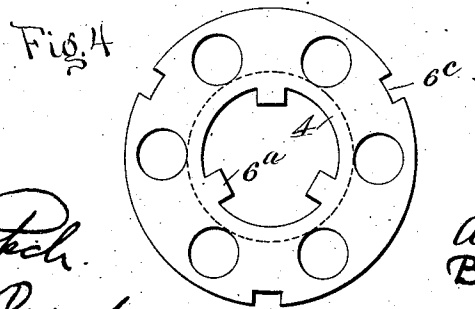
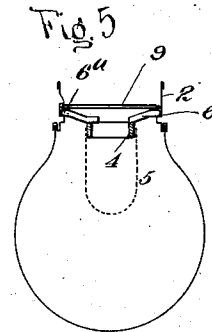
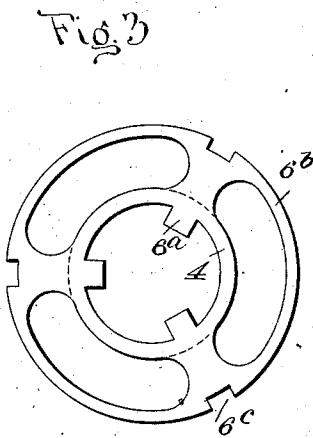
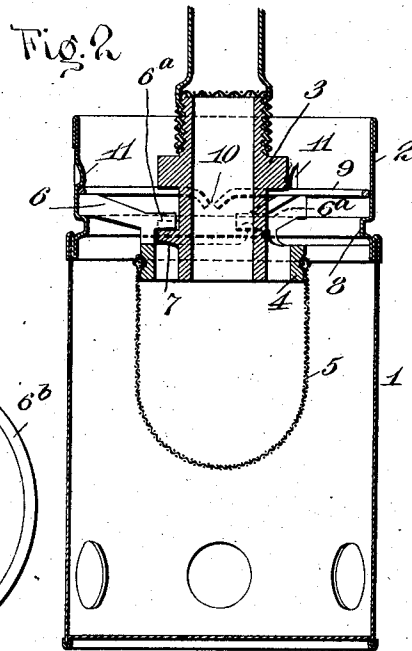
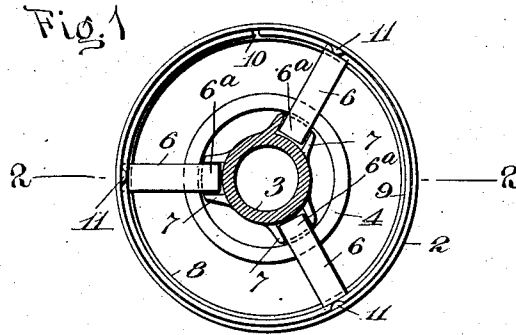


A. P. STORRS.
CYLINDER OR GLOBE FOR INVERTED INCANDESCENT GAS BURNERS.
APPLICATION FILED JUNE 23, 1910.

1,027,449.

Patented May 28, 1912.



Witnesses:
John L. Litch
Henry F. Conrad

Inventor
Aaron P. Storrs
By dym & Taylor
Attorneys.

UNITED STATES PATENT OFFICE.

AARON P. STORRS, OF OWEGO, NEW YORK, ASSIGNOR TO STORRS MICA COMPANY, OF OWEGO, NEW YORK, A CORPORATION OF NEW YORK.

CYLINDER OR GLOBE FOR INVERTED INCANDESCENT GAS-BURNERS.

1,027,449.

Specification of Letters Patent.

Patented May 28, 1912.

Application filed June 23, 1910. Serial No. 568,464.

To all whom it may concern:

Be it known that I, AARON P. STORRS, a citizen of the United States, residing in Owego, Tioga county, State of New York, have invented a certain new and useful Cylinder or Globe for Inverted Incandescent Gas-Burners, of which the following is a specification.

The object I have in view is the production of a cylinder having improved means for attachment to an inverted incandescent gas lamp. By my invention I seek to simplify the attachment of the cylinder to the burner; to reduce the cost of the cylinder or globe; to reduce the danger of injuring the mantle by the operation of introducing it into the cylinder; to reduce, if not eliminate, the danger from a broken mantle ring; and to produce a device which will possess few parts and which will not get out of order. These and further objects will appear from the following specification and accompanying drawings, considered together or separately.

