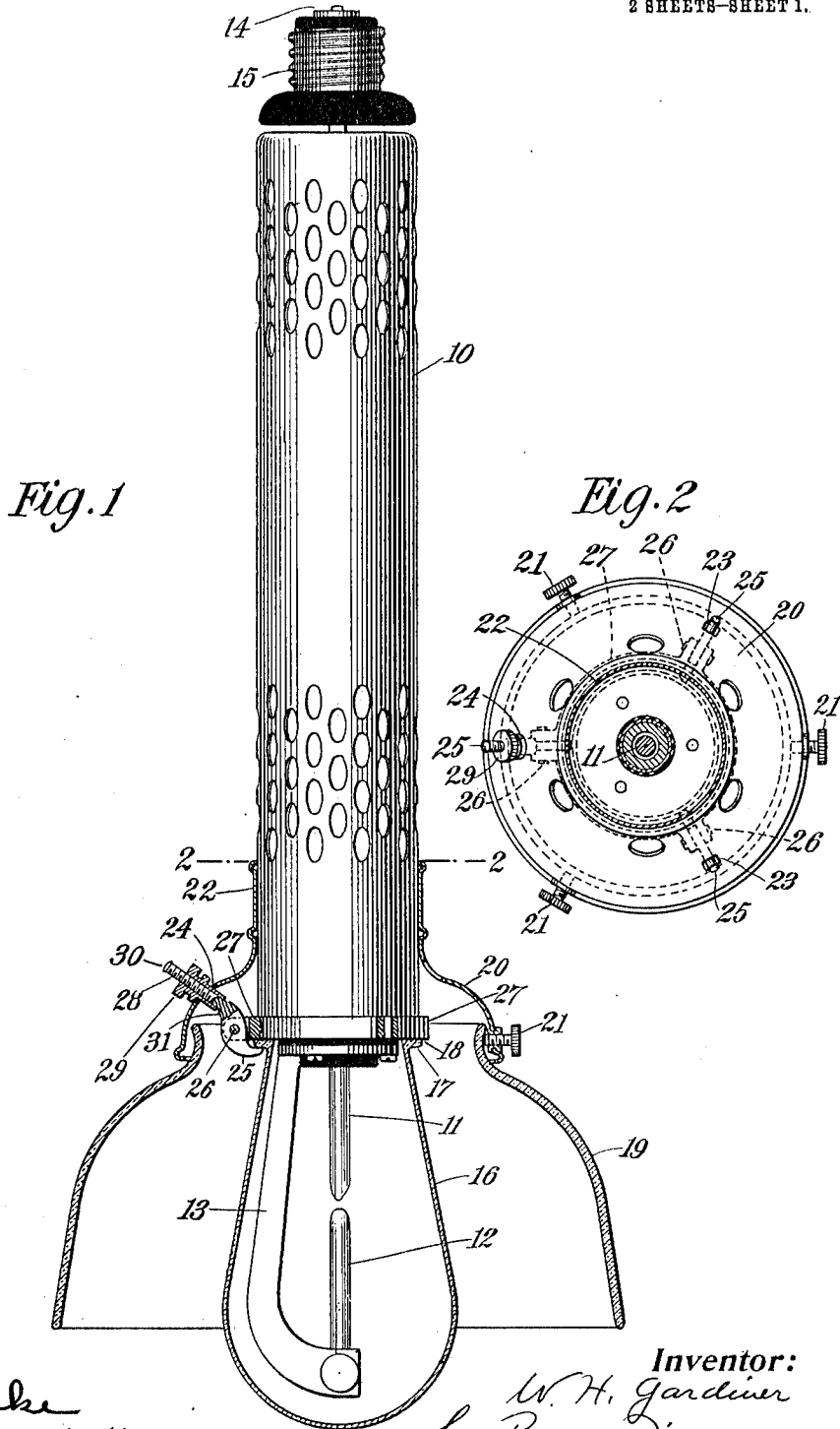


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LAMP.
APPLICATION FILED APR. 27, 1910.

1,001,584.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.



