

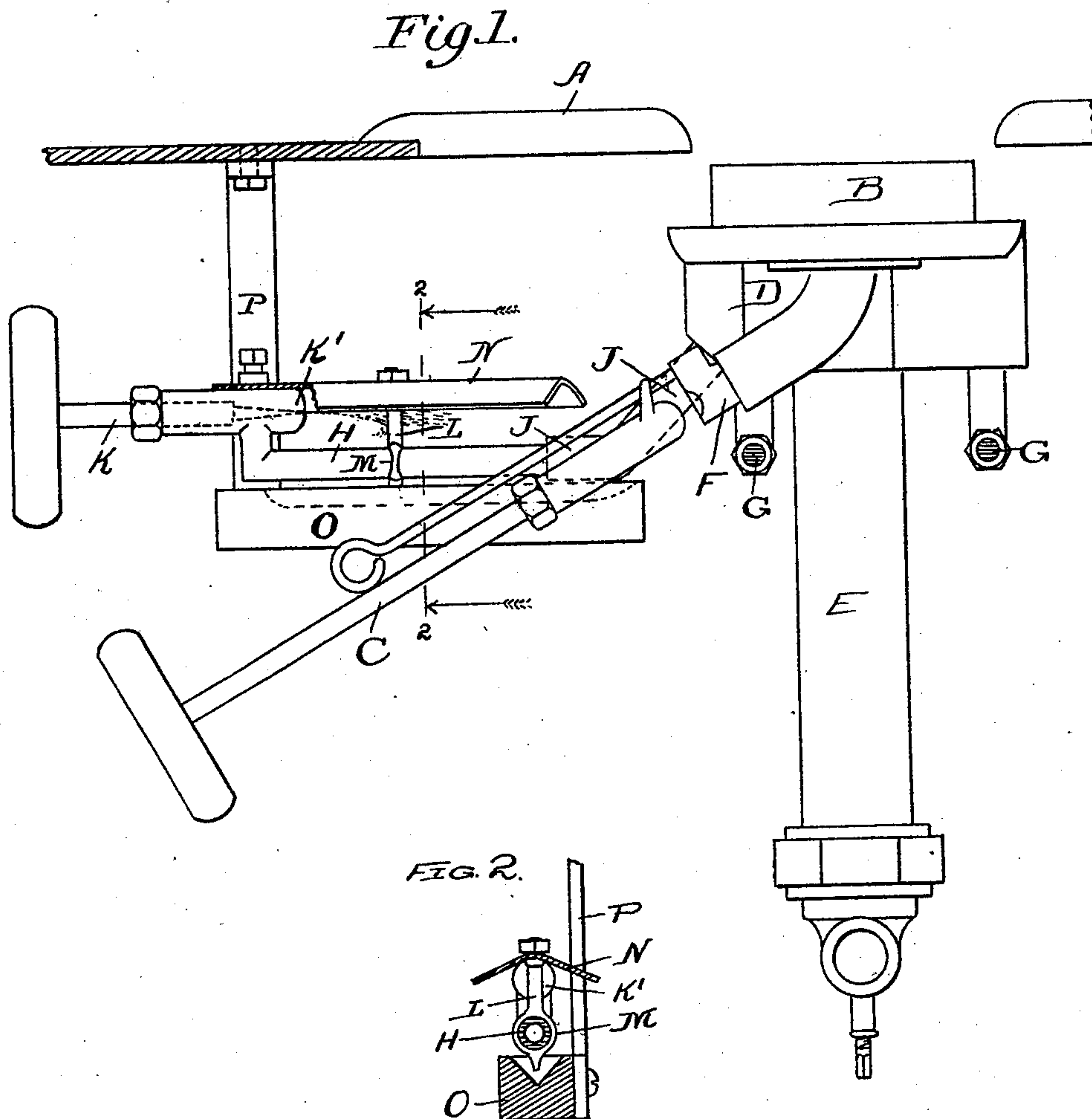
(No Model.)

2 Sheets—Sheet 1.

J. G. HARVEY & C. MUNZNER.
VAPOR STOVE AND BURNER.

No. 587,036.

Patented July 27, 1897.



WITNESSES:

Sam. E. Curtis
A. W. Munday

INVENTORS:

John G. Harvey
Charles Munzner

By Munday, Curtis & Adcock.

THEIR ATTORNEYS.

