartment, an escape flue or pipe at

the back of the range, and means for conveying the products of combustion from the fire-box from and around the top portion of the bake-oven subdivision, and through the same to the flue or escape-pipe, substantially as shown and described.

3. A combination coal and gas range divided vertically and transversely into separate compartments one of which constitutes a bake-oven and over both of which is a horizontal space, a fire-box in the top portion of one of said compartments, an escape flue or pipe, at the back of the range, means for conveying the products of combustion from the fire-box around the top portion of the bake-oven compartment and through the same to the flue or escape-pipe, and gas-burners in the space above the bake-oven compartment, substantially as shown and described.

4. A combination coal and gas range divided vertically and transversely into separate compartments one of which constitutes a bake-oven and over both of which is a horizontal space, a fire-box in the top portion of one of said compartments, an escape flue or pipe at the back of the range, means for conveying the products of combustion from the fire-box around the top portion of the bake-oven compartment and through the same to the flue or escape-pipe, and gas-burners in the space above the bake-oven compartment, said bake-oven compartment being also provided in the central portion thereof with a water-coil and gas-burners arranged thereunder, a supply-pipe in connection with said gas-burners and means for regulating the flow of gas into the several burners, substantially as shown and described.

5. A combination coal and gas range divided vertically and transversely into separate compartments one of which constitutes a bake-oven and over both of which is a horizontal space, a fire-box in the top portion of one of said compartments, an escape flue or pipe at the back of the range, means for conveying the products of combustion from the fire-box around the top portion of the bake-oven compartment and through the same to the flue or escape-pipe, gas-burners in the space above the bake-oven compartment, said bake-oven compartment being also provided in the central portion thereof with a water-coil and gas-burners arranged thereunder, a supply-pipe in connection with said gas-burners and means for regulating the flow of gas into the several burners, a plurality of doors or covers in operation with said flues, openings in the front member of said range in the position of the several subdivisions, doors or covers over said openings and means for controlling the admission of air into the several subdivisions substantially as shown and described.

6. A combination coal and gas range divided vertically and transversely into separate compartments one of which constitutes a bake-oven and over both of which is a horizontal space, a fire-box in the top portion of one of said compartments, an escape flue or pipe at the back of the range, means for conveying the products of combustion from the fire-box around the top portion of the bake-oven compartment and through the same to the flue or escape-pipe, gas-burners in the space above the bake-oven compartment, said bake-oven compartment being also provided in the central portion thereof with a water-coil and gas-burners arranged thereunder, a supply-pipe in connection with said gas-burners and means for regulating the flow of gas into the several burners, a casing within the opening in the front of the fire-box, a projection or flange on each side of said casing and near the bottom thereof, a supplemental gas-burner in said casing and fire-box and provided with outwardly-projected foot members engaging with said flanges, and a supplemental pipe or hose connecting said supplemental burner with a supply-pipe, substantially as shown and described.

7. A combination coal and gas range or stove divided into separate compartments, one of said compartments being provided with a fire-box and the other being adapted to serve as an oven and being provided with a water-coil, gas-burners arranged beneath said coil, and removable horizontal division-plates placed in said oven and by means of which it is divided into separate subdivisions, and means whereby the products of combustion from the fire-box are passed over around and through the top portion of said oven, substantially as shown and described.

8. A stove or range provided with a fire-box and an oven at one side thereof, an escape pipe or flue at the back top portion of a stove or range, and means for conveying the hot gases of combustion from the fire-box over around and through the top portion of said oven and into said escape pipe or flue, substantially as shown and described.

9. A stove or range provided with a fire-box and an oven at one side thereof, an escape pipe or flue at the back top portion of said stove or range, and means for conveying the hot gases of combustion from the fire-box over around and through the top portion of said oven and into said escape pipe or flue, said oven being also provided with removable horizontal division-plates by which it is divided into separate subdivisions, in one of which is a water-coil and gas-burners thereunder, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 26th day of July, 1902.

HENRY CHEVOLA.

Witnesses:
F. A. STEWART,
C. E. MULREANY.