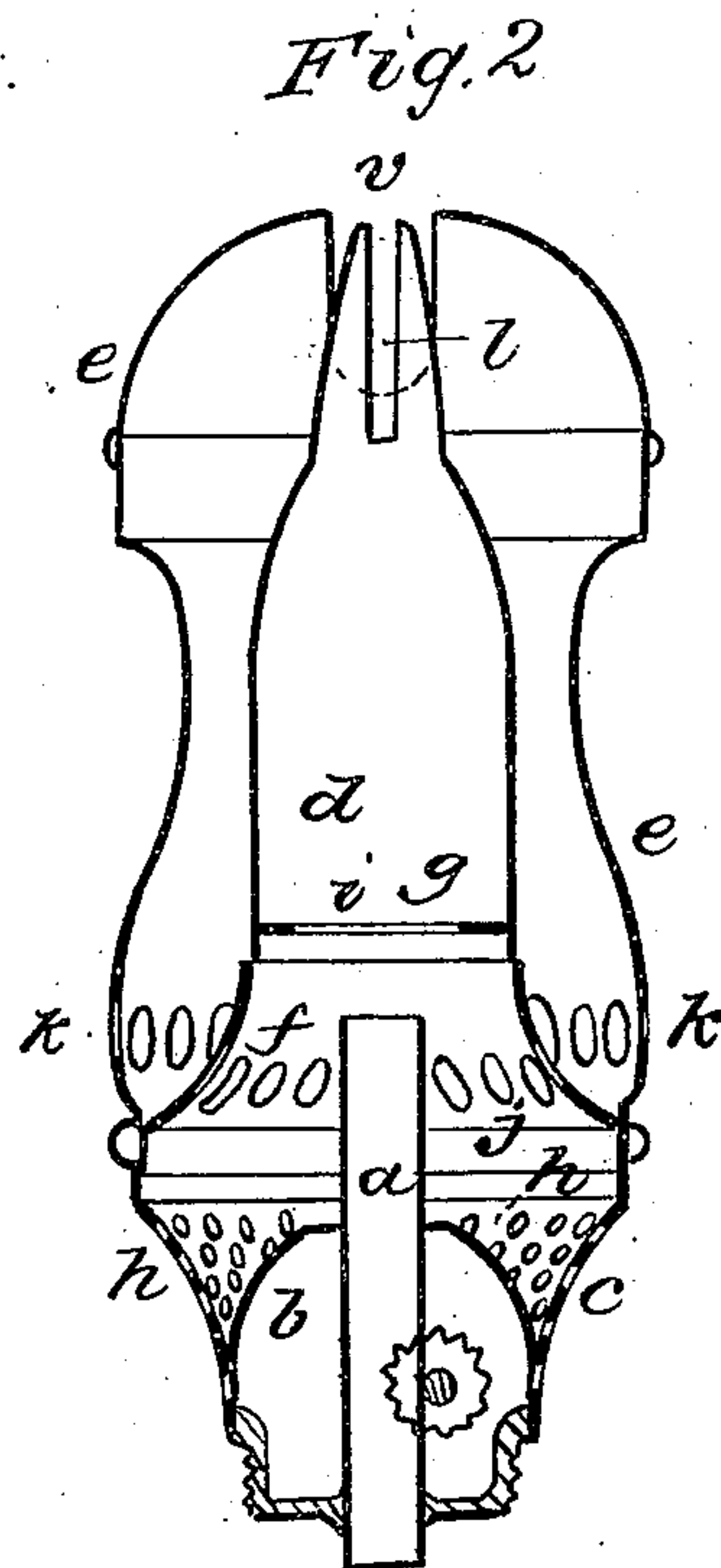
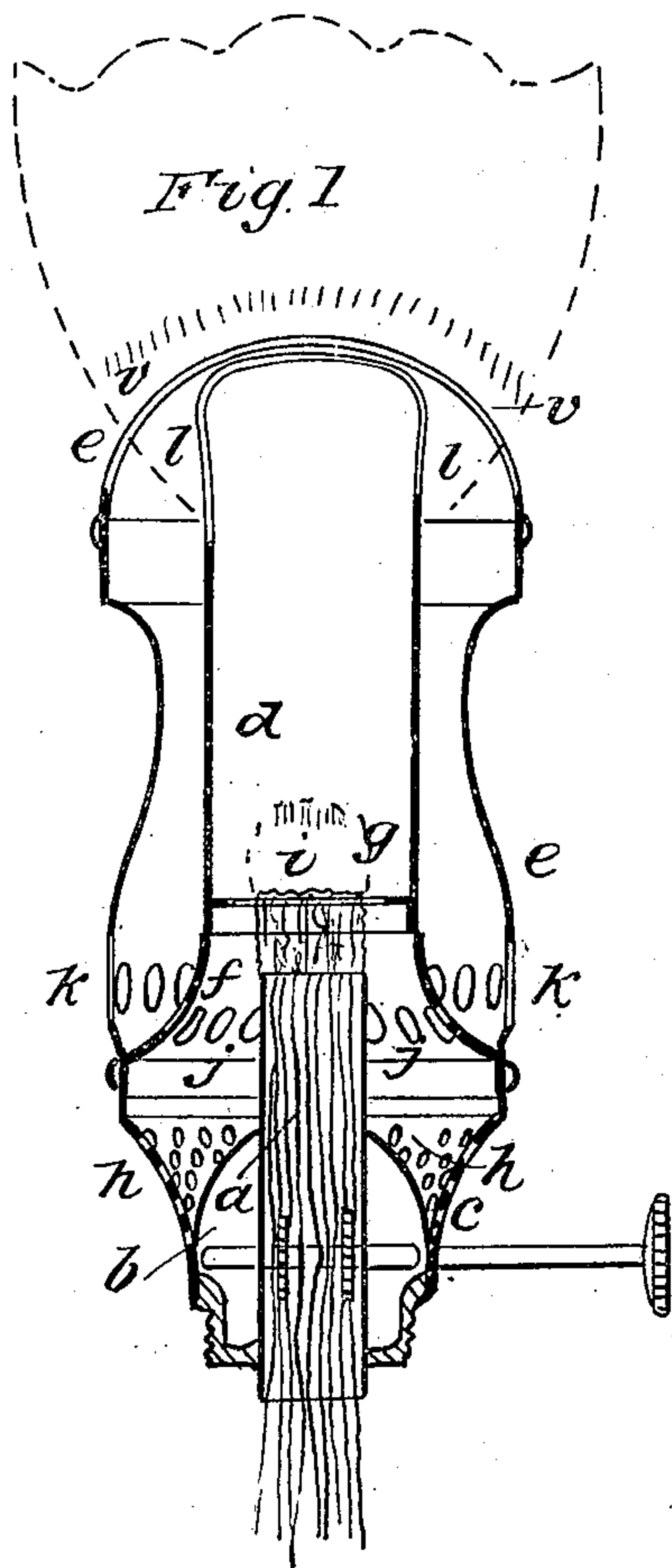


