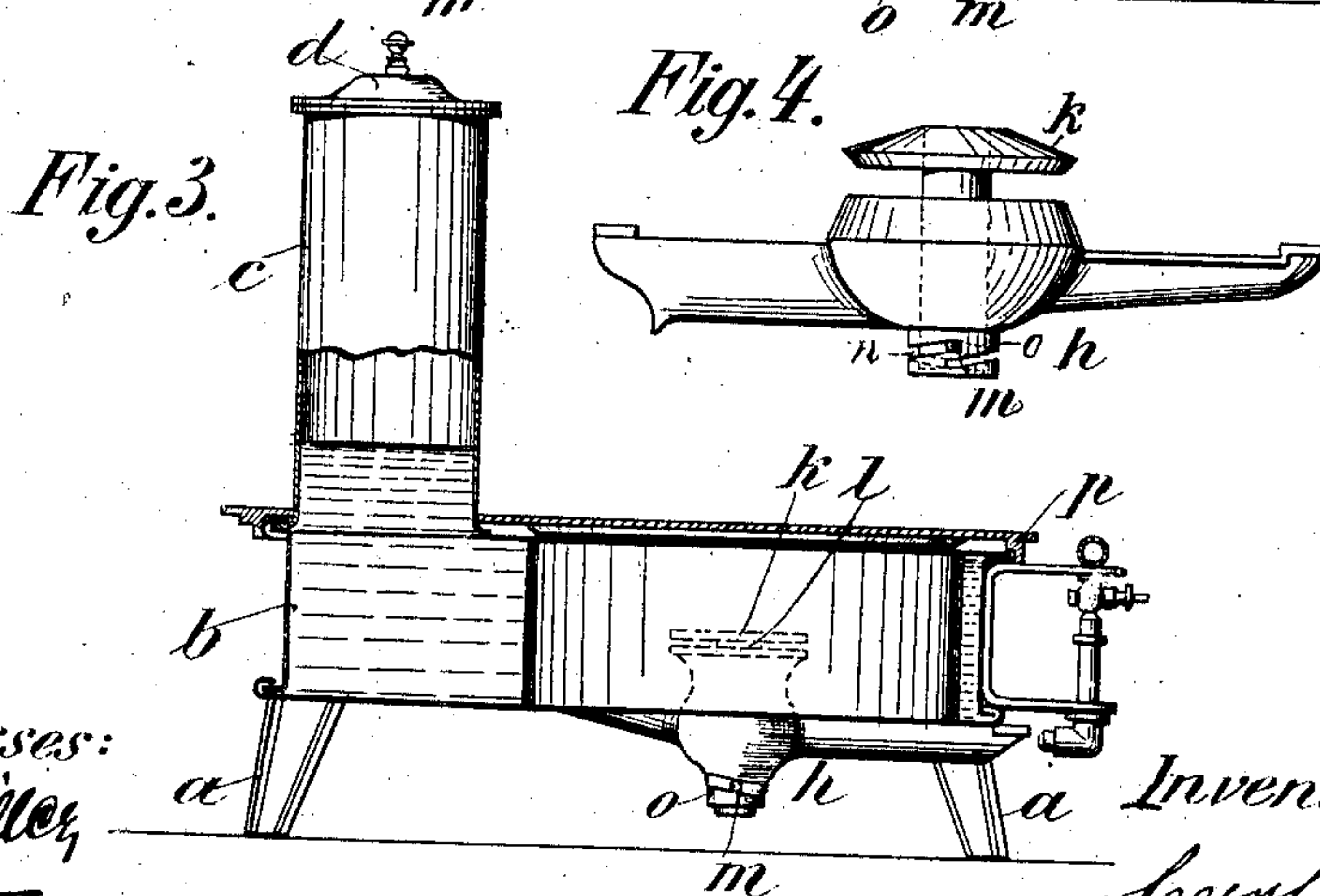
