W. H. CRESWELL.

OIL BURNER.

APPLICATION FILED JAN. 30, 1909.

948,921. Patented Feb. 8, 1910.

Fig. 1.

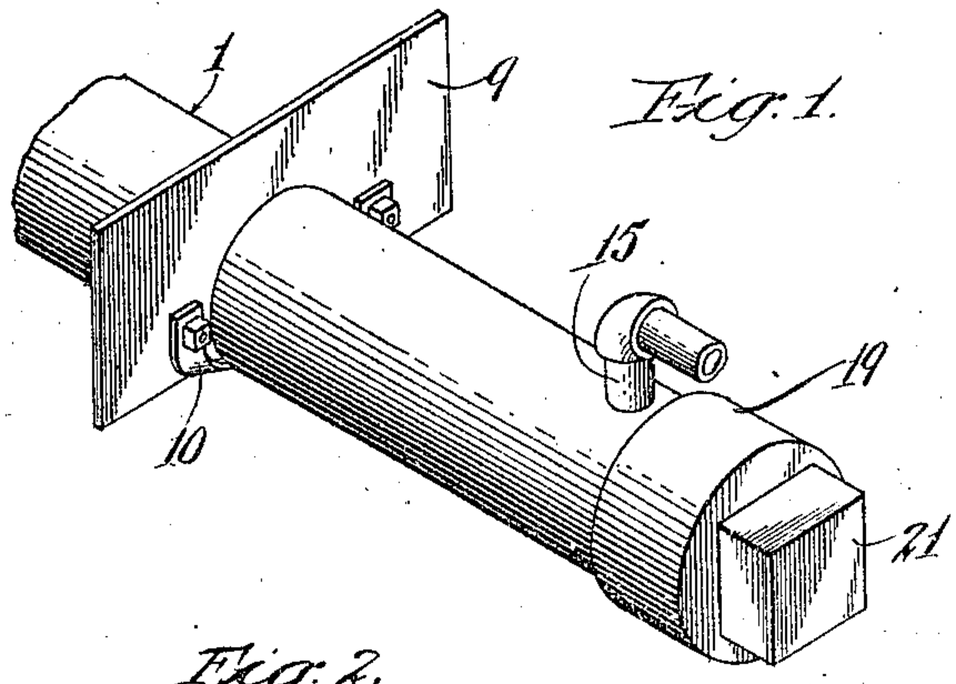


Fig. 5.

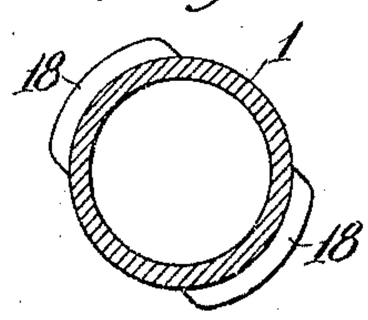


Fig. 2.

