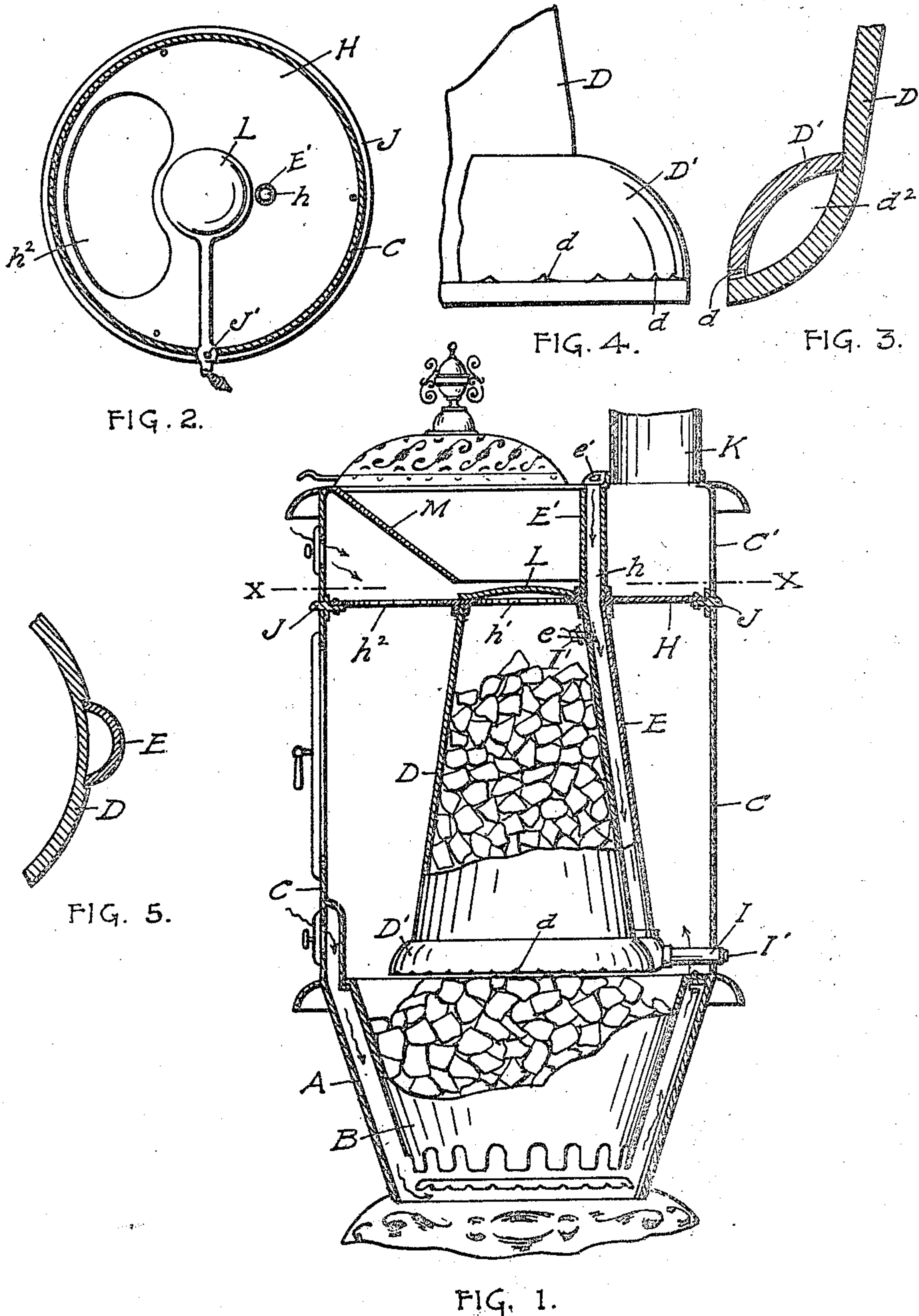


L. HOWARD.  
COMBINED COAL AND GAS HEATING STOVE.  
APPLICATION FILED JUNE 17, 1910.

993,299. -

Patented May 23, 1911.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

LINCOLN HOWARD, OF RALSTON, NEBRASKA.

COMBINED COAL AND GAS HEATING-STOVE.

993,299.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed June 17, 1910. Serial No. 567,439.

*To all whom it may concern:*

Be it known that I, LINCOLN HOWARD, a citizen of the United States, residing at Ralston, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in a Combined Coal and Gas Heating-Stove, of which the following is a specification.

The object sought in this invention is to provide a stove that can be used for either coal, artificial gas, or natural gas, or that can be used for coal at the same time intensifying the heat by the use of the gas coked from the coal.

