

H. GRISWOLD.
VAPOR LAMP BURNER.
APPLICATION FILED AUG. 21, 1909.

960,167.

Patented May 31, 1910.

Fig:1.

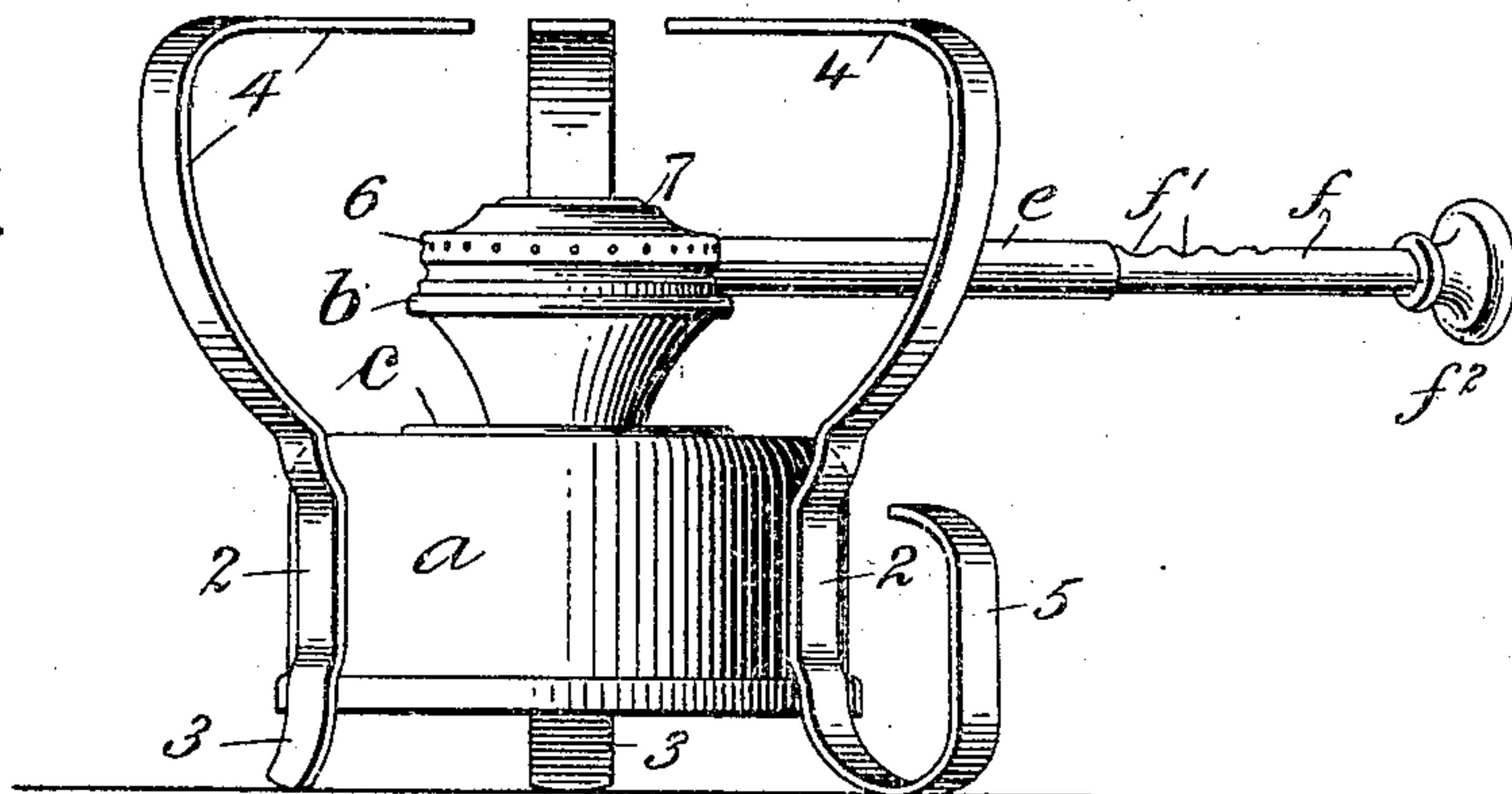


Fig:2.

