

W. R. JEAVONS.
BURNER SUPPLY CONNECTION.
APPLICATION FILED APR. 28, 1910.

1,039,950.

Patented Oct. 1, 1912.

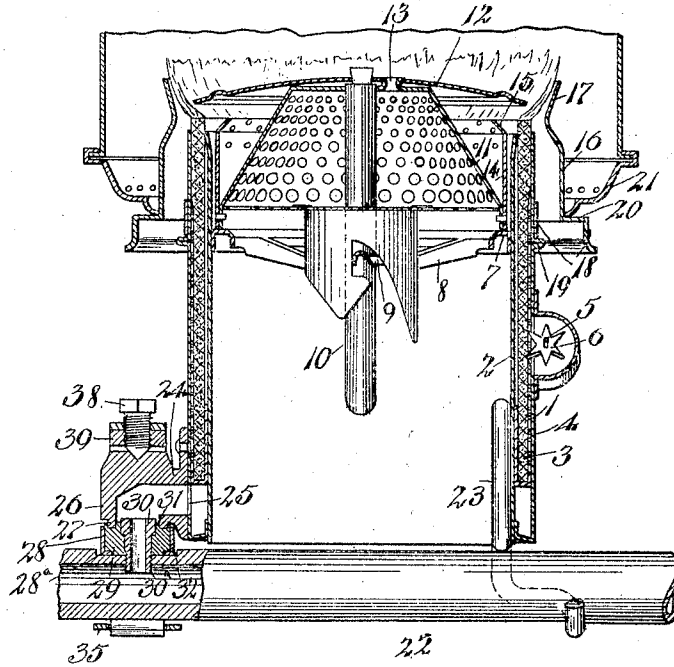


Fig. 1.

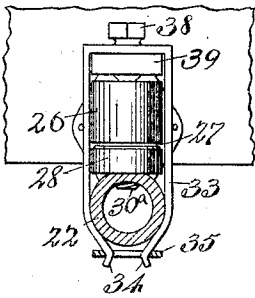


Fig. 2.

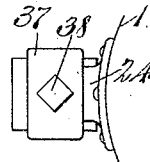


Fig. 3.

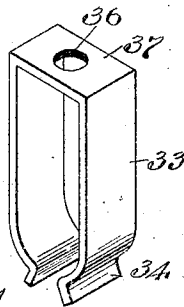


Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

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BURNER-SUPPLY CONNECTION.

1,039,950.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Original application filed November 16, 1908, Serial No. 462,775. Divided, and this application filed April 28, 1910. Serial No. 558,258.

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 a certain new and useful Improvement in Burner-Supply Connections, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to oil burners, and more particularly to an improved form of connection whereby such burners may receive liquid fuel from their supply pipes and which will enable such burners to be conveniently applied to and removed from their supply pipes while providing a particularly efficient and leak-proof connection between the burners and the pipes.

The invention shown herein is a division of my application #462,775 filed November 16th, 1908 which, in turn, is a division of my Patent #908,997, issued January 5th, 1909.

Generally speaking, the invention may be defined further as consisting of the combinations of elements and parts embodied in the claims hereto annexed and illustrated, in one exemplification, in the drawings forming a part hereof, wherein,—

Figure 1 represents a vertical sectional view taken through a burner having my invention applied thereto; Fig. 2 represents a detail, partly in section and partly in elevation, of the lower end of a burner and showing the connection between the same and the supply pipe; Fig. 3 is a detail in plan of my invention; and Fig. 4 a detail in perspective of a portion of the same.

The burner shown herein is substantially identical with that of my Patent #908,997 and comprises generally an outer wick tube 1, an inner wick tube 2, a wick 3 between said tubes, a carrier 4 for the wick and a wick raiser shaft 5 having a spur wheel 6 thereon engaging the carrier. The inner wick tube is provided with a ring 7 having inwardly projecting arms 8 that carry a centering ring 9 for a guide spindle 10 projecting therethrough and carrying at its top a deflector comprising a frusto-conical perforated ring 11 secured at its upper end to the spreader 12 by means of a suitable number of eyelets 13. The lower end of the ring 11 is substantially vertical and has secured thereto a ring 14 which projects upwardly within the inner wick tube 2

and is spaced a short distance therefrom and has its upper end flared inwardly, as shown at 15.

Surrounding the upper end of the outer wick tube 1 is a collar 16, the upper end of the collar being flared outwardly, as shown at 17, and the collar being supported from the outer wick tube by means of a sleeve 18 connected to the collar and resting on a ledge 19 formed on the outer tube. The lower end of the collar is projected outwardly to form a seat 20 for the lower inwardly projected end 21 of a drum or chimney.

The construction thus far described forms no part of the particular invention covered by this application, being shown, described and claimed in my Patent #908,997 hereinbefore referred to.

22 denotes the supply pipe through which oil is conducted to the burner and 23 a hook soldered to the inner wick tube and engaging the supply pipe in the manner described in my Patent #848,828, issued April 2nd, 1907. From the side of the burner opposite this hook, there projects a tubular connection 24, which may be secured to the outer wick tube in any convenient manner, the bore of the connection registering with an aperture 25 provided in the outer wick tube near the bottom of the same. The connection 24 projects downwardly at its outer end, as shown at 26. The lower end of the downwardly projecting portion 26 is reduced somewhat in external diameter, as shown at 27, so as to fit within a sleeve 28, which sleeve forms part of the detachable connection between the burner and the supply pipe.

