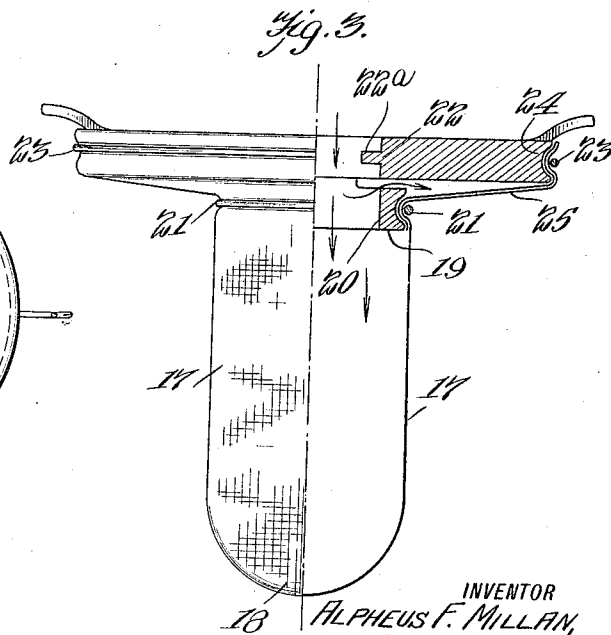
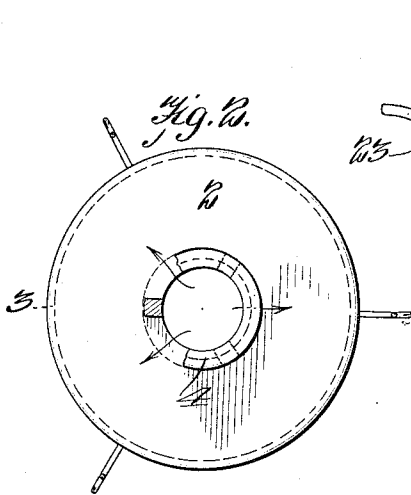
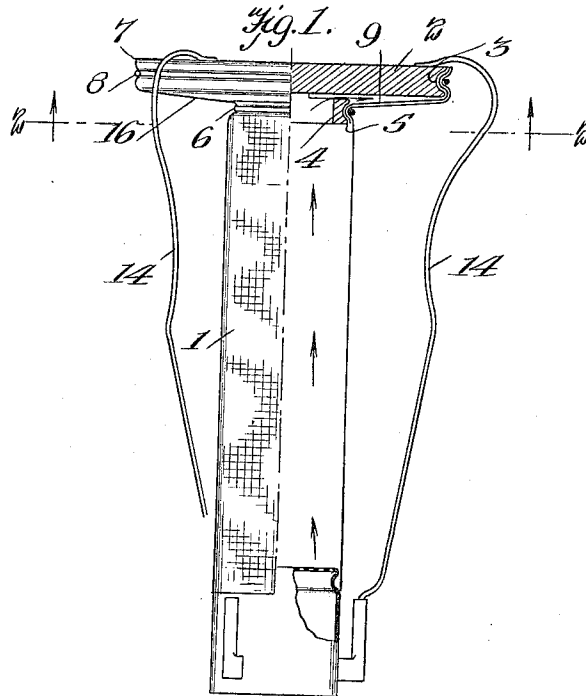


A. F. MILLAN.
 INCANDESCENT GAS MANTLE.
 APPLICATION FILED MAY 27, 1912.

1,060,478.

Patented Apr. 29, 1913.



WITNESSES
E. M. Callaghan
 C. E. Trainor

INVENTOR
 ALPHEUS F. MILLAN,
 BY *Mumford & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALPHEUS F. MILLAN, OF MANNINGTON, WEST VIRGINIA, ASSIGNOR OF ONE-FOURTH
TO TONE V. MORGAN, OF MANNINGTON, WEST VIRGINIA.

INCANDESCENT GAS-MANTLE.

1,060,478.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed May 27, 1912. Serial No. 699,908.

To all whom it may concern:

Be it known that I, ALPHEUS F. MILLAN, a citizen of the United States, and a resident of Mannington, in the county of Marion and State of West Virginia, have invented certain new and useful Improvements in Incandescent Gas-Mantles, of which the following is a specification.

My invention is an improvement in incandescent mantles, and has for its object, the provision of means in connection with a gas mantle of the character specified, for increasing the light, and for concentrating the rays beneath the source of light.

In the drawings: Figure 1 is a front view of the upright or vertical mantle partly in section; Fig. 2 is a section on the line 2-2 of Fig. 1; and, Fig. 3 is a view similar to Fig. 1, of an inverted mantle.

In the embodiment of the invention shown in Fig. 1, the mantle 1 is cylindrical, and open at both ends. A ring or disk 2 of suitable material is connected to the upper end of the mantle, and the said ring is provided with an annular groove 3.

