

No. 685,407.

Patented Oct. 29, 1901.

J. G. MARIS.  
COAL OIL BURNER.

(Application filed June 8, 1901.)

(No Model.)

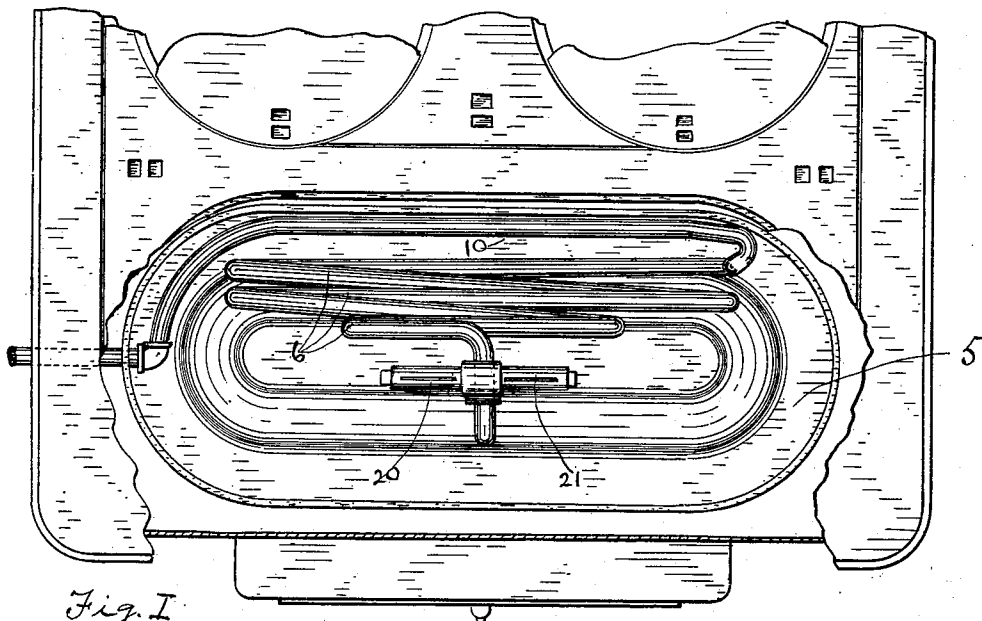


Fig. 1

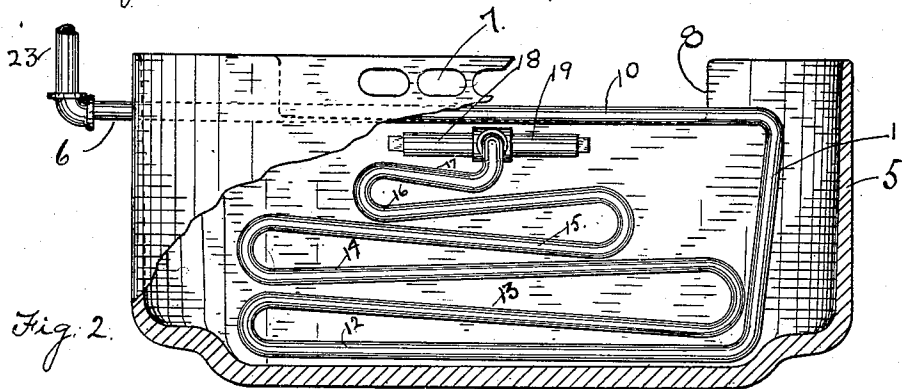


Fig. 2

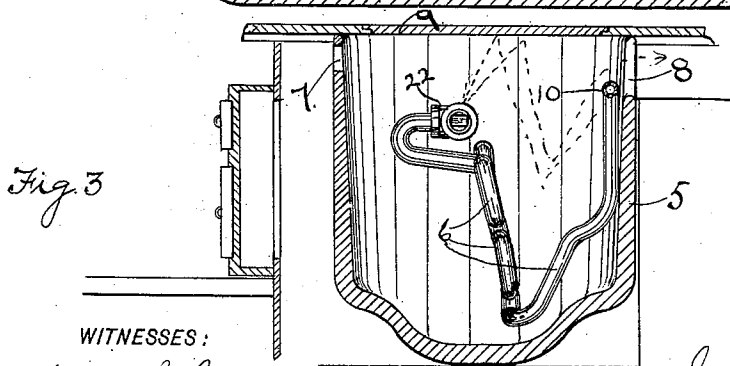


Fig. 3

WITNESSES:

Clara S. Jones  
Agnes T. Manser.

