

(No Model.)

O. DAMON.
OIL BURNER.

No. 600,409.

Patented Mar. 8, 1898.

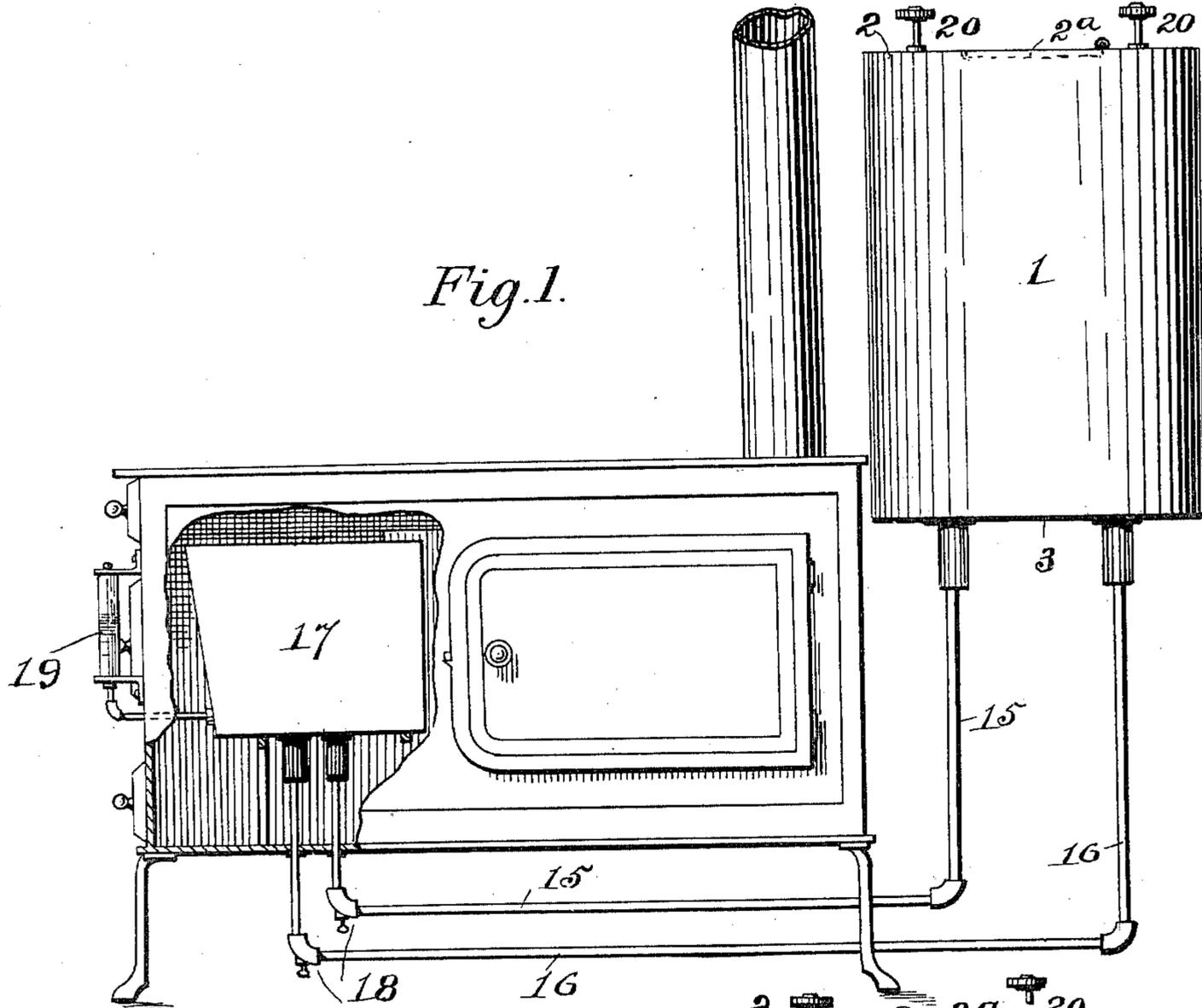


Fig. 1.

