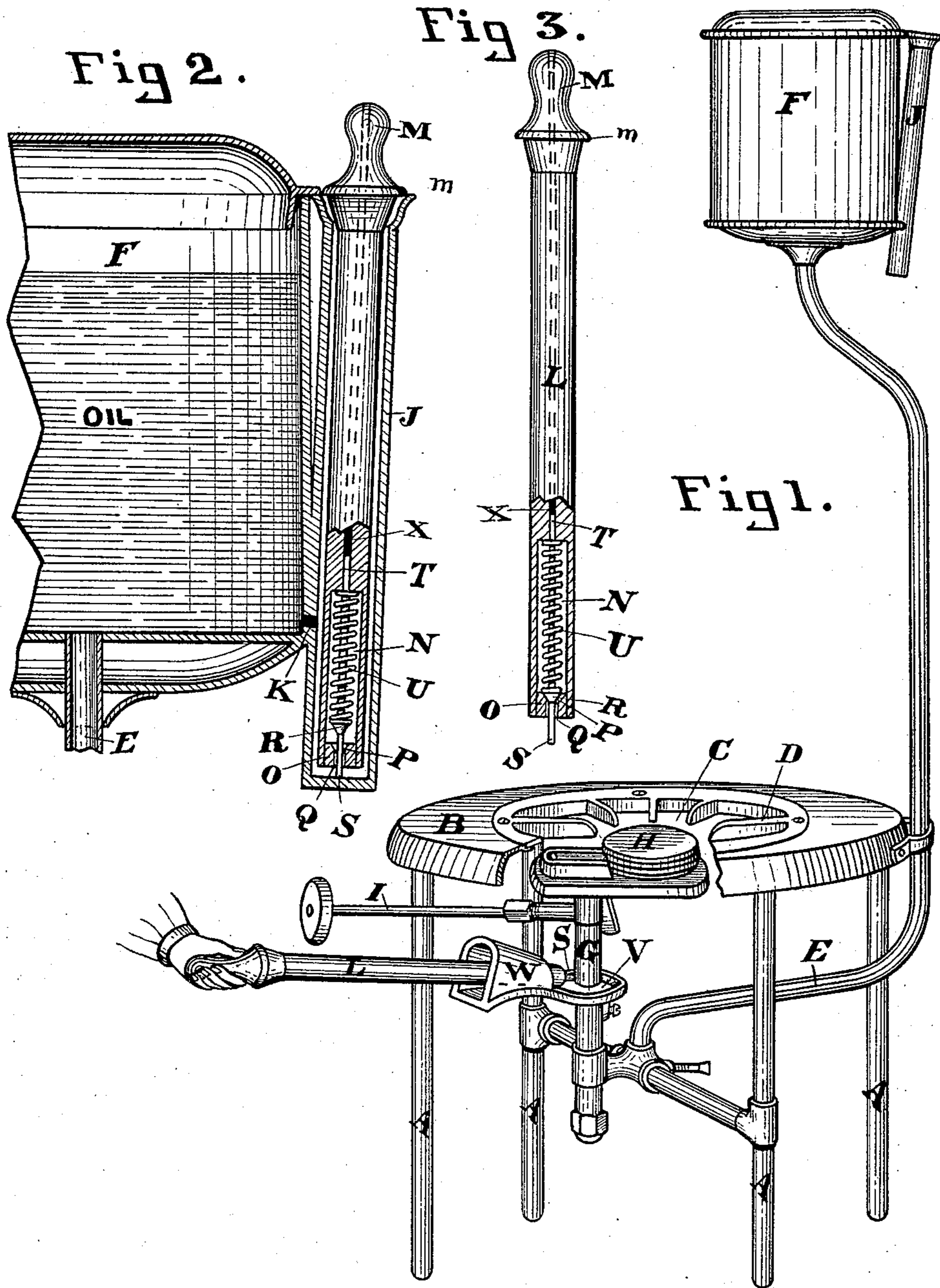


(No Model.)

I. KINSEY.  
LIGHTING DEVICE FOR VAPOR STOVES.

No. 594,360.

Patented Nov. 23, 1897.