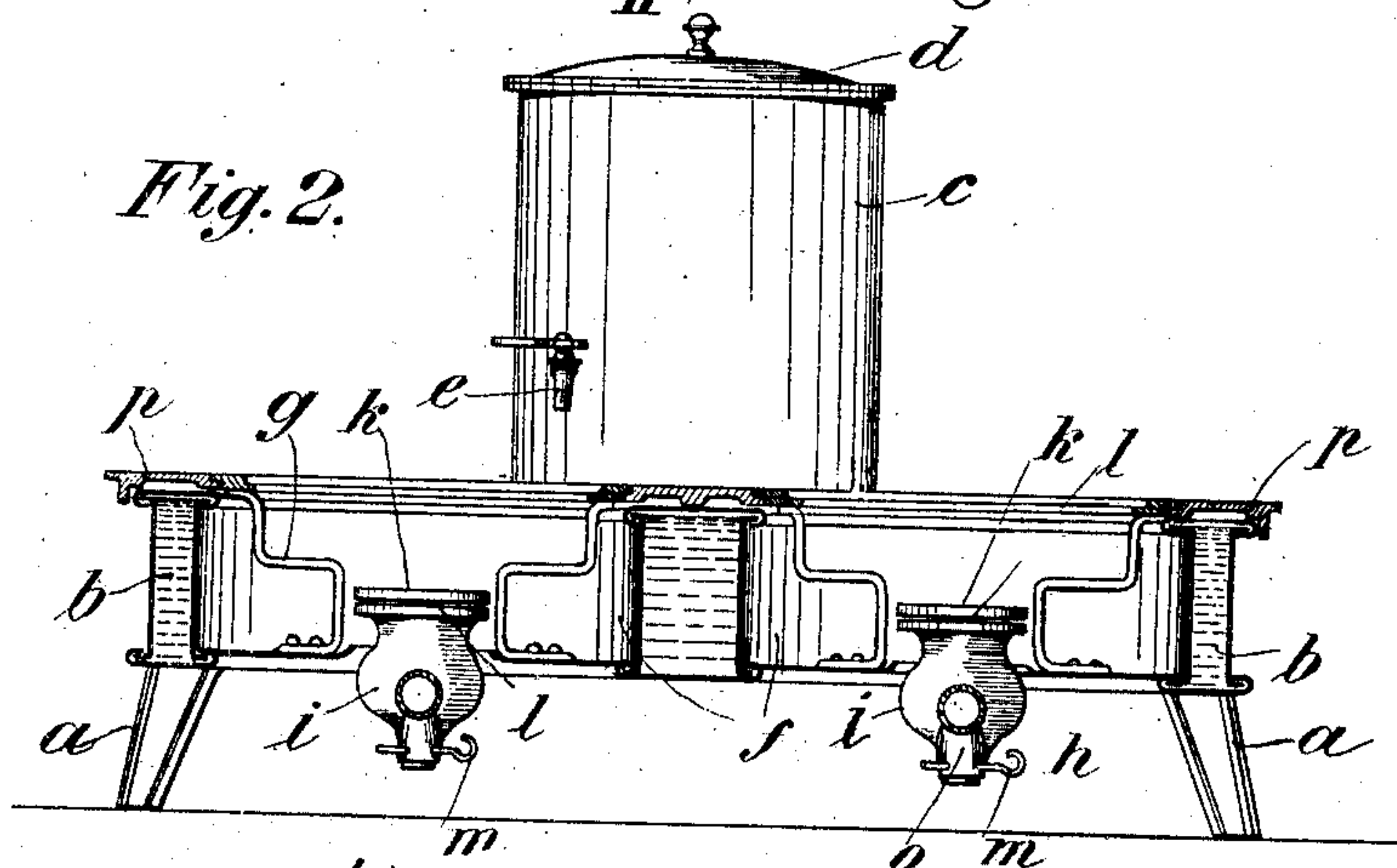
