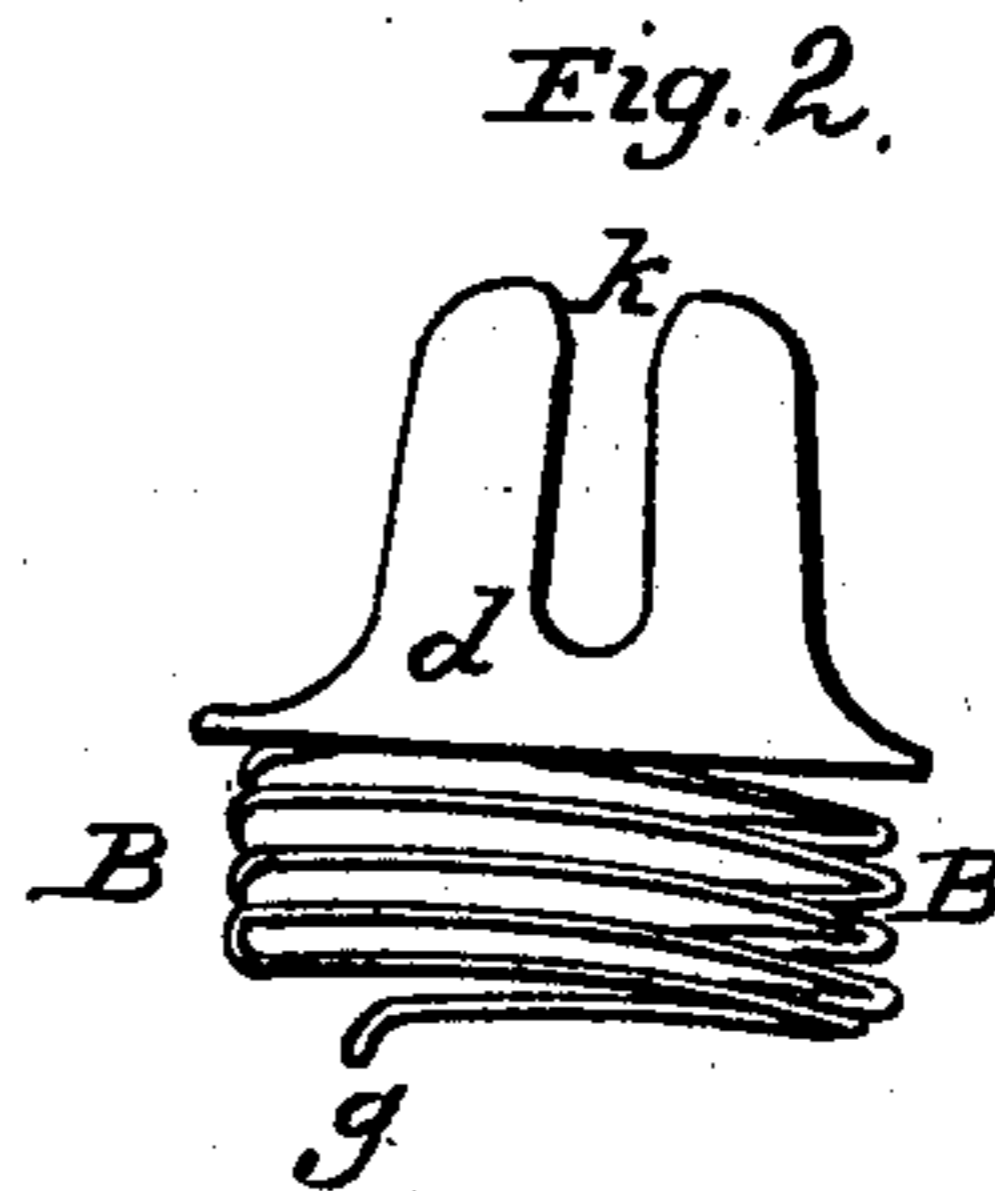
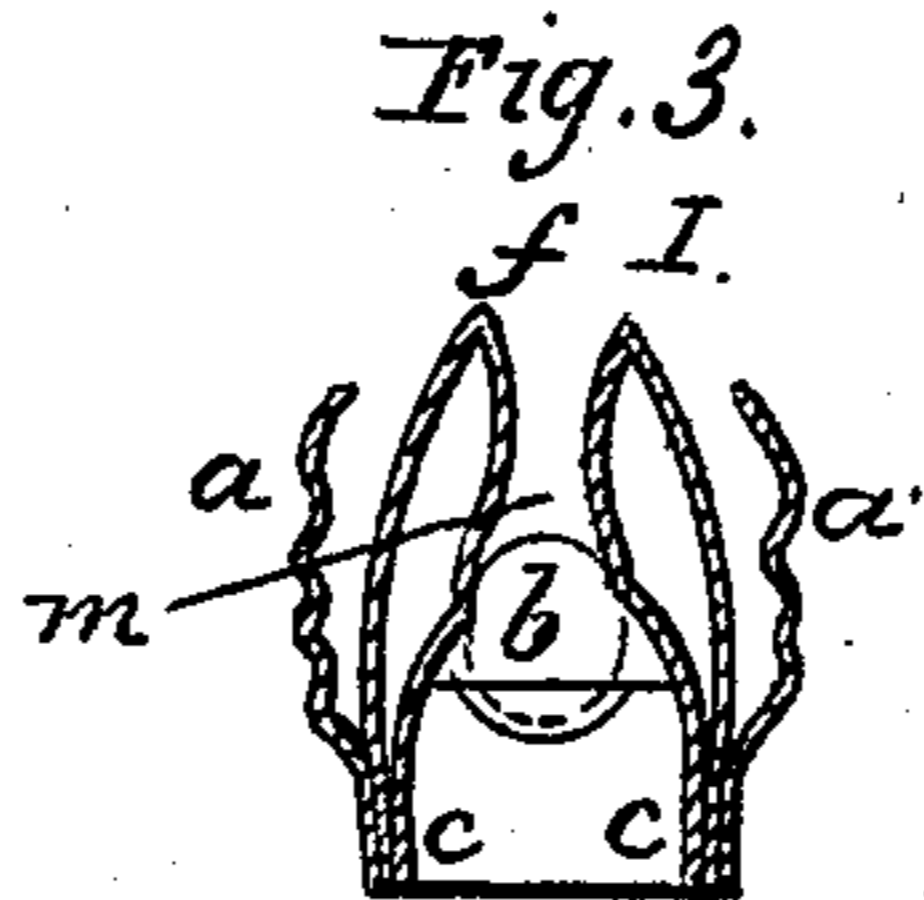
