No. 711,267. Patented Oct. 14, 1902.

J. D. SWENSSON.

APPARATUS FOR SPRAYING LIQUID FUEL.

(Application filed Apr. 2, 1902.)

(No Model.)

Fig. 1.

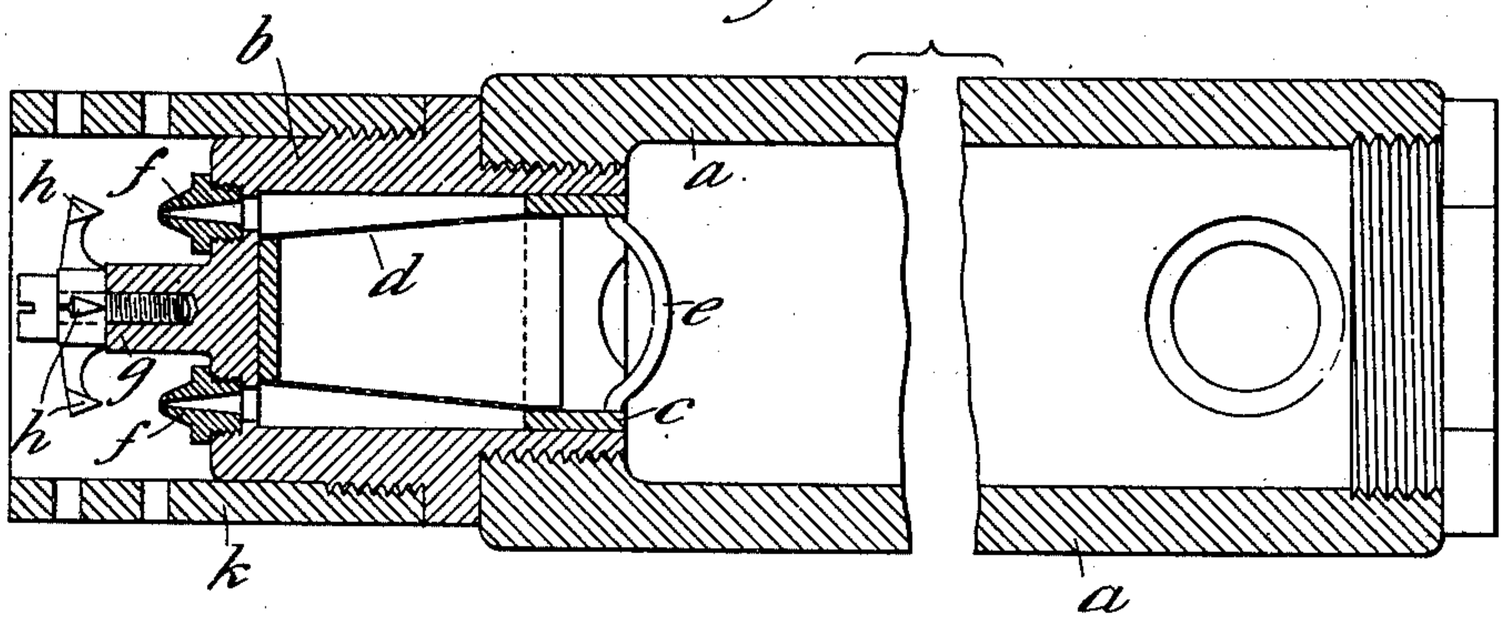
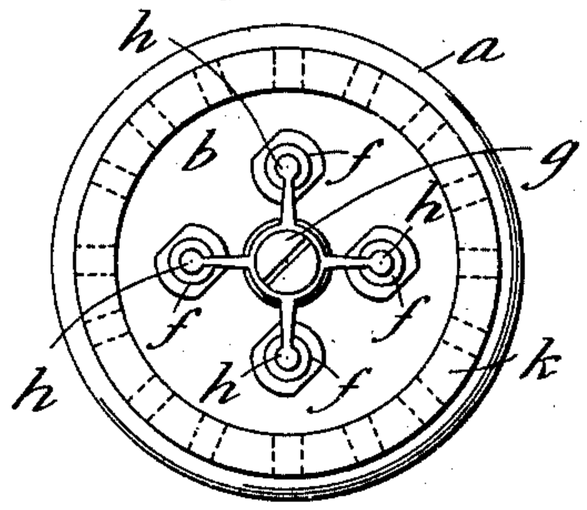


Fig. 2.



WITNESSES

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APPARATUS FOR SPRAYING LIQUID FUEL.

SPECIFICATION forming part of Letters Patent No. 711,267, dated October 14, 1902.

Application filed April 2, 1902. Serial No. 101,118. (No model.)

To all whom it may concern:

Be it known that I, JOHN DAVID SWENSSON, a citizen of Sweden, residing at Tichwinski 2, St. Petersburg, Russia, have invented certain new and useful Improvements in Apparatus for Spraying Liquid Fuel, of which the following is a specification.

My invention relates to apparatus whereby liquid fuel, such as mineral or other oils, is ejected from a nozzle as spray in a finely-divided or atomized condition, so as to mix with air, and when ignited to form a powerful flame for heating boilers or other purposes.

Figure 1 of the accompanying drawings is a section of apparatus according to my invention, and Fig. 2 is an end view.

a is a tubular vessel supplied by a pump or from an elevated reservoir with the liquid fuel under pressure. The front of this vessel is closed by a socket *b*, which is attached to the vessel by a screw, so that it can be readily removed and replaced. Within this socket is held a filter consisting of a ring *c*, to which is attached a conical frustum *d*, made of fine wire-gauze. The ring *c* is provided with a cross-bar *e*, which can be taken hold of by the finger and thumb for the purpose of removing the filter when it requires to be cleansed. In the front end of the socket there are a number of jet-nozzles *f*, of which four are shown in Fig. 2; but instead of four there might be two or three or a number greater than four. In the middle there is a standard *g*, having laterally-projecting arms, one for each jet-nozzle, each of these arms having at its end a sharply-pointed pyramidal disperser *h*, with its apex in line with the center of the jet. On the socket *b* is fitted a guard-tube *k*, having through it a number of lateral holes, which freely admit air to mingle with the dispersed liquid as it is ejected in jets from the nozzles *f* and becomes finely pulverized by the impact of the jets on the dispersers *h*. The dispersed liquid becomes mixed with air, which supplies oxygen to the minute particles, so that the mixture when ignited produces a large and powerful flame.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

1. An apparatus for spraying liquid fuel, comprising a tubular vessel having a separable front end portion, a removable wire-gauze filter within the separable portion, said end portion having several jet-orifices each provided with a pointed disperser in front thereof, and a laterally-perforated tube surrounding the jet-orifices and dispersers; substantially as described.

2. An apparatus for spraying liquid fuel comprising a tubular vessel having a separable front extension, a removable tubular wire-gauze filter within the extension leaving a space between it and the surrounding wall, the extension having several jet-orifices leading from the annular space around the filter, pointed dispersers in front of the jet-orifices, and a perforated guard-tube surrounding the jet-orifices and dispersers; substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN D. SWENSSON.

Witnesses:
OLIVER IMRAY,
GERALD L. SMITH.