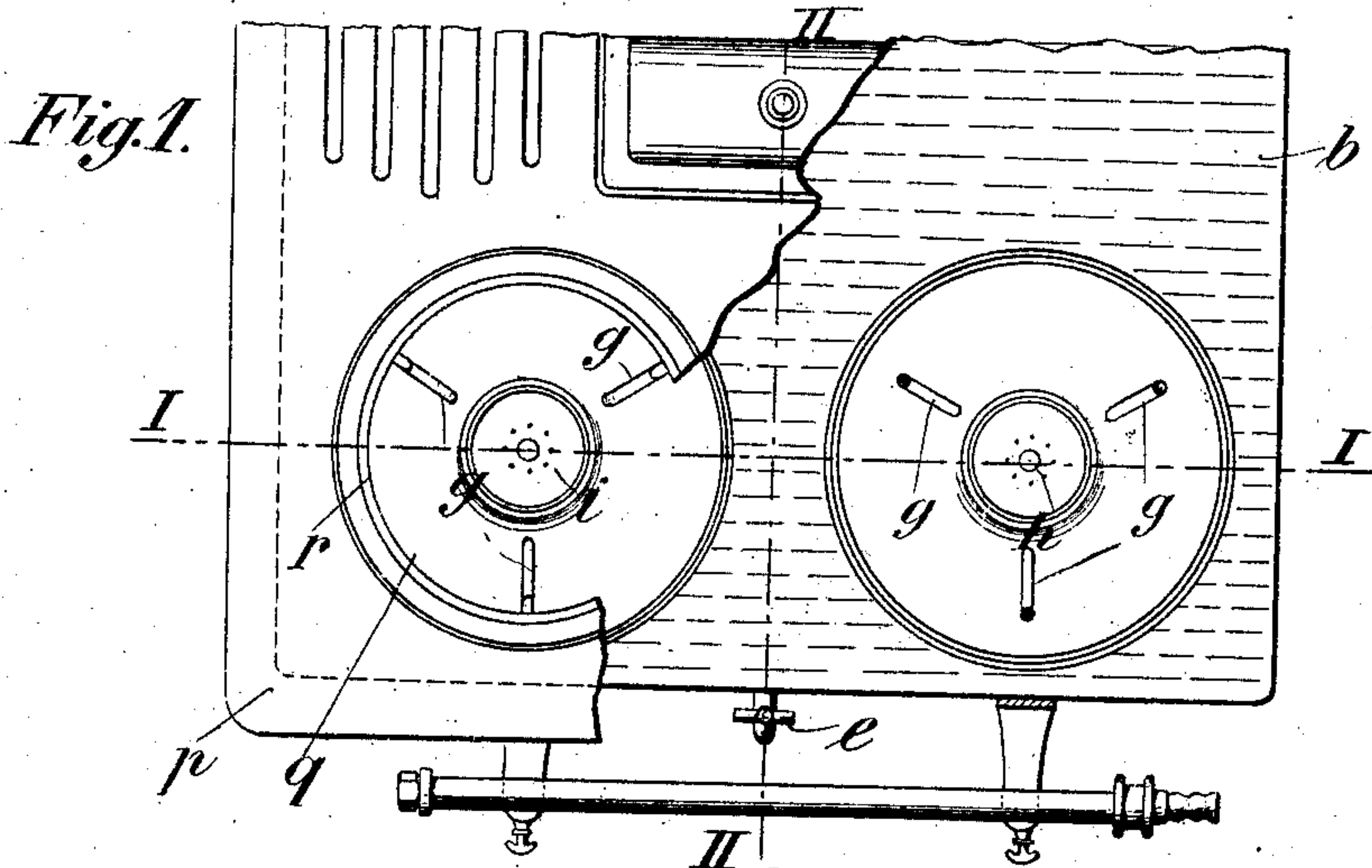


