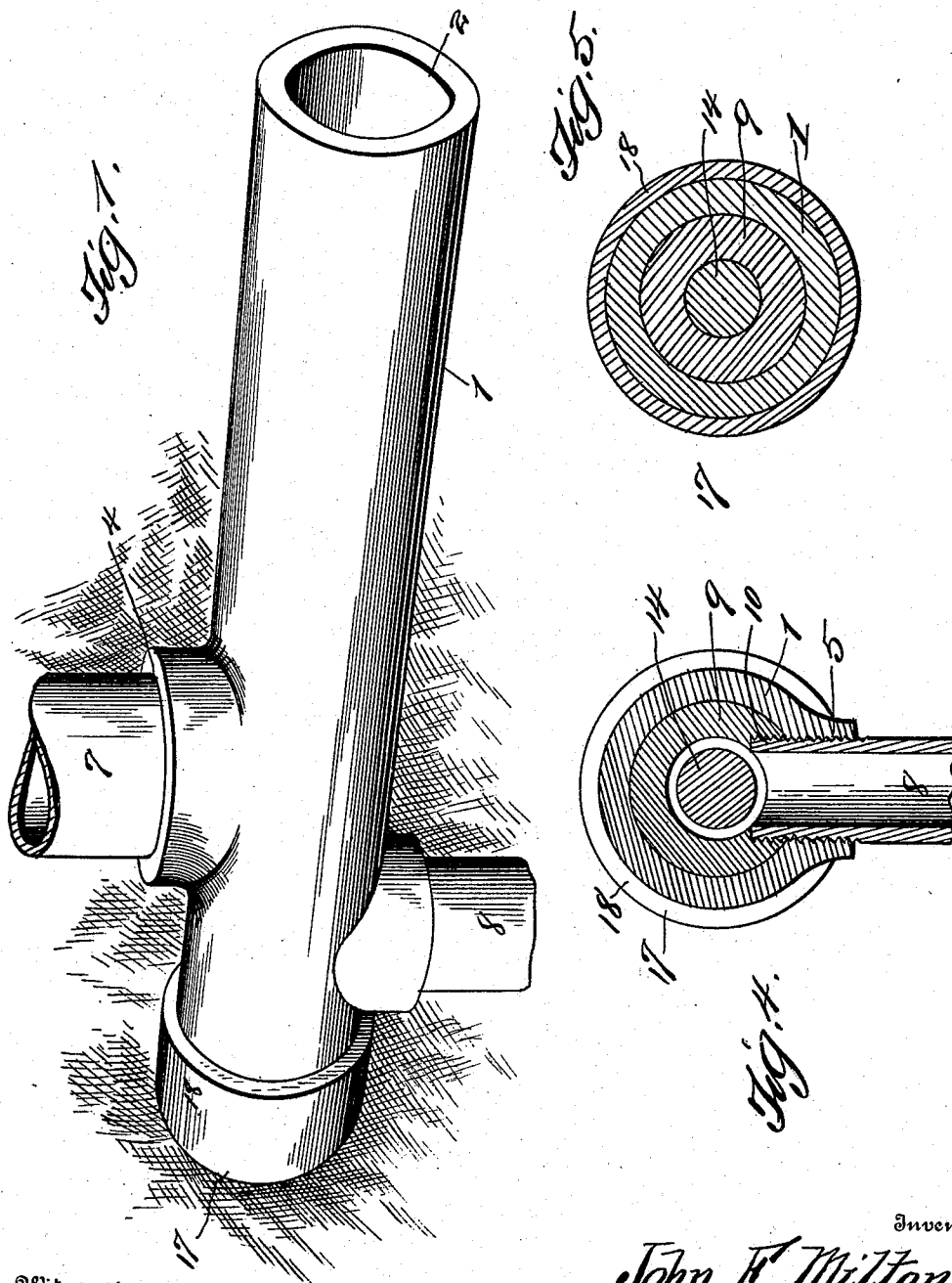


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APPLICATION FILED FEB. 10, 1909.

937,218.

Patented Oct. 19, 1909.
2 SHEETS—SHEET 1.



