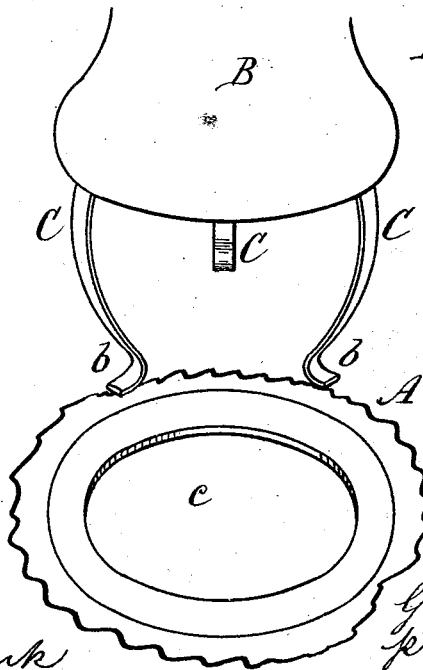
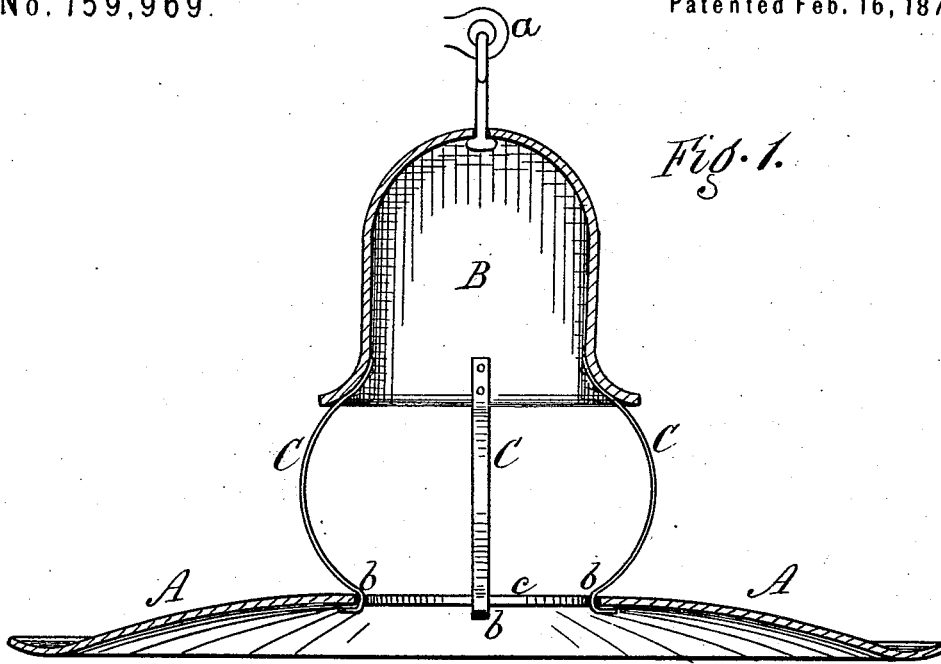


G. ROSENTHAL.
Reflector.

No. 159,969.

Patented Feb. 16, 1875.



Witnesses.
Edwin D. Scott.
Abner Burbank

Inventor.
Gustav Rosenthal
per R. F. Osgood,
Atty.

UNITED STATES PATENT OFFICE.

GUSTAV ROSENTHAL, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN REFLECTORS.

Specification forming part of Letters Patent No. **159,969**, dated February 16, 1875; application filed January 25, 1875.

To all whom it may concern:

Be it known that I, GUSTAV ROSENTHAL, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Reflectors; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section. Fig. 2 is a perspective view of the smoke-cap and reflector separated.

This invention is intended more particularly for use with lamps which are attached to or connected with gas-fixtures and used as a substitute for gas, but it is applicable to other lamps, and also to gas.

The invention consists in the combination, with the reflector and smoke-cap, of a set of spring-arms attached to the latter, and serving as catches to hold the reflector, whereby the latter may be removed at any time without disconnecting the smoke-cap from its fastening, as hereinafter described.

In the drawings, A represents the reflector, which may be made of metal, glass, porcelain, or other suitable material, and of any desired form. Its inner surface is burnished or polished to reflect the light downward. B is the smoke-cap or bell-top, of ordinary form, which is hooked to an eye, *a*, extending from the fixture, wall, or ceiling, or otherwise arranged to prevent the smoke of the lamp from blackening the ceiling. C C C are spring-arms attached at their upper ends to the smoke-cap by riveting or otherwise, and provided at their lower ends with the hooks *b b*, which enter the central opening *c* of the reflector, and by springing beneath the edge, sustain the reflector, as shown in Fig. 1. The lengths of the springs are swelled out,

as shown, so as to give the proper elasticity and present a good appearance.

A distinguishing feature in this case is the spring-arms C C, connecting the bell-top and reflector, and so arranged as to allow the reflector to be removed for cleaning without removing the bell-top from its fastening. The improvement is designed more particularly for gas-fixtures having lamps attached, in which case the lamp casts a shadow beneath itself. The reflector throws the light downward, thus obviating the difficulty. In such cases the bell-top or smoke-cap is attached to a rod or bearing extending from the fixture, and is fastened, so as not to be taken from place; but the reflector can be removed at any time by compressing the springs, which releases the hooks from the opening *c*. When the reflector is in place the spring-arms center it over the blaze and hold it firmly, so that no loose action or rattling occurs. It enables the reflector to be attached in place independently of the lamp, which, in fixtures of the kind described, could not well be done otherwise.

This arrangement also allows the top of the lamp-chimney to pass up the central opening without interfering with the spring-arms.

Having thus described my invention, what I claim as new is

The combination, with the bell-top B and reflector A, of the spring-arms C C, fastened at one end to the bell-top, and provided at the other end with the hooks *b b*, which enter the central opening *c* of the reflector, as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GUSTAV ROSENTHAL.

Witnesses:

R. F. OSGOOD,
EDWIN B. SCOTT.