In the drawings, Figure 1 is a plan view of my improved cylinder, showing the mantle ring, and showing the burner tip in section. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a plan view of a modified form of the cylinder support. Fig. 4 is another modification; and Fig. 5 is a detail section of a modification showing a globe instead of a cylinder.

In all of the views, like parts are designated by the same reference characters.

In the preferred embodiment chosen for illustration, the protecting device around the mantle comprises the cylinder 1 which is formed of transparent material, preferably of sheet mica. The bottom of the cylinder is bound with a metal protecting nosing, as shown, and has a mica or other bottom sheet, as shown, for the purpose of inclosing the burner and collecting the deposits from the mantle and burner. The usual ventilating openings are shown near the bottom of the cylinder. The upper part of the cylinder is provided with a band 2, preferably of metal, such band carrying means for attachment of the cylinder to the burner. The details of this band will be described later. The burner tip 3 is shown as of the usual form, and carries the mantle ring 4 and inverted mantle 5. The mantle ring is provided with a plurality of integral arms 6, such arms

extending inward toward the burner tip, and producing lugs 6^a, which engage within the ears 7 on the burner tip, while the outer portions of the arms extend outward and engage with the upper portion of the cylinder and support the latter. Three arms 6 are shown, but the number may be varied as desired, or the mantle ring may be circular in form and of the same diameter as the cylinder, with openings cut through (see Fig. 4) or the arms may be encircled by a rim 6^b (see Fig. 3). The cylinder with the mantle and the mantle ring I prefer to combine, and in such a condition may constitute an article of manufacture. The combination of cylinder, mantle and ring may be easily attached to the burner tip by passing the tip through the ring into the position shown in Fig. 2, and then giving the cylinder a partial rotation so as to allow the lugs 6^a to come over the ears 7 and then lowered in place, so they rest within the ears. This may be accomplished by any unskilled person without danger of injuring the mantle.

In order to properly secure the ring within the cylinder, it is necessary that it be so supported that the ring may be rotated upon the burner tip for the purpose of properly engaging the lugs 6^a within the ears 7, and it is, therefore, necessary that the outer ends of the arms be properly secured to the cylinder. It is also desirable that the means for attaching the ring to the cylinder be so made that the ring may be placed within the cylinder without danger of the mantle becoming injured by contact with the cylinder or with the hands of the operator.

According to my invention I provide the band 2 with an inwardly extending flange 8, upon which the outer extremities of the arms 6 engage or the outer edge of the mantle ring, if circular in form, engages. In the embodiment chosen for illustration, this flange is annular and continuous, but it need not be so, provided it forms a ledge which will engage with the mantle ring. The arms are held in engagement with this flange by a suitable removable adjustable device. This device in the embodiment chosen for illustration comprises a ring 9, preferably made of elastic material, such as spring wire. This ring is not continuous, but the two ends come very close together. These ends have downwardly extending extremities 10, shown in broken lines in Fig. 2.

The normal diameter of the ring is greater than the internal diameter of the band 2, so that, owing to the elastic nature of the ring, it will tend to extend outwardly, frictionally engaging with the inner walls of the band 2. The size in cross section of the ring, is sufficient, so that it provides a sort of ledge or flange when it is in place, for engagement with the outer ends of the arms.

