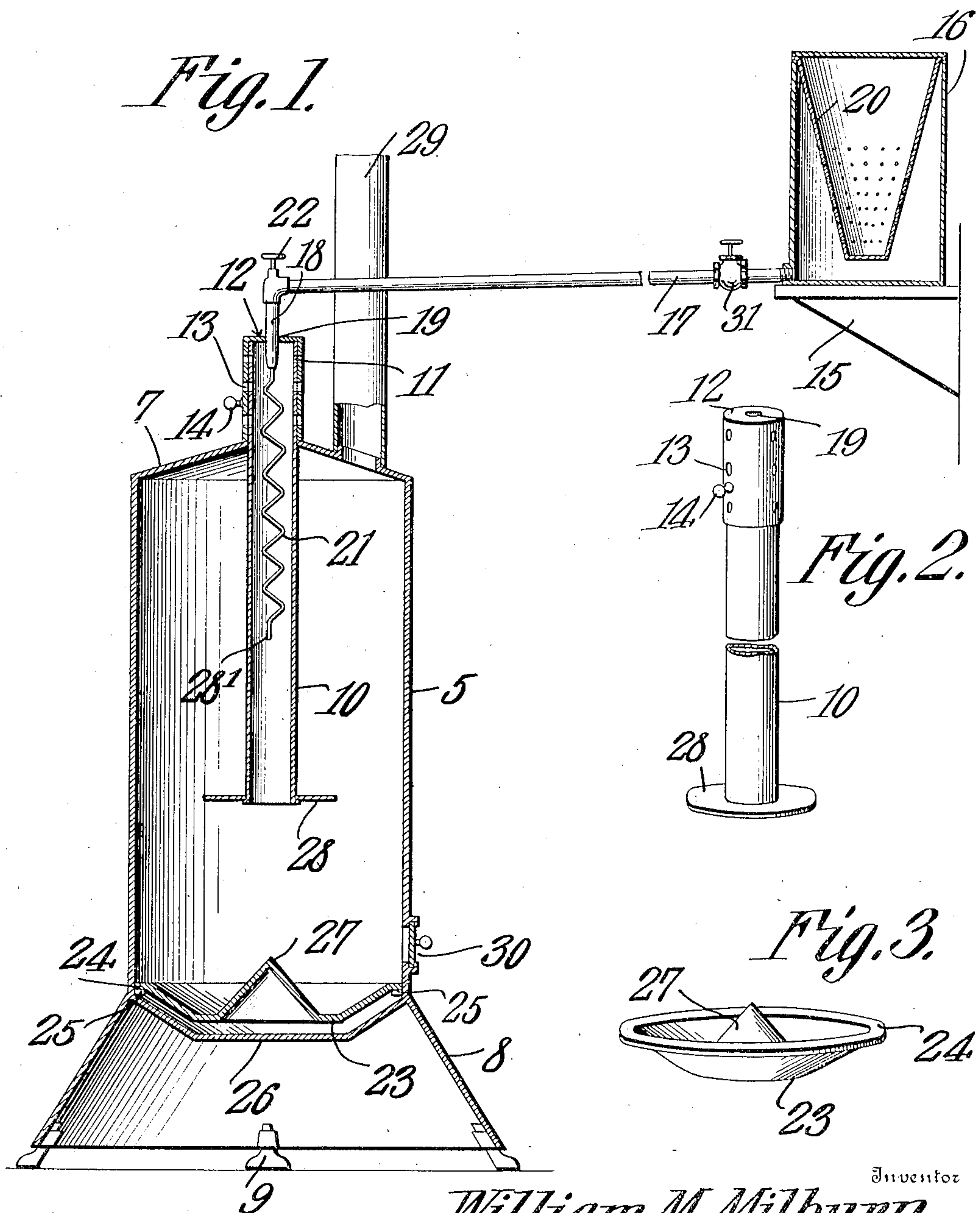


W. M. MILBURN.
OIL BURNER.

APPLICATION FILED JAN. 31, 1908.

