

(No Model.)

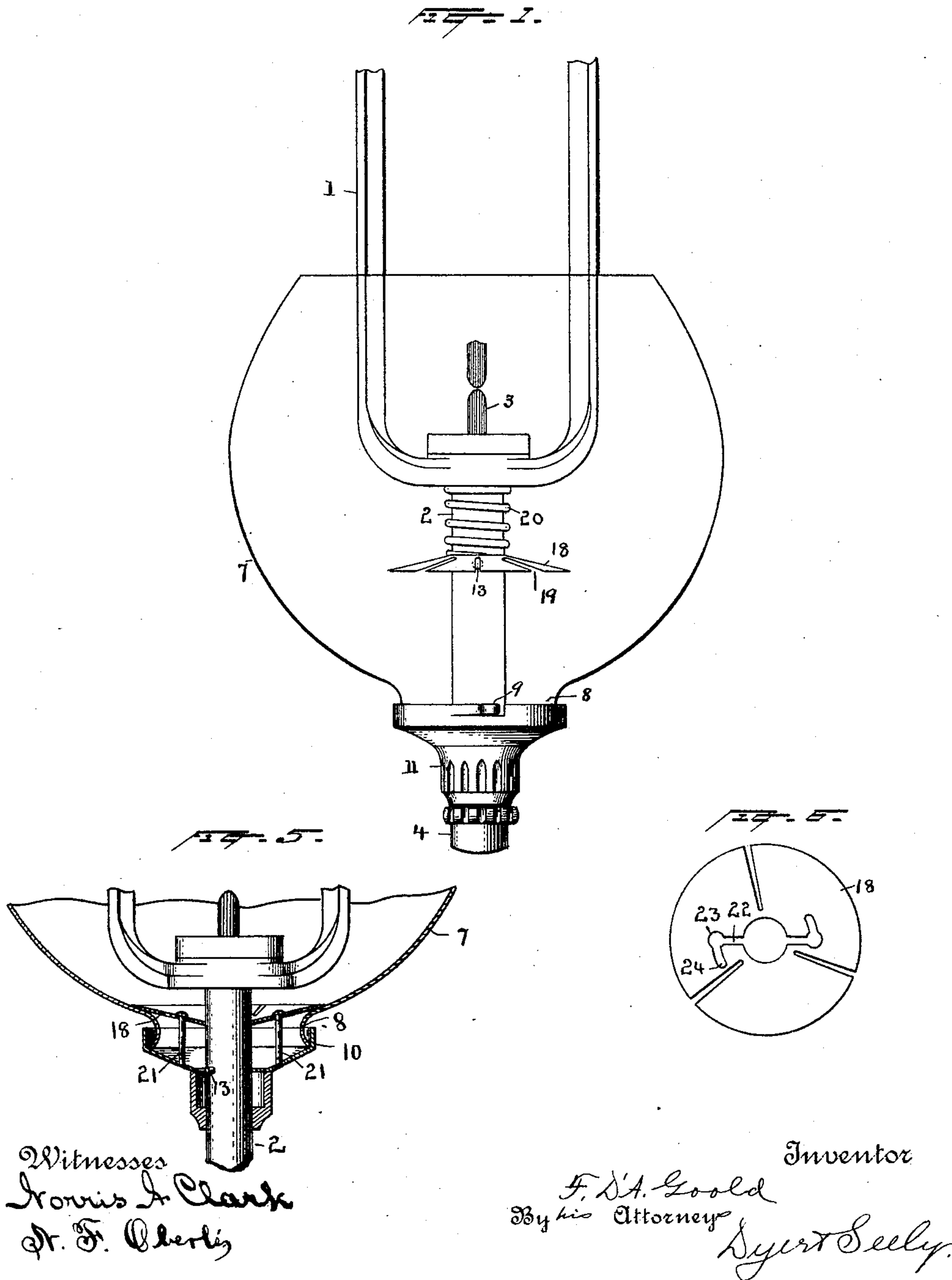
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HOLDER FOR ARC LAMPS AND SIMILAR GLOBES.

No. 480,720.

Patented Aug. 16, 1892.



