No. 775,903. PATENTED NOV. 22, 1904.

W. R. JEAVONS.

BLUE FLAME OIL BURNER.

APPLICATION FILED SEPT. 26, 1904.

NO MODEL.

Fig. 1.

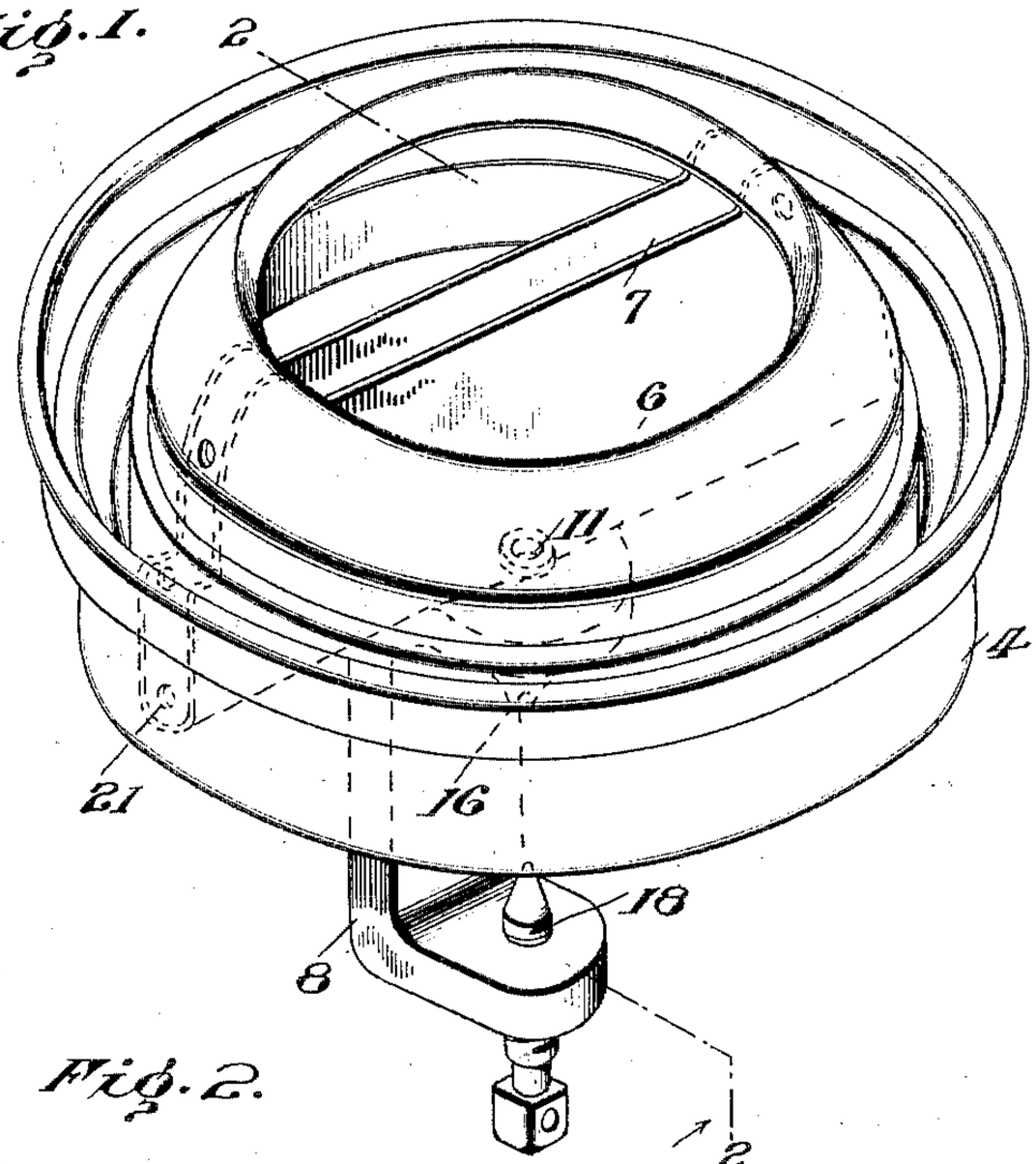
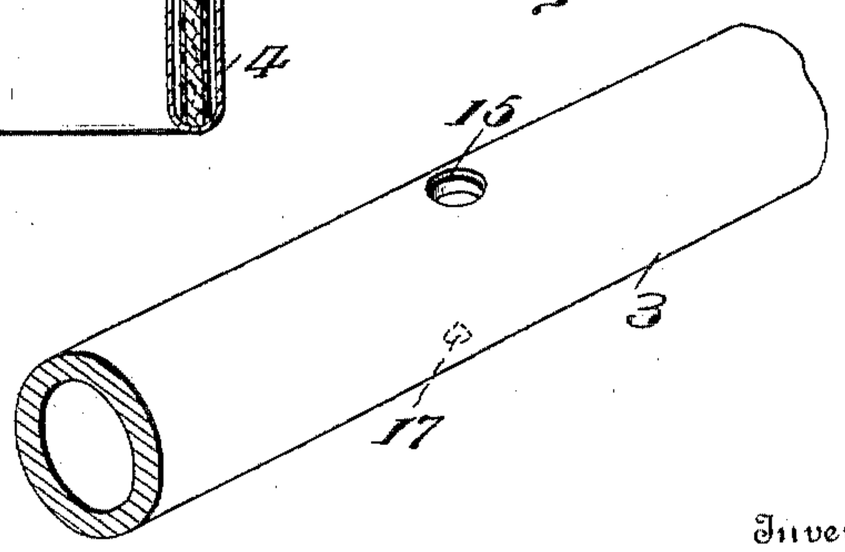