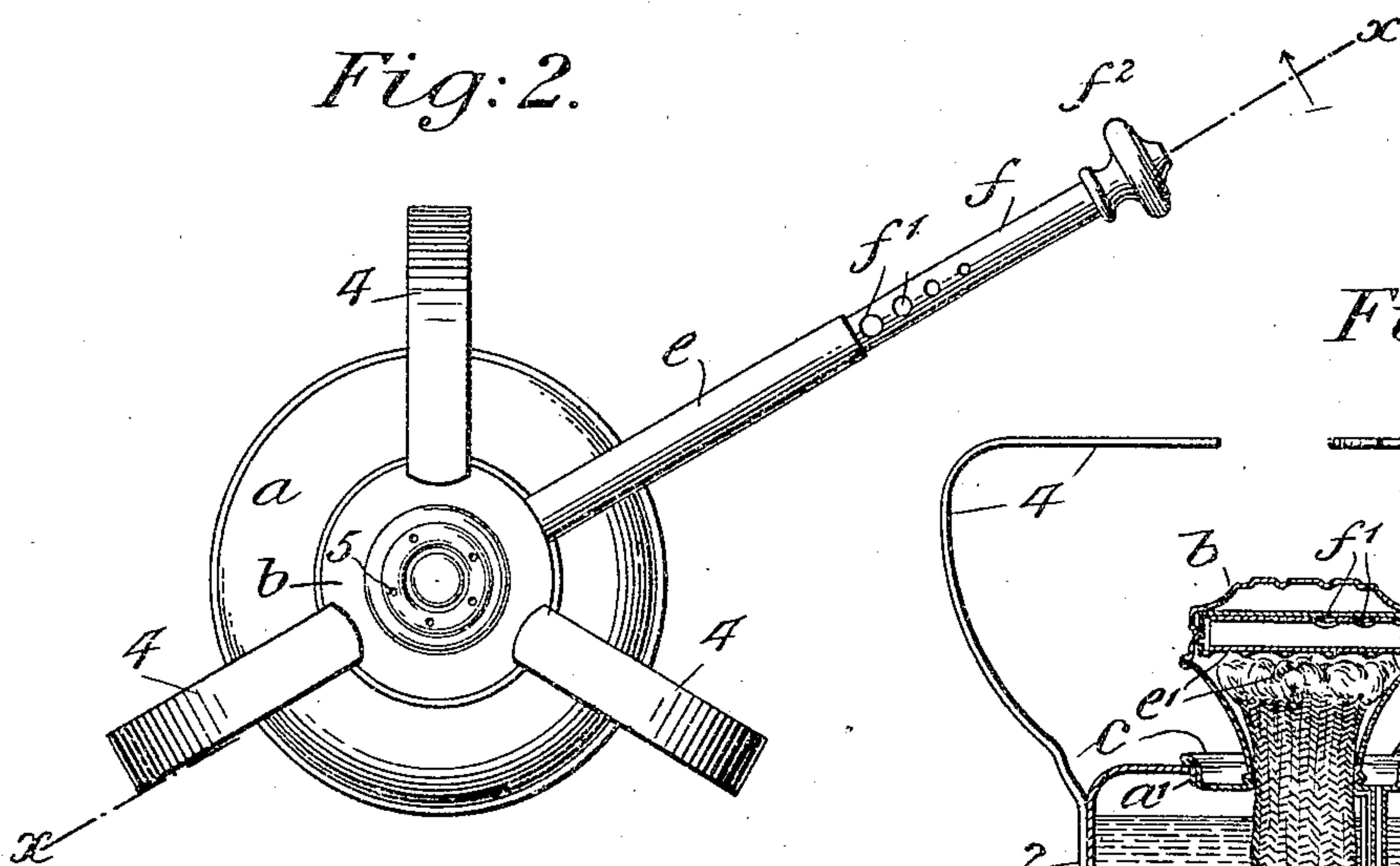


Fig:3.

