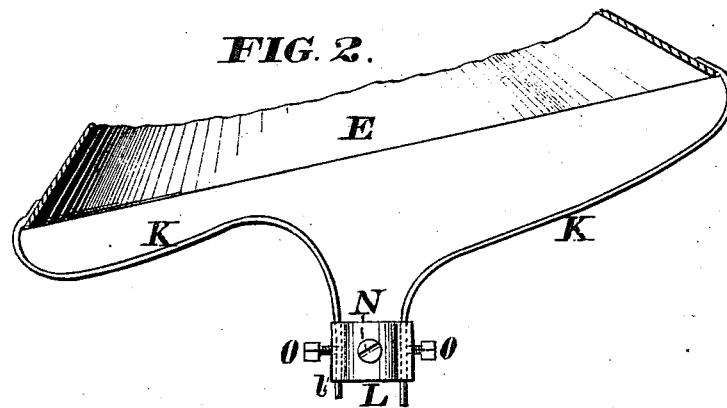
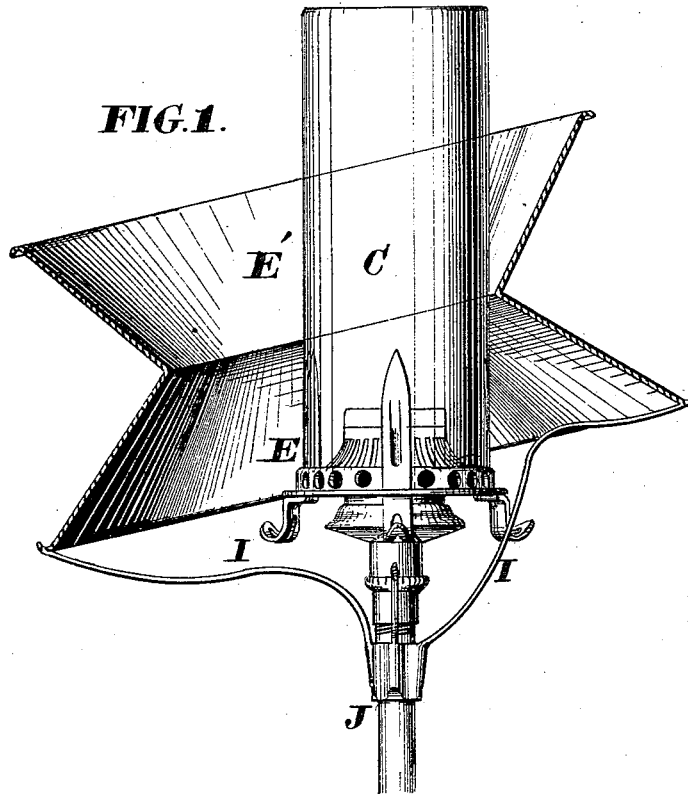


C. M. MURCH.  
Reflector.

No. 167,188.

Patented Aug. 31, 1875.



WITNESSES

*Walter Allen*  
*W. F. Tanner.*

INVENTOR

*Chauncey M. Murch*  
*By Hugh Ross* Attorneys

# UNITED STATES PATENT OFFICE.

CHAUNCEY M. MURCH, OF CINCINNATI, OHIO.

## IMPROVEMENT IN REFLECTORS.

Specification forming part of Letters Patent No. **167,188**, dated August 31, 1875; application filed May 7, 1874.

*To all whom it may concern:*

Be it known that I, CHAUNCEY M. MURCH, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Reflectors, of which the following is a specification:

The subject of my invention is a compound reflector, consisting of two conic frusta, connected at their smallest diameter, and supported adjustably in inclined or approximately horizontal position by means hereinafter described.

In the accompanying drawings, Figure 1 is a vertical section of my improved reflector applied to an argand gas-burner, the burner being shown in elevation. Fig. 2 is a vertical section, illustrating a modification in the supporting-clip.

E and E' represent the two connected parts of a duplex frusto-conical reflector, the center being formed of the connected smaller margins of the frusta, from which part the duplex reflector flares upward and downward. This reflector is supported by flexible rods I I, attached to clip J, which gripe the neck of the burner. This attachment admits of readily

slipping the reflector up and down, and the flexibility of the rods permits the changing of the angle of inclination of the reflector, or setting it in horizontal position, if preferred, to suit the purpose for which it may be used or the position in which it is placed. The wires I may be replaced by flexible strips K K, Fig. 2, passing through sockets *l* in a collar, L, held adjustably on the neck of the burner by set-screws N. O O are set-screws for securing the strips K within the sockets *l*.

The up-and-down reflector constituting the subject of my present invention is of great utility for illuminating mines, shafts, winding stairways, and other places where the light is required to be thrown especially in a vertical direction.

I claim as new—

The combination of the connected reflectors E E', flexible wire supports I I, and clip J, all constructed as and for the purposes specified.

CHAUNCEY M. MURCH.

Witnesses:

OCTAVIUS KNIGHT,  
WALTER ALLEN.