(No Model.)

2 Sheets—Sheet 1.

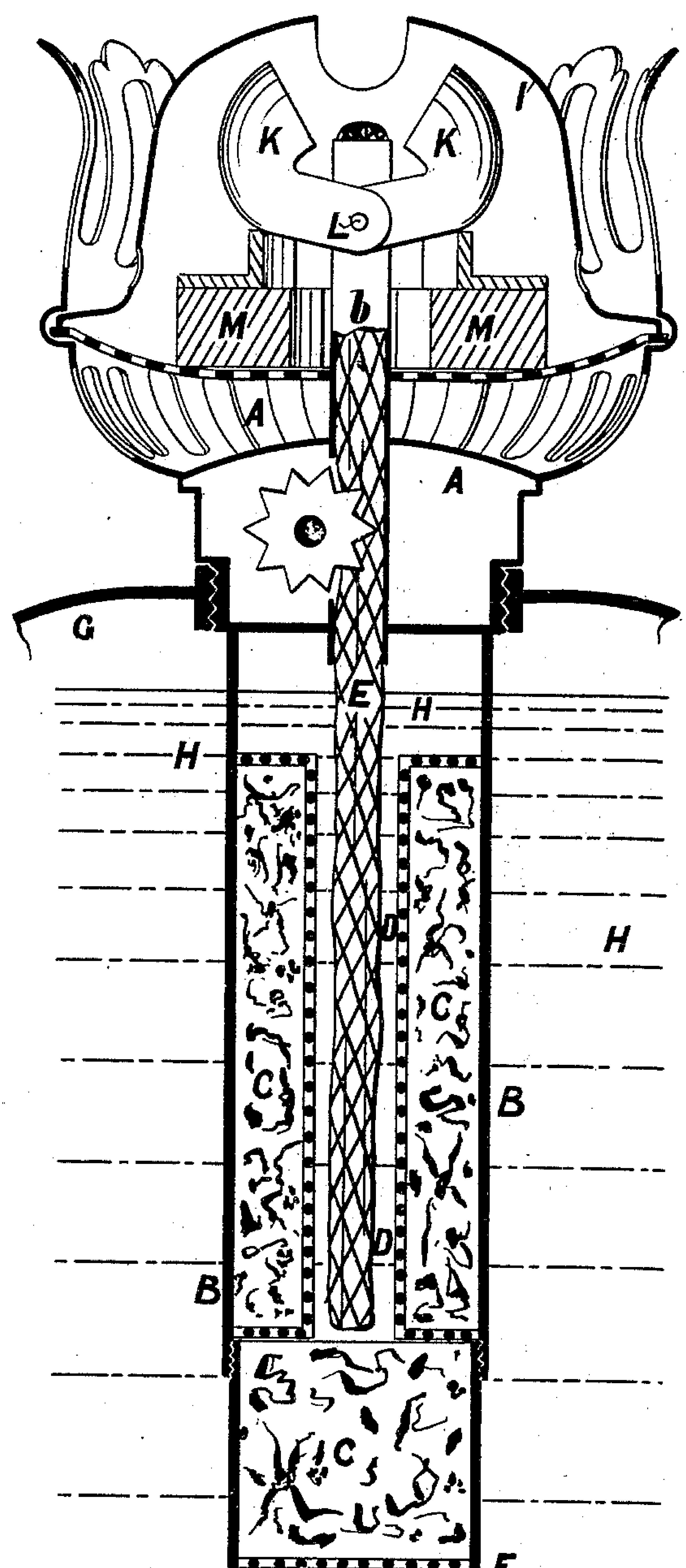
W. NOTLEY.

LAMP BURNER.

No. 409,614.

Patented Aug. 20, 1889.

FIG. 1.



Witnesses.
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W M Evans.

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(No Model.)