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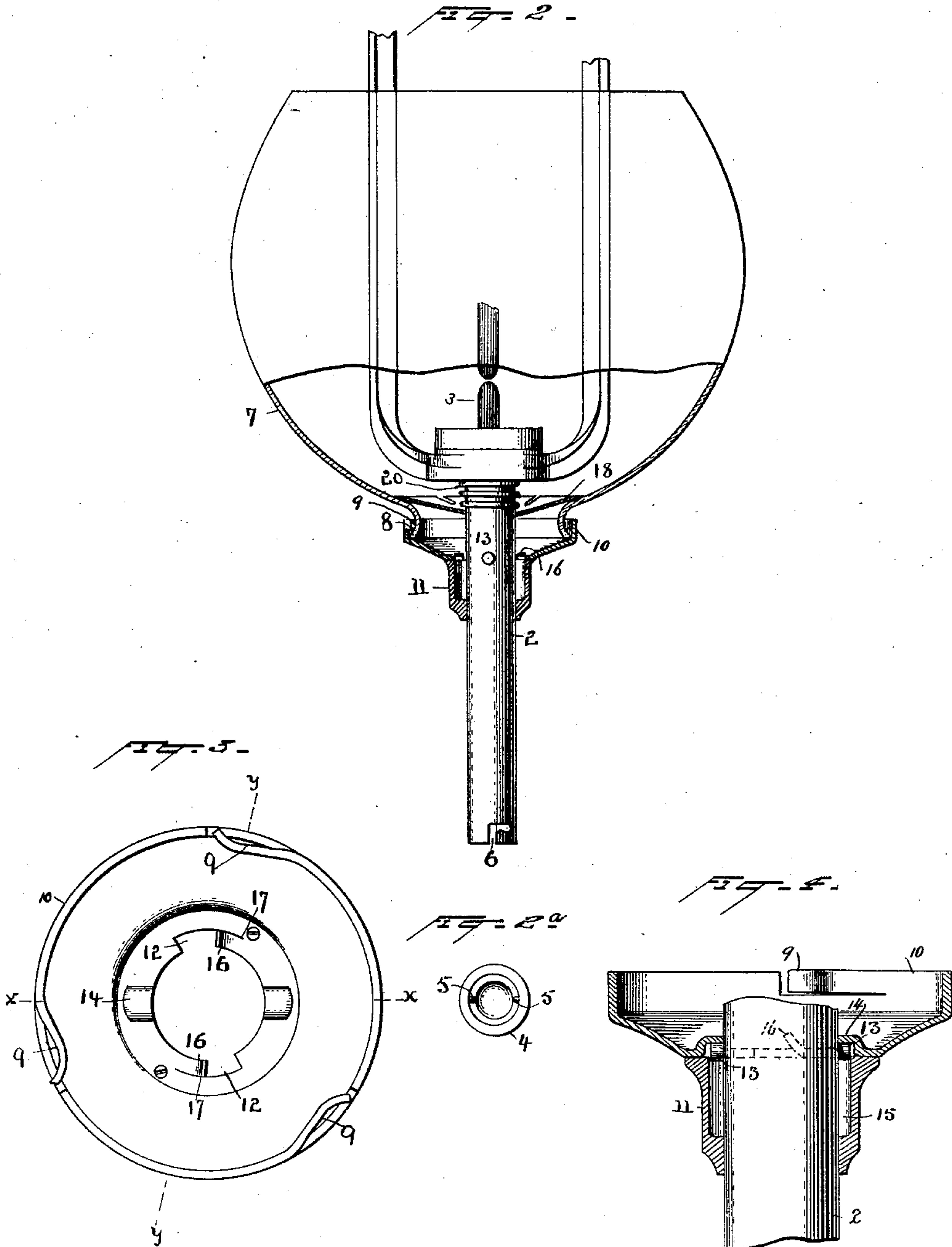
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Witnesses  
Norris A. Clark.  
St. F. Oberly.

Inventor  
F. D'A. Goold  
By his Attorneys  
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# UNITED STATES PATENT OFFICE.

FREDERICK D'A. GOOLD, OF NEW YORK, N Y., ASSIGNOR TO THE EDISON  
GENERAL ELECTRIC COMPANY, OF SAME PLACE.

## HOLDER FOR ARC LAMPS AND SIMILAR GLOBES.

SPECIFICATION forming part of Letters Patent No. 480,720, dated August 16, 1892.

Application filed December 5, 1891. Serial No. 414,165. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK D'A. GOOLD, a citizen of the United States, residing at New York city, in the county and State of New York, have invented a certain new and useful Improvement in Holders for Arc-Lamp and Similar Globes, of which the following is a specification.

The present invention relates to means for supporting globes in position to surround the arc or in similar positions, one object of the invention being to provide a support easily controlled in placing the globe in position or in removing the same.

Another object is to provide a support or holder which is less likely to cause the globe to break under the effect of expansion or contraction than old forms of holders; and the invention consists in the features of construction and in the combinations hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 shows a part of an arc-lamp frame, a holder, and a globe, the parts occupying the position which they take when the globe is lowered to allow a workman to get at the carbons. Fig. 2 shows the globe in its raised position surrounding the arc, parts of the holder being in section on line corresponding to *y y* of Fig. 3. Fig. 2<sup>a</sup> is a plan view of the cap at the lower end of the carbon-tube. Fig. 3 is an enlarged plan view of the part of the holder which clamps onto the neck of the globe. Fig. 4 is an enlarged section of this part of the holder on line *x x* at right angles to the section of Fig. 2, and Figs. 5 and 6 show a modification.

1 is the frame of an arc lamp and may be of any suitable form. From the base of this frame projects downward a rod or hollow tube 2.