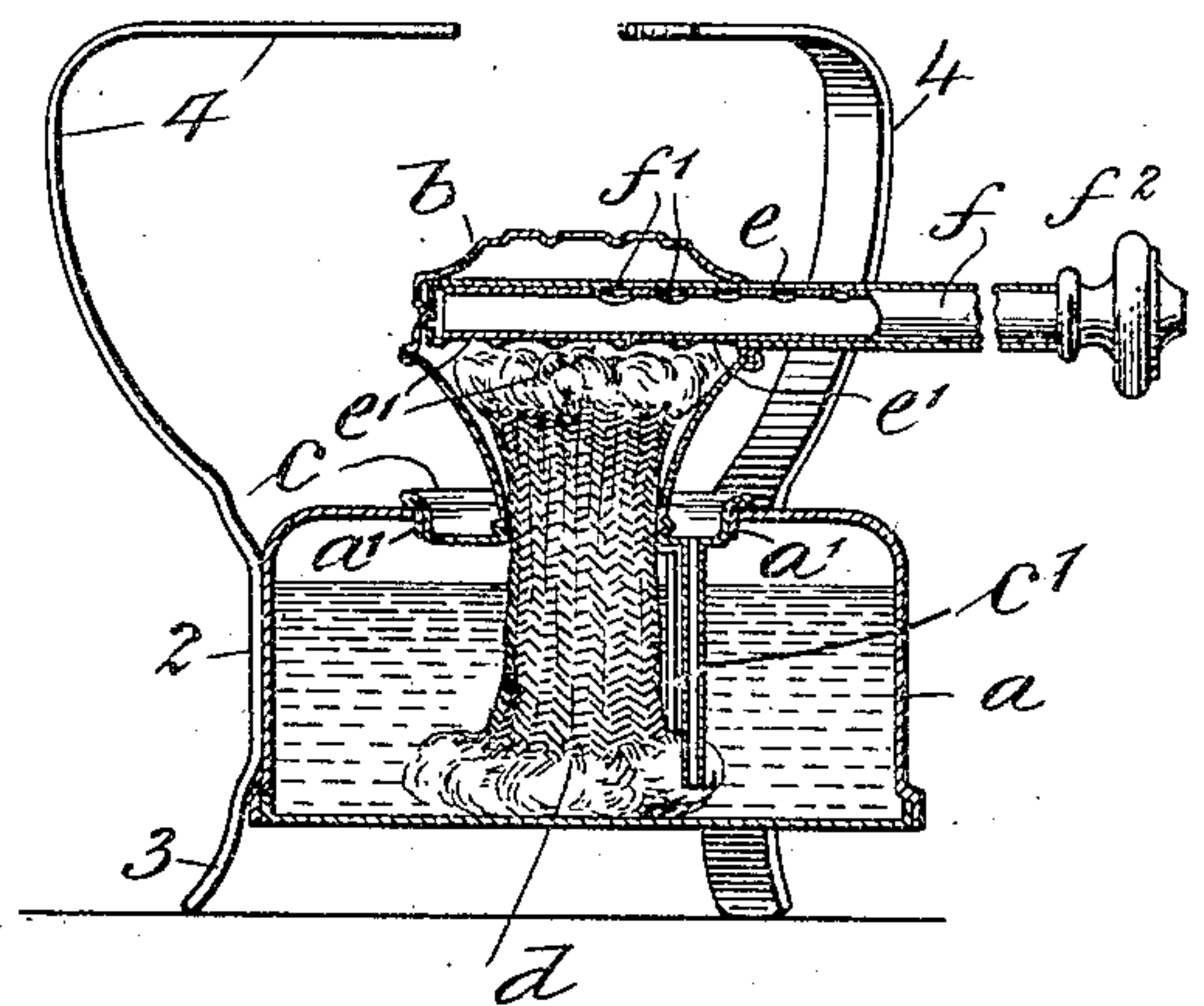
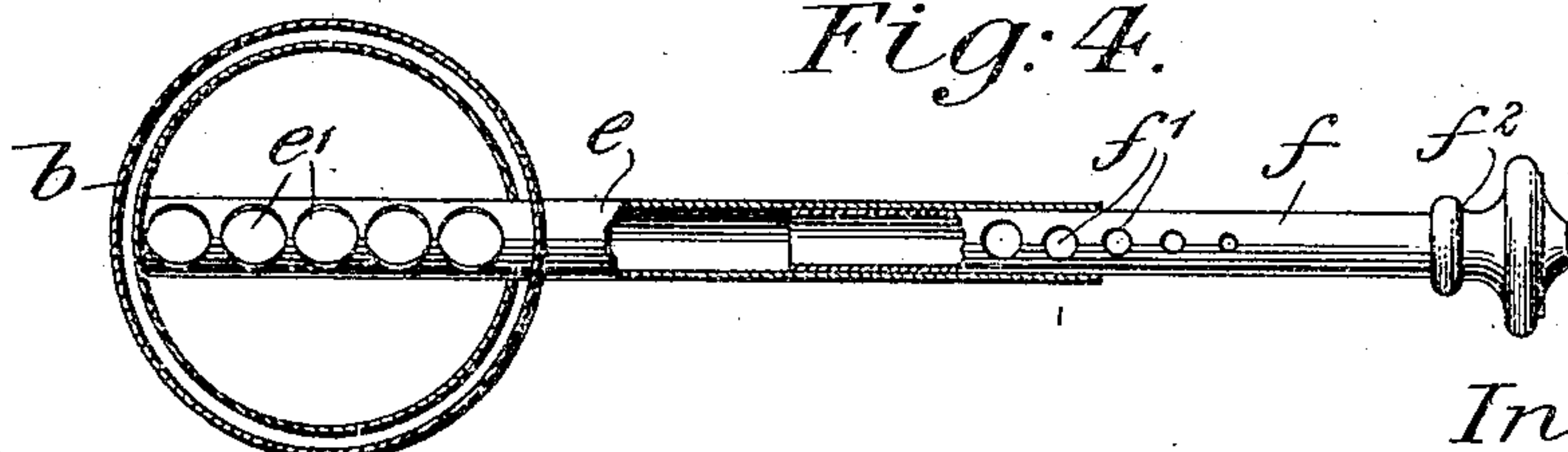


