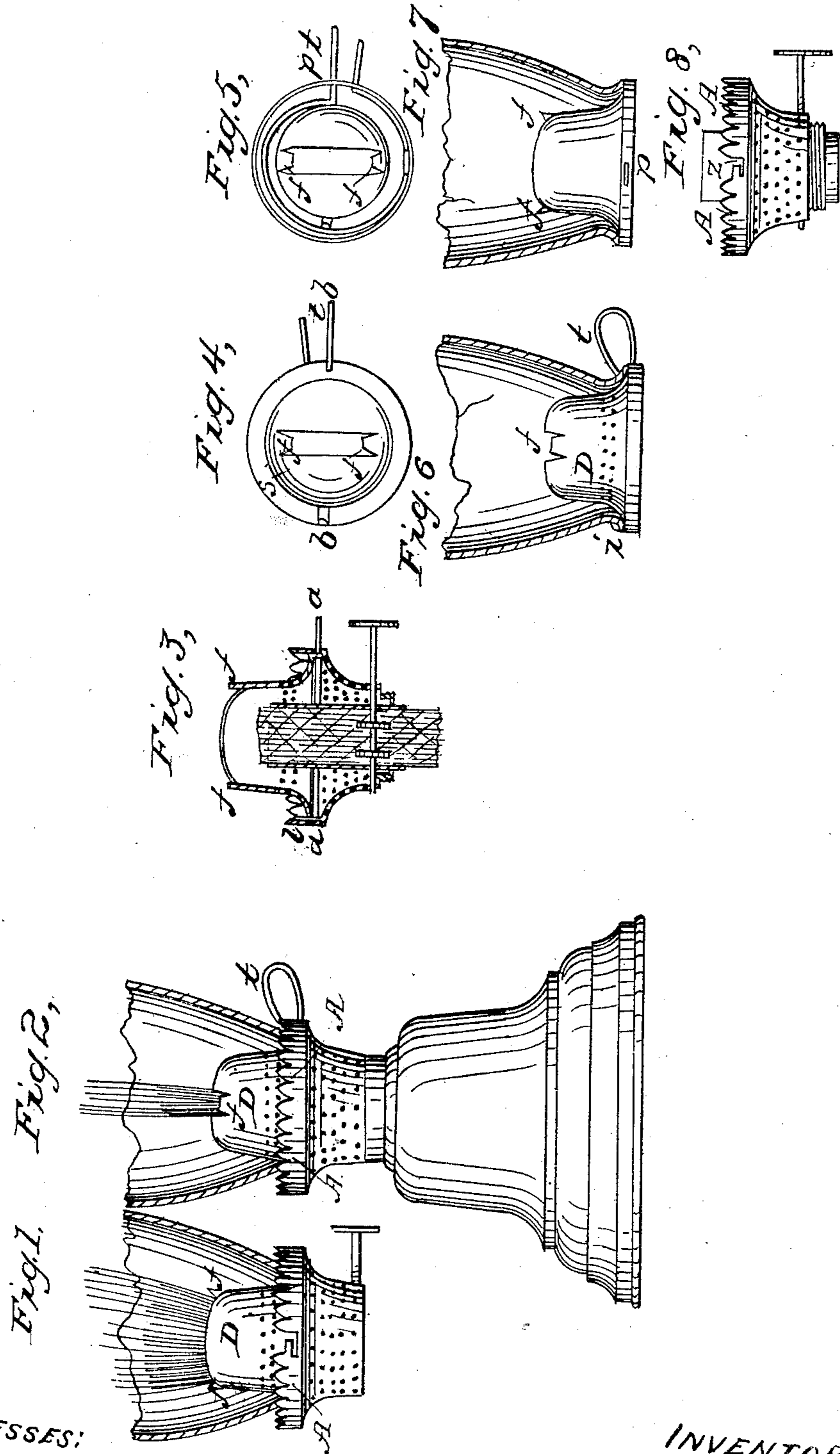


R. CORNELIUS.

Lamp Burner.

No. 37,086.

Patented Dec. 9, 1862.



WITNESSES:

Wm. M. Calum

INVENTOR:

Robert Cornelius

# UNITED STATES PATENT OFFICE.

ROBERT CORNELIUS, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 37,086, dated December 9, 1862.

*To all whom it may concern:*

Be it known that I, ROBERT CORNELIUS, of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Kerosene-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents a vertical transverse section of my improved lamp on the line *a a* of Fig. 3. Fig. 2 is a similar section on the line *b b*, Fig. 4. Fig. 5 represents the spring-catch which holds the shade. Figs. 6, 7, and 8 are views of the parts detached.

My improvement relates to the mode of securing the shade to the dome or deflector, and of securing the deflector to the lamp; also, in placing small auxiliary end guides to the aperture in the dome, for directing the air as it passes the ends of the flame.

In Fig. 6 is shown the deflector inserted. A circular spring, *s*, is attached at one extremity to the inside of the lower part of the dome, and, passing around within the rim of the lower part of the dome, terminates in a hook or bent projection, *t*, which passes out and extends over the lower edge or rim of the glass shade, so that when the shade is placed on the dome the elasticity of this spring causes the hook *t* to press upon and hold the shade in connection with a projection, *i*, down to the deflector *D*. The spring-hook *t*, besides its motion upon the rim of the glass shade, has a lateral motion within a slot, *p*, in the deflector. There is a corresponding recess, *r*, in the ornamental rim *A A* of the lamp, into which recess the spring-hook *s* works when laterally pressed, the effect of which spring-hook is, when opened, to hold the dome *D* down to the body of the lamp. Thus the spring-hook serves the double purpose of securing the glass shade to the dome and the dome to the lamp.

In order to cause the flame of the lamp to burn more steadily, and to prevent its expanding on its edges, I place on each end of the flame-aperture a small projection, *ff*, which

extends nearly vertically for a short distance, and serves to guide the air as it approaches the flame in a direction nearly vertical, and to prevent its expanding, and at the same time secures greater steadiness of flame.

Burners heretofore made have certain defects—the tendency of the flame to spread too much, and thereby endanger the glass shade. The mode taken to correct this evil is to cut off each of the corners of the wick; but after the lamp has burned for some time the flame becomes pointed in the middle. Another serious difficulty is that, owing to the imperfect form and construction of the cap or dome, the heat is increased beyond what it should be.

In the improved burner the flame passes up through the cap with the air coming in contact with its surface in such a manner as not to disturb its upward direction, but favoring it by its form and peculiar opening at its ends, and preventing the flame from spreading beyond its proper limit. Thus perfect combustion and a quiet steady flame is the result. As the space between the flame and deflector is much increased, the air passing freely prevents the burner from becoming so heated, and the collection of carbon on the corner of the wick is also avoided.

The hook *t* may be used without the circular spring, and acts then as a handle for removing the deflector.

Having thus described my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The hook *s t*, for securing the shade to the deflector and the deflector to the lamp, substantially as afore described, or for the purpose of a handle merely to the deflector.

2. The auxiliary vertical end guide-pieces, *ff*, for directing the air at the ends of the flame and preventing it from expanding or burning irregularly.

ROBERT CORNELIUS.

Witnesses:

J. E. MINI CHILD,  
JAMES McCABEN.