A second ring 4, of smaller diameter than ring 2, is arranged below the said ring 2, and co-axially therewith, and the said ring is provided with an external annular groove 5. The ring 4 is of somewhat less external diameter than the internal diameter of the mantle and the mantle extends over the ring, and is secured thereto by a wire, cord or other flexible member 6, which rests in the groove 5.

The mantle is slightly constricted at the ring, but is enlarged above the ring, as shown at 7, to fit over ring 2. A flexible member 8 encircles the mantle at the ring, resting in the groove 3, and holds the mantle securely to the ring.

In the present instance that portion of the mantle above the lower edge of the rib 4 is doubled, as shown at 9, and the doubled portion extends from the upper face of ring 2 to the lower face of the ring 4.

At its lower end, the mantle fits over the usual perforate cap for the lamp, and the ring 4 is spaced apart from the ring or disk 2, to permit a circulation of air between the said rings.

That portion 16 of the mantle which extends from the flexible member 6 to the flexible member 8 is almost at right angles to the body of the mantle, and the heat is

reflected by the said portion downwardly alongside the body of the mantle. The said portion 16 and the body of the mantle are thus heated to a higher temperature, than would otherwise be the case, and the mantle becomes more luminous. In addition, the light rays are concentrated downwardly, and are not dissipated laterally and upwardly, as in the ordinary mantle.

In Fig. 3 is shown an inverted mantle 17, and the upper end of the mantle fits over a ring 19, provided with an external annular groove 20, and a flexible member 21 encircles the mantle at the ring, the said member seating in the groove and securing the mantle to the ring.

A ring 22 of large external diameter is arranged above the ring 19, and the upper end of the mantle is enlarged to fit over the said ring. A flexible member 23 encircles the mantle and ring and holds the mantle to the ring.

The flexible member 23 rests in an annular groove 24 in the ring, and that portion of the mantle above the member 21, is doubled, as shown at 25. The doubled portion of the mantle extends from the lower face of ring 19 to the upper face of ring 22. The ring 22 is provided with projections 22^a at its inner side, for permitting the mantle to be hung on the lamp.

It will be noticed that in Fig. 1 the ring or disk is solid, while in the inverted mantle shown in Fig. 3, that portion of the ring outside of the mantle is solid. This portion of the disk or ring is in practice about one inch in width.

Combustion takes place around the mantle, but the solid extension of the ring at the upper end of the mantle deflects the heat downwardly, thus increasing the heat on the body of the mantle and making the said body more luminous.

All of that portion of the mantle beneath the upper ring is also luminous, and the rays of light pass downward, instead of being wasted, as in the ordinary form of mantle. The upper ring is in effect a luminous baffle plate, or a luminous reflector, for reflecting both heat and light rays downwardly.

In the ordinary mantle, all heat and light rays passing upward are lost. In the present invention, such rays are caught and utilized by a luminous reflector, and that por-

tion of the mantle directly beneath the ring is luminous, when the mantle is in use.

I claim:

1. In combination, a gas mantle, a ring secured within the upper end of the mantle, a second ring above the first ring and of greater diameter, said second ring being coaxial with the first ring and that portion of the said second ring outside and over the first ring being solid, the upper end of the mantle being enlarged to fit over outside the first ring, each of the said rings having an annular groove on its periphery, and a flexible member encircling the mantle at each ring, each flexible member being seated in the adjacent groove.

2. In combination, a gas mantle, a ring secured within the upper end of the mantle, a second ring above the first ring and of greater diameter, said second ring being coaxial with the first ring and that portion of the said second ring outside the first ring being solid, the upper end of the gas mantle being enlarged to fit over outside the first ring, each of the said rings having an annular groove on its periphery, and a flexible member encircling the mantle at each ring, each flexible member being seated in the adjacent groove and securing the mantle to the ring, that portion of the mantle above the lower face of the first-named ring being doubled.

3. In combination, a gas mantle, a ring secured within the upper end of the mantle,

a second ring above the first ring and of greater diameter, said second ring being coaxial with the first ring and that portion of the said second ring outside the first ring being solid, the upper end of the gas mantle being enlarged to fit over outside the first ring, each of the said rings having an annular groove on its periphery, and a flexible member encircling the mantle at each ring, each flexible member being seated in the adjacent groove and securing the mantle to the ring.

4. In combination, a gas mantle, a ring secured within the upper end of the mantle, a second ring above the first ring and of greater diameter, said second ring being coaxial with the first ring and that portion of the said second ring outside the first ring being solid, said mantle being extended laterally outward over the lower face of the said solid portion.

5. In combination a gas mantle, a ring support for the upper end of the mantle, said support extending beyond the outer face of the mantle and being imperforate to deflect the light rays onto the outer face of the mantle and having means for supporting a portion of the mantle on the extended portion of the said support.

. ALPHEUS F. MILLAN.

Witnesses:

E. J. THOMAS,
W. L. JENKS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."