

C. K. DEUTSCH.  
STREET-LAMP.

No. 173,914.

Patented Feb. 22, 1876.

Fig: 1.

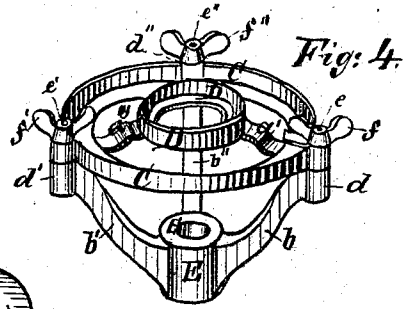


Fig: 2.

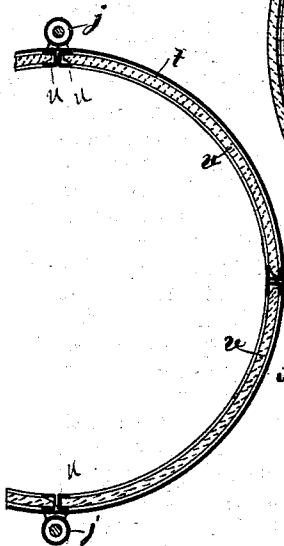
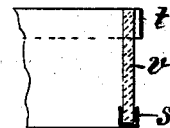


Fig: 3.



Witnesses:

Henry Eichling.  
B. C. Clark.

Inventor:

Charles H. Deutsch  
By J. P. Hatch  
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# UNITED STATES PATENT OFFICE.

CHARLES K. DEUTSCH, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM R. DEUTSCH, OF SAME PLACE.

## IMPROVEMENT IN STREET-LAMPS.

Specification forming part of Letters Patent No. **173,914**, dated February 22, 1876; application filed September 29, 1875.

*To all whom it may concern:*

Be it known that I, CHARLES K. DEUTSCH, of the city of New York, county and State of New York, have invented a new and Improved Street-Lamp, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same, in which—

Figure 1 is a vertical central section of a street-lamp containing my invention. Fig. 2 is a top view of the removable glass tablets on which the names or numbers of streets are displayed, together with the part of the lamp in which the said tablets are held, and Fig. 3 is a vertical section of the same. Fig. 4 is a perspective view of the base-frame, on which the globe rests.

The nature and purpose of my invention are more fully described in the specification of the same which follows than can be adequately set forth in a summary statement.

My lamp may, in general terms, be said to consist of two transparent globes, of the peculiar form hereinafter described, placed one within the other, each resting upon a base frame or ring; and both capped by a dome which rests upon the outer globe, the upper open end of the inner globe passing through an aperture in the center of the base of the dome, with no opaque object intervening between the base-rings and the device to intercept the light or cast a shadow, the base and crown of the dome being peculiarly formed to act as reflectors, the former to reflect the light downward and laterally, and the latter to reflect the light which is radiated upward, through the aperture in the center of the base of the dome, laterally through glass tablets arranged around the walls of the dome, thereby making plainly visible the names of streets or any other words or figures placed on such tablets, the whole for street purposes, being secured by arms to a band or sleeve adapted to fit onto the top of a lamp-post.

A and B are two transparent globes, ("globe" being the technical name given to this part of a lamp, though it may not have a globular form.) C is a socket-ring, fitted to receive the open base of the globe A, and D a similar socket-ring of smaller diameter, fitted to re-

ceive the open base of the globe B. These socket-rings are connected by arms, preferably three, *a' a'' a'''*, and the whole may be of iron cast in one piece, constituting an open circular frame furnishing a separate rest and support for the two globes. The globes and their base frames or rings rest upon what may be denominated a bracket, composed of three arms, *b b' b''*, corresponding with the arms of the socket-rings, and radiating from a central ring or sleeve, E, designed to fit into the top of a lamp-post. The base-frame of the globes is secured upon this bracket by three ears, *d d' d''*, formed on the ring C, which rests upon the outer ends of the arms *b* of bracket, screw-pins *e e' e''* projecting upward from the latter and passing through the former, and provided with thumb-nuts *f f' f''*. In the globe A, having the shape shown in the drawing, Fig. 1, the base forms a laterally-projecting rim or flange, *k*, which fits into the socket-ring C, and is secured in place by means of the buttons or short arms *h h' h''*, having apertures in their outer ends, through which pass the screw-pins *e*, the opposite ends projecting over upon the flange *k*. *i i' i''* are rubber packings, preferably corresponding in form with the buttons *h*, which will prevent the rim of the globe from being fractured when the buttons are screwed down upon it. In order to remove the globe from the socket-ring it is only necessary to turn back the nuts *f* and swing the button *h* outward off from the flange *k*; but when the buttons and packings are resting upon the flange, and the nuts are turned down on the pins *e*, all the parts—the bracket E, the base-frame for the globes, and the globe A—are secured firmly together.