Fig:4.



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UNITED STATES PATENT OFFICE.

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VAPOR-LAMP BURNER.

960,167.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed August 21, 1909. Serial No. 513,941.

To all whom it may concern:

Be it known that I, HARRISON GRISWOLD, a citizen of the United States of America, residing in the borough of Manhattan, city, county, and State of New York, have invented an Improvement in Vapor-Lamp Burners, of which the following is a specification.

My invention relates to a vapor lamp burner having a stationary wick and preferably using alcohol as a burning fluid; such vapor lamps as are usually employed for heating and cooking.

In lamps of this character it has heretofore been difficult if not quite impossible to control the height of the flame, or in other words, to control the surplus vapor accumulating from the vaporization of the fluid in the presence of heat; the fact being that the vapor frequently burns fiercely, increasing the size of the flame often to the danger point, all of which it is the object of my invention to overcome.

In carrying out my invention, I employ devices adjustable in character providing for the discharge of any surplus vapor accumulated in the body of the burner, which discharge is at a place appreciably distant from the flame so that the escaping vapor does not add to the volume of the flame. This I accomplish by the employment of telescoping tubes, the outer one of which passes through and is secured to the burner body above the stationary wick and is provided with a series of holes therethrough within the limits of the burner, with a tube at one end projecting beyond the burner.

The interior telescoping tube is open at the inner end and closed at the outer end preferably with a knob to be grasped by the fingers for moving this tube longitudinally, and a series of holes are formed along in this inner tube preferably of increasing diameters, which when beyond the free end of the outer tube provide for a regulatable escape of the surplus or pent up vapor.

In the drawing, Figure 1 is an elevation representing the device of my invention. Fig. 2 is a plan of the same and Fig. 3 is a vertical section and partial elevation on the dotted line x, x , of Fig. 2, and Fig. 4 is an inverted partial section at about the line of the outer and inner telescoping tubes.

a represents the cylindrical reservoir for the burning fluid. This is provided with a central opening having a surrounding flange

a^1 and the reservoir is supported by members having parts 2 secured to the sides of the reservoir, legs 3 supporting the reservoir in a slightly elevated position and arms 4 rising from the parts 2 and bent outward and over for supporting thereon a vessel holding material to be heated by the burner. I prefer to upturn one leg 5 to form a handle for carrying the device about.

b represents the burner body and c a dishing-cover secured to and around the base of the burner and adapted to fit the central opening of the reservoir and to frictionally contact with the surrounding flange a^1 of said opening, and this dishing-cover is provided with a tube c^1 which extends down therefrom into the fluid of the reservoir. The burner is formed with holes 5 and 6 providing for the exit of the vapor to be burned.

d represents a wick of liberal proportions secured in a stationary position to and within the burner.