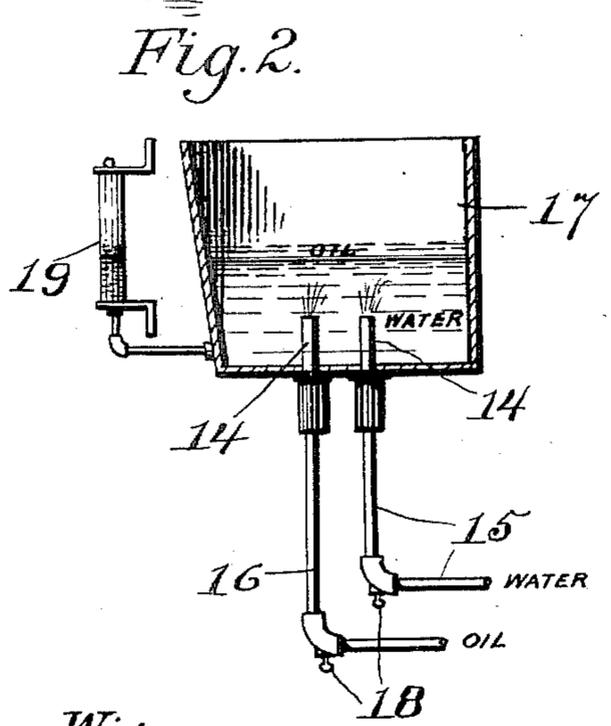


Fig. 2.

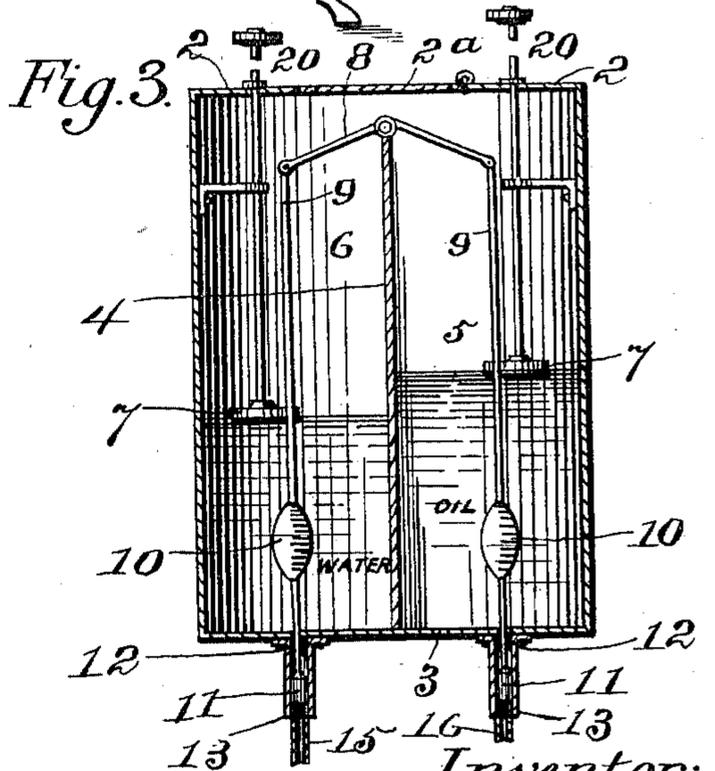


Fig. 3.

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UNITED STATES PATENT OFFICE.

OSCAR DAMON, OF BUFFALO, NEW YORK.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 600,409, dated March 8, 1898.

Application filed March 30, 1897. Serial No. 629,968. (No model.)

To all whom it may concern:

Be it known that I, OSCAR DAMON, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to an air-feeding and burning attachment for cooking stoves and ranges, steam-boilers, or other inclosures intended to make steam or heat.

The object of the invention is to provide a burner for crude oil or its products adapted to be applied to a range, heating-stove, or other apparatus for making heat and steam, and to provide automatic means to control the flow of oil and water to the burner.

The objects and advantages producing new and improved results will be pointed out in the specification and claims to follow.

In the accompanying drawings, forming part of this application, Figure 1 is an elevation of my burner and feeder with the former in position in the fire-chamber of a cooking-stove, said stove being partly broken away. Fig. 2 is a sectional view of the combined oil and water feeder. Fig. 3 is a sectional view of the burner.

The same numeral references denote the same parts throughout the several figures of the drawings.