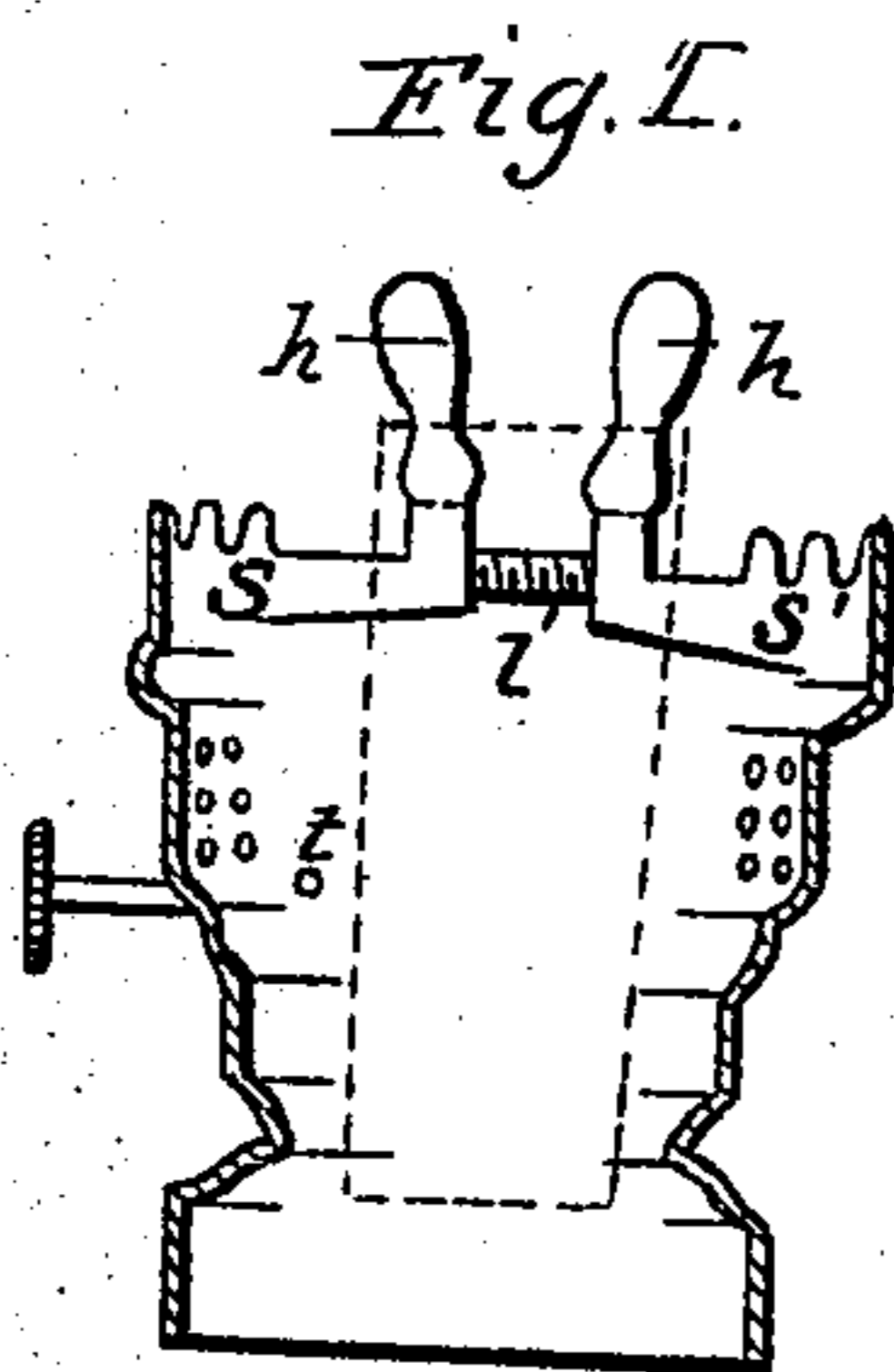