INVENTOR

Joseph G. Maris.  
BY  
Somer G. Wells  
ATTORNEY.

# UNITED STATES PATENT OFFICE.

JOSEPH G. MARIS, OF ST. LOUIS, MISSOURI.

## COAL-OIL BURNER.

SPECIFICATION forming part of Letters Patent No. 685,407, dated October 29, 1901.

Application filed June 8, 1901. Serial No. 63,697. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH G. MARIS, a citizen of the United States, and a resident of St. Louis, Missouri, have invented a new and useful Improvement in Coal-Oil Burners and the Like, of which the following is a specification.

My object is to produce a coal-oil burner which may readily be placed in cook-stoves, such as usually burn wood or coal, and which may be used for other similar purposes, and which shall be simple and inexpensive; and my invention consists of the novel features herein shown, described, and claimed.

Figure 1 is a plan of the burner in position for use, parts of the stove being broken away to economize space. Fig. 2 is a front elevation of the burner, parts being broken away and shown in section to better illustrate the construction. Fig. 3 is an end elevation of the generator, the other parts being shown in section.

Referring to the drawings in detail, in the construction of a burner in accordance with the principles of my invention I employ a mixing-chamber 5 and a generator 6, placed wholly within the mixing-chamber. The mixing-chamber 5 is a cast-iron trough adapted to fit within the fire-box of the stove and has draft-inlets 7 and a smoke-outlet 8. The top 9 of the stove closes the trough. The generator 6 consists of the horizontal portion 10, which extends along the lower edge of the smoke-outlet 8, the portion 11, which extends to the bottom of the mixing-chamber, the portions 12 13 14 15 16 17, lying one above the other, and the nozzles 18 and 19, mounted substantially in the center of the mixing-chamber and having slits 20 and 21, which serve as discharge-openings. The generator is formed of a single piece of pipe bent to the form shown, and the nozzles are secured to the discharge ends of the pipe by the T-joint 22. The intermediate portions of the generator occupy a lower central position in the mixing-chamber, so as to bring the nozzles below the inlets and outlets of the mixing-chamber. The discharge-openings 20 and 21 are so located that the gas is discharged against the top of the stove at such an angle that it rebounds backwardly and downwardly, and this produces a draft, causing fresh air to pass in through the draft-openings and the products of combustion to pass out through the smoke-outlet.

When it is desired to start the burner, oil is allowed to pass through the supply-pipe 23 and through the generator, and it will fall from the nozzles into the bottom of the trough of the mixing-chamber, where it may be lighted, and it will then burn up around and heat the generator, and then the oil may be again turned on and it will be vaporized as it passes through the hot generator and will be discharged as gas, and the gas will burn within the mixing-chamber and keep the generator hot.

If desired, the generator may be made of sections of pipe and elbows or return-bends.

The essentials are a mixing-chamber having inlet and outlet openings and a generator mounted in the mixing-chamber and having nozzles directed away from the inlet-openings and not directly toward the outlet-openings, so that the gas will rebound and heat the generator and draw in air and direct the products of combustion toward the outlet.

I claim—

1. In a coal-oil burner, a mixing-chamber having inlet and outlet openings, a generator mounted in the mixing-chamber and having nozzles directed a little above the outlet-openings and against the stove-top so that the gas will strike the top of the stove and rebound and heat the generator, substantially as specified.

2. In a coal-oil burner, a mixing-chamber having inlet and outlet openings, and having a bottom to catch oil, a generator mounted in the mixing-chamber and having nozzles directed a little above the outlet-openings and against the stove-top so that the gas will strike the top of the stove and rebound and heat the generator, substantially as specified.

3. In a coal-oil burner, a mixing-chamber having inlet and outlet openings and having a bottom to catch oil, a generator mounted in the mixing-chamber so that oil burned in said bottom will heat the generator to start the flow of gas, nozzles on said generator directed a little above the outlet-openings and against the stove-top so that the gas will strike the top of the stove and rebound and heat the generator after it is started, substantially as specified.

JOSEPH G. MARIS.

Witnesses:

JOSEPH WHELESS,  
CLARA S. JONES.