2 Sheets—Sheet 2.

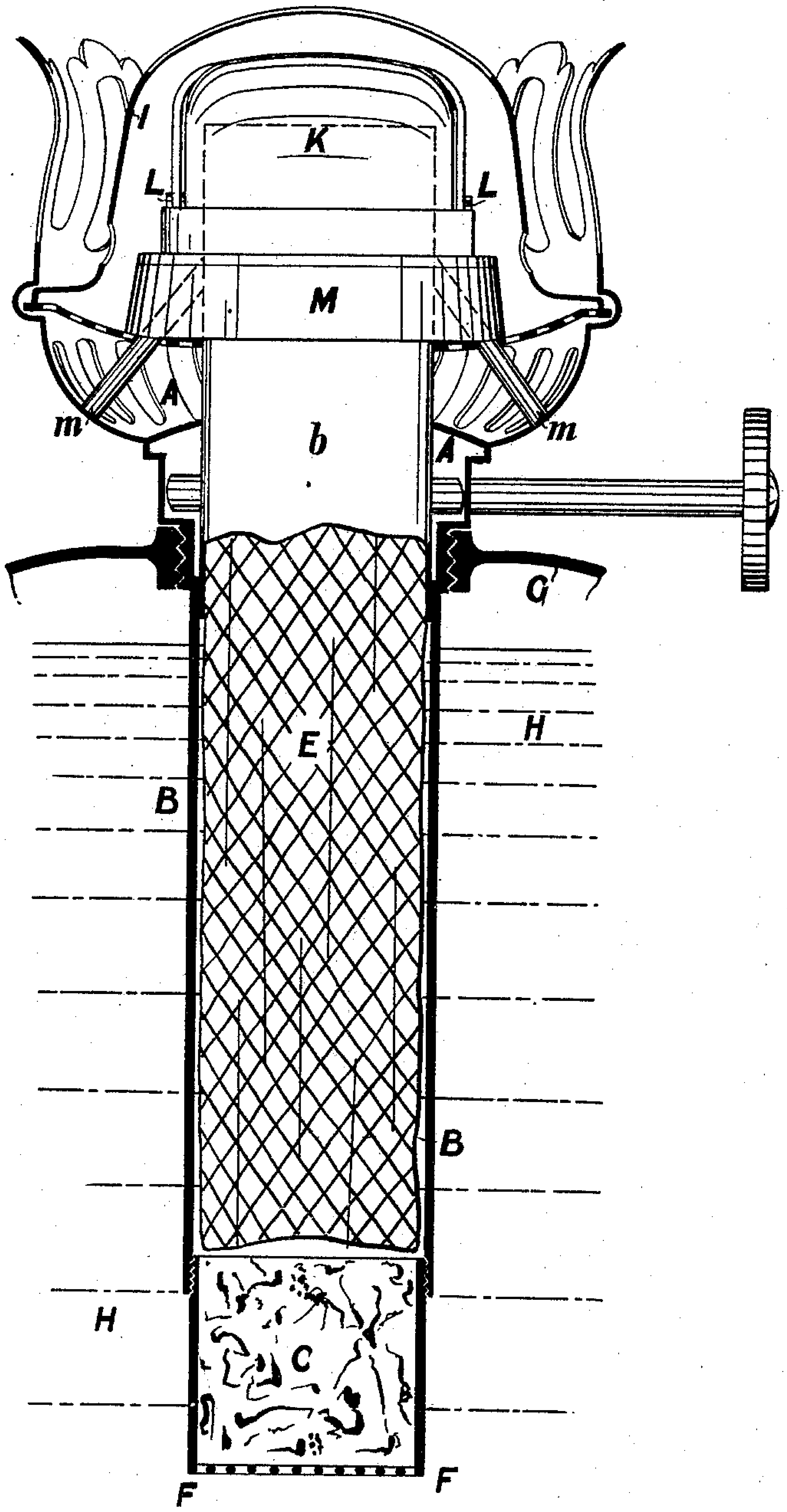
W. NOTLEY.

LAMP BURNER.

No. 409,614.

Patented Aug. 20, 1889.

FIG. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM NOTLEY, OF PECKHAM, COUNTY OF SURREY, ENGLAND.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 409,614, dated August 20, 1889.

Application filed February 20, 1888. Serial No. 264,692. (No model.) Patented in England June 16, 1887, No. 8,696; in Germany January 15, 1888, No. 44,443; in Belgium January 16, 1888, No. 80,293, and in India July 4, 1888, No. 56.

To all whom it may concern:

Be it known that I, WILLIAM NOTLEY, a subject of the Queen of England, residing at Peckham, in the county of Surrey and Kingdom of England, have invented a Safety Lamp-Burner, (for which I have applied for Letters Patent in Great Britain, No. 8,696, and date of June 16, 1887; in Germany, under date of January 15, 1888, No. 44,443; in Belgium, under date of January 16, 1888, No. 80,293, and in India, register No. 56, 1888, certificate dated July 4, 1888,) of which the following is a specification.