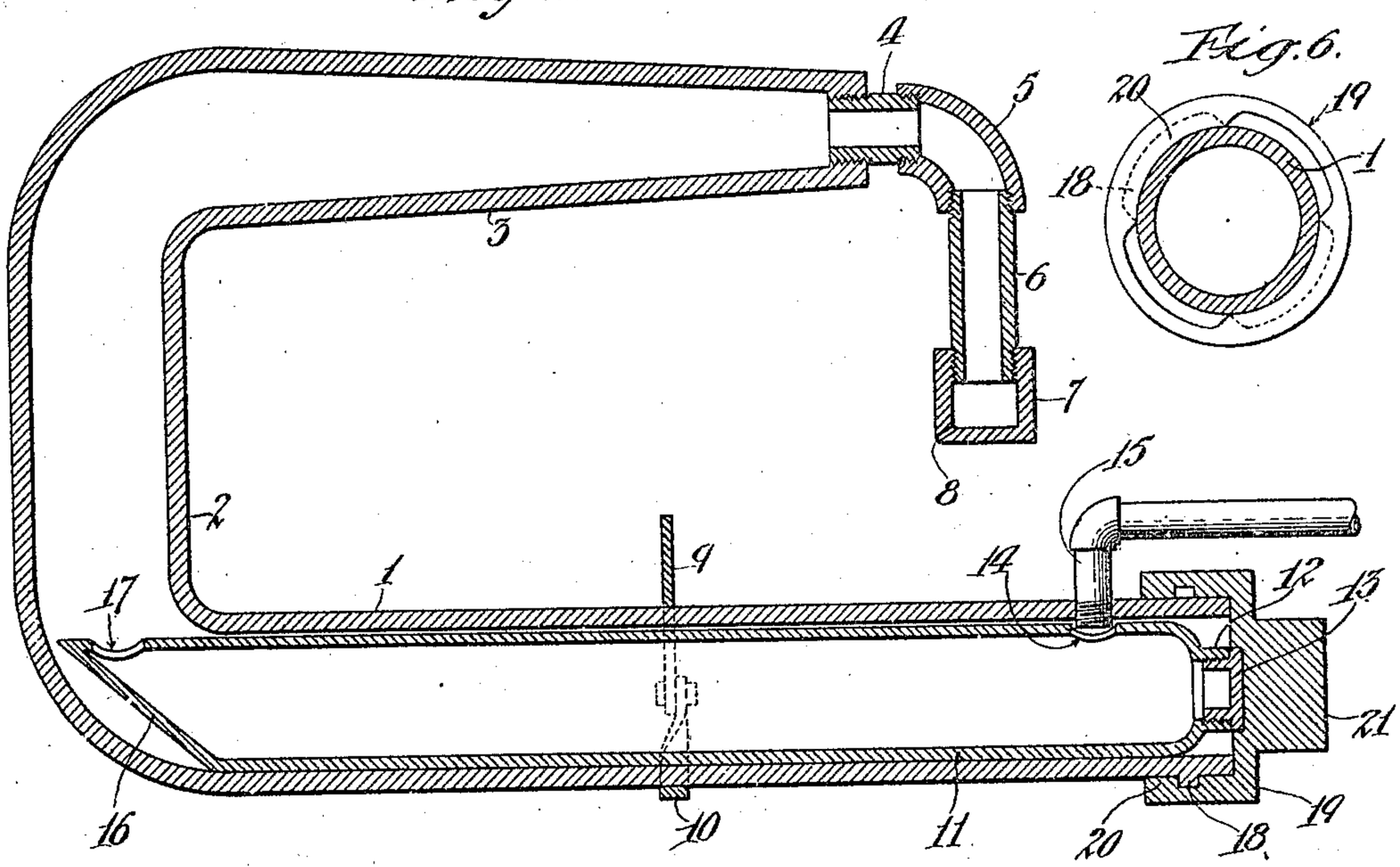


Fig. 6.

Fig. 3.

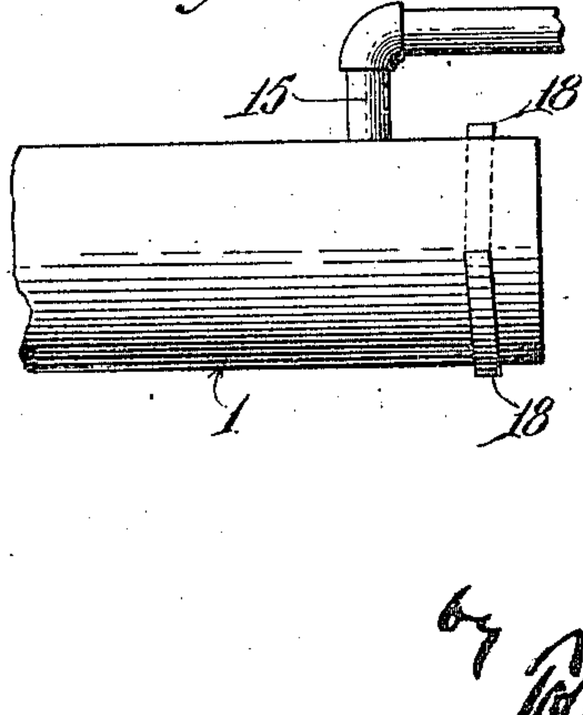
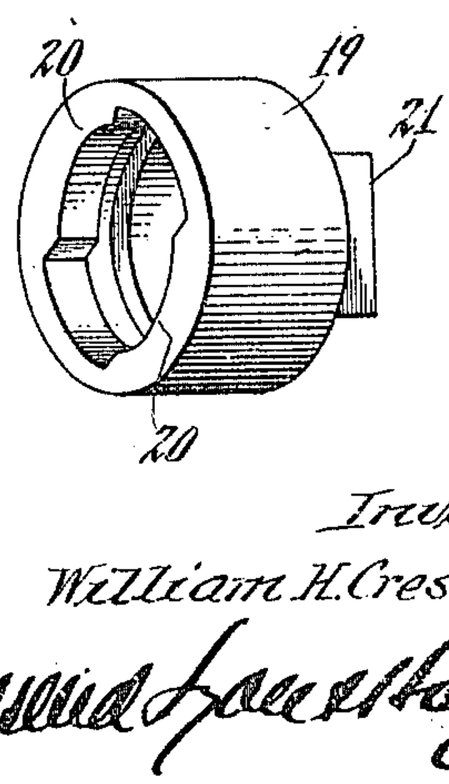