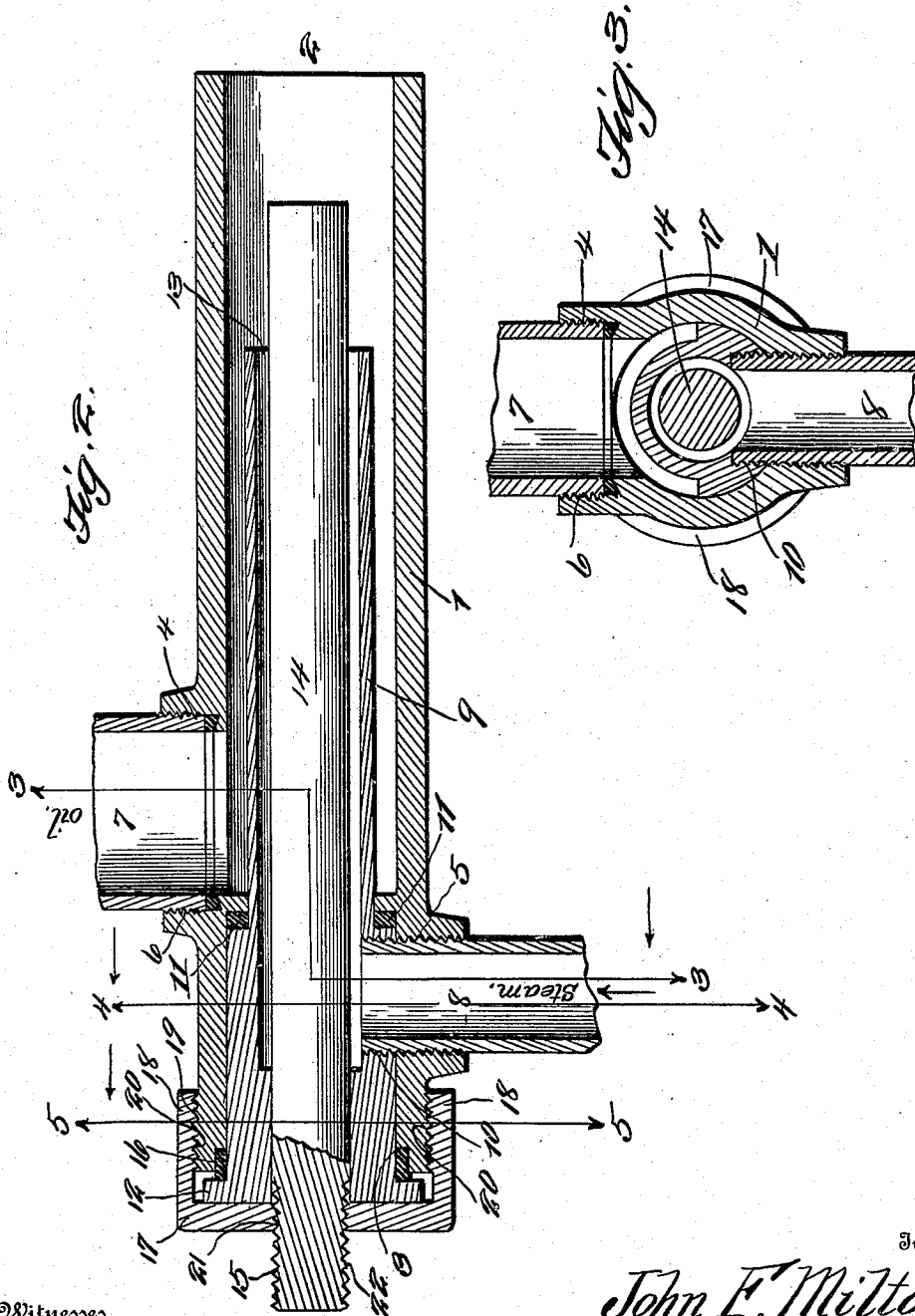
Witnesses
J. H. Brownell
Mr. De Grange

Inventor
John F. Milton
By *D. Swift & Co.*
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UNITED STATES PATENT OFFICE.

JOHN FOY MILTON, OF PALESTINE, TEXAS, ASSIGNOR OF ONE-THIRD TO F. C. BAILEY
AND ONE-THIRD TO C. J. GRAINGER, BOTH OF PALESTINE, TEXAS.

OIL-BURNER.

937,218.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed February 10, 1909. Serial No. 477,096.

To all whom it may concern:

Be it known that I, JOHN FOY MILTON, a citizen of the United States, residing at Palestine, in the county of Anderson and State of Texas, have invented a new and useful Oil-Burner; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention pertains to oil burners, and the invention in its broadest principles has for its essential object to provide a burner of this character, whereby crude oil or refined oil may be atomized by the injection of steam, and which oil, when atomized, burns very easily when lighted.

A further object of the invention is to provide a simple and efficient device, comprising an outer casing or cylinder, a separating tube or cylinder disposed within the outer casing, and a steam expansion rod disposed centrally of the other two casings, and designed for the purpose of expanding the steam when injected.

A further object of the invention is to provide a screw cap which forms a head for the casings and also secures them together, as shown.

This invention comprises further objects and combinations of elements, which will be hereinafter more fully described, shown in the accompanying drawings, and the novel features thereof will be pointed out by the appended claims.

The features and elements and the arrangement thereof, which constitute this invention, may be changed and varied, that is to say, in an actual reduction to practice, with the understanding that the changes and variations accruing from said reduction to practice are limited to the scope of the appended claims.

