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MOUNTING OF FUEL-FEEDING COMPONENTS IN LIQUID-FUEL BURNERS

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Fig. 1

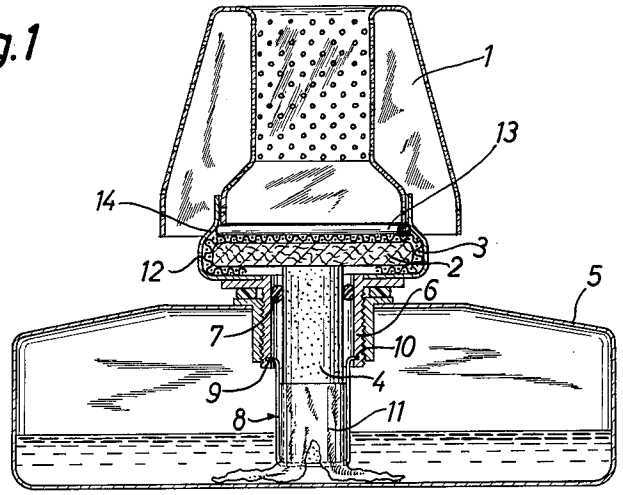
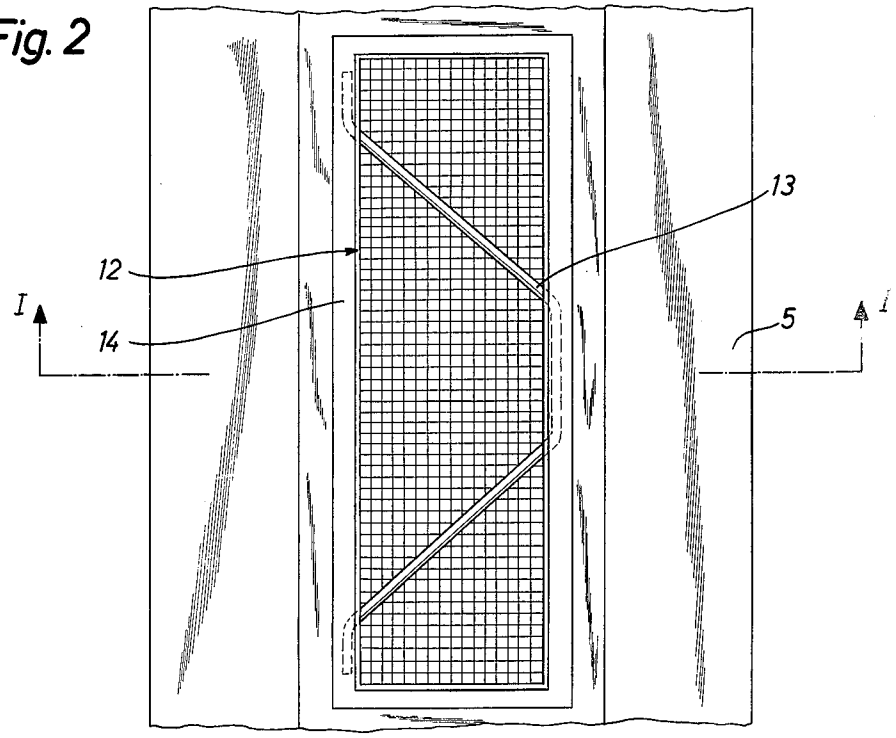


Fig. 2



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MOUNTING OF FUEL-FEEDING COMPONENTS IN LIQUID-FUEL BURNERS

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6 Claims. (Cl. 67—55)

The invention relates to the mounting of fuel-feeding components in liquid-fuel burners, and is concerned with fastening a wick stone in a fuel storage container from which liquid fuel is fed by way of the wick stone to a burner, the upper part of the wick stone being arranged inside a tubular socket provided in the storage container and bearing by its upper end against a burning wick.

Burners of this type have the advantage that in multiple production the effect of the wick stone is to ensure an equal burner efficiency for the individual burners, while nevertheless, owing to the use of the burner wick, allowing a widely extended flame to be obtained, and enabling sufficient air for combustion to be supplied even in the case of relatively great burner output.

One of the major difficulties associated with this advantageous type of wick burner however, arises in the fastening of the wick stone (which as a rule has hitherto been held in very narrow guide means surrounding the upper part of the wick stone). The fastenings hitherto proposed have been sensitive to knocks against the burner, when the wick stone was easily liable to be broken off and thus become unusable.

It has accordingly been proposed to provide, between the tubular mounting for the wick stone and the part of the wick stone lying inside the same, an elastic member by which the wick stone was held in said mounting. By this means, the danger of easy breakage of the wick stone by knocks against the burner was reduced, but there still remained the difficulty that the connection between the wick stone and burning wick might no longer remain entirely satisfactory for the reason that the wick stone together with the elastic holding means inside the socket were inclined to slip down. This was liable to happen after extended use of the burner.