No. 853,995.

PATENTED MAY 21, 1907.

C. RAYER.  
GAS BOILER.

APPLICATION FILED SEPT. 15, 1905.



Witnesses:  
*Walton Miller,*  
*Paul Filler*

Inventor:  
*Carl Rayer*



# UNITED STATES PATENT OFFICE.

CARL RAYER, OF ESSLINGEN, GERMANY.

## GAS-BOILER.

No. 853,995.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed September 15, 1905. Serial No. 278,603.

*To all whom it may concern:*

Be it known that I, CARL RAYER, merchant, a subject of the German Emperor, and a resident of Esslingen, Germany, have  
5 invented certain new and useful Improvements in and Relating to Gas-Boilers, of which the following is a specification.

The present invention relates to gas boilers, which are so constructed, that a large  
10 quantity of water is flavorless and scentless heated during the boiling. The burners of said gas boilers are provided with an arrangement for a quick vertical adjustment of the regulation of the gases and the air.

15 The object of my invention is to improve gas boilers so that the water heated in the same shall be clean scentless and without any flavor of the firing gases.

Gas boilers are already known in which  
20 the burner of a gas stove is so arranged that some of the waste heat is used for heating water which then passes to a separate reservoir. Devices are also known in which the jet heats up air, which then rises and passes  
25 round an oven. These contrivances are very economical since they make use of the heat not employed in the culinary operation. My inventions deals with certain improvements in gas boilers of this type.

30 In the accompanying drawing like letters of reference refer to corresponding parts throughout the different views of the drawing.

Figure 1 shows a plan view of such a gas  
35 boiler partly in section, Fig. 2 shows a cross section through the gas boiler on lines I—I Fig. 1, Fig. 3 shows a cross section through the gas boiler on lines II—II Fig. 1, Fig. 4 shows a side view of one of the burners.

40 The gas boiler consists of a water receptacle *b* which rests on the supports *a*. This receptacle may be preferably manufactured of sheet-copper or similar thin flatted material. The receptacle *b* is provided at any  
45 suitable place with a water reservoir for instance a water tower, *c* which can be closed or opened by means of a cover *d* for the purpose of taking water out of the receptacle. A discharge-cock *e* is provided on the water-  
50 tower *c*. The openings *f* serve on one hand to receive the gas burners *i* on the other hand to offer a sufficient surface of the receptacle to the burning gases for the purpose of heating the water contained in the said receptacle. Three supports *g* are arranged around  
55 the adjustable burners *h* inside of the said

openings *f*, and they serve to carry the pots with the food. The burners *h* consist of the gas collecting chamber *i* and the adjustable head piece *k*. The head pieces *k* is mounted  
60 on a shaft *l* which passes through the gas collecting chamber *i* and is provided on its lower end with a pin *m*. The gas collecting chamber is provided on its bottom with a short tube *o* which is provided with  
65 a slit *n*. The head piece *k* and its shaft *l* with the pin *m* is so inserted into the gas collecting chamber *i* and the tube *o* that the pin *m* turns screwlike in the slit *n* as soon as the head piece is turned. According  
70 to the direction in which the head piece *k* is turned is the air regulated which is to be added to the burning gases by means of enlarging or diminishing the space between the head piece *k* and the gas chamber *i*. A  
75 plate *p* with openings *q* is placed on the receptacle *b*. Corresponding to the openings *f* the size of the openings *q* may be reduced according to the size of the tops by means of  
80 common fitting rings *r*.

What I claim as new and desire to secure by a United States Letters Patent is:

1. In gas boilers the combination of a water chamber supported on feet, cylindrical passages in said water chamber from top to  
85 bottom and closed at the bottom, said cylindrical passages being encompassed laterally by the water chamber, gas burners inserted through the bottom, supports for cooking vessels arranged round said burner, and a hot  
90 water reservoir in communication with and higher than the water chamber, all substantially as and for the purpose set forth.

2. In gas boilers the combination of a water chamber supported on feet, cylindrical  
95 passages closed at the bottom and encompassed laterally by the water chamber, a hot water reservoir in communication with the water heating chamber, gas burners inserted through the bottom, a gas mixing chamber  
100 of round form, a central support, a head piece adapted to fit over said gas mixing chamber, and a lateral projection on the lower part of the support adapted to work in a spiral, substantially as and for the purpose  
105 set forth.

3. In gas boilers as herein described gas burners comprising the combination of a delivery tube, a gas mixing chamber of round  
110 form, a head piece to said chamber, a central support for said head-piece passing through the mixing chamber, a lateral projection

near the bottom of the central support, a spiral groove in the tubular lower part of the mixing chamber, said lateral projection being adapted to move in said spiral groove all substantially as and for the purpose described.

5 In testimony whereof I have hereunto signed my name this 29th day of August

1905, in the presence of two subscribing witnesses.

CARL RAYER.

Witnesses:

GOTTLIEB RIMIG,  
WM. HAHN.