1 denotes the cylindrical casing, having a suitable top 2 and bottom 3. Although the casing is shown cylindrical, it may be of any desired form, having a central partition 4, dividing the cylinder into an oil-reservoir 5 and a water-reservoir 6. Each of said reservoirs is provided with a suitable float 7 to indicate the amount of water and oil in the reservoirs.

Pivoted to the partition 4 is a balance-arm 8, having connected thereto at each end a valve-stem 9, provided with a float 10 and a valve 11. The seats 12 for the valves 11 are formed in the tubular projections 13, and contiguous with said seats upon the inside of each reservoir are formed guides for the valve-stems 9, which guides form discharge-openings for the water and oil through the said tubular projections.

The tubular projections 13 are connected, respectively, to the jets 14 by a water-pipe 15 and an oil-pipe 16, the latter being lower than

the former, as shown in the drawings, permitting more or less water to always be in the oil-tank and through which the oil must pass, thereby preventing back fire—that is, the oil in the pipe is prevented from burning by the body of water in the tank.

The jets 14 enter the water and oil receptacle or burner 17, which is adapted to be placed in a cooking-range, heating-stove, fireplace, or other place whence steam or heat is generated. The jets are provided with suitable cocks 18, and a water-gage 19 is attached to the front of the burner 17.

The amount of oil in the burner 17 is graduated, in accordance with the size or capacity of the stove, by fixing the size of the aperture in the jets, and though the cocks 18 may admit a greater or less amount of oil and water to the jets no more oil and water is permitted to flow into the tank or burner 17 than is required.

The operation of the invention is as follows: The reservoirs, being supplied with oil and water through a suitable door 2^a in the top of the casing 1, will float the floats 7, the latter indicating by their stem ends 20 the amount of water and oil in the reservoirs, and also float the water-valve stem in the absence of oil in the reservoir, or the oil-valve stem is floated in the absence of water in the water-reservoir. Thus in the exhaustion of either the water or the oil the opposite valve to the exhausted reservoir is closed. The valves 11, which close upwardly on the seats 12, are so balanced that the counterweights thereof keep the valves open as long as the reservoirs are supplied with or contain water and oil, and hence the pipes 15 and 16 are automatically kept in direct communication with the reservoirs until either the water or the oil is exhausted, which will be clearly indicated by the float-stems 7. The oil rests upon the water in the burner 17 in so thin a layer that the burning of the oil from the surface of the water will at the same time generate steam from the water and lower the body of water which may be contained within the burner. The products of combustion of the oil will be carried off through the usual channels in the stove, and the water will evaporate and in the form of steam also pass through such stove-channels while the oil is

ignited and, in such supported condition, burns.

I do not wish to be understood as limiting myself to any special application of my invention nor to the size of the material of which it is composed, as the same may be deviated from without departing from the spirit of my invention.

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

1. The combination with a suitable burner having oil-jets and adapted to contain oil supported by a body of water whence the oil is burned, of a casing having a partition forming an oil and a water reservoir independent of each other, valves in the bottom of the casing, and an automatic means in the casing adapted to close the valve of one reservoir in the absence of fluid in the other reservoir, as set forth.

2. The combination with a suitable burner adapted to hold water and oil, and the water and oil jets in the burner, of a casing having a partition dividing it into water and oil reservoirs, a balance-arm pivoted to the partition, valve-stems having floats and hung from each end of the said arm, and provided with valves, a valve-seat in the bottom of each of said reservoirs and suitable pipe connections

from the said valves to the said jets, as set forth.

3. The combination with a suitable oil-burner adapted to hold water, of the water and oil reservoirs, for supplying said burner, and means to automatically cut off the flow of one fluid to the burner upon the exhaustion of the other fluid, as set forth.

4. The combination with the oil and water reservoirs having each a valve-seat, of an automatic cut-off comprising valve-stems each having a float and a valve, in each reservoir, said stems being so connected that the flow of one fluid will be cut off upon the exhaustion of the other fluid, as set forth.

5. The combination with the oil and water reservoirs having each a valve-seat, of an automatic cut-off, comprising a pivoted balance-arm, valve-stems having each a float and hung from the ends of the said arms in each reservoir, and a valve upon each of said stems adapted to close upwardly upon the said seats, as set forth.

In witness whereof I hereunto set my hand in the presence of two witnesses.

OSCAR DAMON.

Witnesses:

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