906,541.

Patented Dec. 15, 1908.



Witnesses

E. J. Stewart
J. W. Miller

William M. Milburn.

By

C. A. Snow

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM M. MILBURN, OF DENISON, TEXAS.

OIL-BURNER.

No. 906,541.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed January 31, 1908. Serial No. 413,691.

To all whom it may concern:

Be it known that I, WILLIAM M. MILBURN, a citizen of the United States, residing at Denison, in the county of Grayson and State of Texas, have invented a new and useful Oil-Burner, of which the following is a specification.

This invention relates to hydro-carbon burners and has for its object to provide a comparatively simple and inexpensive device of this character especially designed for use in connection with heating and cooking stoves and employing crude oil as the heating medium.

A further object of the invention is to provide an oil burner including a tube adapted to be suspended within the stove and having its upper end provided with a plurality of draft openings, there being a spiral rod disposed within the tube and serving to conduct the oil from the reservoir to the burner proper.

A further object is to provide an oil receiving pan having a cone shaped member projecting vertically from the same and disposed in alinement with the spiral rod for spraying the oil as the latter drops from the end of the rod.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a vertical sectional view of an oil burner constructed in accordance with my invention showing the same in position on a heating stove. Fig. 2 is a perspective view of the tubular member and perforated cap detached. Fig. 3 is a perspective view of the oil pan detached.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved oil burner forming the subject matter of the present invention is principally designed for use in connection with

heating stoves and by way of illustration is shown in connection with a heating stove in which 5 designates the cylindrical body portion or casing, 7 the conical shaped top and 8 the flared bottom supported on depending feet 9.

Suspended within the casing 5 is a tubular member 10 the upper end of which passes through an opening in the apex of the conical top 7 and is provided with a plurality of draft openings 11.

Mounted for rotation on the extended end of the tubular member 10 is a cap 12 having corresponding openings 13, there being a finger piece 14 extending laterally from the cap 12 for rotating the latter thereby to vary the size of the openings 11 and thus regulate the quantity of air admitted to the tube.

Supported on a suitable shelf or bracket 15 is an oil reservoir 16 adapted to contain a quantity of crude petroleum or other hydrocarbon oil and threaded in one wall of the reservoir 16 is a supply pipe 17 the free end of which is provided with an angular extension 18 which passes through a correspondingly shaped opening 19 formed in the head of the cap 12 and partly projects within the tubular member 10.

Arranged within the reservoir 16 is an inverted conical shaped screen or filter 20 which serves to prevent any foreign particles in the oil from entering the pipe 17 and obstructing the latter or otherwise interfering with the operation of the burner.

Depending from the extension 18 of the oil supply pipe is a spiral rod 21 the free end of which terminates short of the lower end of the tube 10 and serves to conduct the oil from the pipe 17 and partly vaporize the same on its way to the burner, there being a valve 22 arranged in the supply pipe 17 above the extension 18 for regulating the quantity of oil discharged from said pipe.

Arranged beneath the tube 10 is an oil receiving pan 23 having a laterally extending flange 24 which engages suitable lugs 25 and serves to support the pan in spaced relation to the body of the stove, indicated at 26.

The pan 23 may be formed of metal, clay, porcelain or other suitable material and is provided with a central conical portion 27 the apex of which is disposed in alinement with the terminal 28' of the spiral rod so

that the oil dropping from the terminal 28' will strike the apex of the member 27 and thus break or spray the oil, the heavier particles of oil settling in the trough around the base of the member 27.

Secured to the lower end of the tube 10 is a circular plate 28 which serves to deflect the flame from the burner 27 laterally and thus uniformly heat the interior of the stove, there being a pipe 29 extending vertically from the top of the stove and through which the products of combustion are discharged to the atmosphere.

A door 30 is also preferably formed in the walls of the casing 5 so that the oil in the pan 23 may be readily ignited.