The special features of my present invention relate to the outer tube e and inner tube f . The outer tube e extends across within the burner b and projects from the burner to an appreciable extent and is secured rigidly to the burner and it is provided with holes e^1 within the limits of the burner into which the vapor within the burner enters filling the tube. The tube f fits snugly within the outer tube e . It is open at the inner end and closed at the outer end with a finger-knob f^2 and it is provided with series of holes f^1 .

Fig. 3 shows the tube f as pushed entirely into the outer tube e but Figs. 1, 2 and 4 show the inner tube f as partially pulled out of the outer tube e and in so doing several of the holes f^1 of the inner tube are shown as exposed.

In the operation of the device it is preferable at the outset to press down the burner with its cover or upward against the bottom of the reservoir and in so doing compel air within the reservoir to force a small quantity of fluid up through the tube c^1 into the dishing cover c . This may be lighted with a match and while burning heats the burner, increases the vaporization of the fluid and at once also lights the burner. The flame goes out from the vapor burning in the dishing cover as soon as the fluid is consumed and thereafter the vapor only burns from the burner. Should the flame get too

high the inner tube *f* is pulled out exposing a single or any desired number of the holes *f*¹ in the said tube. In doing this, surplus vapor is allowed to escape through those
 5 holes into the atmosphere at a place distant from the flame; where the vapor being lighter than air will ascend without burning and in this way by the longitudinal movement of the inner tube *f* and the uncovering
 10 of any desired number of holes for releasing the pent up fluid is the height of the flame regulated, for unless the flame is too high the inner tube *f* need not be moved longitudinally to expose any of the openings, but in
 15 case the flame is too high the escape of the pent up vapor through the holes of the inner tube will at once lower the flame and consequently keep it within safe limits. When the flame is put out the inner tube *f* should
 20 be pushed into the outer tube *e* as far as possible so as to prevent the escape and needless waste of the vapor.

I claim as my invention:

1. In a vapor lamp burner, the combination with a reservoir and a burner, of a device secured to the burner and having openings and a second device occupying a co-acting relation with the first device and also having openings and slidably movable in relation to the first device and in its movement discovering the openings provided therein for permitting the escape of the pent up vapor.

2. In a vapor lamp burner the combination with a reservoir, a burner and a stationary wick, of a tube secured to the burner passing through within the same and projecting and provided with openings in the tube within the burner, and a slidable tube
 40 co-acting with the said tube and adapted in one position to prevent the escape of the

surplus vapor and in another position to provide for the regulatable escape thereof into the atmosphere.

3. In a vapor lamp burner the combination with a reservoir, a burner and a stationary wick, of a tube secured to the burner passing through within the same and projecting and provided with openings in the tube within the burner, and a tube fitting
 50 within the aforesaid tube and longitudinally movable in relation thereto open at its inner end and closed at its outer end and provided with a series of openings longitudinally arranged therein and varying in size and providing with the longitudinal movement of
 55 said tube for exposing any desired number of said openings permitting the escape of the pent up vapor.

4. In a vapor lamp burner and in combination, a reservoir, a burner and stationary wick, telescoping tubes the larger of which extends across within the burner through the wall at one side and projects and is provided with a series of openings within the
 60 limits of the burner which permit the pent up vapor to pass into said tube, the inner telescoping tube fitting snugly within the outer one, and a finger-engaging knob closing its outer end, said inner tube being provided with a series of spaced apart openings
 65 of various sizes which may be exposed with the longitudinal movement of the inner tube, providing for the escape of the pent up vapor in the burner into the open air.

Signed by me this 17th day of August 1909.

HARRISON GRISWOLD.

Witnesses:

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