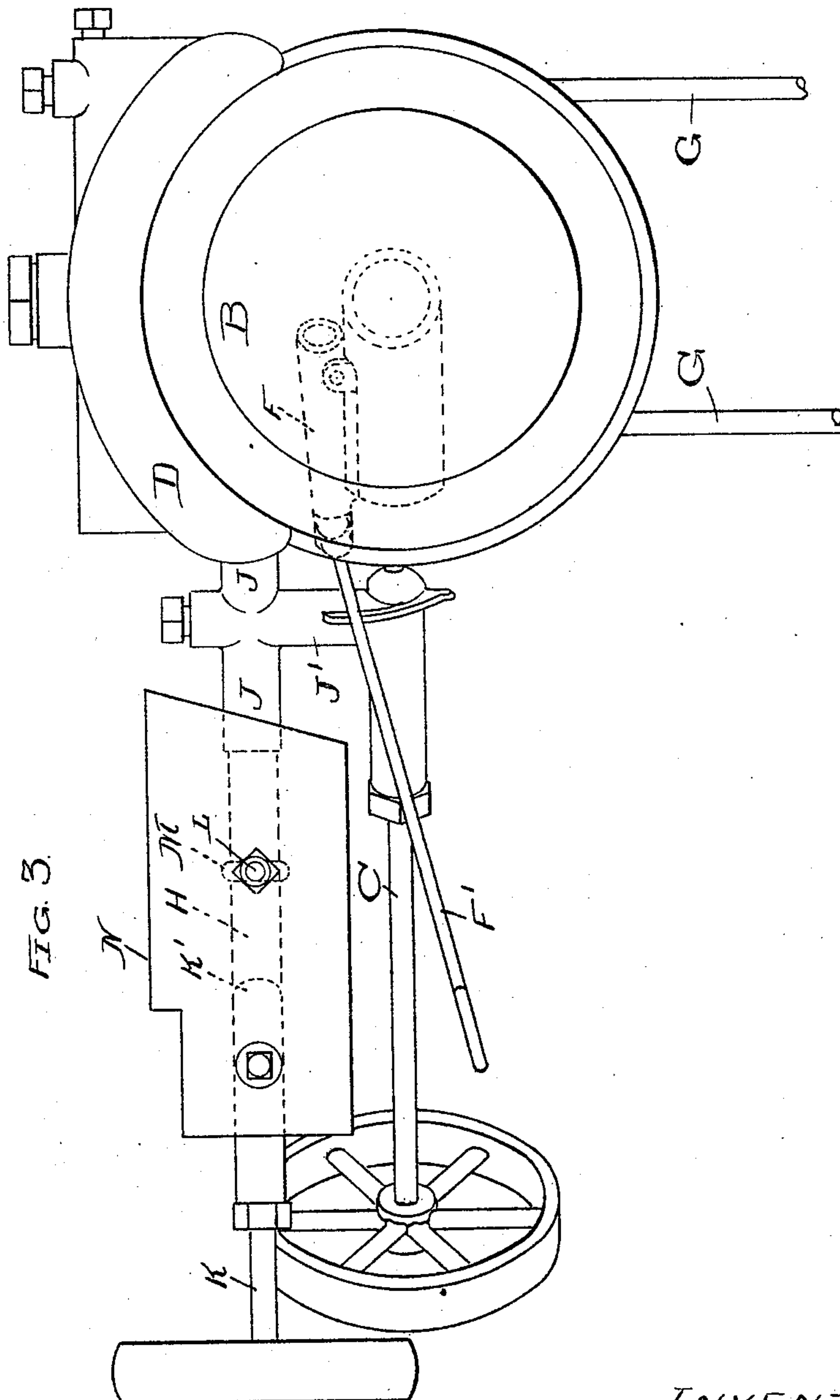
(No Model.)

2 Sheets—Sheet 2.

J. G. HARVEY & C. MUNZNER.
VAPOR STOVE AND BURNER.

No. 587,036.

Patented July 27, 1897.



WITNESSES:

Sew. C. Curtis
Ida M. Hurd.

INVENTORS:

John G. Harvey
 & Chas Munzner.
 BY Munday Evans & Adcock
 THEIR ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN G. HARVEY AND CHARLES MUNZNER, OF CHICAGO, ILLINOIS, ASSIGN-
ORS TO THE GEORGE M. CLARK & COMPANY, OF SAME PLACE.

VAPOR STOVE AND BURNER.

SPECIFICATION forming part of Letters Patent No. 587,036, dated July 27, 1897.

Application filed February 29, 1896. Serial No. 581,362. (No model.)

To all whom it may concern:

Be it known that we, JOHN G. HARVEY and CHARLES MUNZNER, citizens of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Vapor Stoves and Burners, of which the following is a specification.

This invention relates to improvements in vapor-stoves; and it consists in the novel construction of devices and in the novel combinations of parts and devices herein set forth in the description given below and pointed out in the claims.