In operation a quantity of oil is placed in the pan 23 and the latter ignited by opening the door 30 and inserting a match or torch therein. The valve 22 is then opened which allows the oil from the reservoir 16 to flow down the spiral rod 21, the oil in its downward passage becoming thoroughly heated and partly vaporized by contact with the heating rod. The oil drops by gravity from the terminal 28' of the rod in contact with the apex of the conical member 27 and is thus broken up and distributed in the form of a fine spray to the pan or burner where it is ignited by the flame from said burner.

A valve 31 is preferably arranged in the pipe 17 near the reservoir 16 for cutting off the flow of oil to the burner, when desired.

From the foregoing description it will be seen that there is provided an extremely simple, inexpensive and efficient device admirably adapted for the attainment of the ends in view.

Having thus described the invention what is claimed is:

1. The combination with a casing, of a tube suspended within the casing, an oil reservoir, a supply pipe connected with the reservoir and having one end thereof provided with a depending extension projecting within the tube, an oil pan arranged beneath the tube and provided with a conical member, and a spiral rod depending from the extension of the supply pipe and provided with a straight terminal disposed in alinement with the apex of the conical member.

2. The combination with a casing, of a tube suspended within the casing, an oil reservoir, a supply pipe connecting the reservoir and tube, an oil pan arranged within the casing beneath the tube and provided with a conical member, a spiral rod disposed within the tube, the lower end of said spiral rod terminating short of the end of the tube and disposed in alinement with the apex of the conical member, and a valve for controlling the flow of oil from the reservoir to the spiral rod.

3. The combination with a casing, of a tube suspended within the casing and having

its upper end perforated, a cap mounted for rotation on the perforated end of the tube and provided with corresponding perforations adapted to register with the perforations in the tube, an oil reservoir, a pipe having one end thereof communicating with the interior of the reservoir and its opposite end projecting through the cap, an oil pan disposed beneath the tube and provided with a conical member, a spiral rod disposed within the tube and connected with the adjacent end of the supply pipe, the lower end of the rod being disposed parallel with the interior walls of the tube and arranged in alinement with the apex of the conical member, and a valve for controlling the supply of oil to the rod.

4. The combination with a casing, of a tubular member depending from the casing and provided with a terminal plate constituting a deflector, an oil pan disposed within the casing and provided with a conical member, an oil reservoir, a supply pipe having one end thereof communicating with the reservoir and its opposite end disposed within the tube, a spiral rod connected with the adjacent end of the supply pipe and having its lower end terminating short of the lower end of the tube and disposed in alinement with the apex of the conical member, a valve for controlling the supply of oil from the pipe to the spiral rod, a damper for controlling the admission of air to the tube, and a valve for regulating the flow of oil from the reservoir to the supply pipe.

5. The combination with a stove having a door formed therein, of an oil pan arranged within the stove adjacent said door and provided with a conical member, a tube suspended within the stove in spaced relation to the oil pan and having its upper end projected above the top of the stove and provided with perforations, a cap mounted for rotation on the extended end of the tube and provided with corresponding perforations adapted to register with the perforations in the tube for controlling the admission of air therein, an oil reservoir, a supply pipe forming a source of communication between the reservoir and tube, a spiral rod secured to the adjacent end of the supply pipe and having its lower end disposed in alinement with the apex of the conical member, and a valve for controlling the flow of oil from the reservoir to the spiral rod.

6. The combination with a casing, of a tube suspended within the casing and having its lower end provided with a terminal plate constituting a deflector, an oil reservoir, a filter disposed within the reservoir, a supply pipe forming a source of communication between the reservoir and the tube, an oil pan disposed beneath the tube and provided with a conical member, a spiral rod secured to the adjacent end of the supply

pipe and having its lower end terminating
short of the end of the member and dis-
posed in alinement with the apex of the con-
ical member, and a valve for regulating the
5 flow of oil from the reservoir to the spiral
rod.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature
in the presence of two witnesses.

WILLIAM M. MILBURN.

Witnesses:

R. M. HALEY,

J. J. DEMNIS.