Fig. 2.

Fig. 3.



Witnesses

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No. 775,903. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

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BLUE-FLAME OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 775,903, dated November 22, 1904.

Original application filed February 25, 1904, Serial No. 195,293. Divided and this application filed September 26, 1904. Serial No. 226,015. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. JEAVONS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Blue-Flame Oil-Burners, (a division of my application, Serial No. 195,293, filed February 25, 1904,) of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in blue-flame oil-burners of the type which embody an oil-vaporizing trough or bowl surmounted by perforated combustion-tubes to produce a blue flame.

The primary object of my present invention is to provide an improved manner of supporting the oil-trough whereby the usual soldered joints are omitted, which are liable to become defective, and to facilitate the attachment and detachment of the trough by unskilled persons either for the purpose of cleaning it or for substituting a new trough therefor.

In the accompanying drawings, Figure 1 is a perspective view of a trough with my improved support and connection applied thereto. Fig. 2 is a transverse sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a detached perspective view of a portion of the supply-pipe to which the trough connection is applied.

The form of trough here disclosed is that shown in my Patent No. 706,064, dated August 5, 1902, and in which there is a transverse oil duct or channel. I desire it to be understood, however, that my invention is capable of being applied to different forms of trough, and I do not, therefore, limit myself to any particular form of trough.

In the arrangement here shown the burner-trough 4 is provided with a clamp 8, which detachably clamps the trough to the periphery of the main oil-supply pipe 3. This clamp may be connected to the trough in any suitable manner and of any suitable form; but, as here shown, it is essentially U-shaped in side elevation and is connected in the trough in a manner which I will now explain. A plug 9 is brazed or otherwise fixed to the bottom of the cross-duct and preferably extends into the trough a short distance. This plug has a vertical oil-passage 10 throughout its length. The manner here shown of connecting the clamp 8 with the trough consists in providing the plug 9 with external screw-threads 12. The upper arm of the clamp has a screw-threaded aperture 14 for receiving the screw-threaded portion of the plug 9. An opening 15 (preferably tapered) is formed in the side of the main oil-supply pipe 3 and receives the tapered or conical lower end 16 of the plug 9. Formed in the lower side of the pipe 3 is a recess 17, which receives the upper tapered end of a clamping-screw 18, which passes through the lower arm of the clamp 8. The recess 17 should be in accurate alinement with the opening 15, which supports the trough 4 in a level position. From the foregoing it will be observed that the clamp comprises the U-shaped member 8, the plug 9, and the screw 18.

