

Aug. 30, 1949.

R. E. BROWN ET AL

2,480,709

LIGHTER

Filed Feb. 23, 1946

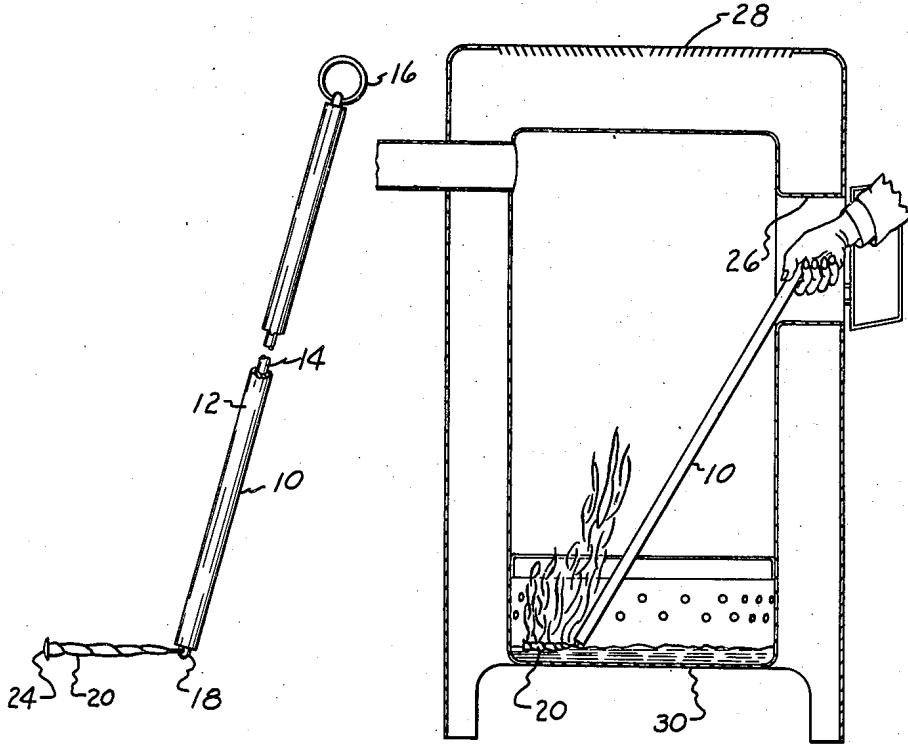


Fig. 2

Fig. 4

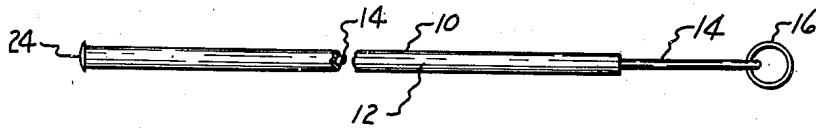


Fig. 1



Fig. 3

Inventors
RUSSELL E. BROWN
MERLIN J. NIELSEN

By *Berman & Patch*
Attorneys

UNITED STATES PATENT OFFICE

2,480,709

LIGHTER

Russell E. Brown and Merlin J. Nielsen,
Jackson, Mich.

Application February 23, 1946, Serial No. 649,696

1 Claim. (Cl. 158—10)

1

The present invention relates to lighters especially designed for igniting fuel oil in pan-type domestic space heaters.

At the present time a great many homes are being heated by fuel oil burners and space heaters of the type in which the fuel oil flows by gravity into a pan and is so baffled that after being ignited the burner chamber becomes highly heated, the fuel oil is vaporized and combustion takes place above the pan in which the fuel oil continues to flow by gravity. In burners and space heaters of this type, it frequently becomes necessary to ignite the fuel oil so as to start the operation. For the reason that fuel oil and kerosene have a relatively high flash point and do not readily vaporize at low temperatures, it is relatively difficult to ignite the fuel oil in the burner pan. Moreover, in burners and space heaters of the type described, there is always a certain amount of soot and carbon which accumulates about the opening into the interior of the burner or space heater provided for the purpose of igniting the fuel oil and inspecting its operation.

Heretofore, it has been the practice in burners and space heaters of the above-described type to turn on the fuel oil to permit the same to flow into the burner pan and then toss into the pan through the inspection door a lighted match, bits of paper and other combustible products which fall into the burner pan while still ignited and if there is not enough fuel oil in the pan to extinguish the match or the like, or the lighted match is allowed to float upon the surface of the oil, ignition of the fuel oil will eventually take place. Invariably, however, during the process of igniting the fuel oil, the person carrying out the operation soils his hands and clothing.

According to the present invention, a lighter has been provided in the form of a relatively long rod carrying at its lower end a wick which may be soaked in the fuel oil and ignited. Preferably the wick is freely hinged at the lower end of the rod so as to be capable of assuming a position parallel to the bottom of the fuel pan or to float upon the surface of the oil in the pan, as the case may be. The rod supporting the wick is preferably of a telescoping construction embodying an outer tubular member and an inner telescoping member which has a hinged connection at the lower end with a wick. At the upper end of the rod the inner telescoping member has a handle portion for the purpose of drawing the wick into the tubular member to extinguish the

2

same after it has been ignited and performed its function, or projecting the wick so that it may be ignited.