KUEBLER & BEIERLEIN.

Vapor Burner.

No. 36,413.

Patented Sept. 9, 1862.



Witnesses
Theodore Bergner
Chas E Pancaost

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William Kuebler
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UNITED STATES PATENT OFFICE.

WILLIAM KUEBLER AND HENRY BEIERLEIN, OF PHILADELPHIA,
PENNSYLVANIA.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 36,413, dated September 9, 1862.

To all whom it may concern:

Be it known that we, WILLIAM KUEBLER and HENRY BEIERLEIN, both of the city of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Lamps; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, and to the figures and letters of reference marked thereon.

Our invention consists in an improved construction of lamps for burning coal-oil without a chimney, and has for its object, first, the production of a perfect combustion of the vapor or gas by effectually preventing all undue escape of the same; secondly, the production of a brighter and larger flat flame than has heretofore been obtained with the same consumption of oil, and this without regard to the shape of the wick employed, and, thirdly, in materially diminishing the accumulation of lamp-black in the gas-condensing chamber or deflector.

In order to enable others to understand fully the nature of our invention, we will now proceed particularly to describe the same, reference being had to the accompanying drawings, making part of this specification, and in which the same letters of reference allude to like parts in both views, of which—

Figure 1 is a sectional elevation of our improved burner, and Fig. 2 also a sectional elevation at right angles to Fig. 1.

a is the wick-tube. It is attached to the small dome-shaped piece *b*, which is provided with the ordinary screw-threads for attachment to the metal cap in the top of the lamp. To the same piece is also attached the perforated conical part *c*, which carries the gas-condenser *d* and the draft-chamber *e*, the two being connected by the perforated cone *f*. The gas-condenser *d* is provided with an internal bottom flange, *g*, which rests upon the top of the cone *f*, and is thus placed about one-fourth of an inch above the top of the wick-tube *a*. Through its opening *i* the wick is allowed to protrude slightly into the gas-condenser *d*.

Experiments have shown us the importance of placing this opening in the described position and of making it exactly proportionate to the size of wick employed, as a perceptible deviation from this arrangement becomes in-

jurious to the action of the whole. The air admitted through the small holes *h h* in the part *c* is partly admitted into the condenser *d* through the opening *i* to aid in the condensation of the gas from the wick-flame. Any excess of air admitted through the holes *h h* is carried through holes *j j* into the draft-chamber *e*, which is mainly supplied with air through the holes *k k* in the outer shell.

An important feature of our invention consists in the peculiar shape of the top part of the gas-condenser *d* and its slit *l*, and also in the relative position and dimensions of the slit *v* in the draft-chamber *e* to the slit *l* in *d*. The peculiarities of these parts and of their relative positions and dimensions (fully represented in the annexed drawings) are the result of a long and tedious series of experiments, and we are convinced of their superiority in action over all constructions of coal-oil lamps without chimneys which we have examined and tested.

We now desire to be understood as being well aware of the existence of various constructions of coal-oil lamps without chimneys in which separate parts of our improved lamp have been heretofore in use, but differently combined and constructed, among which are prominent the patents of Emil Tritten, dated December 3, 1861; E. T. Covell, dated February 18, 1862; W. J. Palmer, February 25, 1862, and others. We therefore do not broadly claim these separate parts of which our improved burner is composed; but

What we claim, and desire to secure by Letters Patent, is—

1. The described burner for coal-oil lamps without a chimney, in which the gas-condensing chamber *d* is provided with an internal bottom flange, *g*, the position of *g* and its proportionate size of opening being in relation to the wick, arranged as set forth.

2. The slitted gas-condenser *d*, combining with the internal bottom flange, *g*, the slitted top, as set forth, when the slit *l* is shaped and situated in relation to the slit *v* in the draft-chamber *e* as herein set forth.

WILLIAM KUEBLER.
HENRY BEIERLEIN.

Witnesses:

THEODORE BERGNER,
CHAS. E. PANCOAST.