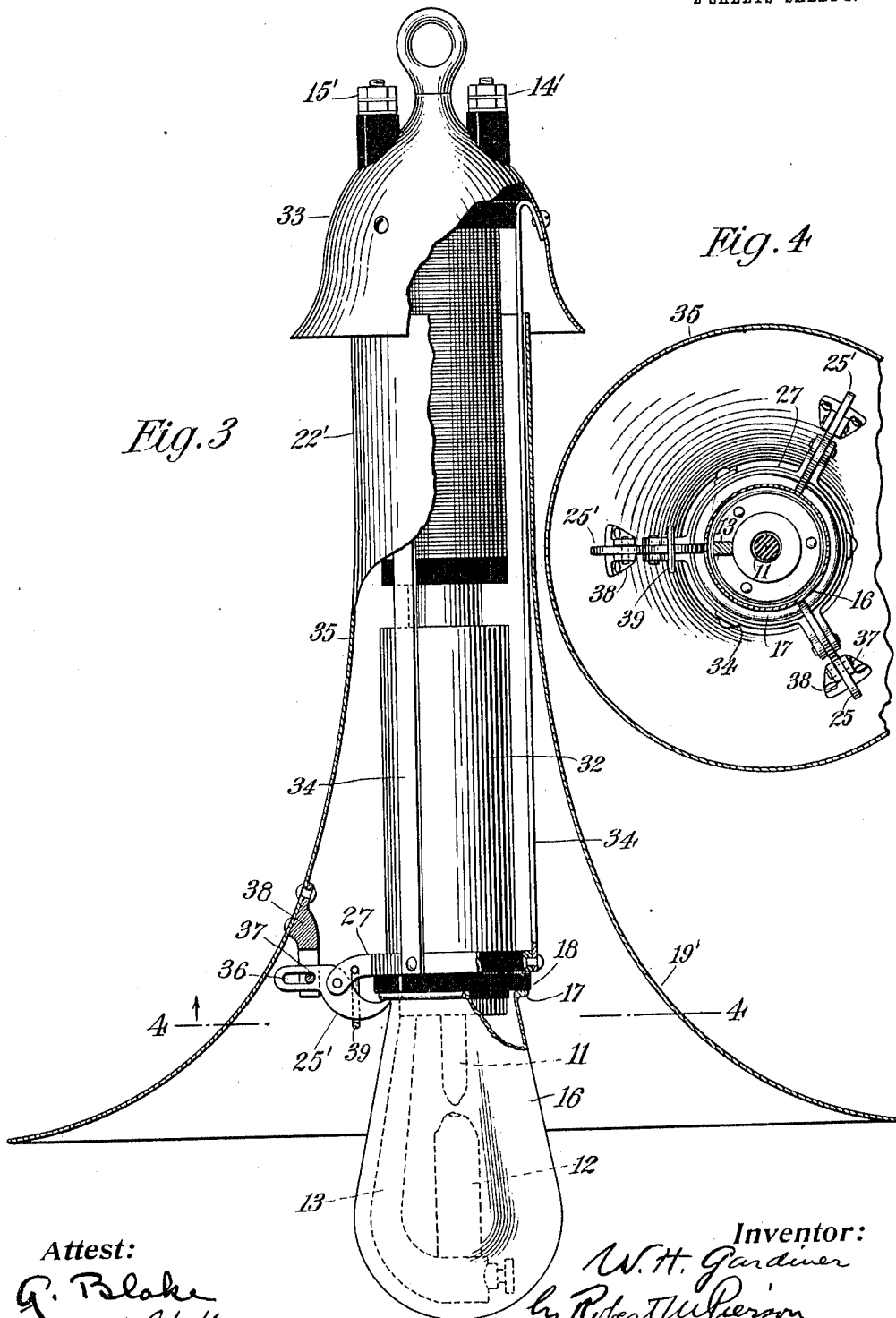
Attest:
G. Blake
Raphael Ketter

Inventor:
W. H. Gardiner
by Robert M. Pearson, Atty.

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UNITED STATES PATENT OFFICE.

WILLIAM H. GARDINER, OF NEW YORK, N. Y.

LAMP.

1,001,584.

Specification of Letters Patent. Patented Aug. 22, 1911.

Original applications filed October 15, 1909, Serial No. 522,706, and April 11, 1910, Serial No. 554,626.
Divided and this application filed April 27, 1910. Serial No. 557,868.