3 is a carbon in the tube 2, being preferably inserted from the bottom by the removal of the cap 4. This cap is provided with pins 5 on its inner face, which pins are adapted to enter the bayonet-slots 6 in the lower end of the tube.

7 is a glass or other suitable globe, which in Fig. 1 is shown in its lower position, in which position the arc can be reached, and which in Fig. 2 is shown in its raised or op-

erative position. The globe is provided with a neck 8 at its lower end of such shape as to be grasped by the spring-fingers 9, which are formed at the edge of the flange 10 by slitting and bending the metal, as shown, said flange being secured to or forming a part of the collar 11, which is adapted to slide on the tube 2. The collar fits the tube snugly at its lower end, as also does the inner edge of the flange at the upper end of the collar. The flange is, however, provided with notches 12 of such size and shape that the pins 13, projecting from the tube at two points, can enter the same. The flange is also provided, preferably half-way between the two notches, with depressions or sockets 14, in which pins 13 can rest. The body of the collar between the two ends is provided with an enlarged chamber 15 of sufficient width to allow the collar to move up and down over the pins. At one side of both of the notches 12 are formed spring-fingers 16. These are made by cutting slits 17 in the metal of which the flange is formed and bending the same, as indicated in the drawings.

18 is a plate-spring, preferably in the form of a convex ring, as shown in Fig. 1. This ring is on the tube above the pins 13, and is preferably formed with several spring-fingers by slits 19 cut part way through the ring. Above this spring and also surrounding the tube is a stiff spiral wire spring 20, the upper end of which presses against the bottom of the lamp-frame or against a suitable stop and the lower end of which terminates above the plate-spring.

With the parts formed as described, when it is desired to mount a globe the flanged collar 11 is placed on the neck of the globe, the spring-fingers 9 being of sufficient strength to support the globe, so that it may be safely moved by using the collar as a handle. The cap 4 being removed from the bottom of the tube, the globe and collar are raised onto said tube and the cap afterward put in place. When the globe and collar are raised to the position shown in Fig. 2, the inner face of the neck of the globe will press against the plate-spring, moving it up against the spiral spring, causing the plate-spring to assume the position indicated in Fig. 2 and compressing



also the spiral spring. In this manner the globe is securely clamped by a yielding spring-clamp. This allows the parts to expand and contract independently of each other and allows the globe to yield slightly in case of any sudden blow or strain, thereby protecting it from becoming broken. This spring portion of the holder also enables me to use globes of varying thicknesses without special means of adjustment for the holder.

As the globe is raised in the manner above described, the notches 12 pass over the pins, 13, and the globe and collar are then turned through ninety degrees, the pins 13 riding under the fingers 16 and finally resting in the sockets 14, thereby holding the globe in the desired position.

Instead of relying on the spring-fingers 9 to secure the collar 11 to the globe, these may be omitted and the construction shown in Fig. 5 adopted. Here the spring 18 is secured by screws 21 to the collar 11, thus positively clamping the globe-neck. The spring, a top view of which is shown in Fig. 6, is provided with side slots 22, adapted to pass over the pins 13, so that the spring can move down with the globe. The spring is also provided with holes 23, through which the heads of screws 21 can pass, and side slots 24, allowing the spring to be turned to bring the body under the screw-heads in a well-known manner without removing the screws from the collar. The screws are preferably placed at some distance from the edge of the spring, so as not to interfere with its resiliency. In this form of device the spiral spring above the plate-spring is omitted.

What I claim is—

1. The combination of a globe, a central rod or tube, a collar connected to the globe and

movable on said rod or tube, and a plate-spring, also on the rod or tube, said globe being held between the collar and plate-spring, substantially as described.

2. The combination of a globe, a central rod or tube, a collar connected to the globe by a spring-clamp and movable on said rod or tube, and a plate-spring, also on said rod or tube, said globe being held between the collar and plate-spring, substantially as described.

3. The combination of a globe, a central rod or tube, a collar connected to the globe and movable on said rod or tube, a bayonet-joint for holding the collar in its raised position, and a plate-spring, also on the rod or tube, said globe being held between the collar and plate-spring, substantially as described.

4. The combination of a globe, a central rod or tube, a collar connected to the globe and movable on said rod or tube, a plate adapted to press against the globe, and a spiral spring on the tube above the plate and adapted to press against it, substantially as described.

5. The combination of the lamp-frame, the projecting tube, the spiral spring thereon, the ring-plate spring, the pin or pins projecting from the tube, the globe, and the collar holding the same and adapted to slide on the tube, said collar having a notch or notches to allow the passing of said pin or pins, whereby when the globe is raised and turned it is clamped in a yielding spring-clamp and held up in place, substantially as described.

This specification signed and witnessed this 30th day of November, 1891.

FREDERICK D'A. GOOLD.

Witnesses:

CHARLES M. CATLIN,  
EUGENE CONRAN.