The main pipe 3 is usually the common iron or steel pipe of commerce, and for the purpose of insuring an oil-tight joint between the plug and the wall of the opening 15 the plug is made of a softer metal, preferably brass, which is softer and more ductile than the metal of which the pipe is composed. By reason of this and the arrangement described the screw 18 pulls the tapered end of the plug firmly to its seat and owing to the relative yielding of the metal of which the plug is composed conforms to any slight unevenness or inequality of the wall of the tapered opening and insures an absolutely oil-tight joint.

Where the clamp 8 is connected with the trough as shown and described, it will be screwed tight to position to prevent any turning of the trough therein and will be made to set sufficiently close to the pipe 3 to prevent any swiveling thereof. These results may be obtained, however, in other ways without affecting the essentials of my invention.

The construction here shown and described or its mechanical equivalent does away with the usual soldered joint that can melt and become defective, and the structure is such that

in case of any defective part, by accident or otherwise, a new oil-cup can be substituted by any unskilled person in a skilful and effective manner. To facilitate the detachment and attachment of the trough by unskilled persons, the clamping-screw 18 has its head provided with a transverse opening 18′, adapted to receive a nail or a piece of wire and by which it can be turned.

I do not limit myself to the exact location or angle of the clamp in relation to the trough, for it will be readily understood that this and other specific details may be varied without departing from the spirit and scope of my invention so long as the essentials thereof are present.

Having thus described this invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a blue-flame burner, the combination with an oil-supply pipe having an opening, of a burner-trough, a depending oil-feeding plug communicating with said trough and seated in said opening, a clamp depending from said trough and extending below the pipe, and a clamping-screw passing through the clamp and engaging said pipe.

2. In a blue-flame burner, the combination with an oil-feed pipe having an oil-opening at one side and a cavity at the opposite side in alinement with said opening, of a burner-trough and an oil-feeding plug communicating with said trough and seated in said opening, and a clamp connected with said trough and having a clamping-screw engaging the said cavity.

3. In a blue-flame burner, the combination with an oil-supply pipe having an oil-opening, of a burner-trough having a depending oil-feeding plug communicating with said trough and seated in said opening, an essentially U-shaped clamp having an arm connected with the plug and its opposite end spanning the pipe and carrying a clamping member engaging the said pipe.

4. In a blue-flame burner, the combination with an oil-supply pipe having an opening, of a burner-trough, an oil-feeding plug communicating with said trough and seated in said opening, the plug and pipe composed of metal having different degrees of hardness, and a clamp adapted to force the plug against said seat.

5. In a blue-flame burner, the combination with an oil-supply pipe having an oil-opening, of a burner-trough provided with an essentially U-shaped clamp spanning the pipe and holding the trough thereto, the trough and pipe having communicating oil-passages.

6. In a blue-flame burner, the combination with an oil-supply pipe having a peripheral opening, of a burner-trough, an oil-feeding plug in communication with said trough, the plug and the wall of the said supply-pipe opening having plain engaging surfaces, and a member adjustably seating said plug in said pipe-opening.

7. In a blue-flame burner, the combination with an oil-supply pipe having an opening at its periphery, of a burner-trough, an oil-feed plug in communication with the said trough the plug having a plain surface tapered and engaging the wall of said opening, and a member adjustably seating the tapered portion of the plug in said pipe-opening.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM R. JEAVONS.

Witnesses:
RICHARD C. HERIG,
O. S. CASE.