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# UNITED STATES PATENT OFFICE.

ISAAC KINSEY, OF DAYTON, OHIO.

## LIGHTING DEVICE FOR VAPOR-STOVES.

SPECIFICATION forming part of Letters Patent No. 594,360, dated November 23, 1897.

Application filed October 13, 1896. Serial No. 608,698. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC KINSEY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Lighting Devices for Vapor-Stoves, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved manner of initially heating and lighting vapor-stoves, its object being to provide a safe and convenient means for initially heating the burner to start generation of vapor by means of a limited supply of gasolene or other similar fluid which can be discharged into a receptacle suitably located with reference to the burner-retort and then setting fire to it, whereby the burning fluid heats the burner parts and starts generation, which is thereafter maintained by the heat from the burner in the ordinary manner.

With this object in view my invention may be said to consist of a convenient form of portable conveyer provided with a self-closing valve, a holder preferably attached to the supply-tank and in which the said conveyer may be stored and in which it is automatically filled, a burner-receptacle or ignition-cup for receiving gasolene or other liquid fuel from the conveyer, and a guide for the conveyer.

Ordinarily the burners of vapor-stoves of the class to which my improvement is applicable are initially heated by first opening a needle-valve which communicates with the supply-tank and allowing a quantity of fluid to flow from the supply-tank into a receptacle similar to the one I employ and then closing the valve and setting fire to the fluid, and a large number of accidents from the use of vapor-stoves are attributable to this manner of initial heating by reason of persons opening the needle-valve and then going about some other household duty while the receptacle is filling, forgetting or neglecting to close the valve at the proper time, thus permitting the fluid to overflow the receptacle and run down onto the floor, where it spreads and rapidly gener-

ates into vapor, which, when an attempt is made to set fire to the liquid in the receptacle, ignites, and a so-called "gasolene-stove explosion" is the result. My invention is intended to avoid the possibility of such thoughtless or negligent manipulation, and it accomplishes its object in a simple and efficient manner.

Further details of construction will first be described in connection with the accompanying drawings and the invention then pointed out in the claims.

Figure 1 of the drawings is a broken perspective view of a vapor-stove containing my improvement and shows the conveyer in position for filling the receptacle. Fig. 2 is an enlarged sectional view of a portion of the supply-tank with the holder attached thereto and the conveyer, partially in section, contained within the holder. Fig. 3 is an enlarged partially-sectional view of the conveyer removed from its holder.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings, standards A and top B comprise the framework of the stove. The top is provided with an opening C, in which is secured an ordinary grate D. E represents a supply-pipe which leads from a supply-tank F and communicates with a burner-retort G in the usual manner. H represents the burner, and I the valve which controls the flow of vapor from the retort to the burner, and as these parts in themselves form no part of my invention, but may be of any ordinary construction, I will not describe them more fully.

To the wall of the supply-tank is attached a holder J, preferably cylindrical in form and communicating with the supply-tank through a port K, whereby the liquid is maintained at one level in both the tank and holder. The tank may be of any of the ordinary styles, but the holder should be so located that the conveyer will fill with liquid when the latter is at its lowest level in the tank.

L represents the conveyer, which I have shown and will describe as a rod provided at its upper end with a knob M for conven-

ience in handling, with a flanged swell *m* immediately below the knob for closing the upper end of the holder, and with a chamber *N* at its lower end. The capacity of this chamber is determined by the capacity of the ignition-cup on the stove, for while the chamber is adapted to hold a quantity of liquid necessary to properly heat the burner parts, so as to cause generation of vapor within the retort with which to start the burner in operation, (after which vapor generation is maintained by heat from the burner in the usual well-known manner,) yet it will not hold enough liquid to cause overflow of the ignition-cup when its contents are discharged into said cup.

The chamber *N* is provided at its bottom with a plug *O*, in which is formed a valve-seat *P* and port *Q*. A valve *R*, having guide-stems *S* and *T*, the latter being surrounded by a spiral spring *U*, which automatically closes port *Q* when the conveyer is removed from its holder, retains the liquid within the chamber, which fills through port *Q* around stem *S*, the end of which rests on the bottom of the holder, Fig. 2. The weight of the conveyer being sufficient to overcome the action of spring *U*, valve *R* is in a raised position while the conveyer is in its holder. The guide-stem *T* operates in a hole *X*, which extends from the chamber *N* through the conveyer and serves also as a vent.

