Patented Dec. 3, 1929 1,738,138

UNITED STATES PATENT OFFICE

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WICK FOR LIQUID-FUEL BURNERS AND PROCESS OF MAKING SAME

No Drawing. Application filed October 15, 1926. Serial No. 141,881.

This invention relates to a wick for fuel burners, and includes the process of making the wick.

One of the objects of the invention is to provide a wick which, when placed in the receiving or vaporizing chamber, will permit a uniform movement of the liquid fuel therethrough.

Another object is to provide a wick which will be a good enough conductor of heat so that heat will be communicated to the lower part to facilitate generation of gas.

Another object is to provide a wick of such construction that its upper surface will not become changed, injured or solidified by action of the ignited hydrocarbon.

Also another object is to provide a wick which will maintain its form and will not crack or shrink by action of heat or changes in temperature. The invention also includes a porous wick made of such material that it will not absorb the liquid fuel, and may be used in vaporizing-chambers of any size or shape.

While the herein described wick is particularly adapted for use in annular chambers or retorts similar to those described in my U. S. Letters Patent No. 1,572,883 and No. 1,589,052, said chambers may have other forms.

In making the herein described wick, clay or sand or a mixture of clay and sand, or earthy material which, by action of heat will provide a vitrified spongy mass, may be used. This is placed in a rotary kiln, and while the kiln is rotating, is subjected to a high degree of heat until it melts. The result will be that the material thus vitrified will not be susceptible to change by action of heat or change in temperature, and each particle will resist absorption of oil. When melted the product will be spongy in appearance, and for use may be broken up or crushed and may be finely or coarsely divided, and is then deposited in the vaporizing chamber or retort of a liquid fuel burner. In manufacturing the product I have used a mixture of clay and sand to advantage, and prefer said mixture. The agitation effected by the rotation mentioned causes the contents of the kiln to assume an expanded, spongy condition.

Since the material has been fused or melted at a greater degree of heat than could occur when exposed to the heat of ignited hydrocarbon in a liquid fuel burner the wick will not become melted again, and whether the vitrified material has been finely divided or not, the wick thus provided for the chamber will be porous, and by capillary attraction, liquid fuel supplied to the chamber will move to the upper surface of the wick.

The fact that the degree of porousness of the wick will not be changed by action of heat is an important feature since solidification, however slight in degree, of the upper surface, obviously impedes a movement of liquid fuel through the wick to said surface.

The fact that the wick consists of broken up, spongy, vitrified earth is a matter of convenience and advantage since the chambers or retorts of liquid fuel burners are not of uniform shape or size, other advantages being that these wicks will not be subject to cracks or shrinkage.

I claim as my invention,—

1. A wick for liquid fuel burners of the class described, comprising refractory argillo-arenaceous material in porous and spongy irregular granular fragments, adapted to substantially fill a retort chamber while providing interstitial capillary spaces.

2. A wick for liquid fuel burners of the class described, comprising irregular fragments of the argillo-arenaceous refractory material formed by heating clay and sand under constant agitation to a sufficiently high temperature to fuse and agglomerate the raw material into porous clinkers.

In testimony whereof, I have affixed my signature.

LEWIS A. COCKLIN.