

LIQUID FUEL STOVE OR BURNER.

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1,232,693.

Patented July 10, 1917.

2 SHEETS—SHEET 1.

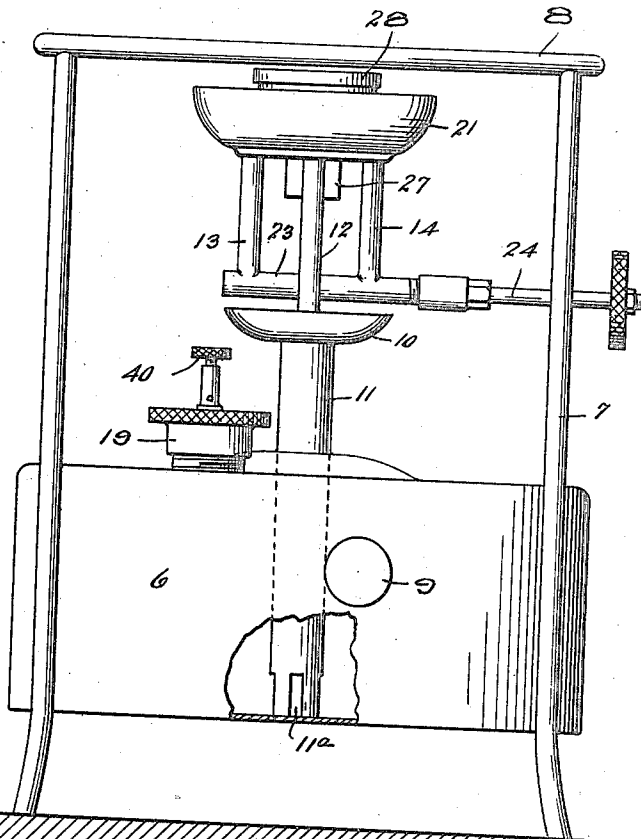


Fig. 1

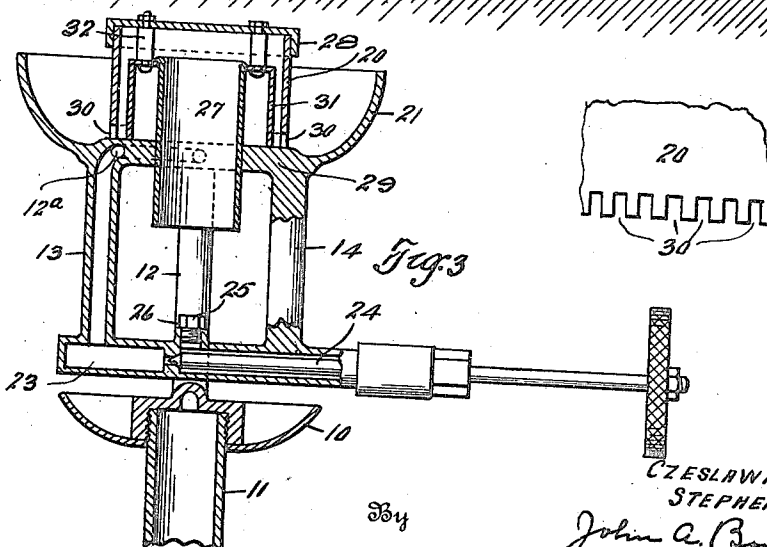



Fig. 6

 **Inventors**
CZESLAW HORZENIEWSKI
STEPHEN CHOJNACKI

John A. Bonnhardt
Attorney

C. KORZENIEWSKI & S. CHOJNACKI.
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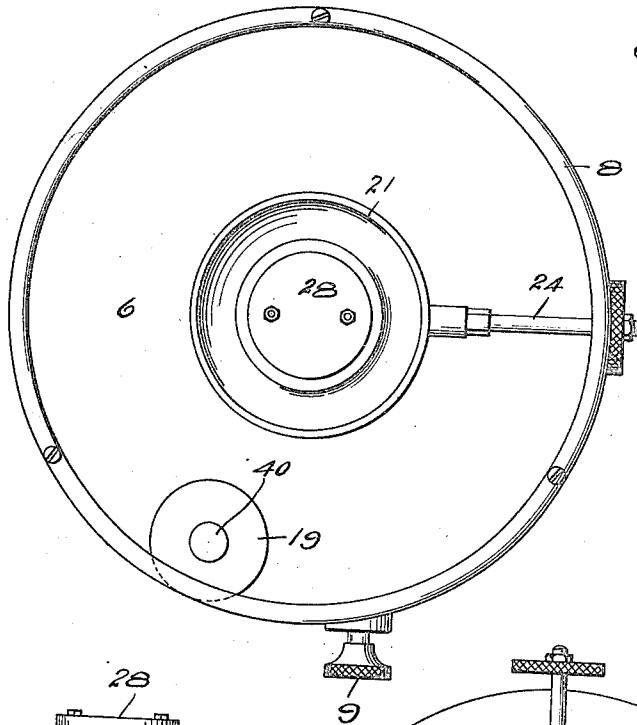