Fig. 4.



Witnesses:-
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UNITED STATES PATENT OFFICE.

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OIL-BURNER.

948,921. Specification of Letters Patent. Patented Feb. 8, 1910.

Application filed January 30, 1909. Serial No. 475,277.

To all whom it may concern:

Be it known that I, WILLIAM H. CRESWELL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Oil-Burner, of which the following is a specification.

This invention relates to oil burners, and the object of the invention is to provide an oil burner which is of extremely simple and economical construction, which is durable in use and which may be very readily cleaned and thus will not clog up.

Referring to the drawings:—Figure 1 is a perspective view of the oil inlet end of the burner. Fig. 2 is a vertical section taken longitudinally through the complete burner. Fig. 3 is a side elevation of the oil inlet end of the burner with the cap removed. Fig. 4 is a perspective view of the detachable cap for the inlet end of the burner. Fig. 5 is a sectional view of the inlet end. Fig. 6 is a sectional view of the detachable cap for the inlet end, part of the burner being shown in section.

The main body portion of the burner comprises a U-shaped member, preferably a casting, and consisting of a lower horizontal arm or member 1, a vertical arm 2 and an upper horizontal arm 3, the latter being tapered, as shown, and being shorter than the lower arm and the vertical arm connecting the lower and upper arms. Screwed to the reduced end of the upper arm 3 is a nipple 4 to which is screwed an elbow 5, and screwed to the elbow 5 is a pipe 6 to the lower end of which is screwed a cap 7, the latter having an inclined orifice 8 which forms the nozzle of the burner and through which the gasified oil is discharged in a direction toward the lower arm 1.

Secured to the lower arm 1 is a baffle plate 9, the latter comprising a plate which has a concave notch fitting the lower arm 1, said plate being secured in position by a strap 10 which passes around under the arm 1 and is secured to said plate. The flames issuing from the nozzle 8 strike the arm 1 and are caused to be deflected upwardly by the baffle plate 9 so that not all of the heat is given to the lower arm 1, but a considerable portion of it being thus deflected upwardly results in heating the upper arm 3. Within the lower arm 1 is a removable shell 11, the outer end of which has an internally threaded flange 12 to which is screwed a plug 13. The upper wall of the shell 11 has an orifice 14 which is in register with an oil inlet pipe 15 which extends into the upper wall of the lower arm 1 and through which oil is fed into the interior of the shell 11. The end of the shell 11 which is adjacent the elbow between arms 1 and 2 has an inclined wall 16 which permits the shell to project into the vertical arm 2. An orifice 17 is formed in the end of the shell 11 through which the oil in the form of vapor or gas ascends into the arm 2. The outer end of the arm 1 is provided with two inclined lugs 18, and a cap 19 is provided with two internal inclined lugs 20 adapted to engage with the inclined lugs 18, so that when the cap 19 is slipped over the end of the arm 1 and turned the inclined lugs will draw it tightly into position. The end of the cap 19 is provided with a square head 21 for the application of a wrench, if necessary. This form of cap may be quickly and easily attached or detached from the arm 1 to permit the removal of the shell 11. Should any of the oil carbonize, or a deposit form on the shell 11, the cap 19 may be removed whereupon the shell 11 may be drawn out from the arm 1 and easily cleaned, and then reinserted.