In the drawings, Figure 1 is a sectional elevation of the invention. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a plan view of the main burner and generator with our improvements attached.

In said drawings, A represents the cover or lid of the stove; B, the burner-cap of the main generator-burner; C, the needle-valve controlling said burner; D, the main generator; E, the stand-pipe; F, the pivoted deflector for diverting the flame from the burner-cap and operated by means of wire extension or arm F', and G G are needle-valves controlling the vapor-passages leading from generator D to other and non-generating burners. (Not shown.) All these parts are common in a large proportion of vapor-stoves now in use.

The auxiliary generator, which forms the principal feature of our invention, is shown at H. It is preferably tubular in form and is connected by an extension J at one end to the generator D or to some other source from which it may be supplied with oil. At the opposite end the generator H turns upward and is supplied with a vapor-burner K', controlled by the needle-valve K. The orifice of this burner is adapted to project the vapor horizontally over the generator H. In front of the orifice is a metal pin L, against which the flame from the orifice will impinge, so that the pin will be highly heated even with the small flame ordinarily issuing from burner K'. The pin L is provided with an eye M at its lower end, which encircles the generator H and is thereby enabled to communicate the heat to the generator and in-

sure sufficient vaporization to supply the burner K'.

Above the generator and parallel with it is a deflector-plate N, supported partly by the pin L and partly on top of the burner K'. It acts to confine the flame from the burner K' and keep it parallel with the generator H. By means of the generator H and burner K' we are enabled by opening the valve K widely to cause the flame to reach near enough to the generator D to heat the latter and put it into operation; or by using a small flame, sufficient, however, to cause vaporization in generator H, we are enabled to keep the burner K' in operation for any length of time desired, so that the stove may be kept in constant readiness for use without maintaining the main generator in operation and by the consumption of a very small amount of oil.

For starting the auxiliary generator we employ a drip-cup O, which is placed close under the tubular generator H and receives its charge from burner K', as usual, and which differs from those heretofore used in that it is adapted to absorb a much greater proportion of the heat given off by the oil burned in it than do the cups of previous constructions. In other words, the cup is formed with an oil-recess of small capacity, and it also embodies such a large amount of metal in proportion to the size of the recess as prevents its becoming hot in ordinary use. Our object in this is to keep the oil in the cup at a temperature not materially above the vaporizing-point, and thus prevent its too rapid vaporization during the burning, as thereby we obtain a more perfect combustion than is possible with the ordinary drip-cups and prevent much of the smoke and odor which are generally given off by them. We have found that cups in which the oil-recess is equal in cubic size to about one-fourth or one-fifth of the mass of metal used in the construction of the cup are correctly proportioned. This will be understood from the cross-sectional view of the cup given in the drawings. This proportion of metal is much beyond the amount required in the cup for the mere purposes of strength. We prefer that the recess be formed with sloping sides, as shown, as

the surface of the oil constantly diminishes in area as it burns in that construction. The cup is independent of the generator and burner, being supported by an arm P, suitably secured to the stove and having no connection or contact with either the burner or the generator. It will be seen also from what has been said that the auxiliary generator may be shut off at any time by simply closing the valve K'. The pin L serves in addition to the purpose stated that of deflecting the oil into the drip-cup when the valve is first opened and also of checking the force of the gas issuing from the burner and preventing the flame being extinguished by excess pressure.

We claim—

1. In a vapor-burner, the combination with the auxiliary generator connected to a source of oil-supply and adapted when once started to be kept in continuous operation, of a drip-cup O containing a large mass of metal in proportion to the capacity of its oil-recess, whereby it is adapted to absorb the heat and keep the oil in it at a slow-evaporating point until entirely consumed, substantially as specified.

2. The combination in a vapor-stove with a burner and a generator of a drip-cup located under the generator, and formed upon

the upper surface of a body of metal of considerable thickness, and also supported independently of the generator and burner, whereby the drip-cup is kept cool, substantially as and for the purpose specified.

3. The combination in a vapor-stove with a burner and a generator, of a drip-cup located under the generator and containing a large mass of metal in proportion to the capacity of its oil-recess, whereby it is adapted to absorb the heat and keep the oil in it at a slow-evaporating point until entirely consumed, substantially as specified.

4. The combination with the generating-burner, of a tubular auxiliary generator H, having a connection J through which it receives its oil-supply, a burner K' projecting its flame along said generator H, the heat-communicating device L in the path of the flame, and deflecting-plate N above the flame, said heat-communicating device extending from said plate to said generator and connecting with the generator substantially as specified.

JOHN G. HARVEY.
CHARLES MUNZNER.

Witnesses:

EDW. S. EVARTS,
H. M. MUNDAY.