M. L. CALLENDER.

Lamp Burner.

No. 34,402.

Patented Feb. 18, 1862.



Witnesses:
Elbert R. ...
Walter H. ...

Inventor:
Milld. Callender

UNITED STATES PATENT OFFICE.

MILLS L. CALLENDER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, C. H. WELLING, AND ELBERT PERCE.

IMPROVEMENT IN HYDROCARBON-BURNERS.

Specification forming part of Letters Patent No. 34,402, dated February 18, 1862.

To all whom it may concern:

Be it known that I, MILLS L. CALLENDER, of New York, in the county and State of New York, have invented certain Improvements in Hydrocarbon-Burners; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing hydrocarbon-burners with appliances by which said burners can be used with or without chimneys when burning hydrocarbon oils, by which the heat of the flame is prevented from being communicated to the wick-tube and oil-receptacle, and by which a chimney can be secured to the burner, when desired, with ease.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The burner is provided with the cone *d*, as shown in Figure 2 of the accompanying drawings. The cone *d* is mounted on the spiral coil B B', the point *g* of said spiral coil B B' being inserted in the hole *t*, (shown in Fig. 1 of the accompanying drawings,) to hold the cone *d* firmly in its position when the burner is put together.

The deflector I, as shown in Fig. 3 of the accompanying drawings, is held in proper position in the cone *d* by the springs *a a'*, and is provided with the metallic shield *b*, which serves to protect the top of the wick-tube from the flame, the top of the metallic shield *b* being raised above the top of the wick-tube and entirely isolated from it, although near enough to the wick to prevent the flame and base of the flame from reaching the wick-tube. When the burner is to be used with a chimney, the deflector I is to be entirely removed from the burner, and when the burner is to be used without a chimney the deflector I is

slipped into the interior of the cone *d* until it is held in proper position by the springs *a a'*.

The coil B B', as shown in Fig. 2 of the accompanying drawings, serves from its great length of heat-conducting surface to absorb the heat imparted to the shield *b*, the deflector I, and the cone *d* by the flame and to prevent the heat from extending to any other portion of the burner or oil-receptacle.

The burner is provided with the flexible levers *s s'*, with the handles *h h'*, the levers *s s'* being connected with the spiral spring *i*, as shown in Fig. 1 of the accompanying drawings, which compresses the said levers *s s'*, causing them to clasp the greater part of the circumference of the bottom of the chimney and to hold said chimney with a firm and uniform pressure.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The relative arrangement of the cone *d* and the interior deflector I with its shield *b*, for the purpose of burning hydrocarbon-oils with or without a chimney, in the manner above specified.

2. A burner so constructed as to increase the length of its metallic connection between the flame and the body of the lamp and the wick-tube without adding materially to its height, using for that purpose the spiral coil B B', on which the cone *d* is mounted.

3. The new and cheap method of forming the levers *s s'* from the metal of which the body of the burner itself is constructed, by which means the springs to hold the chimney in position and the body of the burner are made simultaneously from one piece of metal.

MILLS L. CALLENDER.

Witnesses:

ELBERT PERCE,
WALTER A. CROWELL.