Fig. 2

Fig. 4

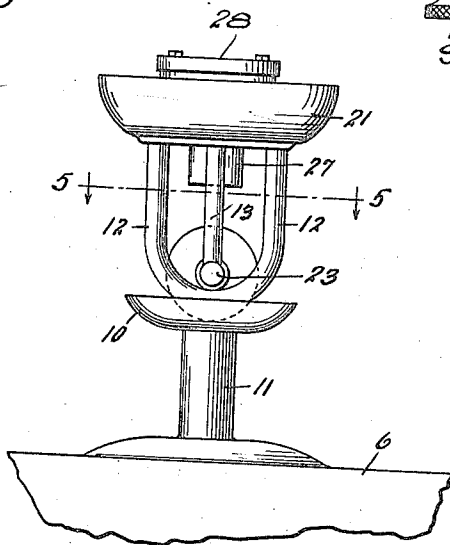
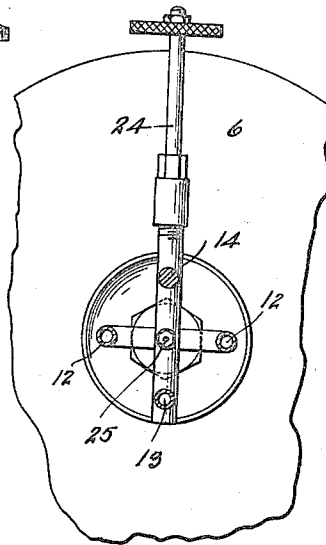


Fig. 5



INVENTOR.
 CZEŚLAW KORZENIEWSKI
 STEPHEN CHOJNACKI
 BY *John A. Boimhardt*
 ATTORNEY.

UNITED STATES PATENT OFFICE.

CZESLAW KORZENIEWSKI AND STEPHEN CHOJNACKI, OF CLEVELAND, OHIO.

LIQUID-FUEL STOVE OR BURNER.

1,232,693.

Specification of Letters Patent.

Patented July 10, 1917.

Application filed March 22, 1917. Serial No. 156,549.

To all whom it may concern:

Be it known that we, CZESLAW KORZENIEWSKI and STEPHEN CHOJNACKI, subjects of Poland, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Liquid-Fuel Stoves or Burners, of which the following is a specification.

This invention relates to liquid fuel stoves or burners, particularly adapted and intended for burning kerosene oil or the like, and of that type in which the oil is fed by pressure from a tank and is vaporized in a retort exposed to the heat of the burner prior to its consumption.

The object of the invention is to provide a device having improvements with respect to the means by which the liquid is vaporized, and also with respect to the means by which the vapor is discharged into the combustion space in a highly heated condition, whereby a blue flame of intense heat is produced.

The invention is illustrated in the accompanying drawings in which Figure 1 is a side elevation of the stove. Fig. 2 is a top plan view. Fig. 3 is a vertical section of the burner and its associated parts. Fig. 4 is a side elevation of the burner at right angles to that shown in Fig. 1. Fig. 5 is a section on the line 5—5 of Fig. 4. Fig. 6 is a detail of part of the burner cap.

Referring specifically to the drawings, 6 indicates a fuel tank mounted on legs 7 which also support a ring 8, some distance above the tank, on which a vessel may be placed to be heated. The tank has a pump 9 to pump up pressure therein, filling cap 19, and a vent valve 40 to relieve the pressure in the tank when desired.

An oil pipe 11 extends through the top of the tank and has openings 11^a at the bottom to admit oil into the same, the oil being forced up through the pipe by the pressure in the tank. At its upper end this oil pipe communicates with branch pipes 12 which lead to a bore or passage 12^a made in a base plate forming the bottom of the burner proper. This bore leads into the upper end of a hollow leg or pipe 13, which communicates at its lower end with a transverse

tube or valve casing 23. A post 14 assists in supporting the burner. The casing 23 contains a needle valve 24 by which the flow of fuel is controlled in its passage to a jet opening 25 of very small size, in a screw plug 26. The jet is directed upwardly toward a mixing tube 27 which opens at the top into a space under the burner cap 28 which rests upon a circular wall 20, the lower edge of which is in contact with the base plate 29 of the burner, and this circular wall is notched as indicated at 30 to permit the escape of the fuel into a cup 21 in which combustion takes place. The inner wall of the burner is formed by an annular flanged member 31 which rests on the base of the burner within the outer wall 20, from which it is spaced. The cap 28 is held in place by spacing bolts 32. 10 is a starting cup on the upper end of the oil tube 11, below the burner.

In operation pressure will be pumped up in the tank to force the oil up into the burner passages, and generation will be started by burning alcohol or other liquid in starting cup 10. The valve 24 being then opened, the gas is discharged through the jet hole 25, injecting therewith a certain amount of air into the mixing tube 27 from which the mixture flows outwardly and then downwardly through the space between the walls 20 and 31, finally issuing at the openings 30 where it is ignited and consumed, the heat communicated to the adjacent parts acting to continue the vaporization of the oil, and both the oil and the gas are heated in the passage thereof from the supply pipe to the burner openings, resulting in a blue flame of superior quality, without smoke. It will be noticed that combustion occurs at the openings 30 close to the base plate, the fuel passage in which is thereby quickly and effectively heated, because of its close relation to the place of combustion.

We claim:

The combination of an upright fuel supply tube having hollow upright branch tubes at its upper end, a burner cup having a passage in its base with which said branch tubes communicate, a tube communicating with said passage, and depending at one side of

said branches, a valve casing extending crosswise and horizontally between said branches and connected at one end to the depending tube and having an upwardly directed jet orifice, a valve stem projecting horizontally into the opposite end of said casing, and a burner supported by the cup and receiving fuel from said orifice.

In testimony whereof, we do affix our signatures in presence of two witnesses.

CZESLAW KORZENIEWSKI.
STEPHEN CHOJNACKI.

Witnesses:

R. B. OLIVER,
JOHN A. BOMMHARDT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."