The object of the present invention is to provide a fastening means for the wick stone which will afford not only a shockproof retention of the wick stone but also an entirely satisfactory connection even after long periods of use between wick stone and burner wick.

The invention consists in a liquid-fuel storage tank for a burner comprising a wick stone located in a socket-like housing in the tank, and wherein the wick stone is prevented from downward slipping by a support attached to the socket-like housing and extending beneath the wick stone.

A simple form of fastening consists in a U-shaped stirrup having both its upper ends bent outwards and said bent ends are mounted in bores formed in the socket. The socket together with the wick fixed therein and the stirrup can then be screwed into the container if no stirrup parts project in the thread.

A good connection between burner wick and wick stone is achieved if the burning wick is pressed by means of a spring against the wick stone and presses the latter against the U-shaped stirrup. This form of construction also permits considerable manufacturing tolerances, thus reducing production costs without adversely affecting the functioning of the appliance.

Between the wick stone, and the stirrup securing the latter against slipping down, it is also possible, according

to a further feature of the invention, to clamp a textile wick, which in the first place serves for the complete utilisation of the contents of the tank and in the second place offers advantages in the feeding of fuel at low temperatures.

In the following description are set out details of a fastening device according to the invention, with the aid of which other features of the invention will appear. This form of the invention is illustrated in the accompanying drawing wherein—

FIGURE 1 shows, in section, a wick burner with a fastening means constructed according to the invention for the wick stone, while

FIGURE 2 illustrates, in plan view, the burner wick and the basin receiving the same of the wick burner shown in FIGURE 1.

As can be seen in FIGURE 1, fuel is fed through a wick stone **4** from a storage tank **5** to a burner **1** by way of a burner wick **2** which is provided inside a wire mesh **3** and consists, for example, of an asbestos fabric. The wick stone **4** is mounted in a tubular socket **6** which can preferably be screwed into the storage tank **5**. Inside the socket **6** the wick stone **4** is supported by an O-ring **7** and is secured against slipping down by a U-shaped wire stirrup piece **8**. This wire stirrup is bent outwards at its upper ends **9**, **10** these bent ends being seated in bores of the socket **6** so that the stirrup **8** can be inserted together with said socket into the container **5**.

Between the stirrup **8** and wick stone **4** is clamped a textile wick **11** by which it is possible to draw up fuel lying at the bottom of the tank without its being necessary for the wick stone to stand on the bottom. In the figure this textile wick **11** is shown as drawn like a stocking over the wick stone **4** and is held against it simply by the lateral stirrup arms. It could of course alternatively be clamped between the end of the wick stone **4** and the base of the stirrup, which would offer advantages in respect of the elasticity of the fastening but would have drawbacks in respect of the manufacturing tolerances which would then be required.

In many cases it is expedient for the wick stone to be protected by the lateral stirrup arms against bending forces, such as occur for example through lateral impact against the storage tank.

In order to ensure that the burner wick **2** is well pressed against the upper end of the wick stone **4**, there is provided inside the bowl **12** accommodating the burner wick **2** (which bowl is further illustrated, in FIGURE 2, in plan view), a spring **13** which is supported against a retracted portion **14** of the bowl **12** and presses the burner wick **2** against the wick stone **4**.

The invention is not restricted to the exemplified embodiment thereof here described but can also be put into practice with modification of the different parts, particularly of the stirrup fastening and the spring, without departing from the scope of the invention.

What I claim is:

1. A liquid-fuel storage tank for a burner comprising a wick stone supported at the top by an O-ring disposed within a socket-like housing in the top wall of the tank, said wick stone being spaced from the wall of said housing and from the bottom of said tank, and a bottom support attached to the socket-like housing and extending beneath the wick stone wherein the wick stone is prevented from downward slipping.

2. A tank as claimed in claim **1** comprising a burner wick which is pressed by means of a spring against the top of the wick stone and presses the latter against its support, such as a U-shaped stirrup.

3. A tank as claimed in claim **2** wherein the spring pressing the burner wick against the wick stone is provided

inside a bowl accommodating the burner wick, and over the burner wick, and is held in a retracted portion formed in said bowl.

4. A tank as claimed in claim **1** comprising a textile wick clamped about the wick stone between the wick stone and its bottom support, such as a U-shaped stirrup member.

5. A fuel storage tank fitted with a vertically disposed wick stone by which liquid fuel is led to a burner, the upper part of the wick stone being arranged inside a tubular socket provided on the storage tank and bearing by its upper end against a horizontally disposed burner wick, comprising a compressed elastic member between the socket and the part of the wick stone located therein, and attached to the socket a U-shaped bent stirrup piece on which the bottom of the wick stone rests and is secured against slipping down.

6. A tank as claimed in claim **5** wherein the U-shaped

stirrup piece has its two upper ends bent outwards and said bend ends are mounted in bores formed in the socket.

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