To all whom it may concern:

Be it known that I, WILLIAM H. GARDINER, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Lamps, of which the following is a specification.

This invention relates to electric-arc and other lamps and more particularly to the means for fastening a bulb or globe, such as the chamber in which the arc is produced in a lamp of the inclosed-arc type.

It relates secondarily to the combination and interconnection of a reflector or reflector-holder and a globe.

My object is to provide a ready means for fastening and unfastening the globe, and preferably for supporting the same yieldingly against its seat on the lamp-body. For this purpose I may provide an improved arrangement of a series of levers or dogs constituting a clutch or grapple coacting with the rim of the globe and adapted to be opened and closed by the movement of a suitable element such as the reflector or its holder, and I preferably arrange so that the weight of such element, acting on this or any analogous form of globe-grapple, supplies a yielding pressure for seating the globe.

Of the accompanying drawings, Figure 1 represents an elevation partly in section, showing my improvements embodied in an electric arc lamp. Fig. 2 is a section on the line 2—2 of Fig. 1, looking downwardly. Fig. 3 is an elevation partly in section showing a modified form of the invention. Fig. 4 is a section on the line 4—4 of Fig. 3 looking from below.

This application is a division, as to the form of the invention shown in Figs. 1 and 2, of my co-pending application Serial No. 522,706, filed October 15, 1909, and as to the modification shown in Figs. 3 and 4 it is a division of my co-pending application Serial No. 554,626, filed April 11, 1910.

In Figs. 1 and 2, 10 is the casing of an arc-lamp body containing any suitable form of mechanism for controlling the feed of the upper carbon 11, 12 is the lower carbon, and

13 its holder, 14 and 15 being the terminals whereby the circuit of the lamp is connected with the external circuit.

16 is a glass globe forming the inclosure in which the arc is produced, and provided with a rim flange 17 whereby said globe is supported against a seat 18 formed on the lower end of the lamp body, the meeting surfaces of the joint being preferably ground or otherwise adapted to form a leakage crevice which regulates the outflow of gas from and the inflow of small quantities of air to the interior of the chamber formed by globe 16. This feature in connection with a globe yieldingly seated with a predetermined pressure supplied by any suitable means, and an armature structure adapted to exert a pumping action for aerating the interior of the globe, is claimed in my co-pending application Serial No. 554,626 aforesaid, and I do not restrict the present invention thereto.

19 is a reflector and 20 is a holder to which the reflector is detachably connected by means of set-screws 21 engaging its rim. The upper portion of said holder is reduced to form a sleeve 22 slidable vertically upon the casing 10, and the holder is formed with two small apertures 23, 23 and a larger aperture 24 through which extend the stems or outer arms of a series of clutch-dogs or levers 25, 25 pivoted at 26, 26 on a ring 27 attached to the lamp body. The inner ends of these levers take under the rim flange 17 of the globe 16 so as to support said globe against its seat on the lamp body, and the weight of the reflector and its holder acting on the outer arms of the levers serves to support the globe yieldingly against said seat. When the holder 20 is slid upwardly along the casing 10 it serves to turn all of the levers 25 on their pivots toward the vertical position so as to release the globe 16 when required.

It is of course not essential that the sleeve 22 or equivalent element for operating the clutch devices shall be related to the reflector, but this arrangement affords a compact structure in which the weight of the reflector and its holder or the weight of the holder alone may be utilized in the man-

ner stated, to yieldingly seat the globe or to operate the clutch devices for fastening and unfastening the globe.

One of the clutch-levers 25 as shown is provided with a screw-threaded stem 28 on which is mounted a nut 29 adapted to be screwed down against the holder 20 to prevent the latter from rising and turning the levers toward their vertical positions, whereby accidental escape of the globe is prevented, and the outer end of this lever stem is upset at 30 to limit the outward movement of the nut and prevent the escape of any of the lever stems from their apertures in the holder. I also prefer to shoulder this lever, as indicated at 31, to limit the inward movement of the nut and avoid the possibility of pinching and breaking the globe flange 17 by screwing the nut too far inwardly.