The lighter is of sufficient length to enable the same to be readily projected through the inspection door of the standard type space heater without soiling the hands or the clothing to position the wick.

Thus, one of the objects of the present invention is to provide a lighter of the character described in the form of an elongated rod having at its lower end an igniting member adapted to assume a position angularly disposed to the longitudinal axis of the rod.

Another object of the invention is to provide a lighter for fuel oil burners and space heaters in the form of a relatively long rod-like member having at its lower end a wick capable of assuming a position angular to the longitudinal axis of the rod.

Another object of the invention is to provide an improved lighter for fuel oil burners and space heaters comprising an elongated tubular member, a rod telescoping with the tubular member, and a wick supported at the lower end of the telescoping rod and adapted to be projected from the tubular member, for igniting the fuel oil to be drawn into the telescoping member to extinguish the wick.

A still further object of the invention is to provide an improved lighter for fuel oil burners and space heaters comprising a tubular rod and a wick manipulating member inside the tubular rod and attached at its lower end to a wick which is drawn into the tubular rod to extinguish the wick.

These and other objects and advantages residing in the combination, construction and arrangement of parts will be more fully described in the following specification and the appended claim.

In the drawing,

Fig. 1 is a side elevational view of the improved lighter with the wick housed in a tubular member,

Fig. 2 is a view similar to Fig. 1 showing the wick projecting so that it may be ignited,

Fig. 3 is an enlarged fragmentary view showing the wick projected in its hinged relation to the lower end of the lighter structure, and

Fig. 4 is a vertical cross-sectional view through a fuel burning space heater, showing the manner in which the lighter is used.

Referring to the drawing, wherein one simple inexpensive form of the invention is illustrated,

3

lighter 10 comprises an elongated tubular rod 12 preferably of thin wall metal structure through which the rod 14 extends and is freely slidable therein. The rod 14 is provided with a handle 16 at its upper end in the form of a loop and is somewhat longer than the tubular member 12 so that the lower end 18 is freely projected slightly beyond the lower end of the member 12 as better shown in Figs. 2 and 3. Attached to the lower end 18 of the rod 14 is a suitable wick member 20 which may take many forms. As shown, wick member 20 is made up of a wire body upon which is wound suitable absorbent material such as asbestos with the wire 22 at one end connected with the lower end 18 of the rod 14 in such a manner as to have free pivotal action. As illustrated, the wick 20 is provided with a flange 24 which is slightly larger than the opening of the tubular member 12 to limit the extent to which the wick 20 may be withdrawn into the lower end of the tubular member 12 by the rod 14 to extinguish the burning of the wick.

It is to be understood that one of the important features of our improved lighter construction resides in the ability of the wick 20 to assume different angular positions relative to the longitudinal axis of the members 12 and 14. It will be understood that many forms of hinge connections may be provided for the wick 20 at the lower end 18 of the rod 14. Also, it is anticipated that in lieu of a definite and specific hinge joint between the hinge 20 and the rod 14, that a flexible wick may be provided or a flexible connection provided between the rod 14 and the wick 20. The specific manner in which the wick is attached to the rod 14 is not important as long as the wick 20 is capable of disposing itself relatively parallel to the burner pan or is in a position to float on the surface of the fuel oil without being extinguished in the event there is a substantial accumulation of fuel oil on the burner pan.

Fig. 4 illustrates the manner in which the lighter 10 may be conveniently inserted through the inspection door 26 of the space heater 28. It is to be noted that it is necessary to project the lighter 10 into the interior of the heater 28 at rather a steep angle, yet because of the

4

connection of the wick 20 with the rod 14 it will be seen disposed parallel to the surface of the burner pan 30.

Having thus described our invention, what we claim as new and desire to be covered by Letters Patent is:

A wick type lighter for fuel oil burners of space heaters of the flooded pan type adapted to be inserted through the door of the space heater at a point substantially above the flooded pan of the burner characterized by an ignitable wick capable of being flatly disposed from the bottom of the pan in intimate association throughout its length with the fuel oil flood, said lighter comprising a relatively long tubular rod like member, a rod telescoping within said tubular member and adapted to be freely slidable therein, said rod having a handle portion at its upper end, a wick attached to the lower end of said rod and having a pivotal connection therewith, said wick being materially smaller than the internal diameter of said tubular rod at its pivotal end and having laterally extending means at its outer end, said wick with the handle of said rod extended being completely housed within the opposite end of said tubular member, said wick being so proportioned with respect to said tubular member with said handle fully inserted the pivotal connection between said wick and said rod is projected from said tubular member whereby said wick may rest in parallelism with the bottom of the pan, at an abrupt angle to the longitudinal axis of said rod.

RUSSELL E. BROWN.
MERLIN J. NIELSEN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
380,176	Brewster	Mar. 27, 1888
485,644	Morency	Nov. 3, 1892
1,377,875	Coen	May 10, 1921
1,496,028	Scott	June 3, 1924
2,393,508	Anderson	Jan. 22, 1946