I accomplish my object by the mechanism illustrated in the accompanying drawings, in which,—

Figure 1 is a sectional elevation of the entire device; Fig. 2 is a cross section of the device shown at line  $x-x$ ; Fig. 3 is an enlarged detail of the side of the magazine, broken away, and a gas ring seated therein forming a gas chamber; Fig. 4 is an elevation of Fig. 3, and Fig. 5 is a cross section of the magazine, broken away, and a segmental casting seated therein.

Similar letters refer to similar parts in the several views.

A is an inverted frusto-conical base of the stove and B is a fire pot therein of corresponding inverted frusto-conical shape.

C is the body of the stove.

C' is a sheet iron extension of the body C.

D is a soft coal magazine for the double purpose of holding coal and generating gas therefrom.

D' is a gas ring around the bell of the magazine which forms the outer wall of a gas chamber; the bell of the magazine forming the inner wall of the gas chamber or cavity. The bottom of the gas ring is provided with notches  $d$   $d$ —where it joins the bell of the magazine to permit the burning of the gas as it comes out of the gas chamber.

E is a segmental casting seated in the side of the magazine, as shown in Fig. 5. The magazine has an opening  $e$  near the top.

E' is a pipe extension to the passage chamber formed by the magazine and segmental casting E. Said casting E is joined at the bottom to gas ring D' and at the top to the underneath side of a support H which serves both as a magazine support and a baffle plate. E' is a pipe connected at the top with the top of the stove and is seated in the magazine support, thus forming an ex-

tension of segmental casting E. The gas generated by the magazine passes through hole  $e$  into the passage chamber formed by E and D and is conducted through said passage down into gas chamber  $d^2$  formed by D and D'. From this chamber the gas is distributed out through notched burners  $d$   $d$  . . . These notched burners are spaced apart around the bottom of the entire gas ring. Pipe E' is for the purpose of conducting cold air taken in through opening  $e'$  down to the passage formed by E and D where it mixes with the gas before entering the gas chamber. I is a pipe through which to introduce artificial or natural gas into the said burner when the stove is not used for generating its own gas. I' is a plug to close pipe I when the magazine is generating its own gas. When the stove is used exclusively for artificial or natural gas the plug I' is removed from pipe I and screwed into hole  $e$  in the side of the magazine. J is a ring for extending the sheet iron drum or extension C of the stove; it also serves as a support for said magazine baffle plate or support H. Said support H is fastened to extension ring J by bolts and is provided with three openings: one  $h$ , to make the passage continuous from pipe E' to the passage formed by E and D; a second opening,  $h'$ , through which fuel is supplied to the magazine and a third opening,  $h^2$ , through which the smoke reaches smoke pipe K.

L is a cap or lid to cover opening  $h'$ , shown in Fig. 2; it is provided with a long lever or handle cast as a part thereof and is pivoted to extension ring J at point J'.

M is a hopper through which to convey fuel to the magazine.

What I claim and desire to secure by Letters Patent, is:—

1. A combined coal and gas heating stove comprising an inverted frusto-conical base, a fire pot of corresponding shape inside of and spaced from said base, a body and an upper extension thereof, a magazine within said body for holding coal, and generating gas therefrom, and provided with an aperture near its top, a gas ring around the bell of the magazine forming the outer wall of a gas chamber, the bell of the magazine forming the inner wall of said chamber, the gas ring notched to form burner openings at the bottom thereof, a segmental casting seated in the side of the magazine and spaced therefrom forming therewith a passage with



which said magazine aperture communicates, a pipe extension to conduct cold air to mix with the gas entering said passage through said magazine aperture, a combined magazine support and baffle plate, a cap to cover the fuel opening and a lever therefor, a hopper and smoke pipe, a supply pipe through which to admit artificial or natural gas into said gas chamber and a plug therein adapted to be removed and screwed into the aperture in the side of the magazine near the top when the stove is used exclusively for artificial or natural gas.

2. In a coal and gas heating stove an inverted frusto-conical hollow base, a fire pot therein of corresponding inverted shape spaced therefrom, a stove body supported on said base, a magazine within said body having an aperture near its top communicating with a mixing chamber, a ring seated on the outside at the bell of the magazine spaced

from the wall of the magazine to form therewith a gas chamber and notched at the bottom to form burner openings, a segmental casting spaced outside from the magazine forming therewith a mixing chamber for the cold air entering at the top thereof and the gas entering the same from said magazine through said aperture, a pipe entering said notched ring and a plug to insert in the outer end thereof when said magazine is generating its own gas, and adapted to be removed and screwed into said aperture near the top of the magazine when said pipe is connected with a supply of artificial or natural gas.

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

LINCOLN HOWARD.

Witnesses:

EVANGELINE O. GIBBONS,  
MARIE MITCHELL.