It will be noted that the levers 25 form a clutch or grapple which contracts or closes inwardly and upwardly to hold the globe to a seat on the lamp-body. This feature, as well as that of operating the dogs or levers in both directions by means of the element 22 or its equivalent, I believe to be new with me. It is also new, so far as I am aware, to actuate a globe-support of this or any analogous character by gravity or other yielding means such as the weight of an element acting in common upon the several levers or dogs, whereby the globe is grasped with a constant pressure.

The lamp in Fig. 1 has its terminals 14 and 15 in the form of a plug adapted to be screwed into an incandescent lamp socket and is specially adapted for indoor use.

The modification shown in Figs. 3 and 4 is better adapted for outdoor use and includes a lamp body 32 with binding-posts 14', 15', and a two-part casing composed of a canopy member 33 from which the ring 27 is suspended by guide-rods 34, and a trumpet-shaped main casing member 35 whose upper part is reduced to form a sleeve 22' slidable on the rods 34, while its lower part is expanded into a reflector 19'. This member 35 may be formed of metal and its inner surface glazed with a suitable reflecting enamel.

The clutch levers 25' perform the same functions as the levers 25 in Figs. 1 and 2 and are controlled in a similar manner by the weight and vertical sliding movements of the casing member 35. The levers in this instance have their outer arms formed with slots 36 occupied by pins 37 carried by lugs 38 which are riveted to the casing member 35, and one of the levers has a catch consisting of a bail 39 hung on the ring 27 and adapted to prevent the accidental escape of the globe. To release the clutch and allow casing member 35 to be

slid upwardly to open said clutch, bail 39 is turned outwardly from the position shown in Fig. 3.

Other modifications may be effected within the scope of my invention, and its principles obviously apply to various kinds of lamps employing electric or other sources of illumination.

I claim,—

1. In a lamp, the combination of a lamp-body having a globe-seat, a globe, and a clutch or grapple mounted on the body and composed of a plurality of members which close inwardly and upwardly upon the globe to hold it against said seat, and means for conjointly operating said members.

2. In a lamp, the combination of a lamp-body having a globe-seat, a globe having a rim-flange at its upper end, a series of clutch levers pivoted to said body and adapted to close inwardly and upwardly upon said flange to hold the globe against said seat, and a sleeve common to said levers for holding them closed upon the globe-rim.

3. In a lamp, the combination of a body, a globe seated thereon and having a rim flange, a series of clutch-levers pivoted to said body and engaging said flange by their inner arms, and a sleeve axially slidable on said body and engaged with the outer arms of said levers so as to turn the sleeve in either direction on their pivots when the sleeve is slid along the body.

4. In a lamp, the combination of a body, a globe, a series of clutch-levers pivoted to said body and engaging the globe by their inner arms, an operating sleeve mounted on the body and having apertures occupied by the outer arms of the levers, and a nut mounted on the outer end of one of the levers and coacting with the sleeve for restraining the movement of the sleeve and the levers.

5. In a lamp, the combination of a body, a globe, a series of clutch-levers pivoted to the body and engaging said globe, and yielding means acting in common upon said levers for causing them to engage the globe with a constant pressure.

6. In a lamp, the combination of a body having a globe-seat, a globe, a sliding member acting as a weight, and one or more levers interposed between said member and the globe for detachably holding the latter with yielding pressure against its seat on the body.

7. In a lamp, the combination of a body, a globe, a reflector, and connections for applying the weight of said reflector to the globe to hold the latter yieldingly to a seat on the body.

8. In a lamp, the combination of a body, a globe, a series of clutch-levers pivoted to said body and adapted to close inwardly

upon the globe-rim to yieldingly sustain the weight of said globe, and a reflector supported by the outer arms of the levers.

9. In a lamp, the combination of a body,
5 a globe, a series of clutch-levers pivoted to the body and sustaining said globe by their inner arms, and a reflector structure including a sleeve engaged with the outer arms
10 of the levers so as to turn the latter on their pivots in both directions, said structure normally resting with its weight on

the levers to hold the globe yieldingly up to a seat on the body.

In testimony whereof I have hereunto set my hand in the presence of two sub-
scribing witnesses, this 25th day of April, 1910. 15

WILLIAM H. GARDINER.

Witnesses:

EDWARD E. BLACK,

G. BLAKE.

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