My invention relates to a burner for lamps burning mineral oils, the object of which is to obviate all danger of ignition of the oil or the vapors in the reservoir from the burner on the upsetting of the lamp, or in the endeavor to extinguish the light by blowing down the chimney, or from other well-known causes; and, further, to prevent the ignition of any oil flowing from the wick-case on the upsetting of the lamp. The burner protects the oil in the reservoir from ignition therefrom by inclosing the wick in a porous chamber, formed of pumice-stone, porous stone, or similar substance, incased at its sides in a metal tube, or at sides and at the base with wire-gauze—say twenty-nine meshes to the inch—through which flame cannot pass to the oil or the vapors in the reservoir, but which will permit this oil to permeate through it to feed the wick; and the ignition of any oil contained in the wick-case at the moment of the overturning of the lamp is prevented by an automatic extinguisher, forming part of the burner, which extinguishes the flame before the lamp can have passed so far from the vertical as to permit this oil to reach the flame.

A burner embodying my invention is shown upon the accompanying sheet of drawings, upon which—

Figure 1 is a vertical section through the burner and wick-case, Fig. 2 being a side view of same, also shown in section.

A indicates the burner; B, metal tube; *b*, the wick-case; C, porous substance; D, space for wick; E, cotton wick; F, bottom of tube B; G, the oil vessel or reservoir; H, the oil; I, the dome of the burner; K, flaps or disks; L, hinges for same; M, sliding metal ring.

To the screw or bottom end of my petroleum-burner A, I attach, by solder or otherwise, the metal tube B, padded inside with a porous stone C or any similar substance, but leaving sufficient space D for a cotton wick E to pass down, the tube B being also plugged at the bottom F with similar material. Now when the burner A, with this attached tube B, is fixed in the usual manner in the oil-vessel G, the oil H being contained therein, as usual, the oil H will permeate in sufficient quantity through the porous substance C to be sucked up by the wick E, which has been placed through the burner A in the usual way and passed into the wick-case *b*, where it takes up oil by the usual capillary attraction, exactly as if the oil had not passed through the porous substances. Nevertheless the lamp or reservoir G is now secure from explosion, as in extinguishing the lamp, either in blowing down the chimney or in any other of the usual methods of extinguishing, (all of which are more or less calculated to drive the flame into the reservoir G of the lamp,) it will be impossible for the flame to pass down any other way except through the tube B, attached to the bottom of the burner A, which tube B is impervious to any flame, for although the oil can permeate through the porous stone the flame cannot. This also applies to any other of the numerous causes by which explosions occur. No matter how small or narrow a wick may be used, (either by accident or design,) no explosion of the oil in the reservoir can occur with my burner, as would soon be the case in the ordinary burners, because although, by reason of the vacuum not being filled up by a too narrow wick in the wick-case *b* or tube B of the burner, the flame would readily pass down and cause an explosion, my porous lining, as described above, will, no matter how narrow the wick or how much vacuum in the wick-case or how much vapor in the reservoir, prevent the explosion of the vapors in the reservoir, by reason of the inability of the flame to pass through this porous material.

The tube B may be perforated or not, and be closed at bottom with wire-gauze and porous lining, or with porous substance only, as may be found most desirable.

To doubly secure the safety of any lamp burning hydrocarbon oil from explosion, either through careless extinguishing or by reason of the lamp being upset or partly upset, I attach an automatic extinguisher to the top of the wick-case *b*, immediately beneath the dome I of the burner A, this automatic extinguisher consisting of two disks or flaps K K, pivoted or hinged over the wick-case *b*, which, upon closing, extinguish the light instantaneously, but which, instead of being worked by a lever and spring, in the usual way, to pass over the wick-case *b*, are operated by a smooth heavy metal ring or plate M, which, upon the upsetting or deflection of the lamp, will slide downwardly under the flaps K K and force them upwardly together, thereby extinguishing the flame. The extinguisher is not, however, claimed in this application, it constituting the subject-matter of another application filed December 17, 1888, Serial No. 293,881.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the burner of an oil-lamp, of a vertically-extended wick-tube of porous refractory material, provided with an extended axial passage adapted to receive a wick and laterally feed oil thereto throughout the length of the passage, and an outer incasing metal tube, substantially as described.

2. The combination, with the burner of an oil-lamp, of a vertically-extended wick-tube of porous refractory material, provided centrally with an extended axial passage adapted to receive a wick and laterally feed oil thereto throughout the length of the passage, and an outer incasing metal tube having a plug of porous material in its lower end, substantially as described.

WILLIAM NOTLEY.

Witnesses:
WILLIAM EDWARD GEDGE,
WILLIAM PAVY.