The dome of my lamp consists of a base and crown, which are separated some distance apart by means of hollow posts *j*, through which and the said base and crown screw-bolts *l* pass, binding the whole together. The portion *m* of the base of the dome which projects outward beyond the globe A is preferably deflected downward somewhat, and its under surface made to act as a reflector to throw the light downward, while that portion *n* of the said base within the globe A has the form of the inverted frustum of a cone, with

its base united to the part *m*, and into the angle formed by their junction fits the upper open rim of the globe A. It is not intended, however, that the upper edge of the said globe shall be in contact with the crown of the dome, but that there shall be some space between the two to permit the circulation of air, upward, between the outer and inner globe. To this end small blocks or strips of rubber, two of which are shown at *p p'*, Fig. 1, are placed over the heads of the bolts *l*. These bolts extend inward far enough to rest upon the globe A, thus bearing the base of the dome off from the globe and permitting a circulation of air between them. The rubber also furnishes an elastic cushion, which serves to prevent the globe from being fractured by contact with the metallic surface of the dome. The inner globe, B, is contracted at the upper end, thus forming a neck, *q*. *r* is a flange or ring connected with the portion *n* of the base of the dome, which fits upon the neck *q* of the globe B, serving to hold it securely in position. The base *n* of the dome is preferably made of sheet metal, and both the under and upper surfaces of the part *n* are made to act as reflectors, the lower surface acting to reflect downward and outward the light radiating from the burning gas. It will be observed that by this construction and arrangement of parts there is produced a street-lamp, adapted to be held upon the top of a lamp-post, with no opaque object between the base and dome to obstruct the light or cast a shadow. Provision is made in the dome for conspicuously displaying the name or number of the street. Between the base and crown of the dome is a belt or space in which is fixed a circular frame, formed preferably of sheet metal, the base *s* of which is composed of two flat rings, united at the bottom by an annular plate, as seen in section in Fig. 3, thus forming an annular groove or socket. The top of this frame is a flat ring, *t*, connected with the base *s* by several vertical bars, *u*, on each edge of which is a groove, corresponding to the groove in the base *s*. Thus are formed several separate frames, in each of which is placed a transparent tablet, *v v*, on which may be inscribed, by painting or otherwise, the name or number of a street, or any desired words or figures. These tablets are illuminated by the light which is radiated upward through the neck of the globe B. In order to throw this light upon the said tablets, two mirrors are provided—one being on the upper surface of the portion *n* of the base of the dome, and the other the under surface of the crown *w* of the dome, it being made concave and polished or painted white for that purpose, as represented in the drawings. The frames in which are placed the tablets *v* are so constructed that the grooves into which the said tablets are fitted

are open at the top, thus permitting the tablets to be dropped into their places from above; and the crown *w* of the dome, resting upon them, will retain them in place. To remove them it is only necessary to take off the nuts from the bolts *l*, and raise the crown *w*, when the tablets may be slid upward out of their grooves. By the use of two globes for street lamps, one within the other, and permitting a free circulation of air between them, the outer globe is prevented from becoming heated, and thereby liable to be fractured when rain or snow falls upon it in a heated state; also active combustion of the gas is promoted by the current of air which passes upward through the interior globe, the latter acting in this respect as the common chimney. Also, by the construction and arrangement described, a strong, well-balanced, compact, symmetrical, and beautiful lamp is produced, adapted to be held upon the top of lamp-posts in streets, in which there is no opaque object between the source of the light and the laterally-surrounding space to intercept the light or cast a shadow in any direction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A lamp, composed of the base, the two globes A and B and the dome containing the reflectors *n*, *w*, and *m*, all constructed and arranged to operate as and for the purpose described.

2. In a lamp, the combination of the globes A and B and the dome D, the said dome resting upon the globe A and the reflector *n*, which serves also to grasp and support the globe B at its upper end, as and for the purpose described.

3. The combination of the two globes A and B and the dome, the upper end of the globe B fitting snugly into the central aperture of the conical diaphragm *n*, and there being air-spaces between the upper rim of the globe A and the dome to permit a circulation of air between the globes, as and for the purpose specified.

4. The combination of the tablets *v* and the reflectors, consisting of the under surface of the crown *w*, and the upper surface of the base *n*, and the central aperture of the base *n*, as and for the purpose described.

5. The combination in the dome described of the frame *s, u, t*, the crown *w*, and the tablets *v*, the whole constructed substantially as described, so that the tablets are removable, as and for the purpose described.

Witness my hand this 11th day of September, 1875.

C. K. DEUTSCH.

Witnesses:

B. S. CLARK.

HENRY EICHLING.