Feb. 20, 1923. 1,446,353.

P. F. SLOCUM.

BURNER.

FILED FEB. 9, 1921.

Fig. 1.

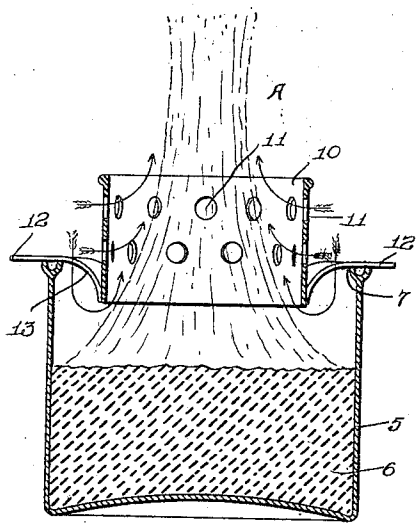
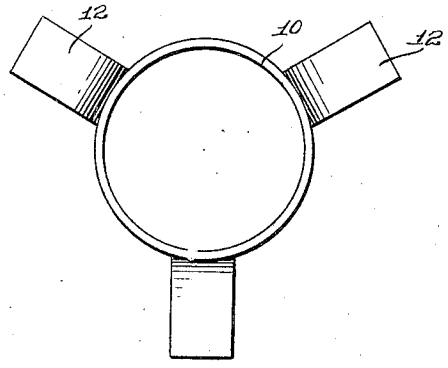


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

PAUL FREDERICK SLOCUM, OF BROOKLYN, NEW YORK.

BURNER.

Application filed February 9, 1921. Serial No. 443,622.

To all whom it may concern:

Be it known that I, PAUL F. SLOCUM, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Burner, of which the following is a full, clear, and exact description.

The present invention relates to new and useful improvements in burners, and it pertains more particularly to devices adapted to promote the burning of so-called "canned heat." Solidified alcohol and similar fuels are sold in cans and are burned directly in the cans in which they are packed. When this fuel is burned in the can and more particularly after a portion thereof has been consumed, the flame emitting from the can is subjected to side drafts which prevent it concentrating upon the point on the article which it is intended to heat. This fuel when burned in the above described manner, owing to the inability of the flame to mix therewith the proper amount of oxygen due to the general shape of the receptacle, does not give off the maximum amount of heat of which the fuel is capable, and, therefore, requires longer time to heat an article in addition to a wasteful consumption of the fuel.

It is the primary object of the present invention to provide a burner which is adapted to be removably attached to the open end of a container in which this type of fuel is packed for consumption.

It is another object of the invention to provide a burner which will promote combustion by admitting to the flame the necessary amount of oxygen to cause the flame to burn with the maximum intensity.

It is a further object of the invention to so construct the burner that the oxygen will be admitted in a plane substantially at right angles to the flame, thus serving to concentrate the flame and direct it to a fixed point upon the article being heated.

It is a still further object of the invention to provide a device of this character which is simple in construction and cheap of manufacture.

With the above and other objects in view, reference is had to the accompanying drawings, in which

Figure 1 is a sectional view of a fuel container, the burner being shown in position thereon;

Fig. 2 is a top plan view of the burner.

Referring more particularly to the drawings, the reference character 5 designates a container, and 6 designates the fuel contained therein. The container 5 is made with an open end 7 adapted when not in use to be closed by a lid (not shown in the present illustration).

The common method of burning the fuel 6 is to ignite the same, the flame therefrom passing upwardly as shown in Fig. 1. Owing to the fact that the open end of the container 5 is considerably above the point of consumption of the fuel, as the fuel is consumed the flame does not receive sufficient oxygen to promote combustion to the maximum point, and, consequently, the intensity of the flame is greatly reduced.

In carrying out the present invention a burner 10 is employed, and said burner is preferably formed of sheet metal circular in shape. This burner is provided in its side walls with a plurality of air openings 11, which may or may not be arranged in staggered relation. Projecting from the burner, preferably at equidistantly spaced points, are supports in the form of legs 12, extending radially from the burner 10. These legs 12 may be formed as an integral part of the burner 10 or may be separately attached thereto if desired.

In operation the burner is adapted to be placed centrally of the open end of the container 5, the leg members 12 extending over the edge of the open end and supporting the burner concentric with the container 5. If desired, the leg members 12 may be bent upwardly as indicated by the reference character 13, in order that the lower end of the burner may project slightly below the open end of the container 6. This, however, is not necessary in some types of containers, and I do not wish to be limited thereto.

With the burner positioned as shown in Fig. 1, upon igniting the fuel, the flame, indicated by the reference character A, passes upwardly and the heat of said flame induces a draft of air through the openings 11, which supplies the necessary oxygen to promote combustion and simultaneously concentrate the flame, which results in increasing the intensity thereof.

It has been found by actual experiment that the use of a burner of this type in connection with fuels already commercialized, in the foregoing manner, will reduce the time required in heating to a predetermined

degree of temperature, to about one-half the time required when the burner is not used, which result is attributed to the promotion of combustion by the introduction of the air and the ability of the burner to concentrate the flame at a fixed point on the article heated.

While in the present instance solidified fuels have been mentioned and described, it has been found by actual experiment that the burner works equally well when the fuel is in liquid form, and I do not wish to be limited to the use of the burner with solidified fuels.

I claim:

1. A burner comprising a substantially tubular member, the side walls of which are provided with a plurality of air inlet openings arranged in staggered relation, and means carried by one end of said tubular member for supporting the same in operative position, said means comprising radially extending arms.

2. As an article of manufacture, a burner for use in connection with commercial packages of fuel in which the flame is undirected, said burner comprising a tubular member formed with staggered perforations and adapted to direct a blast of air transversely of the flame to transform the same into a directed flame.

PAUL FREDERICK SLOCUM.