29 denotes a washer of compressible and more or less plastic material, which is mounted within the sleeve 28 and has a central perforation therethrough for a nipple 30. The lower end of the sleeve 28 is projected inwardly, as shown at 28^a, to provide an annular flange. The internal diameter of this flange is considerably greater than the external diameter of the nipple 30, so that a space is provided between this nipple and the flange for the lower end of the washer. The upper end of the nipple projects above the washer 29 and is shown as provided with a ledge 31 by which it will rest upon the upper surface of the washer. The upwardly extending end of the nipple

30 is adapted to enter the bore of the tubular connection 24 and serves to pilot the depending end of the connection to a central position on the washer 29. The supply pipe is preferably provided with a recess 32 providing a flat seat for the flange 28^a and the lower end of the washer. The supply pipe is provided, within this seat, with a threaded aperture for the reception of the threaded lower end 30^a of the nipple.

In order to secure the parts thus described to the supply pipe, a U-shaped strap is employed consisting of a base and two side members 33 which may be connected at the out-turned lower ends 34 by means of a loop 35 applied thereto, as shown in Fig. 2. Through a threaded aperture 36 in the upper end or base 37 of the strap there extends a short bolt 38, the lower pointed end whereof engages a seat formed in the top of the connection 24. A nut 39 is fitted within the upper portion of the strap and receives the bolt 38. This nut is held against rotation by the strap, whereby, on rotating the bolt, the strap may be loosened or tightened.

As previously stated, the washer 29 is of material which will be compressed by tightening the bolt 38. The material which I prefer to employ for this purpose is lead. On tightening up the bolt 38, this lead is compressed and is squeezed through the annular space between the flange 28^a and the nipple 30 and against the seat which supports the flange, also upwardly between the sleeve and the reduced lower end 27 of the connection 24 and between the nipple 30 and such end; the washer being prevented from spreading laterally by means of the sleeve 28, which may be of sheet metal. This construction provides an extremely efficient connection between the supply pipe and the burner. It is not necessary to take any especial pains to provide a smooth seat in the recess 32 for the connection 24, as the lead washer will accommodate itself to any irregularities of surface. Furthermore, the manner in which the lead flows, under compression, along the outside and the inside of the reduced lower end 27 of the connection, insures a tight joint at this place.

A great advantage in this construction resides in the fact that it dispenses with the use of a soldered joint, enabling the pipe to be tinned and lacquered before connecting the burner thereto without producing the discoloration of the tin and lacquer coatings on the pipe which would result from soldering the burner connection thereto.

Having thus described my invention, what I claim is:—

1. The combination with a pipe having an aperture in the wall thereof, of a side branch connection comprising a fitting having a tubular projection, a nipple inserted into said aperture, a washer of compressible ma-

terial surrounding said nipple, a sleeve inclosing said washer, said sleeve being of greater diameter at one end than the end of said projection to receive said projection therewithin and having at its opposite end an inwardly projecting flange of greater internal diameter than the external diameter of the adjacent portion of said nipple, and means for forcing the end of said projection against said washer.

2. The combination with a pipe having an aperture in the wall thereof, of a side branch connection comprising a fitting having a tubular projection, a nipple inserted into said aperture and into the bore of the tubular projection, a washer of compressible material surrounding said nipple, a sleeve inclosing said washer, said sleeve being of greater diameter at one end than the end of said projection to receive said projection therewithin and having at its opposite end an inwardly projecting flange of greater internal diameter than the external diameter of the adjacent portion of said nipple, and means for forcing the end of said projection against said washer.

3. The combination with a pipe having an aperture in the wall thereof and a seat surrounding said aperture, of a side branch connection comprising a fitting having a tubular projection, a nipple having one end fitted into said aperture, a washer of compressible material surrounding said nipple, a sleeve inclosing said washer and being of greater diameter at one end than the diameter of the adjacent end of said projection, said sleeve having at its opposite end an inwardly projecting flange the internal diameter whereof is greater than the external diameter of said nipple, and means for clamping the washer between the said projection and seat.

4. The combination with a pipe having a threaded aperture in the wall thereof and a seat surrounding said aperture, of a side branch connection comprising a fitting having a tubular projection, a nipple having one end threaded to fit said aperture, a washer of compressible material surrounding the nipple, a sleeve inclosing said washer and of greater diameter than the end of the tubular projection to receive such end therewithin, and having its end opposite said projection provided with an inwardly projecting flange the internal diameter whereof is greater than the external diameter of said nipple, and means for clamping the washer between the end of said projection and said seat.

5. The combination with a pipe having an aperture in the wall thereof, of a side branch connection comprising a fitting having a tubular projection, a nipple having a ledge near its outer end, a washer of compressible material surrounding the nipple

and of a diameter to receive thereon the end of the tubular projection, a sleeve inclosing said washer and having one of its ends provided with an inwardly projecting flange the internal diameter whereof is greater than the external diameter of said nipple, and means for clamping said fitting to said pipe so as to compress said washer between the end of the projection and the portion of the pipe surrounding the aperture.

6. The combination with a pipe having a threaded aperture in the wall thereof and a seat surrounding said aperture, of a side branch connection comprising a fitting having a tubular projection, a nipple having one end threaded to fit the thread of said aperture and its opposite end enlarged to enter the bore of said projection and being of substantially the same external diameter as the bore of said projection, a washer of

compressible material surrounding said nipple, a sleeve inclosing said washer, said sleeve being of greater diameter at one end than the end of said projection to receive said projection therewithin and having at its opposite end an inwardly projecting flange of greater internal diameter than the external diameter of the adjacent portion of said nipple, the unthreaded end of said nipple projecting beyond the adjacent surface of said washer, and means for clamping said fitting to said pipe so as to compress said washer between said projection and said seat.

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

WILLIAM R. JEAVONS.

Witnesses:

J. B. HULL,

BRENNAN B. WEST.