This ring 9 produces a removable ledge, and will take the weight of the cylinder when the mantle ring is in place upon the burner. The ring 9 is held in place by engagement with a plurality—three being shown—of ears 11. These ears as shown are made integral with the band, by striking in the material of the latter. The lower faces of the ears project out at an approximately right angle, while the upper faces of the ears are inclined, as shown in Fig. 2. This makes it possible to easily insert the ring in position, having it slide down on the inclined faces of the ears, whereupon it will snap in position under the ears, holding the arms 6 or mantle ring firmly in position. The parts are so proportioned that the ring 9 will jam the arms in position. The downwardly extending extremities 10 of the ring 9 are important, as, if there is any tendency of the cylinder to turn upon the arms when the mantle ring is introduced in position on the burner tip, one of the arms 6 cannot slip upward through the opening in the extremities of the ring, but on the contrary, will come in engagement with the downturned extremities 10. In the modification shown in Figs. 3 and 4, notches 6^a are provided in the periphery of the mantle rings to allow the ears 11 to pass when the ring is inserted in the cylinder. In this construction the downward extending extremities 10 of the ring 9 are not used, because there is a practically continuous surface in contact with the ring. I have described my invention in connection with the structure in which there are three arms on the mantle ring, but it is obvious that the same arrangement may be used with more than three arms, or that the mantle ring may be of the diameter of the inside of the cylinder, without any change. I have also shown in the drawings three ears 11, but the number of ears may be greater or less than the number of arms. I have also shown the arms in place immediately below the ears, but it is apparent that with the ring 9 of sufficient cross section, the parts will be as firmly held together if the arms 6 do not happen to come directly under the ears.

An important feature of my invention resides in the fact that the parts will be held together satisfactorily even if there is some distortion of the band 2. As I have before stated, it is necessary to have the cross sec-

tion of the ring 9 of sufficient size so that it forms a ledge which will always engage with the extremities of the arms and will also engage with the ears 11. It is important to have a sufficient cross section of the ring to provide for inequalities in the contour of the band 2. It is also desirable to have the flange 8 sufficiently deep to provide for these inequalities. If these details are provided for, the band 2 and ring 9 may be made in quantities by machinery at but small cost. It will be understood that the ring 9 may be removed and the mantle ring thereby removed from the cylinder by introducing the thumb nail or a suitable instrument or tool between the inner walls of the band 2 and one of the free ends of the ring 9 and thus releasing that portion of the ring from engagement with the nearest ear 11. When the ring is disengaged from one ear, it may be readily removed from the others, and the mantle ring may then be removed from the cylinder and, if desired, another one substituted with a new mantle.

One of the commercial objections to this form of cylinder and mantle support I have found, is that it has been urged that if the ring 4 or arms 6 should break, they will allow the cylinder to drop to the floor, and with it, the incandescent mantle and white hot ring and arms, thus causing danger from fire. This difficulty I obviate by making the band 2 of aluminum or other light material. The other parts, namely, the ring 9, are so light, that whenever the cylinder drops by breaking of the mantle ring or arms, the cylinder will drop in the upright position, and the hot parts will be collected in the bottom of the cylinder which, if made of mica, will not break from the fall.

In accordance with the provisions of the patent statutes I have described the principle of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is merely illustrative and that the invention can be carried out in other ways.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination of a burner tip, a mantle ring supported thereby and having arms, and a projecting device having an annular inwardly extending flange engaging with one side of said arms, and removable holding means engaging with said protective device and the other side of said arms.

2. The combination of a burner tip, a mantle ring supported thereby and having outwardly extending arms, and a protecting device having a band with an annular inwardly extending flange engaging with the bottom of said arms and having a plu-

ality of inwardly extending ears above said flange, and a removable ring engaging with said ears and the upper side of said arms.

5 3. A cylinder with a flange, in combination with a mantle ring, said ring engaging with the flange, said cylinder having inwardly extending ears and flexible means engaging with the ears and holding the mantle ring in engagement with the flange.

10 4. A mantle cylinder with a flange and ears above the flange, and an elastic ring engaging with the ears, in combination with a mantle ring which engages between the flange and the ring.

15 5. A cylinder having a metal band at the top, said metal band having an annular inwardly extending flange and a plurality of ears above the flange, in combination with

an elastic ring, said ring engaging with the band and abutting against the ears, and a mantle ring which engages between the flange and the ring. 20

6. A mantle cylinder having a metal band at the top, said band having an annular inwardly extending flange and a plurality of ears above the flange, in combination with an elastic ring, said ring having downwardly extending extremities, and a mantle ring, the outward portions of which are clamped between the flange and the ring. 25 30

This specification signed and witnessed this twenty-fifth day of April, 1910.

AARON P. STORRS.

Witnesses:

L. JOSHMAN HUTEN,
FRED G. HORTON.

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