A receptacle or ignition-cup *V* surrounds the retort *G*, and a funnel-like guide *W*, located in proper relation to the receptacle, serves to guide the conveyer when it is desired to fill the receptacle for initially heating the burner, which is accomplished by inserting the chambered end of the conveyer through the guide *W* and pressing guide-stem *S* against the retort *G*, thus opening valve *R* and allowing the liquid to flow from the chamber *N* into the receptacle, when it can be set fire to and generation of vapor created within the retort.

It will be observed from the foregoing description of my invention that the possibility of accident through ignorance or negligence in lighting the stove is reduced to a minimum, as only the requisite quantity of liquid can be discharged into the receptacle and the operator cannot through thoughtlessness, negligence, or ignorance allow the receptacle or ignition-cup to overflow, with probable disastrous result.

I do not wish to limit my invention to the exact details of construction which I have shown and described, as they may be departed from in various ways without departing from the spirit thereof.

Having thus fully described my invention, I claim and desire to secure by Letters Patent—

1. A liquid-conveyer for use with the ignition-cup of a hydrocarbon-vapor stove, consisting of a rod cored out for a portion of its

length to form a chamber the liquid-holding capacity of which is approximately equal to that of said cup, a valve-plug in the lower end of the chamber, an air-vent for the chamber, and a valve and means for closing it located in the chamber, said valve having an upper stem and a lower stem, the former working in the air-vent and the latter passing through the port in the valve-plug.

2. A liquid-conveyer for use with the ignition-cup of a hydrocarbon-vapor stove, consisting of a rod cored out for a portion of its length to form a chamber the liquid-holding capacity of which is approximately equal to that of said cup, a valve-plug in the lower end of the chamber, an air-vent for the chamber, and a valve and a coiled spring for closing it located in the chamber, said valve having an upper stem and a lower stem, the former being encircled by the spring and working in the air-vent, and the latter passing through the port in the valve-plug.

3. In a hydrocarbon-vapor stove, the combination, with the oil-tank and a liquid-holder secured to the outer side of the tank, the interior of said holder being in open communication with the interior of the tank through a suitable port or duct, of a liquid-conveyer adapted on being placed loosely in the holder to close the upper end thereof to automatically take up a definite quantity of oil, and to retain the oil so taken up when removed from the holder, said conveyer comprising a rod of sufficient length to extend above said holder when in place therein, cored out in its lower portion to form a liquid-chamber, and having a longitudinal air-vent extending from the upper portion of the chamber entirely through the rod, a valve-plug in the lower end of the chamber, and a valve and means for closing it located in the chamber, said valve having a stem which passes through the port in the valve-plug, all substantially as and for the purposes set forth.

4. In a hydrocarbon-vapor stove, the combination, with an ignition-cup and a conveyer-guide located adjacent thereto, of a conveyer having a chamber the liquid-holding capacity of which is approximately equal to that of the ignition-cup, a valve-plug in the lower end of the chamber, and an automatically-closing valve within the chamber provided with a stem projecting outwardly through the valve-plug, and a device in line with the conveyer-guide with which the valve-stem contacts when the conveyer is placed in the guide, whereby when a slight forward pressure is exerted on the conveyer the valve will open and permit the liquid in the chamber to flow into the ignition-cup.

5. In a hydrocarbon-vapor stove, the combination, with the retort and an ignition-cup adjacent thereto, of a conveyer-guide located adjacent to the ignition-cup in line with the

retort, and a conveyer having a chamber the liquid-holding capacity of which is approximately equal to that of the ignition-cup, a valve-plug in the lower end of the chamber, 5 and an automatically-closing valve within the chamber provided with a stem projecting outwardly through the valve-plug, the conveyer-guide being adapted, when the conveyer is

placed therein, to direct the valve-stem into contact with the retort, as and for the purposes set forth. 10

ISAAC KINSEY.

Witnesses:

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H. D. HENDRICK.