To obtain a full and correct understanding of the details of construction, combinations of features, elements and advantages, reference is to be had to the hereinafter set forth description and the accompanying drawings in connection therewith, wherein—

Figure 1 is a perspective view of the burner, illustrating the invention. Fig. 2 is a longitudinal sectional view through the burner, showing the intakes or inlets for the oil and steam, above and below the cylinders or casings of the burner. Fig. 3 is a

sectional view on line 3—3 of Fig. 2, looking in the direction of the arrow, and showing the expansion rod and the inner and outer cylinders or casings in transverse section, and clearly disclosing the entrances for the oil and steam. Fig. 4 is a sectional view on line 4—4 of Fig. 2, looking in the direction of the arrow. Fig. 5 is a sectional view on line 5—5 of Fig. 2, also looking in the direction of the arrow.

In regard to the accompanying drawings, wherein similar reference characters indicate corresponding parts in the several illustrations, 1 designates an outer casing or cylinder, open at both ends, as shown at 2 and 3, that is to say, before the parts of the burner are assembled. This cylinder or casing 1 is provided with openings 4 and 5, which are disposed diagonally opposite one another. The opening 4 is threaded, as shown at 6, with which the pipe or tube 7 engages. This pipe 7 admits oil, whether crude or refined, into the burner. The opening 5 receives the pipe or tube 8, through which steam is forced into the burner, as will be clearly manifest.

Disposed within the outer casing or cylinder 1 is the cylinder or casing 9, which is provided with a threaded opening 10, into which the pipe or tube 8 is threaded, as shown clearly in Fig. 2 of the drawings. Between the inner and outer casings or cylinders is a gasket or other suitable packing 11, so as to provide a fluid-tight connection or joint between the two cylinders, as clearly shown. The cylinder 9 is provided at one end with an annular flange 12, which, when the two cylinders are placed in conjunction with one another, as shown in Fig. 2, abuts against the open end 3 of the outer cylinder or casing 1; while the said casing 9 is open at the opposite end, as shown at 13.

Extending through the longitudinal center of the casing 9 is the expansion rod or member 14, the end 15 of which is threaded, as clearly shown. In practice, the expansion rod should be about an inch longer than the inner casing 9, and the inner casing 9 should be about two inches shorter than the outer casing or cylinder 1. It has been found through experiments that an inner and outer casing and expansion rod so constructed and disposed, relatively to one another, as shown clearly in Fig. 2 of the drawings, afford most excellent results, the flame

emanating from the burner being of the character desired.

Before inserting the casing or cylinder 9 into the outer casing 1, a gasket or packing 5 16 is placed adjacent to the opening of the outer casing 1, so as to provide a secure and tight connection, as clearly shown. To hold the inner and outer casings securely in place, a member 17 is provided having a flange 18, 10 the inner circumference of which is threaded, as shown at 19, adapted to engage threads 20 upon the open end 3 of the casing 1. The said member 17 is also provided with an opening 21, which is threaded and adapted 15 to be engaged by the threads 22 of the end 15 of the expansion rod. This manner of connecting the member 17 holds the various parts of the burner securely in their relative and proper positions, to afford the best 20 results.

From the foregoing, the essential features, elements and the operation of the device, together with the simplicity thereof, will be clearly apparent.

25 Having thus fully described the invention, what I claim as new and useful is;—

1. In a burner, inner and outer casings or cylinders, each having inlets, the inner one being shorter than the outer one, an 30 expansion rod longer than the inner casing and shorter than the outer casing and disposed within the inner casing, and a flanged member threaded to the outer casing and to the said rod for securing the inner and outer 35 casings and rod together.

2. In a burner, inner and outer casings or cylinders, each having inlets, the inner one being shorter than the outer one, an expansion rod longer than the inner casing

and shorter than the outer casing and disposed within the inner casing, a flanged member threaded to the outer casing and to the said rod for securing the inner and outer casings and rod together, and packing means for the casings. 40

3. A burner having steam and oil inlets, an outer casing of one length and an inner casing of another, an expansion rod of a length between the lengths of the casings and disposed within the inner casing, the 45 said casings and rod being disposed requisite distances apart for the admission of steam and oil, the steam being expanded against the oil at the outlet end of the inner casing which is shorter than the expansion 50 rod, and a flanged member threaded to the outer casing and to the rod for securing the casings and rod together. 55

4. A burner having steam and oil inlets, an outer casing of one length and an inner casing of another, an expansion rod of a length between the lengths of the casings and disposed within the inner casing, the said casings and rod being disposed 60 requisite distances apart for the admission of steam and oil, the steam being expanded against the oil at the outlet end of the inner casing which is shorter than the expansion 65 rod, and means threaded to the outer casing and to the rod for securing the casings and rod together. 70

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN FOY MILTON.

Witnesses:

F. C. BAILEY,
J. F. AUSTIN.