In the operation of the burner the oil is admitted through the pipe 15 and enters the shell 11, the walls of which are kept hot by the flames from the burner. The heat within the shell 11 forms the oil into a vapor or gas which passes out through the orifice 17 and ascends through the arm 2 into the arm 3 and thence through the hereinbefore described connections to the nozzle 8. The arms 2 and 3 are also highly heated and the process of gasifying or vaporizing continues throughout the length of the arms, so that any oil which is not fully vaporized or gasified in the lower arm 1 will become so in its passage through the other arms before it finally arrives at the nozzle.

What I claim is:—

1. An oil burner comprising a U-shaped body portion having a lower horizontal arm, an upper horizontal arm, and a vertical arm connecting the lower and upper arms, said arms being formed of a single casting, a short pipe depending from the upper arm and provided with a nozzle to project the flame toward the lower arm of the body portion, and means for admitting oil to the lower arm of the body portion.

2. An oil burner comprising a U-shaped

body portion having a lower horizontal arm, an upper horizontal arm, and a vertical arm connecting the lower and upper arms, said arms being formed of a single casting, a short pipe depending from the upper arm and provided with a nozzle to project the flame toward the lower arm of the body portion, means for admitting oil to the lower arm of the body portion, and a baffle plate on the lower arm.

3. An oil burner comprising a U-shaped body portion having a lower horizontal arm, an upper horizontal arm, and a vertical arm connecting the lower and upper arms, said arms being formed of a single casting, a short pipe depending from the upper arm and provided with a nozzle to project the flame toward the lower arm of the body portion, means for admitting oil to the lower arm of the body portion, a baffle plate adjustably secured to the lower arm and comprising a plate having a concave notch fitting the lower arm, and a strap secured to the plate and passing around under the arm.

4. An oil burner comprising a U-shaped body portion having a lower horizontal arm, an upper horizontal arm, and a vertical arm connecting the lower and upper arms, said arms being formed of a single casting, a short pipe depending from the upper arm and provided with a nozzle to project the flame toward the lower arm of the body portion, means for admitting oil to the lower arm of the body portion, and a removable shell within the lower arm into which the oil is conducted and in which the initial vaporization occurs.

5. An oil burner comprising a U-shaped body portion having a lower horizontal arm, an upper horizontal arm, and a vertical arm connecting the lower and upper arms, said arms being formed of a single casting, a short pipe depending from the upper arm and provided with a nozzle to project the flame toward the lower arm of the body portion, means for admitting oil to the lower arm of the body portion, a cylindrical shell removably inserted in the lower arm, the inner end of said shell having an inclined wall and having an orifice above the inclined wall for the escape of vapor into the vertical arm of the body portion, the outer end of the shell having an orifice for the entrance of oil, and a plug screwed in the outer end of the shell.

6. An oil burner comprising a U-shaped body portion having a lower horizontal arm, an upper horizontal arm, and a vertical arm connecting the lower and upper arms, said arms being formed of a single casting, a short pipe depending from the upper arm and provided with a nozzle to project the flame toward the lower arm of the body portion, means for admitting oil to the lower arm of the body portion, a cylindrical shell removably inserted in the lower arm, the inner end of said shell having an inclined wall and having an orifice above the inclined wall for the escape of vapor into the vertical arm of the body portion, the outer end of the shell having an orifice for the entrance of oil, a plug screwed in the outer end of the shell, the outer end of the lower arm having two inclined lugs, and a cap fitting over said end and having two internal inclined lugs which engage with the first mentioned lugs and detachably hold said cap in position, said cap having a head forming a wrench hold.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 25th day of January 1909.

WILLIAM H. CRESWELL.

In presence of—

GEORGE T. HACKLEY,

FRANK L. A. GRAHAM.